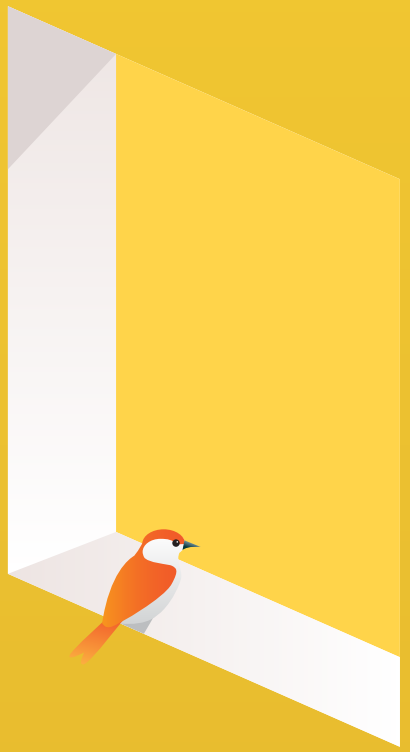
PROVIDING **HEALTHCARE** IN THE **PRISON** ENVIRONMENT

What services belong behind bars and what services belong in the community setting?



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1 ABSTRACT

BACKGROUND

While there are numerous built environmental models for prisoner health care, little has been done to assess the models to see if a particular location for care better serves the inmate population's health needs over other locations. "Mass incarceration" has been used to describe the recent dramatic expansion of the criminal justice system in the United States. Underserved communities with minimal access to healthcare services disproportionately bear the burden of mass incarceration. This huge influx into the prison population of those who have received little or no medical care throughout the course of their lives, along with a court ruling mandating a constitutional level of care for prisoners, has resulted in a greater demand for healthcare services for this population. The purpose of this literature review is to shed light on the challenging healthcare process, the best environments for prison inmates to receive care, and to generate recommendations for the future.

METHODS

A systematic literature review including key word searches of multiple relevant databases, title and abstract reviews, and the full text review of 169 pertinent sources.

RESULTS

Due to growth of the prisoner population in the U.S., many states are struggling to provide a constitutional level of health care to their inmates. Numerous care models have been created using both in-house and community-based facilities. Many enter prison with untreated medical and mental health conditions, and if they are not treated within the prison environment, they will bring those conditions back to their communities. In addition, though they may receive care while incarcerated, many discharged inmates are left untreated once they are released, due to a lack of coordination between the prison health system and the community health system.

CONCLUSION

There is no "one-size-fits-all" answer to the question of where the best location is to provide care for prison inmates. However, there are a number of questions that state departments of corrections should investigate when determining where to provide their healthcare services. In addition, there are two other factors states can review regarding inmate healthcare: (1) Can the prison population be reduced so that there are fewer inmates who require care, and (2) Are there community-based health system best practices that can be applied to a corrections setting in order to provide more efficient care to the population?

2 INTRODUCTION

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The United States has the most incarcerated individuals of any country *(Rich, Wakeman, & Dickman, 2011; Wilper et al., 2009)*. At the end of 2014, the United States held an estimated 1,561,500 prisoners in state and federal facilities *(Carson, 2015)*. Besides the number of individuals incarcerated, due to mandatory minimum sentences and "three strikes" rulings, sentences are getting longer *(Macmadu & Rich, 2015)*. During the apex of the "tough-on-crime" period, the number of people sentenced to 20 years or more tripled *(Chettiar, Bunting, & Schotter, 2012)*. Between 1984 and 2002, there was a quadrupling of the number of inmates serving life-without-parole sentences *(Chettiar et al., 2012)*. Additionally, the rate of recidivism in the U.S. is 70 percent *(Ha & Robinson, 2011)*. Sentencing practices and recidivism rates, as well as inadequate community-based mental health services and addiction treatment, have contributed to the large prison population.

By 2013, states were spending $77 billion per year on prisons, of which 10 percent was spent on inmate health care *(Ahalt, Trestman, Rich, Greifinger, & Williams, 2013).* These expenditures continue to increase. Much like the free-world population, the incarcerated population is aging, with increases in prevalence of chronic diseases, mental health issues and comorbidities of both. Providing healthcare to inmates is not only the right thing to do, it is required by the Eighth Amendment to the Constitution. According to the landmark ruling in Estelle v. Gamble (1976), prisons must provide inmates with healthcare. **Estelle v. Gamble (1976) affirmed that prisoners had a right to be free of "deliberate indifference" to their serious health care needs** *(Kinsella, 2004).* **Because of that decision, three basic rights have emerged: The right to access to care, the right to the care that is ordered, and the right to a professional medical judgment** *(Kinsella, 2004).*

2.1 RESEARCH AIM AND QUESTIONS

The constitutional requirement for prison facilities to provide healthcare does not necessarily mean that prisons should be building full-service hospitals within their facilities. However, it does pose the question of where that care should take place. State departments of corrections have to determine if inmate healthcare should be provided on-site, in the prison facility, or off-site, at a nearby community-based healthcare facility. The aim of this review is to support development of an informed point of view and approach to determining the appropriate amount of healthcare services to be provided on-site within the prison facility, and off-site within the community setting.

In order to determine criteria for evaluating services to be provided in each setting, the following questions will be addressed:

What are the physical and mental health care needs of the inmate patient?

What are the current models of care?

Can different care types drive different facility needs?

Do inmate-patient volumes make dedicated secured health facilities viable?

Can dedicated, secured health facilities be adequately staffed? If not, who are some potential health care partners?

How can technology be leveraged to provide the constitutional level of care to inmate patients?

What are the current costs of sending inmate-patients to free-world facilities for healthcare? What do those costs include?

2.2 RESEARCH SCOPE

In order to provide a more thorough analysis, the scope of this literature review was limited to U.S. state male, female and mixed populations prisons only; federal and international prisons were not included in this analysis. In addition, U.S. jails and juvenile detention facilities were also removed from this study. Because of limitations of current sources, data from the Federal Bureau of Prisons was sometimes used in order to fill gaps in the state prison data

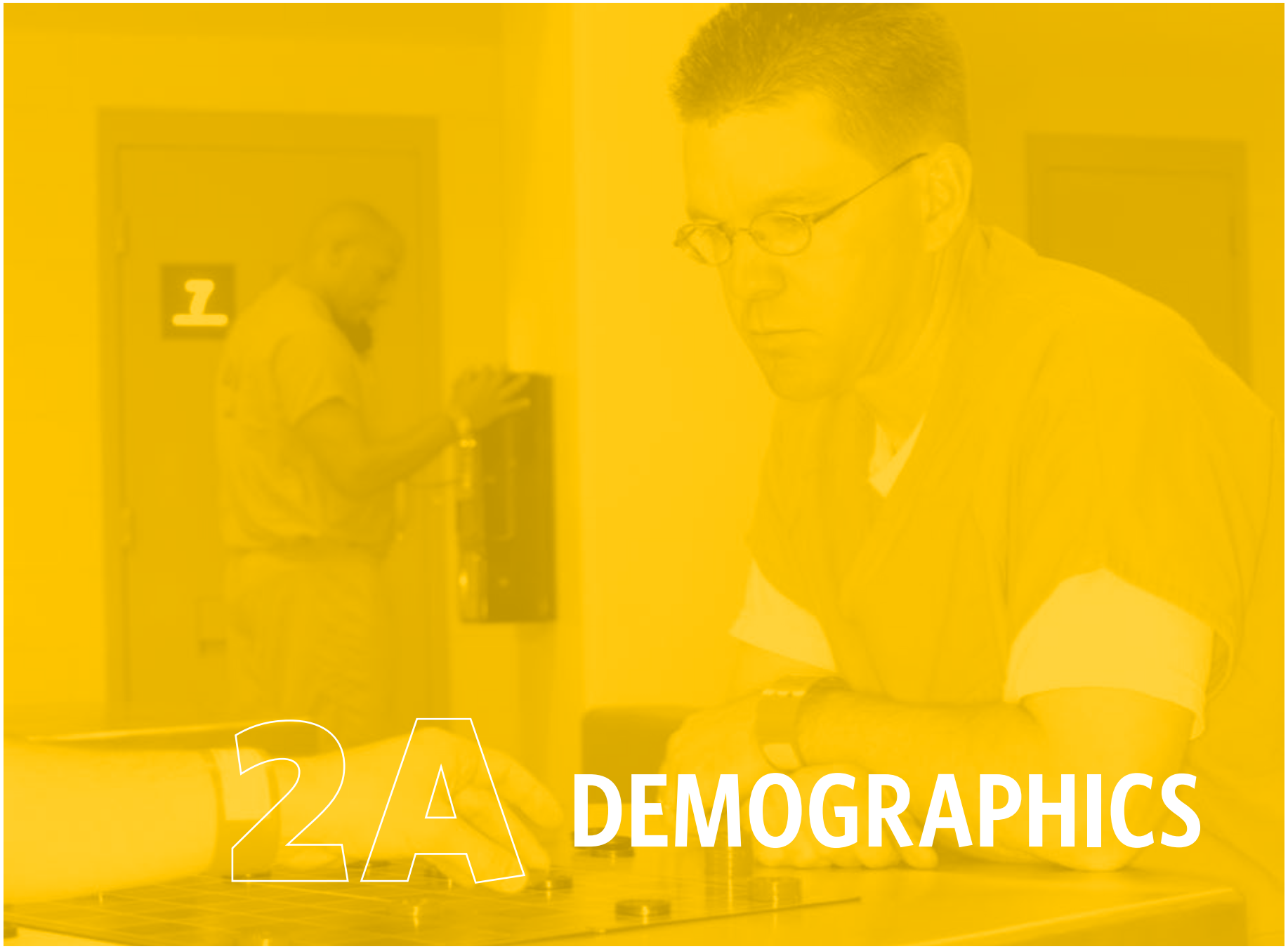
2.3 RESEARCH ORGANIZATION

This research will begin with a discussion of the demographics of the U.S. state correctional population, and the current state models of correctional health care. It will then go on to discuss inmate-patient care. Because different patient types may require different settings for their care, this review has been divided into different categories of care. These categories include:

1. **Ambulatory and General Care**
   This section will also include Diagnostic and Treatment Services, Partnerships, and Telemedicine
2. **Elder Care**
   This section will also include Chronic Care and Disabilities
3. **Palliative Care**
   This section will also include Hospice and Compassionate Release
4. **Emergency/Trauma Care**
5. **Dental Care**
6. **Mental Health Care**
   Because Mental Health is such a large field of study, this section will offer a general overview of mental health services
7. **Women's Health Care**

In addition, there will also be a discussion in the research surrounding safety and security issues related to providing care for inmate-patients within the community hospital setting, as well as a discussion surrounding transportation of the inmate-patient from the prison facility to the community hospital setting.

The literature for the individual care types will be reviewed in two parts: results and discussion. In the results sections, the current research on correctional healthcare will be synthesized and summarized to report on current practices and key drivers. In the discussion sections, a more critical analysis of the literature will be presented, including identifying gaps in the research and suggestions for future research and practice.



2A DEMOGRAPHICS

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2A.1 THE NUMBER OF PRISONERS WORLDWIDE

The United States houses a quarter of the world's prisoners, though it has only five percent of the world's population.

(Rich et al., 2011)

No other country incarcerates more of its citizens than the United States *(Rich et al., 2011; Wilper et al., 2009)*.

Imprisonment rates per 100,000 citizens across the globe include:

30 INDIA **119** CHINA **628** RUSSIA

75 NORWAY **148** UK **750** US

(Wilper et al., 2009).

The number of Americans that are currently, or have previously been incarcerated in prison is approximately 6 million *(Ahalt, Binswanger, Steinman, Tulsky, & Williams, 2012).*

The number of people in U.S. prisons has increased by more than 600 percent over the last 40 years *(Rich et al., 2011)*. Between 1983 and 2008, the nation's prison population grew from 424,000 to 1.5 million *(McGarry, 2010)*. In addition, between 1985 and 2010 the prison population grew by 204 percent, people on state-supervised parole grew by 158 percent, and the number of people on probation grew by 122 percent *(McGarry, 2010)*.

At the end of 2007, the Federal Bureau of Prisons housed 166,794 inmates, in 114 facilities, in 93 locations *(U.S. Department of Justice, Office of the Inspector General, 2008)*. In addition, 33,354 inmates were housed in privately managed or contracted facilities, or other facilities in 2007 *(U.S. Department of Justice, Office of the Inspector General, 2008)*. At the end of 2014, 1,561,500 state and federal prisoners were held in the U.S., a decrease of one percent from the previous year, and a continuation of a decline that began in 2007 *(Carson, 2015; Kendig, 2016; L. Maruschak, Chari, Simon, & DeFrances, 2016; Natterman & Rayne, 2016)*. In total, state and federal prisons admitted 626,600 persons in 2014, including 449,000 new admissions *(Carson, 2015; Schnittker, Uggen, Shannon, & McElrath, 2015)*.

Some of the largest states also have the largest prisoner populations, including California, Texas, and Florida *(Schnittker et al., 2015)*. **In many cases, the size of the prison population is based on states' sentencing policies, administrative procedures, and political preference for incarceration over other programs or forms of punishment** *(Schnittker et al., 2015).*

Although the laws in different states vary, there has been a movement to reduce inmate populations by reducing mandatory minimum sentencing, offering more diversion programs for non-violent drug offenders, and expanding the eligibility for parole programs, along with more lenient responses to parole violators *(Kendig, 2016).*

By the end of 2014, 18 state departments of corrections and the Federal Bureau of Prisons were operating at more than 100 percent of capacity *(Carson, 2015).* Capacity is reported on three different measures: Operational capacity, rated capacity, and design capacity *(Carson, 2015)*. Operational capacity is based on staff, programs, and services to accommodate a certain population size; rated capacity is the number of beds assigned by a rating official to each prison; and design capacity, which is the number of beds the facility was designed to accommodate *(Carson, 2015)*.

In 2006, a three-judge panel ruled that overcrowding in California's prison system was preventing the California Department of Corrections and Rehabilitation (CDCR) from delivering constitutionally adequate health care *(Edwards, Brown, & Taylor, 2012).* **At the time of the ruling, California was operating at 188 percent of design capacity and the three-judge panel ruled that the prison population should be capped at 137.5 percent of design capacity** *(Edwards et al., 2012).*

2A.2 DISTRIBUTION BY INMATE AGE, RACE AND SEX

If current rates of incarceration do not change, 1 in 15 Americans born in and after 2001 are expected to go to prison at some point in their lives *(Ahalt et al., 2012; Schnittker et al., 2015).*

For Latinos:

For African American men:

(Ahalt et al., 2012; Schnittker et al., 2015).

Incarceration has become a common life experience for African Americans, especially males with no college education *(Rich et al., 2011; Schnittker et al., 2015).* African American men are far more likely to have spent time in prison than to have joined the military, or gone to college by the time they reach middle age *(Rich et al., 2011).* In addition, they are far more likely to be sent to prison for drug offenses than whites, even though they do not use drugs more than whites *(Rich et al., 2011).* Dumont et al. *(2012)*, noted that African Americans are 13 times more likely to be imprisoned for drug use and make up 62% of those incarcerated as a result of the war on drugs. However, research also shows that the rates of drug use are similar among African Americans and whites at 9.6% and 8.8% respectively *(Dumont et al., 2012).* This is also true for crack cocaine use where African Americans make up 15% of users, but account for more than 85% of those sentenced under mandatory minimum sentencing *(Dumont et al., 2012).*

2A.2.1 MALE INMATE POPULATION

Imprisonment rates for African American males are on average between 3.8 to 10.5 times higher than white males, and 1.4 to 3.1 times greater than Latinos *(Carson, 2015).* At year-end 2014, the racial makeup of male state and federal prisoners was as follows: 37 percent African America, 32 percent white, and 22 percent Latino *(Carson, 2015).* As a percentage of the population, 2,724 per 100,000 African American male residents, 1,090 per 100,000 Latino residents, and 465 per 100,000 white male residents were in state or federal prison *(Carson, 2015).*

As a percentage of population:

2,724 PER 100,000 AFRICAN AMERICAN MALE RESIDENTS

1,090 PER 100,000 LATINO RESIDENTS

465 PER 100,000 WHITE MALE RESIDENTS

(E. Carson, 2015)

2A.2.2 FEMALE INMATE POPULATION

The United States houses over one third of all women in the world who are behind bars *(Kruttschnitt, 2010).* Female prisoners have made up seven percent of the total U.S. prison population over the last decade *(Carson, 2015; Stephan, 2008).* The number of women in state and federal prisons rose by 21.6 percent between 2000 and 2009 *(Fleming, LeBlanc, & Reid, 2013).* According to Aday et al. *(2014)*, 108,000 women are incarcerated in state and federal prisons. At the year-end 2014, the racial makeup of female state and federal prisoners was as follows: 53,100 white prisoners, 22,600 African American prisoners, and 17,800 Latina prisoners *(Carson, 2015).* African American females were between 1.6 and 4.1 times more likely to be in prison than white females *(Carson, 2015).* The incarceration rates by race for women per 1,000 is 5 for whites, 15 for Latinas, and 36 for African Americans *(Freudenberg, 2002).*

Incarceration rates by race for women

5 PER 1,000 WHITES

15 PER 1,000 LATINAS

36 PER 1,000 AFRICAN AMERICANS

(Freudenberg, 2002)

2A.2.3 ELDERLY INMATES

Of the 35 systems that provided data to the Corrections Compendium (2006), 5.8 percent of those populations could be categorized as elderly. Currently, older inmates account for 10 percent of the prisoner population *(Ahalt et al., 2013).* According to the research by Macmadu (2015), from 1990 to 2012, the number of elderly inmates (ages 55 and above) has grown by 550 percent. According to the research by Carson et al. (2016), between 1993 and 2013, the number of inmates 55 and older grew by 400 percent, from three percent of the total prison population to 10 percent. In that same time period, the median age of prisoners increased from age 30 to 36 years *(E. A. Carson & Sabol, 2016).* **According to the survey by Maruschak et al. (2016), by the year 2030, it is anticipated that the elderly population in prison will reach 400,000.**

Between 1993 and 2013, the number of inmates 55 and older grew by 400%, from 3% of the total prison population to 10%.

Carson et al. (2016)

2A.3 COMMON PRISONER BACKGROUNDS

As compared to 20 years ago, today's inmates are older, sicker, and receiving longer sentences (Graves, 2007). Many inmates come from underserved communities, are underinsured, and have not had adequate access to healthcare prior to incarceration *(Ahalt et al., 2012; Council of State Governments Justice Center, 2013; Macmadu & Rich, 2015; Marquart, Merianos, Hebert, & Carroll, 1997; Rich et al., 2011; T. H. Stone & Winslade, 1998; Trestman, Ferguson, & Dickert, 2015; Winter, 2008).* Many inmates have also had adverse behavioral health risk factors, such as tobacco, alcohol, and drug use *(Ahalt et al., 2012; Macmadu & Rich, 2015; Marquart et al., 1997; Wilper et al., 2009; Winter, 2008).* **Seventy percent of former inmates report past substance abuse or dependency** *(Ahalt et al., 2012; Council of State Governments Justice Center, 2013).*

Over half of state prisoners suffer from drug dependence and 20 percent have histories of injection drug use, compared to just two percent of the general population *(Macmadu & Rich, 2015; Rich et al., 2011).* In addition, up to a third of the 200,000 heroin users pass through the criminal justice system *(Rich et al., 2011).* A 1997 study by the National Center on Addiction and Substance Abuse (CASA) reported that up to 80 percent, or 1.7 million prisoners were under the influence of drugs or alcohol at the time of their crimes, had stolen items to buy drugs, had a history of addiction, or shared combinations of these characteristics *(Anno, 2004).*

Marquart et al. (1997) noted that most prisoners are:

- Male, non-white
- Poorly educated
- Of low socioeconomic status
- Prior drug users
- Unattached, between 17 and 30 years old
- From urban areas

Incarceration causes breakdowns of stable relationships, which results in risky sexual partnerships which then leads to increased rates of sexually transmitted diseases (STDs, HIV, and unwanted pregnancies) *(Rich et al., 2011; Schnittker et al., 2015; Winter, 2008).*

Because no country has ever incarcerated their population at such high rates, the full social and public health effects may not be known for some time

(Rich et al., 2011; Schnittker et al., 2015).

2A.4 CONVICTION TYPES AND DURATION OF SENTENCE

2A.4.1 TOTAL INMATE POPULATION

Ninety-seven percent of inmates in state and federal prisons were sentenced to more than one year in prison *(Carson, 2015).* The average length of stay in U.S. prisons is just over two years *(Anno 2004).* State prisoners 55 and older had the highest percentage of violent offenses *(Carson & Sabol, 2016).* **In addition, 31 percent of state prisoners ages 65 or older in 2013 were serving life or death sentences** *(Carson & Sabol, 2016).*

The percentage of white, African American, and Latino inmates sentenced for drug offenses was similar at 15%, 16%, and 15% respectively *(E. Carson, 2015).*

VIOLENT OFFENSES	RAPE OR OTHER SEXUAL ASSAULT
57% AFRICAN AMERICANS	39,700 AFRICAN AMERICANS
59% LATINOS	37,300 LATINOS
48% WHITES	78,500 WHITES

The percentage of white, African-American, and Latino inmates sentenced for drug offenses was similar at 15 percent, 16 percent, and 15 percent, respectively *(Carson, 2015).* For violent offenses, African Americans–57 percent, and Latinos–59 percent, had a larger percentage of convictions than whites–48 percent *(Carson, 2015).* The number of whites sentenced for rape or other sexual assaults was more than the total of African Americans and

Latinos, with 78,500 prisoners for whites, 39,700 prisoners for African-Americans, and 37,300 for prisoners for Latinos *(Carson, 2015)*. According to the Bureau of Justice Statistics, in 1997, 10 percent of the inmate population were sex offenders *(Anno, 2004)*.

2A.4.2 MALE INMATE POPULATION

According to Carson *(2015)*, 54 percent of male inmates were sentenced for violent offenses, of which 13 percent were for murder. Other violent offenses included non-negligent manslaughter and rape or sexual assault *(Carson, 2015)*. Fifteen percent of male state prisoners were sentenced for drug offenses *(Carson, 2015)*.

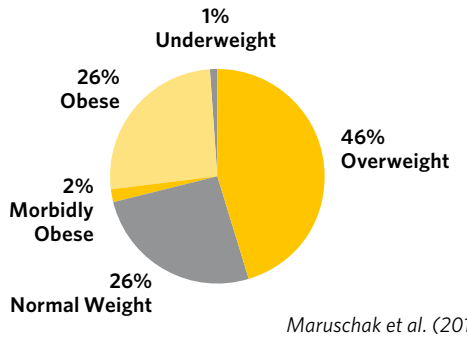
2A.4.3 FEMALE INMATE POPULATION

According to Carson *(2015)*, 37 percent of female inmates were sentenced for violent offenses, of which 11 percent were for murder. Other violent offenses were similar to the male population *(Carson, 2015)*. Twenty four percent of female state prisoners were sentenced for drug offenses *(Carson, 2015)*.

2A.5 COMMON MEDICAL CONDITIONS

Forty-four percent of state prisoners reported a current medical problem *(Maruschak, 2012)*. In addition, more medical problems were reported by state inmates who were, homeless the year before arrest, who used needle-injected drugs, and who had received government assistance, than those who did not suffer those conditions *(Maruschak, 2012)*. Female inmates were more likely to report having a current medical problem than their male counterparts, but both were equally likely to report a dental condition *(Maruschak, 2012)*. In regards to injuries, state inmates reported accident-related injuries 1.5 times more than fight-related injuries *(Maruschak, 2012)*.

Nearly 75% of all inmates are overweight or obese.



Maruschak et al. (2015)

Nearly 75 percent of all inmates were overweight–46 percent, obese–26 percent, or morbidly obese–2 percent *(Maruschak, 2015)*. In addition, 26 percent of inmates were reported being of normal weight and one percent were reported being underweight *(Maruschak et al., 2015)*. Female inmates were less likely to be overweight than male inmates, but female inmates were more likely to be obese, or morbidly obese *(Maruschak et al., 2015)*.

2A.5.1 CHRONIC CONDITIONS

Chronic conditions and disabilities manifest themselves in inmates at an earlier age than in the general population *(Ahalt et al., 2012)*. **The prevalence rates of chronic conditions such as asthma, hypertension, and mental health disorders far exceed the general population** *(Kinsella, 2004; Macmadu & Rich, 2015; Rich et al., 2011; Wilper et al., 2009; Winter, 2008)*. Over 50 percent of former inmates report at least one chronic condition *(Ahalt et al., 2012; Council of State Governments Justice Center, 2013; Maruschak et al., 2015)*. In addition, 73 percent of inmates reported having a chronic condition at time of admission *(Maruschak et al., 2015)*. Of the 29 systems that provided data on chronic illness prevalence, 25.3 percent of those populations reported being chronically ill *(Corrections Compendium, 2006)*. According to the research by Maruschak et al. *(2015)*, two or more chronic conditions were reported by 24 percent of the inmate population.

Chronic conditions were reported by 42.8 percent of state inmates and by 38.5 percent of federal inmates *(Wilper et al., 2009)*. In addition, female inmates were more likely to report these medical conditions than their male counterparts *(Maruschak, 2012; Maruschak et al., 2015)*. **Inmates show a higher rate of many common chronic conditions such as diabetes, heart disease, high blood pressure, stroke related problems, kidney related problems, arthritis, asthma, cirrhosis of the liver, and cancer** *(Ahalt et al., 2012; Marquart et al., 1997; Maruschak, 2012; Maruschak et al., 2015; Wilper et al., 2009)*.

Elderly inmates, much like the general population, have a higher prevalence of chronic conditions, geriatric syndromes, and disabilities *(Kinsella, 2004; Macmadu & Rich, 2015; N. H. Williams, 2007)*. **Older inmates were three times more likely to report having chronic conditions, or an infectious disease than their younger counterparts** *(Maruschak et al., 2015)*. Percentages of state inmates who reported medical problems, dental problems, and recent surgeries increased with age *(Maruschak, 2012)*.

Sixty-six percent of inmates with a chronic condition were taking prescription medications for treatment *(Maruschak et al., 2015)*. According to Wilper et al. *(2009)*, one in five inmates were taking prescription medicine for some reason at the time of incarceration; however, 28.9 percent of state and 26.3 percent of federal inmates stopped the medication following admission.

Thirty-six percent of state prisoners reported having an impairment, such as learning, speech, hearing, vision, mobility, or mental health issues *(Bronson, Maruschak, & Berzofsky, 2015; Maruschak, 2012)*. In addition, between 13 percent and 16 percent reported having two or more impairments *(Bronson et al., 2015; Maruschak, 2012)*. Male and female inmates were equally as likely to report having an impairment *(Maruschak, 2012)*. However, female inmates were more likely than male inmates to report a mental impairment *(Maruschak, 2012)*. According to the research, the percentage of inmates reporting hearing and vision impairments increased with age, while the percentage of inmates reporting learning impairments decreased with age *(Maruschak, 2012)*.

In the prison population, about 40 percent of female and 31 percent of male inmates reported a disability *(Bronson et al., 2015)*. More than half of state prisoners with a disability also reported a co-occurring chronic medical condition *(Bronson et al., 2015)*. In addition, older inmates were more likely to report a disability than younger inmates *(Bronson et al., 2015)*.

2A.5.2 COMMUNICABLE DISEASES

Inmates have high rates of communicable diseases *(Council of State Governments Justice Center, 2013; Marquart et al., 1997; T. H. Stone & Winslade, 1998)*. Twenty-one percent of inmates reported ever having a communicable disease, including tuberculosis, hepatitis B and C, and other sexually transmitted diseases *(Maruschak et al., 2015)*. As many as one-third of Americans infected with hepatitis C and one-quarter infected with HIV pass through a correctional facility each year *(Rich et al., 2011)*.

The prevalence rate of HIV was four to five times higher for incarcerated populations than for the general population *(Macmadu & Rich, 2015)*. Wilper et al. *(2009)* reported 1.6 percent of state and 1.0 percent of federal inmates reported testing positive for HIV. This was echoed by Maruschak et al. *(2015)* who noted that 1 percent of tested inmates reported being HIV positive *(Maruschak et al., 2015)*. Cropsey et al. *(2012)* noted that the prevalence of AIDS was 2.4 times higher in correctional facilities than it is in the general population.

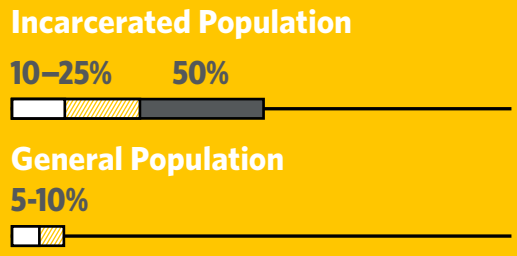
According to the CDC, an estimated 18% of the prison population is infected with hepatitis C, as compared to 1.6 percent of people in the community population *(Anno, 2004)*. Macmadu and Rich *(2015)* noted that the prevalence rate for hepatitis C was 9 to 10 times higher than in the general community. Cropsey et al. *(2012)* reported that one-third of prisoners were infected with hepatitis C, as compared to less than two percent in the general community.

Research has shown that the rate of tuberculosis is four times higher in prisons than in the general population *(Macmadu & Rich, 2015)*. Cropsey et al. *(2012)* found that 20 percent to 25 percent of inmates tested positive for tuberculosis as compared to less than one percent for the general population.

2A.5.3 MENTAL HEALTH CONCERNS

Among incarcerated adults, rates of mental illness and suicide are two to three times higher and two to four times higher, respectively, than the general population *(Cropsey et al., 2012)*. Self-reported prevalence rates for serious mental health conditions among state prisoners was 16 percent *(Anno, 2004)*. In addition, between four percent and nine percent of state prisoners were reported as suffering an intellectual disability, and 10 percent of those were being provided with specialized services *(Anno, 2004)*.

Over 50 percent of the incarcerated population suffers from symptoms of a psychiatric disorder and between 10 percent and 25 percent suffer from a serious mental health problem such as schizophrenia, as compared to an estimated 10 percent and 5 percent of the general population, respectively *(Macmadu 2015)*.



At least one previously diagnosed mental health condition was reported by 25.5 percent of state inmates and by 14.8 percent of federal inmates *(Wilper et al., 2009)*. Of those inmates, 29.6 percent of state and 25.5 percent of federal inmates were taking medications at the time of their arrest *(Wilper et al., 2009)*. Among inmates with a previously diagnosed mental health condition and who had been taking medications, 68.6 percent of state and 69.1 percent of federal inmates had taken a medication since incarceration *(Wilper et al., 2009)*.

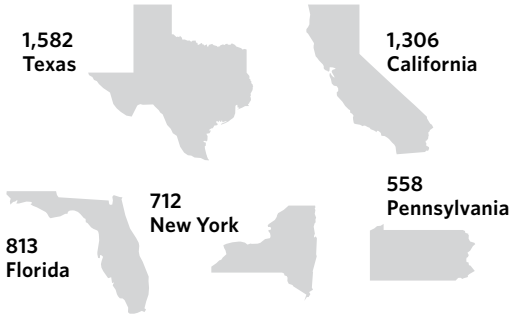
Many inmates also suffer from substance abuse disorders, with prevalence rates four times as high as that of the general population *(Cropsey et al., 2012)*. Of those inmates who suffer from a serious mental health disorder, over 70 percent also have a substance abuse disorder *(Macmadu & Rich, 2015)*. Cropsey et al. *(2012)* found that over 50 percent of inmates had a co-occurring mental health and substance abuse disorder, which was six to 10 times higher than the general population.

Even though half of U.S. inmates have a psychiatric disorder, and they have prevalence rates of major depression and psychotic disorders four to eight times as high as the general population, only 22 percent of state prisoners receive treatment while incarcerated *(Rich et al., 2011)*. While inmates with severe mental health conditions are routinely treated, those with more subtle conditions are usually not treated until they decompensate and the conditions worsen *(Anno, 2004)* .

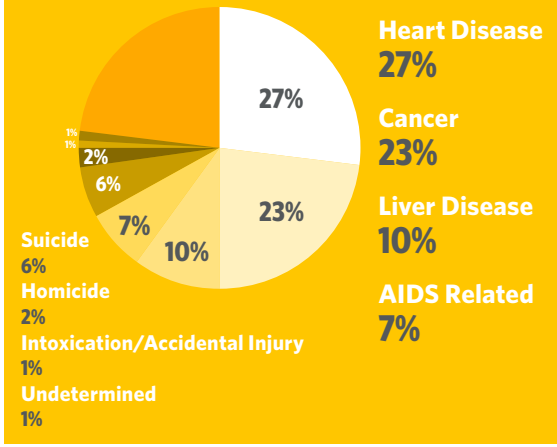
2A.6 CAUSES OF DEATH WHILE INCARCERATED

For the age group between 15 and 64 years old, the inmate mortality rate is 20 percent lower than the general population; for the age group between 55 to 64 years old, the inmate mortality rate is 56 percent higher than the general population *(Mumola, 2007)*. Inmates over 45 years old made up only 14 percent of the prison population, but accounted for 67 percent of all deaths *(Mumola, 2007)*. In addition, 85 percent of the inmates who died during the study period were at least 45 years old at the time of admission *(Mumola, 2007)*. The research also showed that the longer an inmate stayed in prison, the greater chance they had of dying from illness *(Mumola, 2007)*. The mortality rate for inmates who have served 10 years or more was triple that of inmates who have served less than five years *(Mumola, 2007)*. However, this did not hold true for communicable diseases, where time served played little role in the death rate *(Mumola, 2007)*. Though mortality rates varied across states, five states accounted for over 40 percent of inmate deaths over the study period *(Mumola, 2007)*. Those states were Texas–1,582, California–1,306, Florida–813, New York–712, and Pennsylvania–558 *(Mumola, 2007)*.

Though mortality rates varied across states, 5 states accounted for over 40% of inmate deaths over the study period *(Mumola, 2007)*.



Nearly 89% of the 12,129 state prisoner deaths reported by the Deaths in Custody Reporting Program between 2001 and 2004 were attributed to medical conditions *(Lincoln, 2008; Mumola, 2007)*. **Nearly two-thirds of all prisoner deaths can be linked to four medical conditions:**



Nearly 89 percent of the 12,129 state prisoner deaths reported by the Deaths in Custody Reporting Program between 2001 and 2004 were attributed to medical conditions *(Lincoln, 2008; Mumola, 2007)*. Nearly two-thirds of all prisoner deaths can be linked to four medical conditions including heart disease–27 percent, cancer–23 percent, liver disease–10 percent, and AIDS-related–7 percent *(Lincoln, 2008; Mumola, 2007)*. In addition, six percent were attributed to suicide, two percent to homicide, one percent to intoxication or accidental injury, and one percent was undetermined *(Mumola, 2007)*. The mortality rate for men for all causes of death was 72 percent higher than for women inmates *(Mumola, 2007)*. The male death rate was twice as high as the female death rate for the top three causes of death *(Mumola, 2007)*.

Stone et al. *(2006)* reported that cardiopulmonary disease was the primary cause of death in both the incarcerated population and the general community; however the rate was four times higher in the prison population. In addition, the rates for cancer deaths and AIDS-related deaths were three and 100 times higher respectively in the prison population than the general community *(T. T. Stone et al., 2006)*.

In 68 percent of the illness-related deaths, the inmate's condition was pre-existing at the time of admission *(Mumola, 2007)*. In those instances, AIDS–94 percent and liver disease–88 percent were the most common conditions present at admission *(Mumola, 2007)*. In 54 percent of all cancer fatalities, the condition was present upon admission, and lung cancer accounted for one in three cancer deaths *(Mumola, 2007)*.

2A.7 INCIDENCE OF RELEASE FOR THE INCARCERATED

95%

of incarcerated persons will eventually be released back to their communities

More than 95 percent of incarcerated persons will eventually be released back to their communities *(Ahalt et al., 2013; Macmadu & Rich, 2015; Rich et al., 2011; Winter, 2008)*. According to research, 636,300 state and federal inmates were released in 2014 *(Carson, 2015; Schnittker et al., 2015; Winter, 2008)*. **In addition, Kinsella (2004) reported that 1,600 inmates are released daily nationwide.**

2A.8 RATE OF RECIDIVISM

Between 1998 and 2001, the national recidivism rate was 51.8 percent *(Conklin, Lincoln, Wilson, & Gramarossa, 2002)*. **According to Ha et al. (2011), recidivism rates had risen to 70%.** For all newly released prisoners, the highest risk for recidivism occurs within the first six months of discharge *(Abramsky, 2003)*. Evidence-based educational, job-training, and treatment programs provided to incarcerated or community-supervised persons are critical in reducing recidivism and enhancing public safety *(McGarry, 2010)*. In addition, re-entry programs that focus on health, and residential and employment services have also been shown to reduce recidivism *(McGarry, 2010)*.

2A.9 COSTS TO INCARCERATE

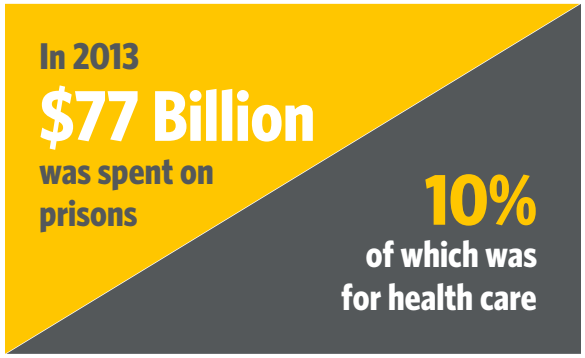
Between 1983 and 2008, state corrections spending grew by 674 percent *(McGarry, 2010)*. According to other sources, there has been a 300 percent increase in state spending on corrections since 1980 *(Macmadu & Rich, 2015; Rich et al., 2011)*. In 2008, states spent $52 billion on corrections, which accounted for 3.5 percent of the total state expenditure *(McGarry, 2010)*. **The $50 billion that is spent on corrections is second only to Medicaid as the fastest growing area of government spending** *(Macmadu & Rich, 2015; Rich et al., 2011)*.

Correctional spending exceeds higher education spending in five states *(Freudenberg, 2002; Macmadu & Rich, 2015; Rich et al., 2011)*. Corrections budgets have represented between five percent and six percent of state general funds since the year 2000 *(Lawrence, 2014)*. According to the Public Safety Performance Project of the Pew Charitable Trust, $9 out of every $10 spent on corrections goes to prisons *(Lawrence, 2014; McGarry, 2010)*.

Between fiscal year 2010 and 2014, the Federal Bureau of Prisons' budget increased from $6.2 billion to $6.9 billion—an increase of 11% *(Federal Bureau of Prisons, 2016)*. According to the National Conference of State Legislatures' State Budget Actions projections: FY 2013 & 2014, states will spend $40 billion in 2014 to incarcerate and supervise offenders *(Lawrence, 2014)*. In the state of California, adult corrections expenditures totaled $5.4 billion, over half of the corrections expenditures for fiscal year 2007-08 *(California State Auditor, 2010)*. **In addition, it costs an average of $70,000 annually to house elderly inmates, almost three times more than a younger inmate** *(Ahalt et al., 2013; Kinsella, 2004)* .

2A.10 MEDICAL COSTS

Reports vary as to the costs of correctional healthcare as a percentage of the total corrections budget, due to variations in the years studied and the number of respondents to surveys. Some research had shown that between 1998 and 2001 correctional healthcare costs grew by 10% annually and comprised 10 percent of all corrections expenditures *(Kinsella, 2004; Lamb-Mechanick & Nelson, 2000)*. During that same time period there was between an 8% and 9% growth in corrections budgets, and a 3.7% growth in state budgets *(Kinsella, 2004; Lamb-Mechanick & Nelson, 2000)*. An average of 11.7% of state departments of corrections (DOCs) costs were spent on healthcare *(Anno, 2004)*. According to the Corrections Compendium *(2006)*, U.S. systems responding to their survey spent $4.4 billion on healthcare expenditures, representing an average of 14.8 percent of those systems' corrections budgets. States spend between 9 percent and 30 percent of their corrections budgets on inmate health care *(Schaenman et al., 2013)*. In 2008, nearly 20 percent of prison costs were spent on inmate health care according to the State Health Care Spending Project of the Pew Charitable Trusts *(Lawrence, 2014)*.



(Ahalt et al. 2013)

Between fiscal year 2007 and 2011, 41 states saw a median increase in their correctional healthcare spending of 13 percent *(Federal Bureau of Prisons, 2016; Trusts, 2014)*. During that same period, the per inmate health spending increased by a median of 10 percent in 39 states *(Trusts, 2014)*. Owing in large part to an aging population and pre-existing diseases, a majority of states saw a 28 percent increase in their healthcare spending *(Natterman & Rayne, 2016)*.

The Federal Bureau of Prisons spent $736 million on inmate health care during fiscal year 2007 *(U.S. Department of Justice, Office of the Inspector General, 2008)*. Between fiscal year 2010 and 2014, the Federal Bureau of Prisons' medical spending increased from $905 million to $1.1 billion, an increase of 22 percent which was twice the percentage increase of the correctional budget *(Federal Bureau of Prisons, 2016)*.

States spent a mean of $70 million per state, and a median of more than $32 million per state on health care in 1981 *(Anno, 2004)*. According to Macmadu *(2015)*, $7.5 billion was allocated to correctional healthcare in 2004. In 2011, the total prison health care spend was $7.7 billion, down from the $8.2 billion high in 2009 *(Trusts, 2014)*. In addition, the average healthcare expense per inmate was $3,775 *(Corrections Compendium, 2006)*. **States that had a higher percentage of older inmates saw a higher per inmate spending rate** *(Trusts, 2014)*. **The high cost of care was attributed to high rates of disease, a growing elderly population, and prison location** *(Lawrence, 2014)*.

Of the 10 states that provided detailed cost breakdowns for the study period from 2007 to 2011, the average distribution of correctional health care funds is as follows *(Trusts, 2014)*:

37%	General Medical Care	5%	Substance Abuse Treatment
20%	Hospitalization	4%	Dental Care
14%	Mental Health Care	4%	Health Care Administration
14%	Pharmaceuticals	1%	Other

The cost of incarcerating inmates with severe mental health disorders in jails and prisons is estimated at $15 billion annually *(Kinsella, 2004)*.

As a comparison, it costs approximately $60 per patient per day for community mental health programs, where the cost to house a mentally ill inmate in prison can cost up to $137 per inmate per day *(Kinsella, 2004)*.

In the state of California, adult correctional health care expenditures totaled $2.1 billion, or 22 percent of the corrections expenditures for fiscal year 2007-08 *(California State Auditor, 2010)*. A significant portion of these costs is to provide specialty care such as surgery, cardiology, and dermatology *(California State Auditor, 2010)*. According to the California

State Auditor *(2010)*, $529 million of the $2.1 billion was for these specialty services. In addition, the state of California reported that less than one-half of one percent of its inmate population accounted for 39 percent of their specialty healthcare costs *(California State Auditor, 2010)*. Only 1,175 inmates had an average annual specialty healthcare expenditure of $157,707 per inmate in fiscal year 2007-08 *(California State Auditor, 2010)*. For older inmates, the California State Auditor *(2010)* reported that among all inmates requiring more than $5,000 in specialty healthcare costs, inmates over 60 years old had an average annual cost of $42,000 per inmate.

Some have argued that the method of care delivery and the staffing mix most affected the per capita spending and drove correctional health care costs, rather than number of health services provided *(Kinsella, 2004; Lamb-Mechanick & Nelson, 2000).* Ultimately, it is a combination of market forces and the healthcare system chosen by the DOC, including quality levels and access that will define inmate health care costs *(Lamb-Mechanick & Nelson, 2000)*.

2A.11 POST-RELEASE CONCERNS

Ninety-five percent of inmates will eventually be released back into their communities *(Fraser Hale, Brewer, & Ferguson, 2008; Trestman et al., 2015; Wang et al., 2014)*. In most cases, inmates are released with between $15 and $40 and a list of community phone numbers to help in finding food, shelter, work, and healthcare *(Kinsella, 2004)*. Many inmates face employment challenges as employers may discriminate against former felons *(Ahalt et al., 2012)*. In addition, those inmates who find employment may find it hard to keep those jobs, as many inmates are released with physical health conditions *(Ahalt et al., 2012)*.

Discharge planning varies greatly across prison facilities; however, most inmates are released with little more than a two-week supply of critical medications, such as insulin, with no scheduled follow-up care *(Rich et al., 2011).* Due to the lack of follow-up care, most released inmates will then burden the local emergency departments and care will be financed by the private sector *(Rich et al., 2011)*.

More states terminate, rather than suspend, Medicaid during incarceration, leaving a gap in coverage when the inmate is released *(Schnittker et al., 2015)*. In addition, about one-third of the states that terminate coverage do not provide assistance to re-apply *(Schnittker et al., 2015)*. Most released inmates have no health insurance *(Rich et al., 2011)*, and, after release, up to 80 percent of inmates require at least eight to 10 months to secure insurance *(Ahalt et al., 2012)*. This was echoed by Macmadu *(2015)* who noted that in 2010, as many as 90 percent of released inmates had no health insurance, which severely limited their access to healthcare. In addition, former inmates have higher usage rates of emergency services and also have higher mortality rates than other adults *(Ahalt et al., 2012)*.

During the two weeks after release, inmates are 13 times more likely to die than the general population, and 129 times more likely to die of a drug overdose *(Dumont et al., 2012; Macmadu & Rich, 2015; Rich et al., 2011).* **Common causes of death during this period include drug overdose, cardiovascular disease, homicide, and suicide** *(Macmadu & Rich, 2015; Rich et al., 2011).*

Because former inmates may be sicker than other members of their communities, may have more costly medical conditions, and may continue to use health services, even though they do not have the ability to pay, they could have a large economic influence on the community health system *(Schnittker et al., 2015)*. Added to that, most inmates return back to communities with the fewest resources and are already poor, overburdened, and have limited health services *(N. H. Williams, 2007)*. In larger numbers, former inmates may put an undue burden on their community health providers by increasing the cost of uncompensated care, thereby diminishing the financial stability of providers in their communities, which may force them to cut services or close all together, thereby reducing the quality and availability of care to others in the community *(Schnittker et al., 2015)*.

Prisoners become members of their community when released *(Ha & Robinson, 2011).* **Because of that, care coordination, case management, and discharge planning are crucial to connect discharged inmates with community-based services to ensure continuity of care, and limit the need for emergency department visits** *(Ha & Robinson, 2011).*

2B THE CURRENT STATE OF HEALTHCARE IN PRISONS

Correctional policy not only affects who goes to prison and how many people go to prison, it also affects the level and types of healthcare that correctional facilities need to provide to prisoners (Marquart et al., 1997). Prison healthcare is in a constant tension of two opposing forces: one of trying to expand access to care and the other trying to limit it *(McDonald, 1999)*. The challenge for states is to balance the finite dollars available against the requirement for providing a constitutional level of care *(Geisler, Gregory T. et al, 2011)*.

According to the World Health Organization, one of the strongest lessons learned from the end of the last century is that prison health care can no longer afford to be ignored by public health *(Møller, Gatherer, Jürgens, Stöver, & Nikogosian, 2007).* Good prison health can help prevent the spread of diseases, promote health through awareness and education, and can improve the health status of communities *(Møller et al., 2007)*. Prisons can be helped from being used as default healthcare services by building connections and cooperation between community healthcare services and prison healthcare services *(Møller et al., 2007)*.

2B.1 ESTELLE V GAMBLE

Prior to Estelle v Gamble 1975, administrative decisions regarding the treatment and care of inmates was left to prison officials by the courts *(Anno, 2004)*. It was not until the Attica prison riot in 1971 that the courts and certain medical professional associations began to intervene on the inmate's behalf *(Anno, 2004; McDonald, 1999)*. The case that began the legal process of securing adequate healthcare for inmates was Newman v Alabama 1971 *(Anno, Faiver, & Harness, 1996; Anno, 2004; Kinsella, 2004; McDonald, 1999)*. In this case, the entire state correctional system was found to be in violation of the Eighth Amendment against cruel and unusual punishment by a federal district court *(Anno, 2004)*. **The U.S. Supreme Court addressed the issues three years later in the landmark case Estelle v Gamble 1975** *(Anno et al., 1996; Anno, 2004; McDonald, 1999).* **In this decision, the court ruled that inmates have a constitutional right to healthcare, specifically because they cannot seek that care on their own** *(Anno, 2004; McDonald, 1999).* This case also established the legal benchmark of "deliberate indifference" to the inmate's "serious medical needs" as the criteria of judging the legality of a jurisdiction's correctional health program *(Anno et al., 1996; Anno, 2004; Kinsella, 2004; Macmadu & Rich, 2015; Raimer & Stobo, 2004; US Department of Justice, Office of the Inspector General, 2008)*. **Since that decision, the term "deliberate indifference" has been more closely defined into three categories including** *(Kinsella, 2004; Rold, 2008):*

1. **Unreasonably delayed or denied access to physician for diagnosis or treatment.**
2. **Failure to administer physician-prescribed treatment.**
3. **Denial of professional medical judgment.**

In general, the courts have considered three factors when determining if a state is being deliberately indifferent to the inmate's serious medical needs *(Rold, 2008):*

1. **The amenability of the inmate's condition to treatment**
2. **The consequence to the patients if treatment does not occur**
3. **The likelihood of a favorable outcome for the patient**

In some instances, the courts may also look at length of sentence.

Today, the most commonly accepted definition is the "community standard of care" *(Kinsella, 2004).* All medically necessary treatments must be provided in a timely manner by the states per court mandate *(Kinsella, 2004)*. All institutions, regardless of size, must provide some form of sick call and also be able to cope with emergencies *(Rold, 2008)*. In addition, when warranted by the patient's medical condition, access to specialists and inpatient hospital treatment is guaranteed under the Eighth Amendment *(Rold, 2008)*.

During the same time, the American Bar Association *(ABA)*, and the American Medical Association *(AMA)*, also began to focus on inmates' rights *(Anno, 2004; McDonald, 1999)*. Once the lack of adequate medical care came to light, the ABA reached out to the AMA for assistance, which then launched a project to improve the access, delivery, and overall health of those behind bars *(Anno, 2004)*. The highlight of the AMA project was the development of standards for healthcare in

corrections and a voluntary accreditation program *(Anno, 2004; Raimer & Stobo, 2004)*. The AMA project moved out of that organization in 1981 and evolved into the National Commission on Correctional Health Care *(Anno, 2004)*.

Though care is mandated through the Estelle v Gamble 1975 decision, many note that there are still widespread deficiencies in the care that is being provided *(Damberg, Shaw, Teleki, Hiatt, & Asch, 2011)*.

1
Federal

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State Facilities

Prisons under court order, or consent decrees to improve the conditions in their institutions in 32 states *(Damberg et al., 2012)*.

In addition to Estelle v Gamble 1975, later cases such as Bowring v Godwin 1977 established that psychiatric concerns were also included as a "serious medical need" *(Anno, 2004)*. Because of the decision in Estelle v Gamble 1975, prisoners are the only population in the U.S. whose healthcare is a constitutionally protected right *(McDonald, 1999)*.

2B.2 WAR ON DRUGS / MANDATORY MINIMUMS

The terms "hyperincarceration" or "mass incarceration" have been used to describe the recent dramatic expansion of the criminal justice system in the U.S. *(Dumont et al., 2012; Macmadu & Rich, 2015)*. **Most of the increase in the prisoner populations has been attributed to the "war on drugs" and mandatory minimum sentencing laws** *(Macmadu & Rich, 2015; McDonald, 1999; Raimer & Stobo, 2004; Rich et al., 2011)*. Within the past 40 years, "tough-on-crime" rhetoric, along with federal grants for law enforcement through the Violent Crime Control and Law Enforcement Act of 1994, resulted in unprecedented increases of drug possession arrests *(Dumont et al., 2012; Macmadu & Rich, 2015; Smyer & Burbank, 2009)*. At the same time, mandatory minimum sentencing was imposed on those arrested for drug-related crimes, resulting in more people serving longer sentences *(Macmadu & Rich, 2015)*. Besides mandatory minimum sentences, truth-in-sentencing laws were also enacted that required that 85 percent of a sentence be served before release is considered *(Deaton, Aday, & Wahidin, 2010; Smyer & Burbank, 2009)*. Fourteen states and the Bureau of Prisons *(BOP)* had also eliminated parole, which for many years served as early release for well-behaved inmates *(Anno et al., 2004)*.

Low-income and undereducated people, some of the nation's most vulnerable populations, disproportionately bore the burden of mass incarceration *(Dumont et al., 2012; Macmadu & Rich, 2015; Raimer & Stobo, 2004)*. **As a public safety strategy, incarcerating millions of people for drug-related crimes has not only failed, it has also adversely affected the public health of the communities to which these prisoners return** *(Rich et al., 2011)*. Because of this, and in an effort to reduce spending on corrections, many states are now repealing and amending their mandatory sentencing laws *(McGarry, 2010)*.

2B.3 THREE STRIKES

With the intent of ensuring longer sentences and greater punishments for those who commit a felony, or who were previously convicted of a serious violent felony, the state of California enacted its three strikes law in 1994 *(California State Auditor, 2010)*. These laws generally provide a minimum sentence of 25-years-to-life for the conviction of a felony, while having two or more previous convictions for a violent or serious felony *(California State Auditor, 2010)*. At the same time, these laws also limited the possibility of probation, as well as mandated that the inmates serve their sentences in state prisons *(California State Auditor, 2010)*.

In the state of California, 25 percent of the inmate population was incarcerated under the three-strike law as of April 2009 *(California State Auditor, 2010)*. On average, these inmates were serving sentences nine years longer due to rules of the legislation *(California State Auditor, 2010)*. In addition, the average age of the "third striker" was 36.1 years old *(Smyer & Burbank, 2009)*. **According to the California State Auditor (2010), the additional years imposed by the three-strikes law costs the state an additional $19.2 billion over the duration of the incarceration.** Of that $19.2 billion, $7.5 billion is for striker inmates whose convictions are for crimes that are not strikes *(California State Auditor, 2010).*

2B.4 DEINSTITUTIONALIZATION OF INMATES WITH BEHAVIORAL HEALTH ISSUES

Deinstitutionalization began in the 1970s as an attempt to move mental health patients to more humane care within their communities *(Macmadu & Rich, 2015; Marquart et al., 1997; McDonald, 1999; Rich et al., 2011)*. However, due to insufficient funding, many patients received limited care or no care at all *(Macmadu & Rich, 2015; Marquart et al., 1997; McDonald, 1999; T. H. Stone & Winslade, 1998)*. Because of that, many people with undiagnosed or untreated mental health conditions were sentenced to the criminal justice system *(Macmadu & Rich, 2015; Marquart et al., 1997; McDonald, 1999; Rich et al., 2011; T. H. Stone & Winslade, 1998)*. This has led to jails, not hospitals, being the facilities housing the most psychiatric patients *(Rich et al., 2011)*. **Chicago's Cook County Jail, New York's Riker's Island, and the Los Angeles County Jail have become the largest mental health treatment facilities in the U.S.** *(Macmadu & Rich, 2015).*

2B.5 ACCREDITATION BODIES

The National Commission on Correctional Health Care (NCCHC) was the original organization designed to provide standards and accreditation of correctional health systems *(Anno et al., 1996; Anno, 2004; Macmadu & Rich, 2015; McDonald, 1999)*. The NCCHC has now been joined by the American Correctional Association (ACA) and the Joint Commission on Accreditation of Health Care Organizations (JCAHO) as organizations that offer accreditation of correctional health systems *(Anno et al., 1996; Anno, 2004; McDonald, 1999)*. The ACA is an organization of prison officials and correctional officers, and the JCAHO is the primary accreditation organization for hospitals and health organizations in the U.S. *(Anno et al., 1996; Anno, 2004)*. **Though these bodies accredit correctional health facilities, there is no nationally accepted, uniform healthcare standard** *(Hoskins, 2004).*

2B.6 HEALTHCARE DELIVERY METHODS

With recent substantial increases in prison populations, health policy analysts began to point out that existing correctional health models were not equipped to handle chronic or infectious diseases in prison populations *(Raimer & Stobo, 2004).*

Unlike inmate healthcare delivery in the 1970s, today healthcare in prisons is provided by licensed and certified professionals, as is the case in the general community *(Anno, 2004; McDonald, 1999)*. In addition, inmate workers are for the most part prohibited from providing patient care, scheduling appointments, handling medications, or handling health records *(Anno, 2004)*.

Correctional healthcare is provided in primarily three ways: Public correctional care, private industries, and academic medical centers *(Macmadu & Rich, 2015).* According to the National Institute of Corrections *(2003)*, state Departments of Corrections partnered with public health and private providers for the delivery of their correctional healthcare in the following distribution:

1. **The majority of the responding Departments of Corrections contracted with private providers for all or some of their healthcare services.**
   a. Private contractors provide all inmate health care in 11 DOCs.
   b. Corrections agencies and private contractors jointly provide inmate healthcare in 19 DOCs.
   c. Combined efforts of DOCs, outside contractors (specialty care), and public health provide inmate healthcare in eight DOCs.
2. **Public health providing inmate healthcare was reported in 5 DOCs.**

Texas: The Correctional Managed Care Committee subcontracts with two state medical schools to provide inmate healthcare in all but 12 facilities. The remaining 12 are operated by private contractors *(Edwards et al., 2012; Raimer & Stobo, 2004).*

a. **Connecticut:** The University of Connecticut Health Center in Farmington provides comprehensive managed healthcare to all state inmates.
b. **Massachusetts:** All inmate healthcare is contracted to a state-run medical school.

c. **South Dakota:** All inmate healthcare is provided through the State Department of Health. Inmate mental healthcare is provided through the Department of Human Services.

d. **Illinois:** In Cook County, all inmate care is provided through a county agency, Cermak Health Services of Cook County.

3. **The DOC provides all inmate health services in four DOCs.**

4. **New York City has arrangements where payments to outside contractors are paid by the City Department of Health and Mental Hygiene.**

State Departments of Corrections collaborate with public health agencies at the federal, state, and local level for either direct patient care, or disbursement of funds to private contractors *(National Institute of Corrections, 2003)*. The distributions of these collaborations are as follows *(National Institute of Corrections, 2003)*:

1. **State Agencies: The DOCs in 39 states reported collaborating with state agencies, including public health providers, medical schools, and local hospitals.**

2. **Local Agencies: The DOCs in five states reported collaborating with county public health agencies.**

3. **Federal Agencies: The DOCs in seven states reported collaborating with federal agencies including the Centers for Disease Control (CDC), the Social Security Administration (SSA), and Medicaid.**

4. **Multi-Level: The DOCs in three states reported collaborating with two or more partners at the various levels.**

Though the numbers of inmates in the U.S. have declined in recent years, from a health perspective, these highly structured, longer-term settings provide opportunities for clinicians to diagnose and effectively treat many chronic infectious diseases before the inmate is released back into the community *(Kendig, 2016)*.

Healthcare professionals working in prisons are mostly employees of the state DOCs working under an individual personal service contract *(Anno, 2004)*. However, many states are now looking to for-profit private providers to deliver healthcare services *(Anno, 2004)*. While some state DOCs are continuing to operate their own health system with their own employees, many states are privatizing parts, if not all, of their health system *(Anno, 2004; McDonald, 1999)*.

In 1999, 32 percent of 27 state prison systems used a private contractor for healthcare services *(Anno, 2004)*. By the year 2000, 34 states were providing some of their care through private contracts and 24 state correctional health systems were run entirely by private contractors *(Kinsella, 2004)*. By 2004, 32 states had contracted for some or all of their medical services with private correctional care industries *(Edwards et al., 2012; Macmadu & Rich, 2015; Reeves, Brewer, DeBilio, Kosseff, & Dickert, 2014)*. By 2005, private, for-profit correctional health services accounted for 40 percent of all correctional healthcare *(Macmadu & Rich, 2015)*. According to Dumont et al. *(2012)*, about 10 percent of all prisoners are housed in correctional facilities operated by private, for-profit companies.

By 2005, private for profit correctional health services accounted for 40% of all correctional health *(Macmadu & Rich, 2015)*

10% of all prisoners are housed in correctional facilities operated by private for-profit companies. *Dumont et al. (2012)*

Though most DOCs have contracted with private prison healthcare providers, a small number have contracted with their public universities *(Edwards et al., 2012; Reeves et al., 2014).* **Texas in 1978, Connecticut in 1997, Georgia in 1997, Louisiana, New Hampshire in 2001, Massachusetts in 1998 to 2013, and New Jersey in 2005 all contracted with their health science universities** *(Reeves et al., 2014; Trestman et al., 2015).* Even though it has been historically limited, the recent inclusion of academic medicine into correctional healthcare has allowed for rotations of medical students for patient care, as well as greater access to specialists through telemedicine *(Kendig, 2016; Raimer & Stobo, 2004)*. These partnerships have been beneficial to both parties *(Kendig, 2016)*. Medical students gain valuable experience with patients who have a high incidence of comorbidities, and the prison system has greater access to subspecialists who normally may have not been available in their community, thereby increasing the quality of care *(Kendig, 2016; Raimer & Stobo, 2004)*. In addition, partnerships with academic medicine opens the door for meaningful research on this patient cohort *(Kendig, 2016)*. Unfortunately, to date such research has been limited *(Kendig, 2016)*.

Of the 250,000 grants issued by the National Institutes of Health between 2008 and 2012, only 180 addressed correctional health *(Kendig, 2016).*

The Federal Bureau of Prisons (BOP) provides care primarily through employed in-house medical providers and contracted medical providers *(U.S. Department of Justice, Office of the Inspector General, 2008)*. Between fiscal years 2010 and 2014, the BOP increased spending on outside contracts by 24 percent from $263 million to $327 million *(Federal Bureau of Prisons, 2016).*

2B.7 CONTRACTING METHODS

There are five different payment models that most correctional health systems use *(Kinsella, 2004; Lamb-Mechanick & Nelson, 2000)*. These models *(Kinsella, 2004; Lamb-Mechanick & Nelson, 2000)* include:

1. **Employee model:** Healthcare providers are employees of the State Department of Corrections.
2. **Fee-for-service model:** Healthcare providers are independent contractors who bill for services as they are used. Payment is at market rate, in most circumstances.
3. **Pre-negotiated discounted fee-for-service:** Payment is only for health services used, and rates are preset below current market rates, most times at Medicare rates.
4. **Capitated rate for specific services model:** DOCs provide payments in advance for contracted services such as dental or ambulatory care. Payments are normally based on the volume or number of inmates, and may also be a prefixed sum.
5. **Global capitated rates model:** A fixed per-day fee is set for inmates for all healthcare services.

According to Lamb-Mechanick et al. (2000), responding states used the following payment models for ambulatory care:

Ambulatory Care

Employee Model	31	states
Capitated Contract	11	states
Employee Model	7	states

For Emergency care, responding states reported using the following payment models *(Lamb-Mechanick & Nelson, 2000)*:

Emergency Care

Fee for Service	10	states
Employee Model	8	states
Discount Fee for Service Model	8	states
Capitated Contract	19	states
Gloabl Capitated Contract	2	states

2B.8 STANDARD OF CARE

In addition to the community standard of care that came out of the Estelle v Gamble 1975 ruling, the inmate-patient is also afforded basic human dignity for the confidential nature of their health record, as well as the diagnostic and treatment process *(Anno et al., 1996)*. In addition, the provision of a safe, clean, and adequately sized area to provide contemporary care, administered by licensed and certified professionals, is fundamental *(Anno et al., 1996)*.

A survey conducted by Stone et al. *(1998)* showed that confidentiality of the inmate-patient's medical record was the primary concern of the respondents, and the second cause for concern related to problems with standards of care. A recurring concern was the vagueness and lack of definition for care standards, as well as a lack of nationally consistent standards *(T. H. Stone & Winslade, 1998)*. Also, a lack of funding to comply with community standards of care was reported *(T. H. Stone & Winslade, 1998)*.

From the patient's perspective, the goal of care is curing or improvement of the condition as much as is technically feasible, regardless of cost *(Anno et al., 1996)*. From the provider's perspective, the goal may be to provide maximum good for the patient, while also protecting themselves from litigation *(Anno et al., 1996)*. Because of this, there may be incidences of over-treatment *(Anno et al., 1996)*. However, due to limited budgets in correctional health, the provider's goal may be to provide services to the greatest number of patients given the dollars available *(Anno et al., 1996)*. Finally, from society's perspective, the goal of care is to provide prisoner inmates with the quality and quantity of care that is available in the community and meets contemporary standards *(Anno et al., 1996)*.

According to Anno et al. *(1996)*, there are certain factors that should be deemed irrelevant when considering care to the inmate patient including, the inmate patient's race, gender, nature of their crime, behavior in prison, and any contributory behavior they may have had. Denial of care should never be used as a means of punishment *(Anno et al., 1996)*.

However, research has shown that there are some factors that can affect the decision to deny or provide care to the inmate patient, including the following *(Anno et al., 1996)*:

1. The urgency of the procedure.
2. Expected remaining sentence of the inmate patient.
3. The necessity of the procedure.
4. The probability of a successful outcome, including any adverse side effect risk.
5. The inmate patient's desire for the treatment.
6. The expected functional improvement post-treatment.
7. Whether the treatment is for a pre-existing condition.
8. Whether the treatment is a continuation of chronic care treatment, or if it is a new course of long-term treatment.
9. The cost of the treatment.

Three organizations have published standards in regard to correctional health care: the American Public Health Association (APHA), the American Correctional Association (ACA), and the National Commission on Correctional Health Care (NCCHC) *(Stern, Greifinger, & Mellow, 2010)*.

2B.9 MEDICAL CLASSIFICATIONS AND CARE LEVELS

2B.9.1 FEDERAL BUREAU OF PRISONS CATEGORIES OF HEALTH CARE SERVICES

The Federal Bureau of Prisons uses five categories of health services provided to inmates *(U.S. Department of Justice, Office of the Inspector General, 2008)*. These categories are based on proven standards of care and are used to determine what treatments an inmate will receive without compromising public safety *(U.S. Department of Justice, Office of the Inspector General, 2008)*.

These categories include *(U.S. Department of Justice, Office of the Inspector General, 2008)*:

1. **Medically necessary—**Acute or emergent: These conditions require immediate treatment to sustain life or function.
2. **Medically necessary—**Non-emergent: These conditions are not immediately life threatening, but without treatment will lead to serious deterioration, significant reduction in repair possibility, or significant discomfort or pain.
3. **Medically acceptable—**Not always necessary: These conditions are mostly elective, but may improve quality of life.
4. **Limited medical value—**Treatment for these conditions provide little or no medical value and are usually only for the inmate-patient's convenience. These interventions are normally not provided.
5. **Extraordinary—**These conditions affect the life of another person, such as organ transplants, or are investigational in nature. They are only provided with a medical directors review and approval.

2B.9.2 FEDERAL BUREAU OF PRISONS INMATE CARE LEVELS

Inmates within the Federal Bureau of Prisons are assigned a medical classification or care level, based on their individual health conditions *(U.S. Department of Justice, Office of the Inspector General, 2008)*. The care levels range from the healthiest, to the inmates with the most medical conditions *(U.S. Department of Justice, Office of the Inspector General, 2008)*, and include:

Care Level 1: Generally healthy, under 70 years old, but may have limited conditions that can be managed by clinical evaluations every six months.

Care Level 2: Stable outpatients requiring quarterly clinical evaluations for chronic conditions.

Care Level 3: Fragile outpatients requiring daily to monthly contact for chronic medical, or recurring mental health conditions. They may also require assistance with prison activities of daily living (ADLs) and periodic hospitalization.

Care Level 4: Acute medical, or chronic mental health conditions, resulting in severe impairments to physical and cognitive functioning. They may also require varying degrees of nursing care.

2B.9.3 OHIO CARE LEVELS

Much like the Federal Bureau of Prisons (BOP), the Ohio Department of Rehabilitation and Correction also has a care level system including *(Anno et al., 2004)*:

Class 1: Medically stable patients who require only periodic care and no chronic or infirmary monitoring.

Class 2: Medically stable patients who require routine follow-up and chronic care treatment.

Class 3: Patients who can maintain their own ADLs, but require frequent, intensive, skilled medical care.

Class 4: Patients who cannot maintain their own ADLs and require constant medical care.

2B.10 LOCATION OF TESTING AND SERVICES

Many state departments of corrections have found difficulties in recruiting and retaining qualified medical staff *(McDonald, 1999; T. H. Stone & Winslade, 1998)*. This is because correctional health care work is sometimes perceived as low-status and physicians are concerned about autonomy due to security considerations, prisoners can be difficult and litigious patients, and medical facilities are sometimes inadequate and ill-equipped *(McDonald, 1999; Rold, 2008; T. H. Stone & Winslade, 1998; T. Williams & Heavey, 2014)*. A common solution to this issue is to bring the inmate-patient either to a specialist's office, or to a local community hospital for care; however, this can be both a costly and risky endeavor *(McDonald, 1999)*.

Percentage of state DOCs providing testing on admission for the following conditions

(Maruschak et al., 2016)

Hepatitis A
76.9%

Hepatitis B
82%

Hepatitis C
87.3%

Tuberculosis
100%

Mental Health Conditions and Suicide Risk
100%

Traumatic Brain Injury
40.3%

Cardiovascular Conditions
82.5%

Elevated Lipids
70%

Maruschak et al. *(2016)* tracked the number of state DOCs that were providing testing on admissions, as well as where inmate healthcare was taking place. Of the respondents to their survey, the state DOCs provided testing on admissions for multiple conditions *(L. Maruschak et al., 2016)*:

In addition, DOCs responding to the survey reported providing the following services on-site, off-site, or a combination of on-site and off-site *(Maruschak et al., 2016)*:

2B.10.1 ON-SITE SERVICES

On-Site Services

Inpatient mental health care	27	states
Outpatient mental health care	44	states
Chronic disease care	31	states
Long-term care, or nursing home	35	states
Hospice care	35	states

2B.10.2 COMBINATION OF ON-SITE AND OFF-SITE SERVICES

1. **Inpatient medical care**
2. **Outpatient medical care**
3. **Dental care**
4. **Emergency Care**

2B.10.3 OFF-SITE SERVICES

1. **Diagnostic Procedures**
2. **Radiologic Testing**

In the research by Lamb-Mechanick et al. *(2000)*, responding states reported the following locations for Long-Term Care Services:

Long-Term Care Services

General Population	1	states
Prison Hospital	7	states
Special Unit in Hospital	9	states
Prison Infirmary	28	states

2B.11 FUNDING

Most funding for correctional healthcare is from state legislatures *(Anno, 2004; McGarry, 2010)*. Other funding sources include private sources, inmate co-pays, private insurance, and Medicare and Medicaid *(Anno, 2004)*. However, most private insurers exclude coverage while a patient is incarcerated, and Medicare and Medicaid are suspended during incarceration *(Anno, 2004)*. Some federal grants are also available from organizations such as the CDC, the National Institute for Justice, and the National Institute for Corrections *(Anno, 2004)*. Grants from private companies may also be available *(Anno, 2004)*.

2B.11.1 INMATE CO-PAYS

Some states have enacted a co-pay system where inmates must pay a small fee for seeing medical professionals or for accessing other health care services *(Kinsella, 2004; McDonald, 1999; Schaenman et al., 2013)*. The idea behind the program is that it helps states recoup the costs of care, as well as reducing frivolous sick-call complaints to lessen the strain on the healthcare system *(Kinsella, 2004; Schaenman et al., 2013)*. **As of 1998, 37 states had co-pay systems** *(Kinsella, 2004)*. **The 36 states that reported using a co-pay system saw a reduction in sick-call requests ranging from 16 to 50 percent** *(Aday & Farney, 2014)*.

The Federal Bureau of Prisons charges an inmate a co-pay of $2 for medical services; however it does not apply to indigent inmates, or for visits related to chronic conditions, preventative health, or evaluations related to pregnancy *(U.S. Department of Justice, Office of the Inspector General, 2008)*. **The National Commission on Correctional Health Care opposes the co-pay system, as they believe that it will deter some inmates from requesting needed care** *(Schaenman et al., 2013)*.

2B.12 ACA EFFECTS

After release, up to 80 percent of inmates require at least eight to 10 months to secure insurance *(Ahalt et al., 2012)*. In addition, former inmates have higher usage rates of emergency services and also have higher mortality rates than other adults *(Ahalt et al., 2012)*.

It is estimated that more than half of the 730,000 state and federal inmates released to the community each year are eligible for Medicaid or federal subsidies to help purchase health insurance from the state insurance exchanges, under the provisions of the ACA *(Council of State Governments Justice Center, 2013)*. State departments of corrections have opportunities to connect their populations with health services now available through the ACA *(Council of State Governments Justice Center, 2013; Rich et al., 2011)*. Pre-release planning that includes determining eligibility and enrollment in the exchanges, as well as a "warm hand-off" to local healthcare providers can greatly improve the overall health of this population, which

will then have long-term positive effects on the health of their communities at large *(Council of State Governments Justice Center, 2013; Rich et al., 2011)*. It would also have secondary benefits of enhancing public safety through crime reduction, revocations, and the reduction of social costs of unmet mental health and substance abuse issues *(Council of State Governments Justice Center, 2013; Rich et al., 2011)*.

Some of the provisions of the ACA that have relevant impacts to the criminal justice system include *(Council of State Governments Justice Center, 2013; Schnittker et al., 2015):*

1. **State options to expand the minimum income eligibility threshold for Medicaid**
2. **Premium tax credits and cost sharing subsidies in the state health exchanges**
3. **Dependent coverage**
4. **Pre-existing condition protections**
5. **Coordinated medical and mental health care for chronic illnesses**
6. **Essential health benefits**

In addition, states have the option of creating "health homes" as a way to provide case management and coordination of community and social supports for people with chronic conditions, including mental health disorders *(Council of State Governments Justice Center, 2013)*.

2B.13 OBTAINING INFORMED CONSENT AND OTHER ETHICAL ISSUES

Within the context of providing healthcare to inmates, it is a challenge to find the balance between an inmate's constitutional rights, while incarcerated and a state actor's policy determinations *(Natterman & Rayne, 2016)*. While an inmate's right to healthcare was ruled to be part of the Eighth Amendment, an inmate's right to consent or refuse care is mostly based on the common-law right to informed consent and their constitutional right to privacy *(Natterman & Rayne, 2016)*. **For the most part, the courts have allowed inmates the same rights to consent or to refuse treatment, as patients in the general public** *(Natterman & Rayne, 2016).* **However, the exception to the standard is when the state's interests outweigh the liberty interests of the inmate in making their healthcare decisions** *(Natterman & Rayne, 2016).* Even though prisoners continue to enjoy the protections of the Constitution, the Court has ruled that many of the protections do not apply in full to prisoners *(Natterman & Rayne, 2016)*.

The law is clear that competent inmates have the right to refuse or consent to healthcare, and that prison officials may force treatment or override that decision of the inmate, if there is a legitimate penological interest in doing so *(Natterman & Rayne, 2016)*. However, when the inmate is incapacitated or incompetent, the questions are not as clear *(Natterman & Rayne, 2016)*. Absent of any statutory decisions, hospitals should rely on the state-sanctioned hierarchy of decision-makers *(Natterman & Rayne, 2016)*. In addition, prison officials should be removed from the medical decision-making process, unless there is a legitimate state interest to do so, such as to curb the spread of infectious disease *(Natterman & Rayne, 2016)*.

There are many questions to be answered when discussing prisoner organ donations *(Natterman & Rayne, 2016)*. These questions include whether an inmate should receive valuable donor organs over someone in the general community, and whether a death-row inmate should be allowed to donate their organs after being executed *(Natterman & Rayne, 2016)*. **The ethics committees of the Organ Procurement and Transplant Network (OPTN)/United Organ Sharing Network (UNOS) are clear that prisoners should not be excluded from the lists of those seeking organs, due to the fact that they are incarcerated** *(Natterman & Rayne, 2016).* **Prisoners are ethically entitled to organs, as long as they meet the strict criteria that were established to be a successful candidate** *(Natterman & Rayne, 2016).* Some evidence suggests that facilitating organ transplants in inmates can actually reduce healthcare costs *(Natterman & Rayne, 2016)*. One study noted that the costs of managing post-transplant kidney patients was substantially less than the costs of continuing to provide dialysis *(Natterman & Rayne, 2016)*.

In regard to organ donation, because of their morbidity rates and previous lifestyles, inmates are not considered the best candidates to donate their organs *(Natterman & Rayne, 2016)*. In addition, because there are no federal guidelines or laws on inmate organ donation, those decisions are left up to the states *(Natterman & Rayne, 2016)*.

2B.14 ALTERNATIVES TO INCARCERATION

State policy-makers are adopting a shift from being "tough-on-crime," to being "smart-on-crime" *(McGarry, 2010)*. Technical violations of parole or probation, not the commission of new crimes, account for a significant proportion of national prison admissions each year *(McGarry, 2010)*. In fact, for certain non-violent offenders, many states have shown a preference for alternatives to prison and non-prison sentences *(McGarry, 2010)*. Because of the rising costs of incarceration and correctional healthcare, many jurisdictions are reexamining their parole and sentencing policies *(Ahalt et al., 2012)*. Indeed, over the past decade so many states have adopted new sentencing policies that they seem commonplace *(McGarry, 2010)*. **Due to the expanding costs of incarcerations, 20 states have reconsidered how and when inmates are released from prison** *(McGarry, 2010)*. **More than half of the reporting states have expanded or instituted "good-time" credit programs, while others are expanding parole eligibility** *(McGarry, 2010)*.

According to the U.S. Bureau of Justice Statistics, the increase in the percentage of violent offenders in prisons nationwide is due to states prioritizing prison for only the most violent offenders by using diversion programs, such as creating alternatives for parole and probation violations, and expanding prison release options *(Lawrence, 2014)*. This has led to a 31 percent decline in prison sentences for parole violations from 2006 through 2011 *(Lawrence, 2014)*.

In addition, a number of states have created diversion programs for drug offenders who would have normally been sentenced to prison; to instead be diverted to community-based supervision and treatment *(Lawrence, 2014)*. Since 1989 when the first drug court opened, more than 3,000 problem-solving courts have been established in the U.S., revealing a judicial interest in taking different approaches to criminal behavior *(McGarry, 2010)*. **Because of diversion programs, there has been a 20 percent reduction of the number of drug offenders entering prison since 2001** *(Lawrence, 2014)*.

New research based programs, such as drug and problem-solving courts, and intermediate, targeted sanctions for parole violations, not only keep offenders in the community, but have shown to maintain or enhance public safety at less expense *(McGarry, 2010)*. Addiction and mental health treatment programs are more humane, cost effective, and better alternatives to incarceration for addressing the underlying problems of these conditions *(Rich et al., 2011)*. **Many policy-makers have not supported these approaches, as they did not want to be labeled as "soft on crime"** *(Rich et al., 2011)*.

Besides expanded parole and diversion programs, additional programs include compassionate release for elderly or terminally ill inmates *(Kinsella, 2004; Lincoln, 2008; Møller et al., 2007)*.

At the time of their research, Kinsella (2004) noted that 36 states had some kind of medical or compassionate release program.

36 OUT OF 50

43 OUT OF 49 responding to surveys reported having a compassionate release program *(Anno et al., 2004; Linder & Meyers, 2007)*

Assuming that adequate healthcare staffing can be maintained, fewer inmates across many jurisdictions could mean an improvement in the quality of care *(Kendig, 2016)*. **The shift of inmates from prisons to community-based health services could result in greater access to residential treatment facilities and medication-assisted treatments for addiction, mental illness, the disabled, and older inmates** *(Kendig, 2016)*. The public health challenge will be to ensure that adequate and effective resources are allocated to cover a large patient base residing in halfway houses, home detention, and under parole or probation *(Kendig, 2016)*. In addition, this has potential to shift health costs from the state budgets, to Medicare and Medicaid *(Ahalt et al., 2012)*.

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3 METHODOLOGY

3 METHODOLOGY

Peer-reviewed literature pertaining to prison healthcare delivery, programs and outcomes were included in this systematic literature review. Searches were conducted using key words focusing on the most relevant care types, including:

1. **Ambulatory Care**
2. **Elder Care**
3. **Palliative Care**
4. **Emergency/Trauma Care**
5. **Dental Care**
6. **Mental Health Care**
7. **Women's Health Care**

Database searches for studies published in English, from 2000 to 2017, were conducted in MEDLINE/PubMed, CINAHL, and Health Business Elite. In order to capture the most recent information, the date range for theses searches began at the turn of the century to the present. Because of a dearth of literature on some relevant care types, older sources published before 2000 are included. Despite the age of these references, they report current practices.

The following Medical Subject Heading (MESH) terms and key word alternates were used in the searches:

DATABASE	TERMS USED	CARE TYPE
MEDLINE	"Ambulatory Care" AND "Prison" OR "Prisoner"	Ambulatory Care
MEDLINE	"Elder Care" AND "Prison" OR "Prisoner"	Elder Care
MEDLINE	"Health Services for the Aged" AND "Prison" OR "Prisoner"	Elder Care
MEDLINE	"Aged" AND "Prison" OR "Prisoner"	Elder Care
MEDLINE	"Disease Management" AND "Prison" OR "Prisoner"	Elder Care
MEDLINE	"Hospice Care" AND "Prison" OR "Prisoner"	Palliative Care
MEDLINE	"Terminal Care" AND "Prison" OR "Prisoner"	Palliative Care
MEDLINE	"Palliative Care" AND "Prison" OR "Prisoner"	Palliative Care
MEDLINE	"Trauma" AND "Prison" OR "Prisoner"	Emergency Care
MEDLINE	"Multiple Trauma" AND "Prison" OR "Prisoner"	Emergency Care
MEDLINE	"Wounds and Injuries" AND "Prison" OR "Prisoner"	Emergency Care
MEDLINE	"Dental Care" AND "Prison" OR "Prisoner"	Dental Care
MEDLINE	"Mental Health" AND "Prison" OR "Prisoner"	Mental Health Care
MEDLINE	" Women's Health" AND "Prison" OR "Prisoner"	Women's Health Care
MEDLINE	"Neonatal Health" AND "Prison" OR "Prisoner"	Women's Health Care

Data from additional key word searches from EBSCO Discovery Service and Google Scholar were also reviewed.

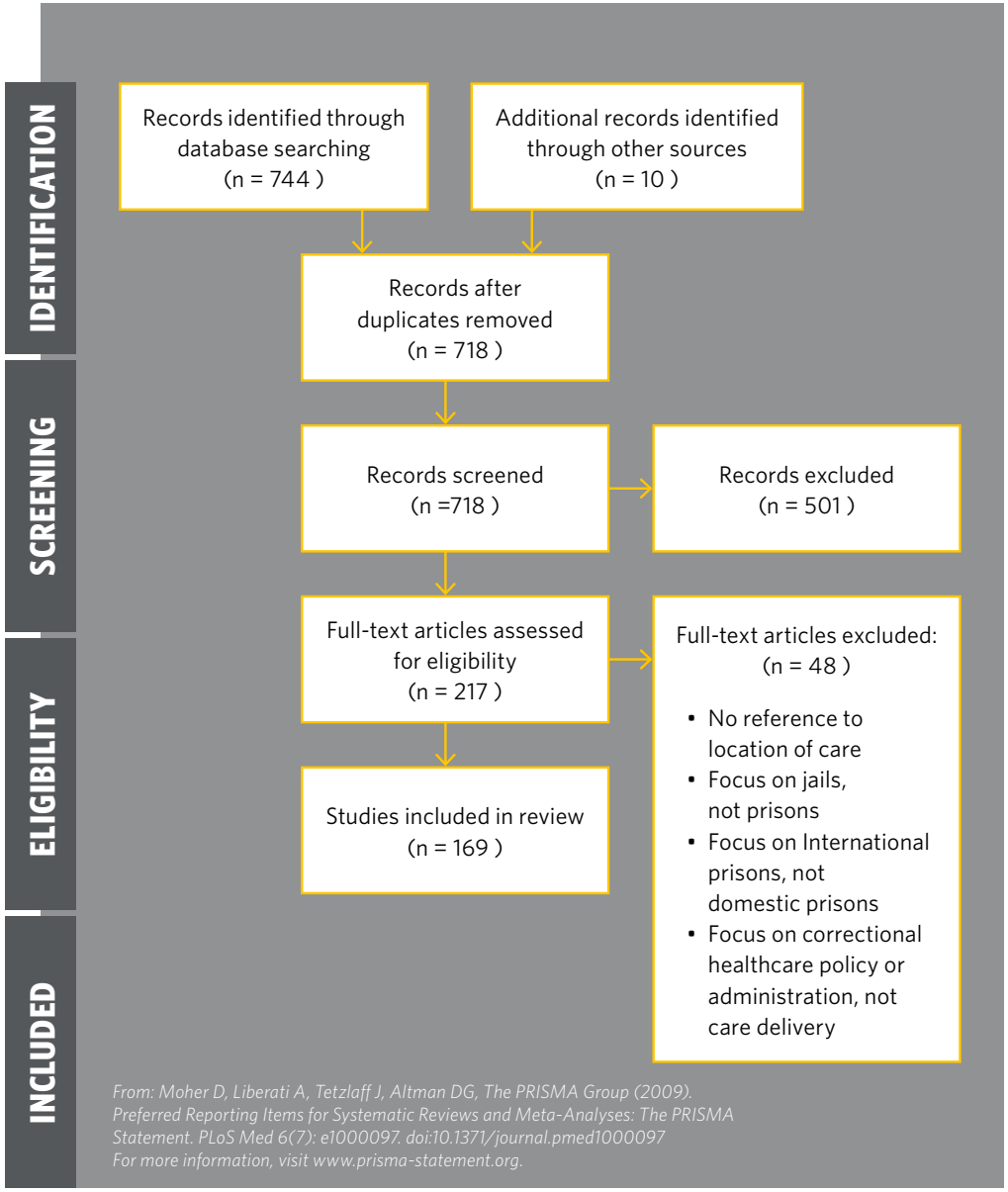
EBSCO	"PRISON" "HEALTH" "CARE"
EBSCO	"Prison" "Health" "Costs"
EBSCO	"Prison" "Health" "Delivery"
EBSCO	"Correctional" "Health"
EBSCO	"Correctional" "Health" "Sites"
EBSCO	"Correctional" "Health" "Delivery"
EBSCO	"Community health" "Healthcare" "Prisoners"
EBSCO	"Patient safety" "Prisoners"
Google Scholar	"Prison" "Healthcare" "Costs"
Google Scholar	"Prison" "Healthcare" "Facilities"

Records were also gathered from Industry Organizations such as the National Commission on Correctional Health Care (NCCHC), the U.S. Bureau of Justice Statistics, and the American Corrections Association (ACA). Additional records were gathered from the files of industry consultants.

Guided by the Prisma Statement *(Liberati et al., 2009; Moher, Liberati, Tetzlaff, Altman, & Prisma Group, 2009; Moher, Liberati, Tetzlaff, & Altman, 2010),* two researchers identified 744 records through database searches. An additional ten (10) records were identified through other sources. Thirty-six (36) duplicate records were removed. Sources were then screened by title and abstract and 501 records were excluded. Criteria for removal included literature that did not focus on the United States state prison system, literature focused exclusively on jails rather than prisons, literature focused on the federal prison system, literature published before the year 2000, and literature focused on juvenile inmate populations. Records were also excluded if they did not provide insights on the selected care types. When there was a lack of current research on certain topic areas of importance, removal criteria were relaxed. Therefore this review does at times reference information published prior to 2000 or pertaining to U.S. jail populations.

Two hundred seventeen (217) full text articles were screened for relevance and an additional forty eight (48) were excluded. One-hundred sixty-nine (169) articles were included in this study. **Two researchers qualitatively analyzed the records and engaged in an iterative process of review and identification of themes relevant to provisions of space. Themes included: operational models of care, costs of care, inmate-patient demographics, inmate-patient transportation, potential partnerships, current state processes, criminal justice policy, technology, training, and inmate-patient outcomes.**

PRISMA FLOW DIAGRAM



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4 AMBULATORY AND GENERAL CARE

4 AMBULATORY AND GENERAL CARE

4.1 RESULTS

According to the World Health Organization (WHO), compared to the general population, prisoners have poorer physical, mental and social health, and their lifestyle choices likely put them at risk for those conditions *(Møller, Gatherer, Jürgens, Stöver, & Nikogosian, 2007)*. Most prisoners have had little, if any contact with health providers prior to incarceration *(Møller et al., 2007)*. **A Massachusetts study found that 82 percent of inmates had no consistent medical provider and 93 percent had no health insurance** *(Conklin, Lincoln, Wilson, & Gramarossa, 2002)*. **In addition, another study noted that in the 12 months prior to incarceration, half of male inmates and two-thirds of female inmates had used the local emergency department for their healthcare needs** *(Conklin et al., 2002)*.

There are two opposing tensions that pull at prison healthcare: To expand care or to limit it *(McDonald, 1999)*. **States face the challenge of balancing a finite amount of dollars available against the constitutional requirement to provide care** *(Geisler, Gregory T. et al, 2011)*. **The goal is to provide only the care that is necessary, and eliminate undue costly procedures and overbilling** *(Geisler, Gregory T. et al, 2011)*. However, all institutions, regardless of size, must provide the capacity for sick call and a method to respond to emergencies *(Rold, 2008)*. **Access to specialists, and inpatient hospital treatment, as required by the inmate's condition, are also required under the Eighth Amendment** *(Rold, 2008)*. The provisions of care required by the Eighth amendment necessitate safe, clean, adequately sized, and properly equipped space to provide healthcare services *(Anno et al., 1996)*. In discussing the environment of care for inmate health, Anno et al. *(1996)* stressed the need to respect prisoners' human dignity by safeguarding the confidentiality of both their health record, and their diagnostic and treatment process *(Anno et al., 1996)*. Correctional healthcare architecture must support these human rights as the WHO stated facilities should allow for the maintenance of confidentiality and privacy, and diagnostic and treatment facilities that match the community standard *(Møller et al., 2007)*. Further, the WHO added requirements for access to natural light, accessibility for people with disabilities, and ample meeting, reference and administrative space *(Møller et al., 2007)*.

4.1.1 PRIMARY CARE MODEL

By definition, primary care is an integrated, accessible healthcare service. Care is given by health professionals and should address a large percentage of a patient's personal health needs. It is also marked by the sustained partnerships that health professionals build with their patients, within the context of the family and community *(La Cerra et al., 2017)*.

The WHO characterizes primary care as the most "effective and efficient" manner of providing public health and is the bedrock of a prison health system *(La Cerra et al., 2017)*. Just like it does in the community, primary health care should be able to meet the majority of the inmate's health needs *(La Cerra et al., 2017)*.

The role of primary care is special in the prison setting as it coordinates care both inside and outside of the prison environment *(La Cerra et al., 2017)*. In the prison environment, the nurse becomes one of the main caregivers to inmates. They are the ones the inmate normally approaches first (as in sick call) and they also coordinate all the care in the prison health system *(La Cerra et al., 2017)*. This is not an easy task as many inmates have comorbidities including mental health, substance abuse, and communicable diseases *(La Cerra et al., 2017)*. **According to the WHO, at minimum, primary care interventions are required at prisoner intake, before release and at required times during incarceration** *(Møller et al., 2007)*. **They deemed these times to be the highest risk to the health of prisoners** *(Møller et al., 2007)*.

To have a successful primary care program in the prison environment, a number of tactics should be implemented *(La Cerra et al., 2017)*. First, the primary care model must integrate care pathways that are available due to collaboration between health and custody staff, and must also promote wellness activities that can be continued post-release *(La Cerra et al., 2017)*. Second, the primary care model should adopt patient education programs that target substance abuse and communicable disease *(La Cerra et al., 2017)*. Third, the primary care model must guarantee a multidisciplinary approach through a team of specialists, good access to diagnostic services, and care in a local hospital if the prison cannot provide any services *(La Cerra et al., 2017)*.

One major difference between primary care in the incarcerated world, and primary care in the community setting, is having a choice of provider *(Rold, 2008)*. The doctor-patient relationship in the prison environment is controlled by the state *(Rold, 2008)*. Any patient who is dissatisfied with their provider (or provider with their patient) is not free to select a new one *(Møller et al., 2007; Rold, 2008)*. According to Rold *(2008)*, this removes the competitive control for quality that you would find in the community setting that also influences the behaviors of the providers.

Another issue with the provision of general care for inmates is self-care. Inmate-patients normally cannot obtain any over-the-counter medications for self-care. For minor conditions such as headaches, stomach aches and colds, inmates must go through sick call for care *(Rold, 2008)*. Also inmates must go through the prison health staff for many common items such as pain relievers, antacids, dental floss and Band-Aids *(Rold, 2008)*.

4.1.1.A WHERE CARE IS PROVIDED

Historically, the ability to provide adequate health care for inmates had been hampered by inadequate facilities *(McDonald, 1999)*. **Prisons have typically lacked the required healthcare spaces other than sick call, where an inmate's healthcare needs are triaged and addressed,** *(McDonald, 1999)*. **Most had no ability to isolate patients for infections; they were unable to provide 24-hour skilled nursing care; access to diagnostic and testing equipment was rare; and inmates with chronic conditions were not separated into specialized housing** *(McDonald, 1999)*.

According to McDonald *(1999)*, though most prisons maintain their own staff for treatment of inmates, many have relationships with local specialists to provide clinical care as needed. Additionally, for required consultations, diagnostic testing and treatments, and hospitalizations, many inmates are taken to local hospitals *(McDonald, 1999)*. This was echoed by Anno *(2004)*, who noted that most prisons today provide ambulatory health care in-house and also have agreements with other prisons in its system or a local provider for diagnostic and specialty services not offered in their facility. No prison operates their own acute care hospital other than a few of the larger state systems and the Federal Bureau of Prisons *(Anno, 2004)*. **Because many state prisons are located in rural areas, acute care hospitalizations are usually referred to a local community hospital** *(Anno, 2004)*. **Acute mental health care is usually provided in designated prisons within the state system, or at a state-run mental health institution** *(Anno, 2004)*.

A typical prison clinic looks very much like an ambulatory health clinic in the community. It usually houses a trauma room, exam rooms, lab and pharmacy services, an imaging suite and dental operatories *(Anno, 2004; Rarey, 2011)*. Also, there are normally provider offices spaces, meeting and counseling spaces and some form of secure medical records *(Anno, 2004)*.

Most states have at least one prison in their system that operates as a regional medical facility *(Anno, 2004; McDonald, 1999)*. These facilities provide diagnostic and skilled nursing care for inmates who need 24-hour nursing care, but do not need hospitalization *(Anno, 2004; McDonald, 1999)*. The state of Nevada at one point included a surgery suite in their acute care medical facility, but it was removed due to lack of demand *(McDonald, 1999)*.

Broderick *(2016)* noted that medical facilities in large prisons have emergency departments, outpatient treatment and clinics all rolled into one. Some can provide scheduled appointments as well as emergency care. Some facilities also include imaging, laboratories, dialysis and medication dispensing *(Broderick, 2016)*. Most will also include medical staff, mental health staff and physical therapists *(Broderick, 2016)*. Care is multidisciplinary, in most cases, including consultations between medical, mental health and security staff *(Broderick, 2016)*.

WHERE STATES PROVIDE MEDICAL CARE

Outpatient Medical Care

Exclusively Off-Site	0	states
Both Off-site and On-Site	25	states
Exclusively On-Site	19	states

Inpatient Medical Care

Exclusively Off-Site	4	states
Both Off-site and On-Site	38	states
Exclusively On-Site	2	states

(L. Maruschak et al., 2016)

Maruschak et al. *(2016)* reported the following survey results in regard to outpatient and inpatient care in prisons. For outpatient medical care, 19 of

the responding states provided care exclusively on-site, and 25 provided care both on-site and off-site *(Maruschak et al., 2016)*. For inpatient medical care, two of the responding states provided care exclusively on-site, 38 provided care both on-site and off-site *(depending on the severity of the condition)*, and four provided care exclusively off-site *(Maruschak et al., 2016)*. They also noted that in 11 of the responding states, the need for specialty medical care was the main reason for sending inpatient medical care off-site *(Maruschak et al., 2016)*. In five states, the primary reason for sending patients off-site was cardiac concerns *(Maruschak et al., 2016)*. Also in their study, Maruschak et al. *(2016)* reported that seven states operate their own hospital-level inpatient facility and another state operated three general acute care hospitals, equipped with emergency departments. **Though some states are operating their own inpatient facilities, Rarey (2011) noted that it may not be suitable to treat the following conditions in a prison infirmary:**

1. **Cardiac-associated chest pain**
2. **Severe hypertension or shock**
3. **Respiratory conditions that require blood gas monitoring or conditions that require intubation**
4. **Cardiac arrhythmias**
5. **Abdominal complaints that may require surgery**
6. **Epilepsy with two-to-three daily seizures**
7. **Closed head injury with loss of consciousness**
8. **Acute altered mental status**
9. **Drug overdoses**
10. **Tuberculosis**

Another aspect of primary (or general care) for inmates is the use of private providers. According to Edwards et al (2012) in 2004, 32 states contracted with private providers for some or all of their adult correctional healthcare services. McDonald (1999) noted that while many states have contracted with local hospitals to provide care, privately operated firms have been contracted to provide the state's entire healthcare delivery in some cases *(McDonald, 1999)*. While most states contracted with private providers, a number have contracted with their public universities *(Edwards et al., 2012)*. Prison partnerships with public health organizations and academic medical centers will be discussed in subsequent sections.

4.1.2 PUBLIC HEALTH MODEL

According to the WHO, one of the best lessons to be learned from the last century is that public health can no longer ignore the needs of prison health *(Møller et al., 2007)*. Strong links need to be created between public health and prison health *(Møller et al., 2007)*. If public health and prison health work in cooperation, it will limit the use of prisons as default healthcare providers *(Møller et al., 2007)*.

At its core, the public health model for prison healthcare is based on wellness, disease treatment, disease prevention and a continuum of care during and after incarceration *(Conklin et al., 2002).* This model takes a global approach to medical and mental healthcare of the incarcerated and their communities *(Conklin et al., 2002)*. It creates close linkages to providers in the community from which the inmate will return, while maintaining a high quality of care *(Conklin et al., 2002; Møller et al., 2007)*. These linkages ensure continuity of care that should result in better outcomes and less frequent use of overburdened community emergency services *(Conklin et al., 2002)*. Ideally, health providers are dually based in the correctional health facility and the community health facility, as well as having admitting privileges at local hospitals *(Conklin et al., 2002)*. **Anno (2004) noted that such linkages with public health and community providers could help pool resources and limit duplication of services on single patients that wastes millions of dollars** *(Anno, 2004).*

Though the public health model was originally created in a jail facility, the components of the program can be applied to the prison environment *(Conklin et al., 2002)*. **The five major elements of the public health model include** *(Conklin et al., 2002):*

1. **Detection and assessment**
2. **Maintaining a community standard of care in a prompt and effective manner**
3. **Providing prevention measures**
4. **Health education**
5. **Collaboration with local provider for continuity of care**

Benefits

There are a number of benefits of using the public health model to patients, staff and the community, including the following *(Conklin et al., 2002)*:

Inmate Health Benefits *(Conklin et al., 2002)*:

1. Treatment of an inmate's serious health needs, which are sometimes unmet prior to incarceration. Also the continuation of that treatment post-release
2. More trust in the patient-provider relationship, due to the provider being from the community, knowing its culture and customs, and having a consistent relationship with the patient
3. Decreases in post-release no-shows for appointments, due to being seen in the community

Public Health Benefits *(Conklin et al., 2002)*:

1. Introduction of care to people who would otherwise be left unserved
2. Continuity of care reduces spread of infectious disease, by providing testing, education and treatment
3. Potential for information dissemination from corrections to the community, if they see an uptick in communicable diseases
4. Linkages to outreach and education for inmates recovering from addiction.
5. Strengthened family ties by inmates and families being treated by the same provider.
6. Potential for research through public health grants

Cost-Savings Benefits *(Conklin et al., 2002)*:

1. Reduction in health costs due to early detection and treatment of disease
2. Savings realized by contracting for services through non-profit community providers, in lieu of corrections facilities employing health staff
3. Community health costs savings by re-enrolling pre-released inmates back into Medicaid, thereby lessening the need for emergency room visits

Public Safety Benefits *(Conklin et al., 2002)*:

1. Continuity of substance abuse treatment could lead to recovery from drug addiction and lessen criminal activity

Corrections Staff Benefits *(Conklin et al., 2002)*:

1. Continuity of care could lessen the spread of infectious disease, thereby keeping it out of the corrections facility and reducing the threat to staff
2. Reduction in the number of behavioral problems due to poor health or mental health treatment

Health Care System Benefits *(Conklin et al., 2002)*:

1. Greater health literacy could reduce unnecessary visits to emergency rooms
2. By having a consistent health provider both inside and outside of corrections, the inmate gains a better understanding of health, the provider's role, and the healthcare system itself

Another benefit of a public heath partnership is provider training *(Dumont, Brockmann, Dickman, Alexander, & Rich, 2012)*. Too often future healthcare practitioners are allowed to complete their education in a purely academic setting *(Dumont et al., 2012)*. The corrections environment can give students valuable experience in working with the underserved, as well as a population with a number of comorbidities *(Dumont et al., 2012)*.

Though there are great benefits to inmates in access and treatment in the public health model, Dumont et al *(2012)* also cited advocacy programs which may be enhanced, as well. They note that more resources could be put toward drug courts and mental health courts, which would divert people from the corrections system into treatment facilities *(Dumont et al., 2012)*. They also suggest expansion of case management services to increase access to care for underserved communities, other than through the corrections system *(Dumont et al., 2012)*.

Challenges

Although there are many benefits to the public health model, it also presents challenges, including:

1. **Alignment of priorities between public health and corrections** *(Conklin et al., 2002)*: Providing healthcare is not the primary function of a correctional facility, therefore it is important to understand the differing roles of the two entities and where their priorities lie *(Conklin et al., 2002)*.
2. **System structures of State vs. County entities:** To have effective and sustained collaboration, a total understanding of each entity's needs and operations are required *(Conklin et al., 2002)*.
3. **Public perception of inmates:** Many people feel that their tax dollars and resource-strapped community health systems should not be spent on inmates. There is a stigma that inmates are not deserving of quality health care *(Conklin et al., 2002)*.

4.1.2.A WHERE CARE IS PROVIDED

Health Services Located On-Site at Corrections Facilities

Pharmacy	
Sick Call	*In the housing pods for acute, low to moderately severe health needs that can be treated with over-the-counter medication*
Nursing Clinic	*Open 5 days a week*
Patient Education	*For chronic conditions*
Substance Abuse & Mental Health	*Treatment Services*

(Conklin et al., 2002)

4.1.3 DESCRIPTION OF AN ACADEMIC PARTNERSHIP MODEL

In order to reduce costs and improve quality, more than half the state departments of corrections have outsourced their inmate healthcare *(Reeves, Brewer, DeBilio, Kosseff, & Dickert, 2014)*. While most states have turned to private companies, a few have partnered with their local academic medical centers *(Reeves et al., 2014)*. **States such as Connecticut, Georgia, Louisiana, Massachusetts, New Hampshire, New Jersey and Texas have all partnered with local universities to provide inmate healthcare** *(Reeves et al., 2014; Trestman, Ferguson, & Dickert, 2015).* Partnerships with academic medical centers are a logical choice and are widely gaining popularity *(Fraser Hale, Brewer, & Ferguson, 2008)*. However, Kendig *(2004)* noted that academic medicine still remains uninvolved other than in a few key states.

Strong links between academic medical centers and correctional health can be advantageous to both parties *(Kendig, 2004)*. Inmates gain access to specialists for their complicated medical conditions, and clinicians gain valuable experience treating a subset of patients not seen in the general community *(Kendig, 2004)*. In addition, correctional health offers unique opportunities for education and research in primary care that may not be available outside the corrections environment *(Fraser Hale et al., 2008)*.

4.1.3.A BENEFITS TO DEPARTMENTS OF CORRECTIONS

In Texas, inmate care is provided by two medical schools who have taken responsibility of the delivery and oversight of their care *(Kendig, 2004)*. Having the university manage the care resulted in more structured delivery, use of evidence-based processes, greater access to specialists, improved clinical outcomes, and reduced costs to the state *(Kendig, 2004)*.

Kendig (2004) noted that besides direct patient care, there were a number of other service advantages to a partnership with academic medicine. Disease management strategies, access to multidisciplinary care teams, clinical outcomes assessment, patient safety enhancement, and patient education expansion are all services the academic partnership can bring *(Kendig, 2004).*

The two biggest benefits of academic partnerships with departments of corrections is improved care quality and cost savings *(Reeves et al., 2014)*. Academic medical centers bring evidence-based practices as well as performance improvement programs that improve patient outcomes *(Reeves et al., 2014; Trestman et*

al., 2015). They may also bring an electronic medical record program *(Reeves et al., 2014)*. This will allow for specialists to submit their reports through the primary care provider directly into the electronic medical record (EMR) *(Reeves et al., 2014)*. EMRs also allow for more coordinated patient orders, scheduling and tracking of referrals *(Reeves et al., 2014)*. It also allows for health administration to monitor timely access to care and the care outcomes *(Reeves et al., 2014)*.

The other benefit is cost savings. **Cost reduction strategies can include staffing, referrals to specialists, productivity, medical hospitalization and pharmaceutical control** *(Reeves et al., 2014).* In their study, Reeves et al (2014) noted that the New Jersey DOC was able to see sizable cost savings by closing and combining underutilized specialty care units, without compromising care. Reeves et al (2014) also noted that the New Jersey DOC saw additional savings from a utilization review process for referrals to specialists. It is a peer-reviewed process, along with standardized criteria for determining the medical necessity of the referral *(Reeves et al., 2014)*.

4.1.3.B BENEFITS TO ACADEMIC MEDICAL CENTERS

For academic medical centers, the main benefit of their partnerships with correctional health comes in the form of training and research opportunities, and fulfillment of their public health mission.

Training programs for health professionals are always searching for new clinical environments for their students *(Hale, Haley, Jones, Brennan, & Brewer, 2015)*. Correctional health facilities offer a large breadth of training possibilities, given the numbers of patients (young and old) with chronic diseases and multiple comorbidities *(Hale et al., 2015)*. They also have a large quantity of infectious disease, substance abuse and mental health disorders *(Hale et al., 2015)*. The pathology offered to the medical student in the correctional health environment is more extensive than in any other setting *(Thomas, Silvagni, & Howell, 2004)*.

Medical students also have a chance to experience the determinants of health, particularly the social ones, as the majority of inmates come from underserved communities *(Hale et al., 2015)*. Medical students training in the correctional health environment can see the value, first-hand, of providing care to the underserved community. It will also show them the importance of primary care treatment and chronic care management *(Trestman et al., 2015)*. The work they do will have a direct impact on public health as the majority of inmates will return to their communities *(Hale et al., 2015)*.

It was noted that students who had a rotation in correctional health enjoyed the richness of educational opportunities *(Hale et al., 2015)*. Thomas et al (2004) noted that in their research, the student rotations into correctional health have been a great success. They note that the correctional health rotation has become the most desirable and that the waiting list for this rotation is longer than any other *(Thomas et al., 2004)*.

Though there are ample educational opportunities from the pathology of these patients, there is a stigma attached to the setting that many schools may not find advantageous *(Fraser Hale et al., 2008)*. Students may be worried about practicing in a setting where they may be exposed to risk *(Thomas et al., 2004; Trestman et al., 2015)*. However, few assaults on health personnel have been reported *(Thomas et al., 2004)*. Trestman et al. *(2015)* noted that in three states, only 1 in 2,000 correctional health staff were assaulted in the 12 months prior to their study. This rate falls below the national averages for health staff working in community settings *(Trestman et al., 2015)*. Also, being a "guest" in an institution designed for incarceration, and not treatment, can be a challenge *(Fraser Hale et al., 2008; Thomas et al., 2004)*. One study noted that some of the older correctional health facilities can seem like a "medically-alien setting" *(Thomas et al., 2004)*.

According to Trestman et al *(2015)*, the incarcerated populations are an understudied group. Though the research opportunities in the correctional health environment are significant, there are many hurdles that need to be crossed *(Fraser Hale et al., 2008)*. The biggest hurdle is the federal guidelines for protecting the incarcerated; others include institutional review boards and the parent Department of Corrections (DOC) *(Fraser Hale et al., 2008)*. However, some of these hurdles are in place for good reason as there have been research abuses on this population in the past. Correctional medicine is uniquely positioned to provide valuable quality measures for this managed care environment *(Kendig, 2004)*. Inmate medical care is provided in highly structured settings to inmates who live in settings that do not have access to many of the variables that sometimes limit the effectiveness of research. Smoking is now banned in many prisons, their sobriety is enforced and they have limited access to illicit drugs *(Kendig, 2004)*. This will allow academic medicine to assess the effectiveness and cost efficiency of delivery models and treatment interventions, while improving healthcare quality *(Kendig, 2004)*.

Academic medical centers (AMCs) partnering with correctional health will advance their public health mission *(Reeves et al., 2014)*. Promotion of health, prevention of disease and providing care to an underserved population could all be advanced by the partnership with correctional health *(Reeves et al., 2014)*. Partnering with correctional institutions to provide inmate healthcare gives AMCs the opportunities to fulfill their main missions of service, education and research *(Trestman et al., 2015)*. Because 95 percent of inmates will be released, correctional healthcare has a direct impact on the community at large *(Fraser Hale et al., 2008)*.

4.1.3.C WHERE CARE IS PROVIDED

Hospital leaders worry about treating the inmate-patient in the AMC setting when specialty care is required *(Trestman et al., 2015)*. Readily identifiable by their corrections' clothing, shackles and armed escorts, hospital leaders worry that community patients will not want to intermix with the inmate patient *(Trestman et al., 2015)*. A common solution to this problem is to create a dedicated inmate unit within the AMC *(Trestman et al., 2015)*. In addition, corrections officers are present to ensure public safety when the inmate patient is being transported to the AMC *(Trestman et al., 2015)*. Another solution is leveraging telemedicine. Telemedicine is rapidly becoming more popular as a way to gain access to specialists, without transferring the inmate patient to the AMC *(Trestman et al., 2015)*. Finally, a number of procedure-based services (e.g. orthopedic, dialysis, ophthalmology) are now being scheduled in the corrections facility to limit the number of transfers *(Trestman et al., 2015)*.

4.1.3.D EXAMPLES OF AMC PARTNERSHIPS

The Ohio Department of Rehabilitation and Corrections provides inmate care at three levels: infirmaries (at each institution), specialty facilities, and at both the Corrections Medical Center and Ohio State University Medical Center *(Geisler, Gregory T. et al, 2011)*.

Most of inmate health care is received in the institutional infirmaries *(Geisler et al., 2011)*. The infirmaries provide ambulatory care similar to what is found in the community where they provide routine outpatient care services *(Geisler et al., 2011)*. Infirmaries also routinely provide some specialty care including podiatry, optometry, OB/GYN and chronic care clinics *(Geisler, Gregory T. et al, 2011)*. Each infirmary also has dental staff to provide routine and emergency dental services *(Geisler, Gregory T. et al, 2011)*.

The Frazier Health Center is a specialty facility that provides nursing care similar to what would be found in an assisted living facility *(Geisler, Gregory T. et al, 2011)*. It is a 200-bed facility that provides care for inmates who have significant medical issues and require intensive care *(Geisler, Gregory T. et al, 2011)*. It also has a 17-bed infirmary and a dialysis treatment center *(Geisler, Gregory T. et al, 2011)*.

The Corrections Medical Center (CMC) is the state's other specialty facility. It is another skilled nursing facility that in many ways operates much like a hospital *(Geisler, Gregory T. et al, 2011)*. Patients here are seen by specialists under contract with Ohio State University Medical Center (OSUMC) *(Geisler, Gregory T. et al, 2011)*. Any patient that is being transferred to OSUMC, first passes through the CMC *(Geisler, Gregory T. et al, 2011)*. The CMC also houses a lab for emergent, critical and reference lab studies *(Geisler, Gregory T. et al, 2011)*. The Corrections Medical Center (CMC) has also created an Urgent Care Center. It was created to reduce the need for outside emergency room visits for less critical cases. It was estimated at the time of construction, that by diverting patients to the Urgent Care Center, the costs could be as low as 10 percent of the costs to send the patients out to local hospitals *(Geisler, Gregory T. et al, 2011)*.

Inmates will also be seen at OSUMC *(Geisler, Gregory T. et al, 2011)*. OSUMC provides specialty clinics and emergency services. It also has a 23-bed unit dedicated to offenders who require longer hospital stays *(Geisler, Gregory T. et al, 2011)*.

Finally, in an effort to save costs, the Department purchased their own MRI imaging equipment *(Geisler, Gregory T. et al, 2011)*. It was reported at the time of this survey, that the Department has already recouped the costs of the equipment by the money saved from conducting their own tests *(Geisler, Gregory T. et al, 2011)*.

4.1.4 DIAGNOSTIC AND TREATMENT SERVICES

4.1.4.A IMAGING

Healthcare quality in prisons varies widely *(Rarey, 2011)*. Though medical care in prisons offers comprehensive care provided by health professionals of all levels, similar to hospital care, many monitoring devices and imaging services may not be available *(Rarey, 2011)*. Medical units in prisons generally do not have hospital-associated monitoring devices, such as cardiac telemetry *(Rarey, 2011)*. They also normally do not have specialty imaging such as Ultrasound, MRI, PET scanning, CT scanning, or the ability for 24-hour emergent imaging or laboratory services *(Rarey, 2011)*. Because of low demand numbers, availability of diagnostic equipment is limited in prisons *(McDonald, 1999)*. It is often difficult to justify the cost of construction, staffing and maintenance of the equipment, if utilization numbers are low *(McDonald, 1999)*. However, some states have determined it is cost effective to construct certain often used technologies such as general X-ray and mammograms (for women's prisons) *(McDonald, 1999; Rarey, 2011)*. For the imaging equipment they do provide, analog, in lieu of digital or computed radiography equipment, is normally used *(Rarey, 2011)*. Any inmate who requires specialized diagnostic studies, or inmates who may have life-threatening complications from treatment are transferred out to a local hospital *(Rarey, 2011)*.

WHERE STATES PROVIDE IMAGING AND OTHER DIAGNOSTIC TESTING

Computed Tomography (CT)

Exclusively Off-Site	34	states
Both Off-site and On-Site	7	states
Exclusively On-Site	3	states

Of those states that provided the service on-site, five states reported using mobile technology

Magnetic Resonance Imaging (MRI)

Exclusively Off-Site	34	states
Both Off-site and On-Site	8	states
Exclusively On-Site	2	states

Ultrasound (US)

Exclusively Off-Site	25	states
Both Off-site and On-Site	13	states
Exclusively On-Site	6	states

(L. Maruschak et al., 2016)

WHERE STATES PROVIDE CARDIOLOGY SERVICES

General Cardiology

Exclusively Off-Site	2	states
Both Off-site and On-Site	17	states
Exclusively On-Site	25	states

For those states that provided services both off-site and on-site, they noted that prisoners were typically sent off-site for surgeries or cardiac procedures

Electrocardiogram (ECG) testing

Exclusively Off-Site	0	states
Both Off-site and On-Site	11	states
Exclusively On-Site	33	states

(L. Maruschak et al., 2016)

There is discussion in the literature regarding securing the inmate while they are being treated in the local hospital setting. Those will be discussed in Section 13, Safety and Security. However, there are some references specific to imaging equipment *(Rarey, 2011)*. When imaging an inmate in a community diagnostic imaging center, the technologist will have to work around the inmate's shackles and security restraints *(Rarey, 2011)*. The technologist should not ask for the removal of the security restraints, unless it is absolutely necessary for the completion of the procedure *(Rarey, 2011)*. In the case of CT or MRI studies, plastic security restraints can be substituted for metal shackles *(Rarey, 2011)*. They also note that for the preparation for the procedure, the technologist should never interfere with the duties of the corrections officer *(Rarey, 2011)*.

4.1.4.B PERIOPERATIVE SERVICES

Public hospitals are normally not designed to serve inmate patients; however they are often transported to these facilities for surgical services *(Smith, 2016)*. Though many hospitals do provide surgical services for prisoners, most are not equipped with holding cells and therefore have to provide care in the same setting as community-based patients *(Smith, 2016)*. **Community hospitals are the only unsecured environments that are integral components of the correctional system** *(Smith, 2016).*

Most prisons send inmates to local hospitals or regional correctional health facilities for perioperative services, however 14 of the 30 states that provide orthopedic services both off-site and on-site, sent prisoners off-site for surgery *(Maruschak et al., 2016)***. A few states also have some surgical capacity on-site** *(Maruschak et al., 2016)***. For cardiac catheterizations, 44 states provide that service exclusively off-site** *(Maruschak et al., 2016).*

WHERE STATES PROVIDE PERIOPERATIVE SERVICES

Sigmoidoscopies

Exclusively Off-Site	33	states
Both Off-site and On-Site	16	states
Exclusively On-Site	3	states

Two states did not provide the procedure

Colonoscopies

Exclusively Off-Site	37	states
Both Off-site and On-Site	6	states
Exclusively On-Site	1	state

(L. Maruschak et al., 2016)

The proper way to secure an inmate when they are being treated in a community hospital setting will be discussed in Section 11 , Safety and Security. However, there are security concerns specific to the perioperative setting *(Smith, 2016)*. In the preoperative care area, the inmate-patient should be located at the far end of the treatment area, or in an isolation room, to limit the foot traffic around the inmate and the corrections officers *(Smith, 2016)*. If they are being housed in a treatment bay, the curtain should be drawn completely around the patient to cut off visibility from anyone not directly involved in patient care *(Smith, 2016)*. In the intraoperative care area, time must be allowed for the corrections officer to don the proper surgical attire (either scrubs or "bunny suits") *(Smith, 2016; Thurmond, 2002)*. Their holstered weapon must be worn outside of the surgical attire for access *(Smith, 2016)*. Because of the need for security restraints, the patients may have problems being positioned for surgery and may be prone to burns from electrosurgery equipment *(Smith, 2016; Thurmond, 2002)*. Security restraints may also interfere with anesthesia, delay surgery, or heighten emotions *(Thurmond, 2002)*. In the postoperative care area, the same protocol should be followed as in the preoperative care area *(Smith, 2016)*.

4.1.5 TELEMEDICINE

Providing the required community standard of care to inmates has been a challenge for state departments of corrections *(Doarn, Justis, Chaudhri, & Merrell, 2005).* **Cost, time, and distance concerns often limit inmate's access to the appropriate specialists** *(Doarn et al., 2005)***. Given those concerns, Telemedicine can help provide inmates with immediate access to affordable high-quality health care** *(Doarn et al., 2005).*

Telemedicine is a technology tool that supports health care delivery systems *(Doarn et al., 2005)*. It is comprised of computer, video, information systems, and telecommunications systems to provide care to remote locations *(Doarn et al., 2005)*. The term "correctional telemedicine" is defined as the use of this technology to support correctional health care in maintaining the community standard of care, while enhancing safety and reducing health care costs *(Doarn et al., 2005)*. In other words, it is the remote delivery of care by telecommunications *(D. McDonald et al., 1999)*. Prior to telemedicine, most care was provided by physicians outside of the prison walls, necessitating travel to a less secure facility *(Doarn et al., 2005)*. Telemedicine has been able to reduce both the costs of care and potential security issues by reducing travel to outside facilities *(Doarn et al., 2005; Edwards et al., 2012)*.

Information shared through telemedicine can be as simple as a written lab report, or as complex as a digitized radiology image *(D. McDonald et al., 1999)*. It can also be a real-time, high-resolution video conference where a remote physician can see a patient on video, as well as images from a wide range of diagnostic tests, including probes and ultrasound *(D. McDonald et al., 1999)*. The remote specialist may also direct local general physicians in the treatment of the patient *(D. McDonald et al., 1999)*.

A great benefit for correctional physicians in using telemedicine is the ability to consult with specialists in real time *(Doarn et al., 2005)*. It can allow the entire care team of patient, nurse, primary care physician and consulting specialist to meet at the same time, thereby reducing time for treatment decisions *(Brunicardi, 1998; Vo, 2008)*. It also allows for improved medical decisions based on collaborations between providers *(Brunicardi, 1998)*. In addition, telemedicine also provides a way of limiting the isolation that is felt by physicians practicing full-time in correctional facilities *(Doarn et al., 2005)*. Finally, it gives medical students a chance to participate in correctional healthcare without having to enter the secured environment *(Doarn et al., 2005)*.

A number of authors note that prisons are the ideal setting for telemedicine *(Doarn et al., 2005; Ellis, Mayrose, Jehle, Moscati, & Pierluisi, 2001; Nacci, Turner, Waldron, & Broyles, 2001; Vo, 2008)*. **Four common features of telemedicine programs help support its full integration into correctional healthcare** *(Doarn et al., 2005; Ellis et al., 2001; Nacci et al., 2001; Vo, 2008)*:

1. **Reduces costs by saving on transportation and offering security**
2. **Provides improved quality of care by reducing wait times for and increasing access to medical specialists**
3. **Decreases the number of trips to outside medical facilities, thereby reducing security concerns**
4. **Reduces the potential threats to the local community of dangerous offenders and untreated communicable diseases**

The primary feature and cost benefit of telemedicine is the reduction of transport and security costs by limiting the number of inmates who have to be transferred to an outside health facility *(Doarn et al., 2005)*. However, telemedicine is not meant to replace in-facility medical care, but it may supplement it as needed *(Nacci et al., 2001)*. In their study, McDonald et al. *(1999)* noted that not all external consultations can be avoided. Emergency and trauma care, surgery and other invasive tests and procedures, and care requiring non-mobile equipment, still require trips to an outside medical center *(D. McDonald et al., 1999)*.

The second feature of telemedicine is increased access to specialists *(Doarn et al., 2005; D. McDonald et al., 1999)*. Because many prisons are located in rural areas, the nearest tertiary care facility could be many miles away *(Doarn et al., 2005; D. McDonald et al., 1999)*. Telemedicine would allow access to a remote specialist, without the inherent risks and costs of transporting an inmate over great distances *(Doarn et al., 2005)*. Additional access to specialists has the added benefit of reducing the perception that the inmate's care was substandard, which should also reduce potential litigation *(Doarn et al., 2005)*. Another potential benefit of increased access to specialists is reduced costs *(D. McDonald et al., 1999)*. Because states can now access specialists from anywhere, there will be more competition and therefore potential cost benefits to the state *(D. McDonald et al., 1999)*.

Besides distance, the other aspect of access to specialists that is enhanced through telemedicine is time *(Brunicardi , 1998; D. McDonald et al., 1999)*. Inmates who need to see a specialist typically have to wait for appointments, since specialists only come to the prison facilities on a set schedule *(D. McDonald et al., 1999)*. Telemedicine would allow for shorter wait times for appointments because they are not based on a travel schedule *(D. McDonald et al., 1999)*. Brunicardi *(1998)* noted that the reduced time in scheduling an appointment can also help alleviate patient backlogs. **In their study, across all specialties, McDonald et al. (1999) saw the average wait time to see a specialist drop from 99 days before telemedicine, to 23 days after telemedicine.**

Access to new and better-quality specialists is another component of a telemedicine program *(D. McDonald et al., 1999)*. Through telemedicine, states' correctional facilities can have access to many specialists who normally would not be part of their health system *(McDonald et al., 1999)*.

The third feature is enhanced safety and security due to reduced trips to outside medical facilities. There are societal benefits to reducing the number of trips inmates have to make to local hospitals *(Doarn et al., 2005)*. Costs of apprehension of potential escapees, legal fees saved from lawsuits and potential lives saved by keeping the inmates in the prison, are all benefits to society from telemedicine *(Doarn et al., 2005)*.

The final feature is the reduced threats to the community at large. Reduced risk of communicable disease transmittance is also a benefit of telemedicine *(Doarn et al., 2005)*. Inmates have a high rate of hepatitis C *(Doarn et al., 2005)*, as well as other communicable diseases. Reducing inmate transfers to community hospitals limits the risk of spreading those diseases to members of the community *(Doarn et al., 2005)*.

Though the primary cost savings from telemedicine programs are from security and travel reductions, there are other cost savings as well *(Doarn et al., 2005)*. First, the telemedicine consulting physician can order labs and imaging studies to be taken within the prison health facility, where costs are less than a community medical center *(Doarn et al., 2005)*. Second, improved management of diseases should reduce hospital admission rates *(Doarn et al., 2005)*.

One potential benefit of telemedicine is enhanced inmate behaviors. Once an inmate learns that a medical complaint may not automatically trigger a trip to an outside health facility, the number of medical complaints may go down *(Doarn et al., 2005)*. McDonald et al. *(1999)* suggest that the greater access to care afforded by telemedicine will reduce the number of medical-related grievances from inmates *(McDonald et al., 1999)*. These authors *(1999)* also reported that observers felt prisons were calmer and less violent when increased access to psychiatric services was afforded by telemedicine, Ellis et al. *(2001)* noted that some inmates preferred telemedicine visits as they did not feel the embarrassment of being displayed in shackles and corrections clothing in a community setting.

Two issues must be addressed in regard to telemedicine programs. First, there must be enough volume of telemedicine visits to justify the cost of equipment *(Doarn et al., 2005)*. In some models, inmates are being transferred to a "hub" site within the prison system to increase the utilization of the telemedicine program *(Doarn et al., 2005)*. However, McDonald et al. *(1999)* noted that since the major savings from telemedicine is from the reduction of patient transfers to outside facilities, utilization of the equipment is not a factor in cost savings. Second, practicing medicine across state lines has been a concern for some telemedicine programs *(Doarn et al., 2005; Vo, 2008)*. A common solution is for the physician to obtain a license in each state where the consultations originate *(Doarn et al., 2005)*. A few states have adopted a revised license that allows for telemedicine consultations across state lines *(Doarn et al., 2005)*.

4.1.5.A HOW STATES ARE USING TELEMEDICINE PROGRAMS

At the time of his study, Brunicardi *(1998)* noted that 15 states were already using telemedicine, with others planning projects in the near future. In 1998, Ohio and Texas had the largest telemedicine projects, and Michigan, Nebraska, Georgia, Louisiana, Florida and Wisconsin were working to increase utilization of existing programs *(Brunicardi, 1998)*. Edwards *(2012)* noted that 26 of the 44 states surveyed in 2010 were using telemedicine to deliver some of their medical services to inmates. Maruschak et al. *(2016)* noted the following in regard to telemedicine use: 30 states reported using telemedicine for at least one specialty or diagnostic service; 11 different specialty or diagnostic services were being served by telemedicine; all 30 states reporting telemedicine use described using it in combination with on-site and off-site care *(Maruschak et al., 2016)*.

Telemedicine sub-specialties by state

(Maruschak et al., 2016)

Cardiology	12	states
Psychiatric	28	states
Dialysis	1	state
Gynecological	2	states
Obstetric	3	states
Ophthalmology	3	states
Orthopedic	7	states
Colonoscopy	1	state
Colposcopy	1	state
ECG	1	state

4.1.5.B EXAMPLES OF TELEMEDICINE PROGRAMS

New York analyzed telemedicine as a way to reduce transportation to the emergency department *(Doarn et al., 2005)*. Of the 126 telemedicine consultations studied, the majority of inmates stayed at their prison location. Only 45 inmates (36 percent) had to be transported to the hospital emergency department *(Doarn et al., 2005)*. The average turnaround time was also reduced where telemedicine consultations averaged 30 minutes, as compared to a turnaround time of two hours and 45 minutes in the emergency department *(Doarn et al., 2005)*. With the availability of remote monitoring for vital signs and EKGs, the number of transfers to hospital emergency departments for chest pain, CVA, heart problems and broken bones has been reduced *(Doarn et al., 2005)*.

In Ohio, after implementing a telemedicine program, there was a decrease in the number of inmates who needed to be transferred *(Brunicardi, 1998)*. In fiscal year 1996, of 469 telemedicine consults, 420 did not require a trip to an outside medical center *(Brunicardi, 1998)*. Those cases that did require a transfer were because specialized testing that could not be completed remotely was needed *(Brunicardi, 1998)*. Due to transportation time, security screening and waiting for other inmate appointments, the average time for an outside facility consultation was eight hours *(Brunicardi, 1998)*. After the telemedicine program was created, the average consultation time was 50 minutes, including the time for the corrections officer to bring the inmate to the consultation room and return him to his cell *(Brunicardi, 1998)*.

In 2010-2011, California reported an increase in their numbers of telemedicine encounters, up from 9,000 in 2005 to 23,000 in 2011 *(Edwards et al., 2012)*. Though it showed a significant increase, it was noted that California still has not taken full advantage of the technology *(Edwards et al., 2012)*. By comparison, Texas records 40,000 telemedicine encounters yearly, even though they have a smaller inmate population *(Edwards et al., 2012)*.

4.2 DISCUSSION

In order to determine the most appropriate location for care, there are a number of items states and state departments of corrections should consider in making their determination, including: providing more care in underserved communities, researching and analyzing patient data, creating regional medical centers, expanding partnerships with public health and academic medicine, increasing self-care programs, improving health literacy, adapting and implementing current community health trends, constructing flexible and adaptable spaces, expanding telemedicine, researching mobile technology options, and implementing and expanding technologies, such as EMRs and PACS. These items also provide the added benefits of potentially reducing costs and increasing access to care.

In underserved communities, corrections facilities have often become the default community health provider. Because they lack health insurance and have poor health literacy, many from underserved communities only seek care once their condition has reached emergent status *(Conklin et al., 2002)*. By increasing funding to community health services, health education, wellness, and treatment programs could be expanded, which may limit the amount of care that needs to be provided behind bars.

Once the inmate is incarcerated, states begin to wrestle with two tensions within correctional healthcare, expanding access to care while also limiting costs. Geisler et al *(2011)* discussed the challenge of balancing the limited dollars against the requirement to provide care. Because of limited budgets, states only want to provide the minimal constitutional standard of care. **Primary care in prisons becomes a balancing act among patient care population and volumes, available health facilities and staff, distance to local hospitals, and room utilization. States want to make sure that any health facility that they construct is highly utilized. If a state has a lower inmate patient volume, it may be more cost-effective to continue to transport inmates to a local hospital for care, in lieu of constructing healthcare space within the prison.** However, if a state has high inmate patient volumes, it may be more cost-effective to construct dedicated healthcare space within the prison. For example, if a state constructs a $1.5 million MRI suite, but only uses it two days a week, that is not a cost-effective solution. However, if they are using the suite five days a week, then states can see a return on that investment.

Keeping accurate and up-to-date data on patient volumes will help states determine the best location to provide care. Besides facility usage, duplication of testing can also be caused by a lack of current data. Anno *(2004)* noted that millions of dollars are wasted on duplicated testing. Intake screening, sick call, and outside medical appointments create opportunities for duplication

of services. If communication and record-keeping are not cohesive among all aspects of inmate healthcare, many duplicate tests can be ordered. This will have an effect on space, as duplicated testing may skew patient volume numbers, making states think that they need more treatment spaces than they actually do.

As discussed by Rold *(2008)*, at a minimum all states must provide for sick call, a procedure for isolation of infectious patients, and a method for emergency response. In addition, they must provide access to inpatient care and access to specialists, as required. Because hospitals are the only non-secure environments that are an integral part of the correctional system, states should use patient data to create protocols for which inmates and medical conditions are eligible for transport to community-based hospitals. This will help states determine which health services and treatments are needed both on-site and off-site.

As noted by both McDonald *(1999)* and Anno *(2004)*, many state departments of corrections have at least one facility that acts as a regional medical facility. Using regional correctional medical centers offers a way to gain staff efficiencies, while keeping the inmate-patients in secure environments. By creating regional correctional medical centers, states can transfer all inmates, who suffer similar conditions, to these centers for their care. This would allow for greater utilization of limited health resources, as well as limiting transportation to community-based health systems. Due to the regional nature of these facilities, transportation would still be needed. However, transport could happen in larger numbers because the inmates can be housed there, until their treatments are complete, in lieu of an "up-and-back" process when sending inmates to hospitals.

As Conklin et al *(2002)* and Moller et al *(2007)* discussed, partnerships with public health facilities provide opportunities for a continuum of care from pre-incarceration, to incarceration, on through post-incarceration. This partnership would also give prisons access to clinical and diagnostic services that they then may not need to provide within the prison facility. In addition, increasing funding for public health will allow many from underserved communities to gain access to healthcare prior to incarceration; thereby, limiting the care the inmate needs while in custody. By treating health conditions prior to incarceration, state departments of corrections may be able to build, or contract out for, less healthcare services.

Partnerships with academic medical centers offer another way to increase access to specialists, as well as provide valuable training to medical students *(Fraser Hale et al., 2008; Kendig, 2004; Reeves et al., 2014)*. Though only a few states are currently using this model, these programs should be expanded to other states. Academic medical centers are on the cutting edge of research and current state best practices. By partnering with academic institutions, DOCs not only gain increased access to specialists, they also gain access to the latest technology and procedures. In addition, much like the public health model, this partnership would also give prisons access to clinical and diagnostic services that they then may not need to provide within the prison facility. With an AMC partnership, states also gain access to telemedicine, EMRs and PACS technology. This opens up opportunities for states to gain access to treatments and services, without having to provide them within the prison.

For academic medical centers, prison partnerships provide a valuable training ground for their students *(Hale et al., 2015)*. Inmates have comorbidities of many chronic medical and mental health conditions. This patient pathology gives students experience working with a very complex patient type. The access to students helps state departments of corrections. By having medical students do their rotations through their facilities, prisons gain access to caregivers, which would allow them to provide more services on-site.

One of the largest inefficiencies in correctional health is in the area of self-care, wellness and health education. As noted by Rold *(2008)*, in many state departments of corrections, over-the-counter self-care remedies, such as pain relievers, cold medicine, and tablets for upset stomach have to be provided through the sick call system. Inmates cannot purchase these over-the-counter items through the prison commissary. This is a very inefficient use of the nurse's time, and increases the cost of care. For every encounter that the frontline nurse has with an inmate requesting over-the-counter medications, that is time that is taken away from an inmate-patient who may have a more serious medical need. By not allowing self-care, states may have to provide more exam space than actually needed because of the additional examinations and paperwork that are required to issue over-the-counter medications. It would be beneficial to conduct research to examine the positives and negatives of allowing inmates to purchase over-the-counter medications from the prison commissaries and its effects on need for clinical space.

Though it may seem tangential, the low-health literacy of inmates may also affect needed clinical space. Expanding funding to wellness and health education programs could help many inmates manage their chronic health conditions so that fewer inmates' diseases progress to the point of needing acute intervention. By limiting acute interventions by teaching inmates how to manage their chronic conditions, states may not need to build or contract for as many acute care services. An additional benefit of increasing the health literacy of inmates is the increase in trust between inmate-patients and their medical providers. Once the inmate-patient understands their disease, they can speak more competently with providers about a positive course of treatment.

State departments of health can also look to current trends within the community-based hospital setting to help decide the best location to provide care. Many community-based hospitals are creating "acuity-adaptable" patient rooms that serve a dual purpose, as both an intensive care room, or a general medical surgical room. Rooms are sized with the required bed clearances and clear-floor area of ICU rooms, but also have the amenities of medical/surgical rooms. In addition, all rooms are also equipped with telemetry monitoring. Community hospitals "flex" these rooms between acuity levels as the patients "step down" from higher to lower acuity. This allows community hospitals to construct fewer rooms, while still serving the same population. This is accomplished by having higher utilization of those rooms. However, this model does require that nurses be cross-trained in the different acuity levels of care. The same type of model could be studied for inpatient correctional health.

One thing that designers can do to help reduce costs is to design healthcare spaces that are flexible so they can be used for multiple purposes. In order for high-cost medical facilities to be cost-effective, the procedure and treatment rooms need to be highly utilized. For example, if states departments of corrections are constructing ten exam rooms, but they are only used three days a week, then that is not an efficient and cost-effective use of space. However, if spaces can be designed for multiple purposes such as dialysis, infusion therapy, and procedural prep and recovery, that then becomes a more cost-effective use of space. Designers can work with front-line medical staff to determine the space and utilization needs of different treatment types to offer options for any space efficiencies to be leveraged. State departments of corrections can save costs and increase access to care by constructing less space that is more highly utilized.

As discussed by Maruschak et al *(2016)*, telemedicine is already being used by a number of state departments of corrections for a number of different subspecialty interventions. However, the use of this technology can be expanded. Expansion of telemedicine programs can increase inmate-patients access to care, without states suffering the costs of transportation and correctional officer escort. By accessing providers through telemedicine, inmate-patients no longer have to wait to schedule appointments for when the specialist is on-site, and it also eliminates the need for either the specialist to travel to the prison health facility or to transport the inmate-patient to the community hospital. As noted by McDonald et al. *(1999)*, though not all face-to-face medical interventions can be eliminated through telemedicine, there are still a large number of interventions that can be provided through this technology. Greater use of telemedicine will not only increase access to care, but it will also limit the amount of health services states need to provide within the prison facility.

As cited by Maruschak et al. *(2016)*, mobile technology is already being used by some state departments of corrections for diagnostic imaging studies. This is a cost-effective solution for states that have multiple facilities, but not enough patient volume at each facility to justify the costs of constructing individual imaging rooms. There is potential for this technology to be adapted for surgical procedure rooms, as well. Just like for the imaging application, if states departments of corrections do not have the patient volume or staffing to justify constructing individual operating theaters at each facility, there may be a mobile technology solution that can be moved from state facility to state facility. This would allow states to save the costs associated with transporting the inmate-patient to community-based facilities, without spending the $1 million it takes to construct one operating room.

The Federal Bureau of Prisons experimented with a pilot project for mobile surgery at three locations in 2007 *(U.S Department of Justice, Office of the Inspector General, 2008)*. In addition, Doctors without Borders, along with Médecins Sans Frontières *(MSF)* has developed a Mobile Unit Surgical Trailers (MUST) program. This technology allows them to go into war-torn areas to provide surgical interventions for the most needy. This technology could also be adapted for correctional health.

As noted in the research by Davis et al *(2015)*, services in correctional health facilities do not often reflect modern science, medicine, treatment, or technology. Correctional healthcare is well behind the community health system in Electronic Medical Records *(EMR)* and Picture Archiving Communication Systems *(PACS)*. Paper health records and film processing and storage represent outdated technology that is no longer used in the community setting. By still using these older systems, correctional health systems are making it difficult to communicate and contract care to community health care providers. In addition, by continuing to use those systems, correctional health is requiring that their community health partners continue to use and support older technology, which is an additional expense that needs to be reimbursed by the correctional health system.

EMRs allow for seamless transfer of medical records between health facilities in the same health system and PACS allow for digital reading and storing of diagnostic imaging studies. Both of these systems incorporate current state standards used in the community health system. By investing in and expanding the use of these systems, correctional health will be able to seamlessly exchange health information with community health providers. This will allow for more timely review of inmate-patient medical conditions, care treatment plans, and patient outcomes. It will also help reduce redundant testing since all health providers within the correctional health system will have real-time access to what tests have already been given, and the outcomes. All of these factors could not only recover the costs of the technology systems, but also open up the prison to a wider range of health service partners.

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5 ELDER CARE

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5.1 RESULTS

The healthcare needs of elderly, chronically-ill and terminally-ill prisoners overlaps considerably *(Anno et al., 2004)***. This section will cover the healthcare needs of the elderly. Palliative care will be covered in Section 6.**

As of the year 2000, there were 113,000 inmates over the age of 50, or 8.2 percent of all inmates *(Kinsella, 2004)*. Because many older inmates come from underserved communities, prison is often the first access they have had to care for their chronic conditions *(Ahalt, Trestman, Rich, Greifinger, & Williams, 2013)*. Older inmates often suffer from multiple chronic conditions, as well as other mental health and medical conditions *(Kinsella, 2004)*. These conditions are expensive to treat and represent a large financial burden to state departments of corrections *(Kinsella, 2004)*. Though the research is hard to reconcile, it is estimated that older inmates can cost from three to nine times more to incarcerate than younger inmates. This is estimated to be caused by the greater use of health services by older inmates *(Ahalt et al., 2013; Anno et al., 2004; Mara & McKenna, 2000; Smyer & Burbank, 2009; Williams, Stern, Mellow, Safer, & Greifinger, 2012)*. As noted by Kinsella *(2004)*, it is estimated that it costs an average of $70,000 annually to house an elderly inmate, which is three times more than a younger inmate.

State strategies to manage elderly inmate population health *(Kinsella, 2004)*

Group or create geriatric facilities	26	states
Geriatric programs or recreational activities	29	states
Special work assignments	15	states
Hospice and end of life programs	18	states
Compassionate release programs	36	states
Early release planning	37	states

In addition to the actions listed above, many departments of corrections are now also looking to expand the use of telemedicine in order to help reduce medical costs *(Anno et al., 2004)*. Refer to Section 4.1.5.

5.1.1 TYPES OF OLDER INMATES (LIFERS, RECIDIVISTS, FIRST OFFENSE)

Older inmates fall into one of three categories: Lifers, recidivists, or first offenders *(Anno et al., 2004; Beckett, Peternelj-Taylor, & Johnson, 2003; Mara, 2002)*. Lifers are inmates who were sentenced at an early age and are growing old in prison. Recidivists are repeat offenders who are often re-incarcerated after release. First offenders were arrested and convicted later in life *(Anno et al., 2004; Beckett et al., 2003)*. Sources report inconsistent percentages of older inmates who fall into each particular group. One source noted that first offenders are the largest population of the three inmate types *(Beckett et al., 2003)*. However, another source noted that only 50 percent of older inmates were first-time offenders *(Anno et al., 2004)*. More research is needed on the numbers and distribution of older inmate types.

5.1.2 CHARACTERISTICS OF AGING INMATES

Older inmates not only have more medical care needs than younger inmates, they also have more psychosocial needs *(Aday, 1994; Smyer & Burbank, 2009)*. Compared to the rest of the prison population, older inmates use a large amount of scarce healthcare services *(Anno et al., 2004)*. Growing old can be difficult in itself, but growing old behind bars can be especially difficult *(Beckett et al., 2003)*.

Physiologically, prisoners are 10-12 years older than their chronological age. Fifty years old is considered elderly for an inmate *(Beckett et al., 2003; Mara, 2002; Mitka, 2004; Williams, Goodwin, Baillargeon, Ahalt, & Walter, 2012)*. Lack of adequate medical care,

substance and alcohol abuse, and poor diet are some of the causes of the age disparity *(Smyer & Burbank, 2009; Williams et al., 2012)*. There is a need for a consistent, national definition of what constitutes "elderly" in the prison environment. This would help state departments of corrections and policy experts quantify costs and define population numbers *(Williams et al., 2012)*.

Because of the age disparity between a prisoner's physiological age and their chronological age, the onset of geriatric conditions starts at a younger age in prison than in the general community *(Anno et al., 2004; Williams et al., 2012)*. **Inmates over 50 years old show an increased rate of incontinence, impaired flexibility and sensory issues (e.g. vision and hearing loss), respiratory issues, cardiac disease and cancer, as compared to the general population of the same age** *(Anno et al., 2004; Colsher, Wallace, Loeffelholz, & Sales, 1992).* These prisoners also exhibit instability and have a greater risk of falls *(Williams et al., 2012)*. Inmates themselves have reported impairments of speech and learning, vision and hearing, and other physical and mental health issues *(Mara, 2002)*.

5.1.2.A CHRONIC HEALTH CONDITIONS

Chronic conditions are found in at least 40 percent of the inmate population *(Macmadu & Rich, 2015)*. The increase in prevalence is due to two factors: the nation's obesity epidemic and the aging prison population *(Macmadu & Rich, 2015)*. More chronic conditions are found in the prison population than in the general community population, with very few exceptions *(Macmadu & Rich, 2015)*. Besides the common geriatric syndromes found in older prisoners; on average older inmates also have three chronic conditions *(Mara, 2002; Mitka, 2004; Smyer & Burbank, 2009)*. By comparison, among the non-incarcerated, older people have two chronic conditions on average *(Mara, 2002)*. **The most common chronic conditions among the incarcerated include heart disease, diabetes, arthritis, and cancer** *(Beckett et al., 2003; Williams et al., 2012)***. Other sources cited additional chronic conditions, such as hypertension, ulcers, prostrate issues** *(Anno et al., 2004; Colsher et al., 1992)***, renal and pulmonary disease, cirrhosis, and neurological disease** *(Hall, 1990; Smyer & Burbank, 2009).* Given the aging populations in prisons, they are increasingly becoming sites for chronic care treatments and nursing home-level care *(Macmadu & Rich, 2015)*.

5.1.2.B ACTIVITIES OF DAILY LIVING

Functional ability is often graded on the person's ability to complete activities of daily living (ADLs). In the general community, those activities are defined by toileting, bathing, eating, dressing and transferring. These ADLs may not be appropriate in the prison environment. **Suggested alternate ADLs for the prison environment include, getting in and out of top bunks, standing for head counts, dropping to the floor on command, getting to the dining hall, and hearing staff orders** *(Smyer & Burbank, 2009; Williams et al., 2012).* The need for long-term care is based on the patient's ability to perform ADLs. As the functional abilities of the inmate decreases, they may need to be transferred to more appropriate housing *(Mara, 2002)*. Because activities needed for independence vary from facility to facility, more research on this subject is needed *(Williams et al., 2012)*.

5.1.2.C DISABILITY

Disabilities are not only a sign of a potential decrease in functional ability; they also predict additional health service needs *(Mara, 2002; Williams et al., 2009)*. **About three out of 10 state and federal inmates reported at least one disability in 2011-2012** *(Bronson, Maruschak, & Berzofsky, 2015).* The most common disabilities include vision, hearing, ambulatory, self-care, independent living and cognitive *(Bronson et al., 2015)*. Prisoners were nearly three times more likely to have a disability than those in the general community *(Bronson et al., 2015)*. Cognitive issues were noted in two out of 10 prisoners surveyed *(Bronson et al., 2015)*. Fifty-four percent of prisoners surveyed reported a co-occurring chronic condition along with their disability *(Bronson et al., 2015)*. Research is needed to determine if modifying the prison environment could improve the adverse effects of these common syndromes *(Williams et al., 2012)*.

5.1.2.D DEMENTIA AND OTHER PSYCHIATRIC DISORDERS

Elderly inmates often experience comorbidities with mental health conditions. **Comorbidities exist in 85 percent of elder inmate patients** *(Smyer & Burbank, 2009)***, and at least 20 percent have mental health disorders** *(Mitka, 2004).* Many mental health disorders begin to manifest as an inmate ages in prison. Older inmates can become isolated socially, have a high probability of depression, and are at risk for suicide *(Beckett et al., 2003)*. An inmate must come to terms with loss of employment, family and sexual identity *(Anno et al., 2004)*. Older inmates can also have high levels of stress. Stress can be caused by many different factors in the life of the older inmate. It can be offense-related (loss of freedom), personally-related (deaths of family and friends), or institutionally-related (violence from other inmates) *(Beckett et al., 2003)*.

Cognitive impairment is the most common geriatric syndrome in prisons. Substance abuse, stress and traumatic brain injury (TBI) are the common factors in aging inmates that drive this result *(Williams et al., 2012)*. **One study found that cognitive impairments were diagnosed in 40 percent of inmates 55 years old and older** *(Williams et al., 2012).* Williams et al (2012) suggest annual screening of inmates 55 year old and older for cognitive impairments. However, these authors also noted that the free-world tests used for cognitive impairment may not be appropriate in the prison environment; they suggested the creation of prison-centric testing *(Williams et al., 2012)*.

Dementia is one of the leading causes of higher healthcare costs within prisons *(Williams et al., 2012)*. If unrecognized, it can cause other disruptions, such as unnecessary disciplinary actions, victimization and difficulty navigating the parole process *(Williams et al., 2012)*. In addition, many older inmates may also suffer from Parkinson's disease and Alzheimer's disease that require constant care *(Beckett et al., 2003)*. Dementia, depression, anxiety and other mental health issues can be a challenge for the prison system. Many times these issues are exacerbated by the prison environment, such as noise, overcrowding, and other inmate behaviors *(Beckett et al., 2003)*.

5.1.3 OLDER PRISONER USE OF HEALTH SERVICES

Inmates who were hardened criminals 30 years ago are now starting to age in prison. They are now old and frail, suffering from chronic conditions and mental health disorders *(Anno et al., 2004)*. As inmates age, their health status may change. Some may experience changes in their cognitive abilities and require assistance. Some may require more frequent visits to specialists, both inside and outside their housing unit. Some may suffer mobility impairment and require canes, walkers, or wheelchairs. Some may require physical changes to their environment, such as lifts and ADA-accessible toilets and showers. Handrails and ramps may need to be added, doors may need to be widened, and signage may need to be changed *(Anno et al., 2004; Beckett et al., 2003; Mara, 2002; Smyer & Burbank, 2009)*. One survey noted that most departments of corrections provide assistance devices, glasses, hearing aids, dentures, warm clothing and blankets to inmates who need them *(Anno et al., 2004)*. Peer caregivers and community volunteers are sometimes used to supplement health staff to provide comfort care for older inmates *(Beckett et al., 2003)*. They provide opportunities for socialization, fellowship and comfort for the aging inmate *(Beckett et al., 2003)*.

5.1.3.A ACCESS TO SPECIALISTS

Many aging inmates will require access to additional specialists. These could include occupational and physical therapists, psychiatrists, audiologists and ophthalmologists *(Anno et al., 2004)*. There is a greater need for specialized nursing in medical, gerontological, and mental health conditions to provide care for this patient cohort *(Chow, 2002)*. Because of the changes that happen to long-term inmates during their incarceration, as they age, psychiatric nurses are ideal providers to help assist with these changes *(Beckett et al., 2003)*. Some prisons are also offering counseling by psychologists specifically trained in geriatrics *(Aday, 1994)*. Because of the comorbidities of this population, one study suggests the use of the multi-mobility model of geriatric care. This model shifts care from a single disease focus to one that prioritizes the chronic condition that affects the patient the most *(Williams et al., 2012)*.

5.1.3.B TREATMENT AND PROGRAM NEEDS

Aging in the community and aging in prison have different programmatic and service needs *(Anno et al., 2004).* Aging inmates tend to require specialized programmatic needs within environments that are unwilling to break with discipline and order *(Anno et al., 2004)*. Older inmates are interested in participating in available prison health promotion programs *(Beckett et al., 2003)*. One study noted that a robust, proactive health promotion program would lead to healthier aging within the prison environment *(Smyer & Burbank, 2009)*. Another study noted that prison programs that focus on health improvement, cognitive improvements, and substance abuse could help lower costs and recidivism rates *(Williams et al., 2012)*.

5.1.3.C ETHICAL OBLIGATIONS TO PROVIDE CARE

Because the cost of care is so high, there are still ethical questions regarding the need to provide specialized care to the aging inmate. **Should inmates be allowed heart procedures and organ transplants, when others in the general community may not have access to those services** *(Aday, 1994)***? Should we continue to incarcerate a prisoner with dementia, when they can no longer understand their punishment, or be a threat to society** *(Smyer & Burbank, 2009)***? Also, with the elder inmate population being so small in a number of states, should separate facilities or programs be provided** *(Aday, 1994)***?** The health needs of elderly inmates are a budgetary and resource challenge to prison systems. The ability of prison systems to properly care for the aging inmate is a sobering concern *(Beckett et al., 2003)*. Because of the aging inmate, long-term care is a major concern for prison systems *(Mara, 2002; Mitka, 2004)*. More study is needed to align the current models of geriatric care with the needs of the elderly inmate. Research in this area could create cost-effective and quality care for older inmates *(Williams et al., 2012)*.

5.1.4 PROVIDING CARE IN A COMMUNITY FACILITY

To deal with the increase in elderly and infirmed inmates, a full range of services, with a complete multidisciplinary approach to care needs to be designed. It should draw on the expertise of medical staff, dietary, social work and pastoral disciplines *(Anno et al., 2004)*. Most prison systems are not designed to provide this level of care. Rather, most prisons offer primary care services, designed to respond to patient demand. Because of this, most prisons rely on community providers to fill the gap. However, because of limited resources, community providers are becoming reluctant to treat inmates *(Anno et al., 2004)*.

The high cost of care is often cited by states as the main driver for rising prison spending. However there is very little research on the cost comparison between treating the inmate in a community facility and treating them in the prison *(Ahalt et al., 2013)*. These costs could vary greatly depending on the type of care being provided, the security classification of the inmate, and the travel distance to the nearest community facility *(Ahalt et al., 2013)*.

Other than the states with the largest prisoner populations, most departments of corrections will have to contract with their local community facility to provide the specialized care needed by the elderly inmate *(Anno et al., 2004; Williams et al., 2012).* One study noted that other than AIDS-related younger inmates, older inmates are sent to hospitals more often than any other inmate population *(Mara, 2002)*. However because of the remote location of many state prisons, finding community providers that can provide specialized care may be difficult *(Anno et al., 2004)*. In addition, community providers may not be equipped or may be reluctant to provide care to the elderly inmate *(Anno et al., 2004)*. If the facility does agree to treat the elderly inmate, they will require training on the issues surrounding this patient type *(Anno et al., 2004)*.

5.1.5 PROVIDING CARE IN A PRISON FACILITY

Prisons were designed for the younger inmate, and older inmates may have trouble navigating existing prison systems *(Aday, 1994; Mara, 2002)*. If the older inmate is not able to negotiate the prison layout, they may isolate themselves from the rest of prison life *(Aday, 1994)*. Older inmates frequently need areas that are quiet, peaceful and private. The noise, speed and confusion of day-to-day life are hard for them to cope with. This tends to put them in conflict with the general population *(Anno et al., 2004)*.

Because of the increase in older inmates, many prisons must be adapted to accommodate this inmate-patient population *(Anno et al., 2004; Beckett et al., 2003; Smyer & Burbank, 2009)*. How that adaptation happens is a major challenge for the prison systems *(Williams et al., 2012)*. One study noted that there is not a requirement under the Americans with Disabilities (ADA) for prisons to retrofit their facilities *(Mara, 2002)*. However physical access must be provided for those people with disabilities *(Mara, 2002; Williams et al., 2012)*. Many prisons are now clustering inmates who require wheelchairs into units designed to meet the ADA requirements *(Anno et al., 2004)* .

Prisons are not designed to treat disease, but to incarcerate *(Ahalt et al., 2013; Ha & Robinson, 2011; Wang et al., 2014)*. Security is the primary mission of the prison, not providing healthcare *(Ha & Robinson, 2011)*. This is especially true for the complex, acute care required by the older inmate *(Ahalt et al., 2013)*. It is a challenge for the medical staff to provide care in a facility that was designed to punish. It requires dedication and creativity on the part of the medical staff to adapt programs to fit the confines of the prison *(Beckett et*

al., 2003). In many cases, prisons have only the most rudimentary facilities to provide care. They may have some exam and support spaces, but not the full-service clinical and diagnostic environment needed by the interdisciplinary team to treat chronic care conditions within a patient-centered environment *(Ha & Robinson, 2011)*. Besides clinical and treatment spaces, areas needed for group visits and patient education classes may also need to be considered *(Ha & Robinson, 2011)*.

Self-management, which is a large part of chronic care programs, is difficult within the prison environment, particularly for the high-security inmate *(Ha & Robinson, 2011)*. Security concerns greatly limit what patients can do in regard to self-care *(Ha & Robinson, 2011)*. The ability for medical equipment to be weaponized and medications to be exchanged on the prison black market are both concerns for custody staff *(Ha & Robinson, 2011)*. In addition, patient education is an important part of self management programs *(Winter, 2008)*. For inmates at the lower security levels, patient education can go a long way in teaching inmates how to manage their conditions *(Ha & Robinson, 2011)*. The key to these education programs is that they match the health literacy level and the language understandable to the inmate-patient *(Winter, 2008)*.

Providing a patient-centered health program is difficult in a setting focused on security. However, to provide access in a timely manner to safe, efficient and effective medical care adopting a model that is evidence-based is advantageous *(Ha & Robinson, 2011)*. **The State of California implemented the chronic care model, which is a well-established model used in the community setting** *(Wang et al., 2014).* **This model outlines six elements that should be used to improve chronic disease care in health systems** *(Wang et al., 2014).* **These elements include: Strategies for self-management, community linkages, delivery system redesign, decision support, clinical information support, and health system support** *(Wang et al., 2014; Winter, 2008).* **This model uses evidence-based care protocols and encourages communication between providers and patients so they may take an active role in their care** *(Winter, 2008)*

5.1.5.A STAFF TRAINING

Lack of adequate staff training may be a driving factor in whether older inmates can be cared for in prisons *(Aday, 1994)*. One of the challenges in creating an adequate, specialized elder-care unit is security staffing *(Anno et al., 2004)*. Many corrections officers may not have the aptitude or skills required to manage the elderly inmate *(Williams et al., 2012)*. Special skills and training will be required to be flexible and adaptable enough for this inmate type *(Anno et al., 2004)*. Staff training must teach corrections officers to recognize the onsets of geriatric disability among inmates *(Williams et al., 2009)*. In addition, collaboration is needed between custodial staff and healthcare staff to help identify older inmates who may be in need of an intervention, or who may be a suicide risk. Because the possibility of depression is high with this inmate group, if they are not identified early they may be overlooked for treatment *(Beckett et al., 2003)*.

Custodial staff training for geriatric patients should focus on the following *(Williams et al., 2012):*

a. **Normal age-associated conditions (vision and hearing)**

b. **Normal age-associated physical conditions (falls and incontinence)**

c. **Common age-related, clinically-diagnosed cognitive conditions (dementia)**

d. **Challenges these conditions cause for an inmate in a prison environment**

e. **Identification of inmates for rapid assessment by the medical team**

5.1.5.B SPECIAL HOUSING UNITS

Treatment for conditions related to aging, protection from predatory younger inmates, and accessibility are reasons older inmates may require specialty housing. Because many older inmates have multiple chronic conditions, as well as issues related to aging, many departments of corrections are locating these inmates in housing units that offer a full range of health coverage *(Aday, 1994)*. These coverages can include 24-7 medical staff, emergency care, and access to specialists such as geriatrics, pulmonology, cardiology and nephrology *(Anno et al., 2004; Mara, 2002)*. Another reason for moving older inmates into special housing units has to do with victimization. Creating social relationships with younger inmates is a difficulty for the older inmate *(Anno et al., 2004)*. Older inmates are normally not a security risk; however they are a risk for victimization from predatory younger inmates *(Anno et al., 2004; Beckett et al., 2003;*

Mara, 2002; Smyer & Burbank, 2009). In addition, because of issues related to impairment, many states are housing older inmates in dedicated housing units *(Mitka, 2004; Smyer & Burbank, 2009)*. These units may routinely house younger, disabled inmates, as well as older inmates *(Aday, 1994; Anno et al., 2004)*. These units will normally offer special programs for the older inmate, as well as be designed with minimal stairs and shorter distances to other key facilities within the prison, such as the dining hall, or recreation area *(Aday, 1994; Mara, 2002)*. **Older inmates with dementia are of particular concern for prison administration and health staff. For safety reasons, these patients must be segregated from the rest of the general population** *(Smyer & Burbank, 2009)*.

Housing options for Aging and Elderly Inmates *(Beckett et al., 2003; Hall, 1990; Mara, 2002)*

- **A** Integration into general population ("mainstreaming")
- **B** Senior housing units
- **C** Hospice units
- **D** Skilled Nursing units ("retirement communities")
- **E** Assisted Living units, dedicated to older inmates
- **F** Transferring to less secure facilities

5.1.5.C HOUSING OPTIONS

In addition to the list above, many departments of corrections are using their infirmaries to house the elderly inmates. One study noted that prisons with smaller populations usually house the elderly inmates in the infirmary *(Anno et al., 2004)*. However, the purpose of the infirmary is to provide basic primary care, while also providing some medical supervision for recovering inmates; not to provide geriatric care *(Anno et al., 2004)*. Because of a lack of options, many elderly inmates are passing their days in these units, sharing space with inmates who may not belong there *(Anno et al., 2004)*. Another study noted that infirmaries are not designed with the aging inmate in mind. They may not have handicapped-accessible toilets and showers, and doors may be too narrow for wheelchairs. This may require using additional staff to assist the patient with those services *(Mara, 2002)*.

Nursing-home-type units are also being created by some states to provide more dedicated geriatric care. These units will normally have 24-hour nursing care *(Aday, 1994; Anno et al., 2004)*. Mara *(2002)* noted that the infirmary could be used for the elderly inmate, similar to the nursing home model in the free population. In this model, the elderly inmate could be housed in the general population and brought to the infirmary for long-term care, similar to the in-home model in the free population *(Mara, 2002)*.

5.1.5.D CONGREGATE CARE V MAINSTREAMING / SEGREGATION V CONSOLIDATION

One of the main concerns regarding providing elder care in the prison environment is how the patients will be housed. There are two main methods of housing these inmates: mainstreaming and congregation *(Anno et al., 2004; Smyer & Burbank, 2009; Thivierge-Rikard & Thompson, 2007)*. Mainstreaming refers to housing the elderly inmates throughout the general population. Congregation refers to housing the elderly inmates in dedicated, separately-managed units. They may either be either free-standing, or a dedicated wing in the prison *(Anno et al., 2004)*. Some states are housing their elderly inmates in one or the other model and some states are using a combination of both *(Thivierge-Rikard & Thompson, 2007)*.

Congregating the elderly inmates allows the resources to be centralized into one location. It also allows for the care to be stratified into smaller units, depending on the functional abilities of the inmates *(Anno et al., 2004)*. Coordinating other levels of care, such as outpatient care, hospital care and rehabilitation can be more easily scheduled from a congregate facility. Also, there should be some cost effectiveness owing to economies of scale *(Anno et al., 2004)*. There is also an advantage in those specialized services, such as dialysis, pharmacy and respiratory care, which can be centralized *(Anno et al., 2004)*. In one study it was noted that in a congregated model, there is more mental healthcare access *(Thivierge-Rikard & Thompson, 2007)*.

In a mainstream facility, you may see duplication in services and personnel *(Anno et al., 2004)*. However, many executives and corrections practitioners still favor mainstreaming. They feel they can retrofit sections of the housing into elderly housing by adding ramps, special cells and relaxed work programs. They also feel that older inmates have a calming effect on the rest of the general population *(Anno et al., 2004)*. Mainstreaming may be the only option for states with small populations *(Aday, 1994)*. This is particularly true for most women's populations *(Aday, 1994)*. One study stated however, that mainstreaming is less prevalent today *(Anno et al., 2004)*.

5.1.5.E EXAMPLES

There are many examples in the literature regarding the different housing models that some departments of corrections are using for treating the elderly inmate. One study noted that 15 DOCs were placing all of their elderly inmates in a single facility *(Anno et al., 2004)*.

With a growing number of elderly inmates and the need to provide more specialized care, the Federal Bureau of Prisons (BOP) converted a federal correctional institution into a federal medical center (FMC) *(Chow, 2002)*. This facility was created to provide long-term care services and was eventually accredited in ambulatory services and long-term care by Joint Commission Accreditation HealthCare Organizations (JCAHO). It provides services such as screening, monitoring, treatment and rehabilitative care for the elderly inmate and those with long-term disabilities *(Chow, 2002)*. The FMC provides care for Level III and Level IV patients within the BOP. It also acts as a referral center for inmates being transferred to outside hospital care *(Chow, 2002)*.

Mara *(2002)* highlighted two facilities providing inmates with elder care, the Elayn Hunt Correctional Center in Baton Rouge, Louisiana and the SCI Laurel Highlands in Pennsylvania. The Elayn Hunt Correctional Center is a 600-bed, skilled nursing prison. It provides skilled nursing, HIV and AIDS treatment, and mental health treatment. It also houses inmates who need monitoring, nursing home care, or hospice care but who do not need to be seen in a hospital *(Mara, 2002)*. The SCI Laurel Highlands is a long-term care prison. Inmates housed here can move through different levels of care. They can move from lower levels of care, such as geriatric care, to higher levels of care, such as long-term care *(Mara, 2002)*. Prior to opening SCI Laurel Highlands, long-term care was provided at a state-run nursing home. The DOC had to assign corrections officers to ensure safety. Not all long-term care inmates are housed at SCI Laurel Highlands, however. Inmates with high-security classifications and women needing long-term care are not housed there *(Mara, 2002)*.

Thivierge-Rickard et al *(2007)* reported the different types of housing that a number of different state departments of corrections provide for the elderly inmate. They noted that departments of corrections in Pennsylvania, Ohio and Texas provide segregated geriatric facilities *(Thivierge-Rikard & Thompson, 2007)*. These facilities offer specialized medical care, substance abuse treatments, psychiatric consultations and re-integration services *(Thivierge-Rikard & Thompson, 2007)*. They noted that Maryland does not provide any specialized facilities for their elderly inmates, but instead consolidates them in the general population *(Thivierge-Rikard & Thompson, 2007)*. They also noted that Montana's DOC provides neither segregated nor consolidated housing for their elderly inmates, but they do provide geriatric services *(Thivierge-Rikard & Thompson, 2007)*.

Finally, Anno et al. *(2004)* cited departments of corrections in Minnesota, Oregon and Ohio. In Minnesota, the Minnesota Correctional Facility at Faribault created the Linden Unit. This is a 103-bed special housing unit designed to care for older inmates with chronic diseases, as well as younger inmates with disabilities *(Anno et al., 2004)*. It is important to note that inmates do retain the choice to stay in general population if they so desire. Inmates who are housed in Linden must be able to perform their own ADLs. If they cannot, they are transferred to a transitional care unit *(Anno et al., 2004)*. In the state of Oregon, no special housing unit or programs are provided for the elderly inmate. Housing assignment is based on functional abilities for inmates over 50 years old *(Anno et al., 2004)*. However at Oregon State Correctional Institution, they have created "Unit 13" which is a 61-bed dorm. It was designed as a more protective environment for the elderly, disabled and functionally- impaired inmate *(Anno et al., 2004)*. Finally in the state of Ohio, five institutions created elderly housing in dedicated units. One of these units is the Hocking Correctional Facility *(Anno et al., 2004)*. Hocking has created a program called "50+ and Aging." This program addresses the needs of older inmates, such as physical, psychological and social concerns *(Anno et al., 2004)*.

5.1.5.F ON-SITE OR OFF-SITE HEALTH SERVICES

Where states provide chronic care services

31	of the responding states provided all care for inmates with common chronic conditions on-site *(Maruschak et al., 2016)*
13	of the responding states provided chronic care services both on-site and off-site *(Maruschak et al., 2016)*

Where states provide dialysis services

24	of the participating states reported providing this service exclusively on-site *(Maruschak et al., 2016)*
10	states provided the service both on-site and off-site *(Maruschak et al., 2016)*
10	states provided the service exclusively off-site *(Maruschak et al., 2016)*

States provided these services in a number of settings, including within the infirmary, and dedicated clinics within the prison system serving specific chronic diseases *(Maruschak et al., 2016).* **In addition, for most states that provided dedicated chronic-care clinics, those clinics covered a wide range of diseases** *(Maruschak et al., 2016).* **However, for a few states that provided dedicated clinics, those clinics only covered one or a small range of diseases** *(Maruschak et al., 2016).*

Where states provide long-term care services

35	of the participating states provided those services exclusively on-site *(Maruschak et al., 2016)*
12	of those states 12 provided care in dedicated units and six provided care in reserved beds *(Maruschak et al., 2016)*
6	of those states provided care in reserved beds *(Maruschak et al., 2016)*

One of the participating states reported providing this care off-site through a sister agency (Maruschak et al., 2016). Traumatic brain injury (TBI) rehabilitation, ventilator patients, and intensive physical therapy were common reasons the eight states reported, occasionally providing care off-site for transporting their patients *(Maruschak et al., 2016)*

5.1.6 COLLABORATIONS WITH COMMUNITY HEALTH / DISCHARGE PLANNING

Ninety-five percent of inmates will eventually be released *(Ahalt et al., 2013)*. When released, prisoners bring their chronic and communicable diseases back to the community *(Ha & Robinson, 2011)*. In the case of elder inmates, this may put an undue burden on the community health system *(Ahalt et al., 2013)*. If not properly treated, these conditions could have an adverse effect on both community health resources and the community at large *(Ha & Robinson, 2011)*. Care coordination, case management and discharge planning are all crucial to proper continuity of care *(Ha & Robinson, 2011)*.

For many older inmates who have been incarcerated for long periods of time, prison becomes home. If and when they are released, many have a hard time navigating a non-institutionalized setting *(Beckett et al., 2003; Smyer & Burbank, 2009; Williams et al., 2012)*. Inmates lose their Medicaid and Medicare eligibility when incarcerated *(Chettiar, Bunting, & Schotter, 2012)*. Older prisoners often struggle to re-enroll in health plans and therefore often burden the community's emergency health services *(Ahalt et al., 2013; Chettiar et al., 2012; Smyer & Burbank, 2009; Williams et al., 2012)*. One study suggests prisons should offer classes to pre-release inmates on applying for government programs such as Medicaid, food stamps, Social Security and welfare programs *(Anno et al., 2004)*. They also suggested the assignment of a social worker to work with the inmate and the community providers to assure their entire medical, housing and support needs are met *(Anno et al., 2004; Smyer & Burbank, 2009)*.

One study found that older released prisoners were much more likely to suffer from health-related mortality within two weeks of release, than their younger counterparts *(Williams et al., 2012)*. **Released inmates are 12 times more likely to die of any cause than the general population in the two weeks post-release** *(Dumont, Brockmann, Dickman, Alexander, & Rich, 2012).* **In addition, they are 129 times more likely to die of a drug overdose** *(Dumont et al., 2012).* Some of this mortality is due to compassionate release programs, but most is due to instability after release *(Dumont et al., 2012)*. Because older inmates use more acute care services and also have a higher mortality rate post-release, prisons should work with community health providers to create a continuum of care, to help limit the use of acute care services *(Ahalt et al., 2013; Smyer & Burbank, 2009)*. One study stated that at minimum, the special needs inmates should be released with an appointment with a provider in the community and enough medications to last until that appointment is complete *(Anno et al., 2004)*. Failure to provide transition planning for the inmate can overburden already strained community services *(Ahalt et al., 2013)*.

Besides access to health services, housing is another concern for older inmates about to be released. Older prisoners find many challenges when trying to acquire housing upon release *(Ahalt et al., 2013)*. Many come from impoverished communities and cannot afford housing *(Chettiar et al., 2012; Dumont et al., 2012)*. When an older inmate is released either through sentence completion or compassionate release, there is a stigma that stays with the inmate that may preclude them from being placed in a community nursing home *(Beckett et al., 2003; Chettiar et al., 2012)*. There may also be legal restrictions on their access to housing *(Chettiar et al., 2012)*.

One study noted that prison healthcare systems are well suited for education programs to help older inmates deal with their health conditions *(Smyer & Burbank, 2009)*. Another study noted that there is a connection between low-health literacy and mortality rates with older adults. Because of that, programs that focus on health literacy could greatly help the post-incarceration inmate *(Williams et al., 2012)*. However, information for health education may need to be modified to fit the health and literacy rates of the inmate *(Ha & Robinson, 2011)*.

5.2 DISCUSSION

In order to be able to determine the best locations for care and analyze inmate-patient population numbers, research is needed to create a nationally-accepted definition of what constitutes an elderly inmate *(Williams, Stern, Mellow, Safer, & Greifinger, 2012)*. Because elderly inmates use a greater percentage of limited correctional health resources, a nationally-accepted definition of what constitutes "elderly" within the prison population would greatly help to create consistent data sets that can then be used to determine the quantity of healthcare services that a state department of corrections would need to provide. It would also help to create national data sets on patient volumes, services provided, and health outcomes. In addition, this nationally-accepted definition could also help tighten the gap in the cost differential research for housing older inmates, in lieu of housing younger inmates *(Ahalt, Trestman, Rich, Greifinger, & Williams, 2013; Anno et al., 2004; Kinsella, 2004; Mara & McKenna, 2000; Smyer & Burbank, 2009; Williams, Goodwin, Baillargeon, Ahalt, & Walter, 2012)*.

Activities of daily living (ADLs) help define a patient's functional ability and when they may need to be housed in a long-term care facility *(Smyer & Burbank, 2009)*. ADLs for the community population are not appropriate for the prison population *(Smyer & Burbank, 2009)*. While dressing, eating, bathing, toileting, and transferring may be appropriate ADLs for the general community; they do not really apply to the prison environment. Some have suggested that transferring in and out of top bunks, dropping to the floor on command, standing for head counts, getting to the dining hall, and hearing staff orders are appropriate ADLs for the prison setting *(Smyer & Burbank, 2009)*. However, this is not yet a nationally-recognized standard. Research is needed to define a nationally-recognized standard for what constitutes prison activities of daily living. This will not only help to determine when an inmate's functional ability may be declining to the point of being moved to more appropriate housing, it will also help create consistent data sets that can then be analyzed to determine the most cost-effective and clinically-appropriate standard of care.

Because of the number of elderly inmates who have disabilities, research is needed on how prison architecture can respond to the needs of this inmate population. Due to the fact that prisoners are more than three times more likely to have a disability, than those in the general community *(Bronson, Maruschak, & Berzofsky, 2015)*, correctional facilities need to respond to this condition. Research is needed to determine what modifications prisons have initiated to respond to the needs of this population. In addition, research should be conducted to determine if those modifications to the prison architecture helped the conditions of the inmate improve, were neutral, or

made the conditions worse *(Williams et al., 2012)*. This research could help begin to develop a nationally-recognized standard of care for dealing with inmates with disabilities, as well as help states determine where these inmates should be housed.

As was noted in the research, cognitive impairments were reported in 40 percent of elderly inmates *(Williams et al., 2012)*. As such, annual screenings of elderly inmates for cognitive impairments should be provided *(Williams et al., 2012)*. However, testing that is appropriate in the community setting may not translate to the prison setting *(Williams et al., 2012)*. Research is needed on proper cognitive impairment screening that can be used for the corrections environment. Having screening procedures appropriate to the corrections environment will help determine the cognitive function of a state's elderly inmates. This will then help to determine required treatment programs, patient volumes, staffing needs, healthcare costs, and proper housing locations involved in treating this inmate population.

Health needs of elderly inmates are a resource- and budgetary- challenge for state departments of corrections *(Beckett, Peternelj-Taylor, & Johnson, 2003)*. Aligning the needs of the elderly inmate with the resources available to state departments of corrections, is a challenging task. Research is needed on the current models of geriatric care and how they can be adapted to the prison environment. This will help states answer: How many services they need to provide, how many specialists they need to contract with, and how many health promotion programs they need to develop, along with how much facility modification may be needed, and where this care should take place. This could then help identify cost-effective and quality care for aging inmates.

Prisons were not designed for aging inmates with cognitive and functional disabilities *(Aday, 1994; Mara, 2002)*. In order to continue to house this patient population, the prison facility may need to be adapted to fit their needs *(Anno et al., 2004; Beckett et al., 2003; Smyer & Burbank, 2009)*. State departments of corrections will need a number of questions answered when determining how to best adapt their existing prison facilities to meet the needs of their elderly inmate populations, and whether that care should be moved elsewhere.

Questions

What is the budget for potential modifications?

The state should determine the funds they have to spend on modifications to accommodate elderly inmates.

What are the patient volumes?

States should determine how many elderly inmate-patients they currently house, how long they are sentenced, and if they are eligible for any compassionate release programs. This will help determine how many beds of this patient type for which they need to plan.

What are the models of care being used?

States will need to determine what geriatric treatments they are providing to their elderly inmates and adapt their facility to match that model of care.

What are the staffing needs?

Staffing will be determined based on the model of care and the volumes of patients to be treated. In addition, the decision to provide certain services either on-site or off-site will have an effect on staffing needs.

What are the programmatic needs?

Based on the services being provided, the agreements with local community health providers, and the overall costs to provide care, states will need to determine what programs they are going to provide within their facility. This will be one of the driving factors in determining how to adapt their facilities for this patient population.

What is the spectrum of care (low-function vs. high-function)?

As the geriatric inmate continues to age and their conditions progress, states will need to determine how much of that care they continue to provide within the prison, versus transporting them out to the local community hospital. That spectrum of care will help determine how much modification may need to be done to the existing prison facility.

What housing option is preferred (mainstreaming or congregated)?

A mainstreaming housing model may require that more spaces be modified to meet the requirements of multiple locations where elderly inmates may be housed, whereas a congregated housing model may require more space to be modified, but within a single location.

How much flexibility is needed?

Based on the population of elderly inmates, states may choose to provide more or less flexible spaces. If a state has a small population, they may want more flexibility to allow for spaces to be more multi-functional. However, if a state has a large population, those spaces for elderly inmates may need to be dedicated to that use.

Can facilities be retrofitted, or do new units need to be constructed?

An assessment of their physical plant will need to be undertaken to determine if the existing structure can be modified, or if it will be more cost-effective to build a new facility, specifically designed for elderly inmates.

What physical changes are needed?

Though there is not a requirement under the ADA to retrofit their facilities (Mara, 2002), states need to determine what accommodations they will provide to their inmates with disabilities.

Mainstreaming and congregation are the two main ways of housing older inmates *(Anno et al., 2004; Smyer & Burbank, 2009; Thivierge-Rikard & Thompson, 2007)*. Mainstreaming keeps elderly inmates in general population by modifying housing units *(Anno et al., 2004)*. Congregation is centralizing the elderly inmates in a single location with all associated health services *(Anno et al., 2004)*. Though mainstreaming is less prevalent today, it is still favored by many correctional administrators *(Anno et al., 2004)*. Research is needed on the costs, operational differences, staffing requirements, and patient outcomes on mainstreaming, versus congregated housing models. This research will help to determine the most appropriate model for housing this patient population, as well as the most appropriate location of care.

Due to the fact that 95 percent of prisoners are eventually released *(Ahalt et al., 2013)*, and that released older inmates have a hard time navigating non-institutionalized settings *(Beckett et al., 2003; Smyer & Burbank, 2009; Williams et al., 2012)*, funding for community- or prison-based case management, or social work services should be expanded. These services not only provide for a continuity of care, they also help the released inmate re-establish or apply for assistance programs, such as Medicaid, food stamps, housing, Social Security, and welfare. If these programs are not adequately funded, states will continue to see high mortality rates within the first two weeks of release.

Because of the multiple options for treating the elderly inmate, both within the prison environment and outside of the prison environment, more robust data sets are needed to help state departments of corrections make decisions on where care should be provided. The implications of the lack of data informing care decisions, equates to inefficiencies within both the correctional health system, and the funds used to provide it. For the prison system, the lack of data can cause over- or under-building their correctional health facilities. It can also cause staffing inefficiencies. For inmate health, the lack of data can cause longer wait times for admission into an elder care program. It can also mean the older inmate will be treated in a less-than-ideal location, such as the prison infirmary. For community hospitals, the lack of data can cause an increase in the usage of their health services by inmates, which may limit available beds for the community, as well as causing security concerns. For designers, the lack of data makes it more difficult to help prison officials adequately size and design their correctional health facility.

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6 PALLIATIVE CARE

6 PALLIATIVE CARE

6.1 RESULTS

6.1.1 DEFINING THE NEED FOR INMATE HOSPICE AND PALLIATIVE CARE

A growing number of elderly and dying inmates in prisons are in need of palliative care services *(FOWLER-KERRY, 2003)*. An aging prison population, combined with longer sentences, has resulted in many older prisoners dying while incarcerated *(Williams, Goodwin, Baillargeon, Ahalt, & Walter, 2012)*. **Between 2001 and 2007 the death rate for prisoners aged 55 and older was 2,123 per 100,000, nearly four times that of the next lower age group** *(Williams et al., (2012).* **In addition, 45.7 percent of all prison deaths in 2007 were of those aged 55 and older** *(Williams et al., 2012).* Though the number of deaths due to AIDS has continued to decline, inmate deaths from other causes has almost doubled *(Anno et al., 2004)*. The other causes of inmate deaths include: Overdose, execution, suicide, homicide, cancer, liver disease, heart attack, congestive heart failure, and other causes *(Anno et al., 2004)*. According to the research by Hall *(1990)*, at the time of their survey, 0.5 percent of inmates were terminally ill.

For healthcare professionals, the issue isn't whether palliative and hospice care programs should be provided to inmates, but how those programs can be adapted to meet the requirements of a prison setting *(Fowler-Kerry, 2003)*. Regardless of why they are imprisoned, inmates are entitled to compassionate and humane care *(Fowler-Kerry, 2003)*. The challenge to healthcare professionals and corrections staff is how to balance the limitation of the patient's rights required by incarceration, while also providing compassionate, dignified and unshackled care *(Courtwright, Raphael-Grimm, & Collichio, 2008; Stone, Papadopoulos, & Kelly, 2012)*.

Developing hospice care and palliative care programs for inmates has been an important way of reducing healthcare costs, while also providing the psychological, physical, social and spiritual care to those facing terminal illnesses *(Courtwright et al., 2008; Stone et al., 2012; Wion & Loeb, 2016).*

6.1.1.A PRISON HOSPICE AS A NEW SERVICE

Prison hospice programs are relatively new. The first program was created in 1987 in Springfield, Missouri at the U.S. Medical Center for Federal Prisoners. The California Medical Facility at Vacaville was opened several months later *(Hoffman & Dickinson, 2011)*. **Of the facilities surveyed by Hoffman et al. (2011), 40 percent of these programs began in 1999 or earlier, with 33 percent opening their programs between 2000 and 2004, and 28 percent beginning their programs within the five years prior to 2011.**

6.1.2 NPHA AND GRACE STANDARDS

When prison hospice programs were being developed, there were two organizations that were separately creating standards and guidelines for the implementation of such programs: The National Prison Hospice Association (NPHA) and the Guiding Responsive Action for Corrections in End-of-Life (GRACE) Project *(Hoffman & Dickinson, 2011)*.

6.1.2.A INTRODUCTION OF NPHA

The National Prison Hospice Association (NPHA) was founded in 1991. Its purpose was to promote the hospice care model to the entirety of corrections in the United States and abroad *(Maull, 2005)*. The NPHA helped develop many of the new prison hospice programs, as well as helping to establish the new subspecialty of care within the fields of correctional health, hospice and palliative care. The NPHA continues to serve correctional health as a professional association and educational resource for the development of humane, high-quality, and compassionate elder care and end-of-life care programs in correctional healthcare facilities *(Maull, 2005)*.

6.1.2.B INTRODUCTION OF GRACE

The Guiding Responsive Action in Corrections at End of Life (GRACE) project was the result of a multi-organizational collaboration to create prison end-of-life (EOL) care programs that would achieve the community standard of care within the prison environment. Volunteers of America initiated the project in 1998 through funding provided by the Robert Wood Johnson Foundation's Promoting Excellence in End-of-Life Care initiative *(Ratcliff & Craig, 2004)*. The project's goal of achieving a community standard of care was based on the following initiatives *(Ratcliff et al. (2004)*:

- The creation of resource centers to develop and release information.
- The creation of a handbook and practice standards for prison EOL care.
- The development of pilot sites to demonstrate programmatic standards.

The project also found that potential areas of concern within a prison hospice program encompass: Eligibility for the program, compassionate release petitioning, inmate volunteer selection and supervision, and the role of corrections staff on the care team *(Ratcliff & Craig, 2004)*.

Because of the early work from the GRACE Project, the NPHA, and more recently from the publication of the "Quality Guidelines for Hospice and End-of-Life Care in Correctional Settings" by the National Hospice and Palliative Care Organization (NHPCO), care for inmates suffering EOL illnesses has improved *(Wion & Loeb, 2016)*.

6.1.3 MEETING COMMUNITY STANDARDS OF CARE

Community-based hospice and palliative care programs are patient-centered, service-based, hands-on, and coordinated methods of care *(Wion & Loeb, 2016)*. These programs emphasize the family as one of the primary units of care and they offer dignity to the patient at the end of life, in home-like environments, with optimal pain control. In the corrections setting, the care is more institution-centered and the patient may not have access to their families, due to security concerns, and patients may not be able to personalize their living space to a more home-like environment *(Maull, 2005)*. Though inmates may not have the same type of hospice program that is available in the community, Yampolskaya and Winston *(2003)* found in their research that six of the institutions surveyed allowed special privileges to dying inmates. These privileges included access to favorite foods, TVs and radios, and personalization of their bedsides *(Yampolskaya & Winston, 2003)*.

The community standard of care has now been set as the benchmark for prison hospice programs. The National Commission on Correctional Healthcare, the American Correctional Association and the U.S. Public Health Service all use the community standard of care as the model for hospice care in prisons *(Maull, 2005)*. Retaining the best elements of community hospice programs applicable in this setting, and integrating elements distinctive to the correctional system, can help create successful prison hospice programs *(Linder & Meyers, 2007)*.

Community-based hospice programs may look very different than a prison-based program. However, prison hospice programs have drastically improved the care and quality of life for patients suffering terminal illnesses *(Maull, 2005)*. Though prison hospice and palliative care programs vary, most provide services including, pain management, spiritual support, and psychological counseling *(Anno et al., 2004)*.

6.1.3.A LACK OF PUBLIC SUPPORT

One of the impediments to implementing the community standard of care within prison hospice programs is lack of public support. **Lincoln (2008) found that there is "little popular support" for programs that seem to be spending tax dollars on improving the care of inmates, which many feel goes beyond what is available to the general community.** The public may feel that inmates are not the most deserving of limited health resources *(Lincoln 2008)*

6.1.4 ELIGIBILITY STANDARDS FOR A PRISON HOSPICE PROGRAM

A patient must be diagnosed with a terminal illness for acceptance into the prison hospice program *(Hoffman et al., 2003; Wion et al., 2016; Yampolskaya et al., (2003)*). In addition, programs define terminal illness as a diagnosis of a fatal disease with less than six months to live *(Anno et al., (2004)*. Prognosis for acceptance into a prison hospice program varied greatly *(Wion & Loeb, 2016)*.

Variations exist in the required prognosis regarding time-to-death requirements for acceptance *(Hoffman et al., (2011)*. Fifty-five percent required six months or less, 32 percent required 12 months or less, and 13 percent had no time-to-death requirements. Wion et al. *(2016)* found similar results: Fifty-seven percent of the surveyed facilities required six months or less to time-to-death, and others allowed up to a year to end-of-life, or set no end-of-life requirements *(Wion & Loeb, 2016)*. A number of facilities set no prognosis-related admission

requirement because they provide hospice and palliative care in general; and; therefore, any inmate with a debilitating chronic condition is eligible *(Hoffman et al., (2011)*).

The freedom of not having to follow the restrictions of the hospice guidelines from Medicare allows more robust hospice and palliative care programs to be created *(Ratcliff et al., (2004)*. This means prison hospice programs do not need to follow the six-month time-to-death guideline, the inmates may not need to sign do-not-resuscitate orders for admission, and active treatment may continue after acceptance into the program. Most prison hospice programs also use trained inmate-volunteers to take the place of family members who may be estranged, or live great distances away from the facility *(Ratcliff & Craig, 2004)*.

6.1.5 INTERDISCIPLINARY CARE TEAMS

An essential component of a prison hospice program is to utilize an interdisciplinary care team with a variable make-up and some consistent participants. All of the literature and both NPHA and the GRACE project recommend that physicians, nurses, a mental health provider and a clergy member be part of the team *(Hoffman & Dickinson, 2011; Linder & Meyers, 2007; Stone et al., 2012; Yampolskaya & Winston, 2003)*. Other team members were also included: social workers *(Stone et al., 2012; Yampolskaya & Winston, 2003)*, security staff *(Linder & Meyers, 2007; Yampolskaya & Winston, 2003)*, a deputy warden *(Linder & Meyers, 2007)*, and a dietician *(Stone et al., 2012)*. It was recommended that the interdisciplinary care team meet weekly in order to review the patient's care plan. *(Hoffman et al., (2011)*.

6.1.6 HEALTH LITERACY OF INMATES

One of the biggest challenges in implementing prison hospice programs is the health literacy of inmates. Prisoners are more likely to suffer both low-literacy and low-health literacy; this can create miscommunication with health staff, which can then lead to poor health outcomes *(Linder & Meyers, 2007)*. It is important to note that, to the inmate seeking care, the health staff is part of the same institution that is keeping him in prison *(Stone et al., 2012)*. It is hard for the inmate to trust the medical staff because prisoners have a hard time separating the health and security roles of the staff *(Phillips et al., (2011)*.

This mistrust of the medical staff is amplified when it relates to hospice and palliative care. When it comes to placement in a hospice program, inmates may feel that they are being "coerced to accept comfort care," in lieu of more expensive life-prolonging treatments *(Lincoln, 2008; Williams et al., 2012)*. Without trust in the medical staff, and without having a full explanation of options, the inmate may see admittance into a hospice care program as a sign that the medical staff has "given up" *(Stone et al., 2012)*. Inmates who are facing end-of-life illnesses will be very skeptical of decisions to accept hospice care, especially when they have not seen the medical staff exhaust every option to extend their lives *(Stone et al., 2012)*.

6.1.7 PROVIDING INMATE HOSPICE CARE IN A COMMUNITY FACILITY

Terminally ill inmates should be placed in facilities that provide the highest level of healthcare services *(Anno et al., 2004)*. Terminally ill inmates also tend to cycle in and out of infirmaries and local community hospitals *(Anno et al., 2004)*. As their conditions continue to worsen, they will require around-the-clock nursing care *(Anno et al., 2004)*. Once their condition deteriorates from curative care to palliative care, the focus then moves to providing comfort, reducing pain, and counseling the inmate on their imminent death *(Anno et al., 2004)*.

Historically, prisons have not had the staff or facilities to provide hospice care in-house. Because of that, many terminally ill inmates had to be transferred to a community hospice facility. However, the costs of transferring those inmates can be high. Transportation, security staff supervision, and hospital stays and treatments all account for the rising costs of transferring inmates to community hospice facilities. Community treatment facilities are also the least secure environments a prisoner will visit; transferring an inmate to a community treatment facility involves an inherent security risk *(Yampolskaya & Winston, 2003)*.

Another issue when transferring an inmate to a community hospice facility is the conflict between the medical staff who wants to provide compassionate care, and the corrections staff who need to be able to control behavior and keep patients and staff safe *(Courtwright et al., 2008)*. Many medical staff who treat inmate-patients in a community hospital setting do not have the experience to navigate the cessation of the inmate

patient's rights *(Courtwright et al., 2008)*. While being treated in a community setting, inmate-patients may not have access to TVs, hospital chaplains (they would have to use the prison chaplains), or family members *(Courtwright et al., 2008)*

It is likely that an inmate being transferred to a community hospice facility will be accompanied by at least one correctional officer. This may raise concerns for patient confidentiality during examination and consultation. Physical examinations may also be hindered by the inmate's correctional clothing and the potential for the inmate to be shackled *(Linder & Meyers, 2007)*.

6.1.8 PROVIDING INMATE HOSPICE CARE IN THE PRISON FACILITY

Because of the challenges and costs of transferring inmates to community hospice facilities, more states are now providing that service in-house. **At least five challenges must be overcome to implement a community hospice standard in a prison setting** *(Hoffman & Dickinson, 2011)*. **These challenges include: Pain management, family inclusion in the care delivery, integration of corrections and hospice care, along with the importance of volunteers, and the cessation of curative treatment** *(Hoffman & Dickinson, 2011)*. When it comes to prison hospice programs, it is not only the comfort of the patient that needs to be considered, but also how that comfort is provided in a secure and safe environment *(Stone et al., 2012)*.

6.1.8.A PAIN MANAGEMENT

Prescribing narcotics to terminally ill inmate-patients runs contrary to the security concerns of prisons. Many prisoners have used, or abused medications in their past, and security officers may be concerned that if not monitored, those medications could end up being distributed in the prison's black market *(Hoffman & Dickinson, 2011; Williams et al., 2012)*. A physician's power to provide narcotics to inmate-patients can also frequently be limited by institutional policies *(Lincoln (2008)*. Addressing the concerns will require that hospice and security staff monitor the distribution of medications, to ensure that they are being taken by the inmate-patient *(Hoffman & Dickinson, 2011)*.

Despite the concerns, most all prison hospices provide narcotics to their patients *(Hoffman, et al (2011)* .Ninety-four percent of facilities treated patients with "sustained-release-narcotic-analgesic medications" and 17 percent of facilities used "patient-controlled-analgesia pumps." Stone et al *(2012)* found a different result, where physicians were being more conservative in their approach to narcotics. In those facilities, the physicians would leave the patient in pain, rather than assume the risk of narcotics falling into the general population.

6.1.8.B FAMILY INCLUSION

A central tenant of hospice care is that families should be actively involved in the care delivery process, but is yet another challenge to providing hospice care in a prison environment *(Hoffman & Dickinson, 2011)*. Prisoner access to their family members can be hampered by a number of issues. The inmates could be estranged from their direct family members, family members may not have the means to travel to distant or rural prison facilities, and inmate placement out of state away from their family members, may all complicate visitation *(Linder & Meyers, 2007)*. Though prison facilities may not pay for out-of-town visits, Yampolskaya et al *(2003)* found that all prison hospice programs in their survey coordinated with the local community to assist out-of-town family members in finding accommodations.

Hoffman et al. *(2011)* found variations on the amount and frequency of visitation for family members. In one-third of their surveyed facilities, incarcerated and non-incarcerated family members were allowed to visit daily or weekly. And four programs allowed for visitation of family members who were incarcerated in other state facilities, and eight other programs would allow that visit, with the warden's permission *(Hoffman & Dickinson, 2011)*. Lincoln *(2008)* found some slightly different results where limits were placed on family visitation, and that no visits would be allowed from other inmates when the patient was infirmed. Maull *(2005)* cited that minimal visitation was often afforded to families, and because of distance, or economics, they may not be able to visit at all.

In prison hospice programs, dying patients and their families had certain benefits available without exception *(Yampolskaya & Winston, 2003)*. However, where some prisons offered a number of benefits to families and patients, some prisons offered only a few *(Yampolskaya & Winston, 2003)*. In general, rules for visitation are more accommodating for patients in most prison hospice programs *(Yampolskaya & Winston, 2003)*.

Another complication of including family in inmate-patient care, is defining who is included in a patient's "family." Because many patients are estranged from their blood relatives, other inmates become their only family. This complicates matters, as prison facilities may not recognize or support other inmates as a patient's "family." *(Linder & Meyers, 2007)*. Stone et al. (2012) had similar findings as to what constitutes a patient's "family," where "direct relations, friends or other inmates" are involved in the caregiving process.

6.1.8.C INTEGRATING CORRECTIONS AND HOSPICE

Training of health staff, security staff, and inmate volunteers is essential to the trust and support needed to care for the terminally ill inmate-patient *(Hoffman & Dickinson, 2011)*. Though the inmate volunteers participate in many hours of training, the research has shown that corrections staff receive very little training. Hoffman et al. *(2011)* found that 72 percent of correctional officers did not receive any training in regard to hospice care, other than a cursory review at their initial training. A connection could be made to the lack of training and corrections staff concerns, with resistance to EOL care by corrections officers. *(Wion et al., (2016)*. Officers were concerned about security, and also felt that the compassionate nature of EOL care undermined the punishment aspect of imprisonment, especially if the inmate was convicted of a heinous crime *(Wion & Loeb, 2016)*. Corrections officers also sometimes struggle with a changing of their duties from more punitive, to more care-focused for hospice patients *(Stone et al., 2012)*.

However, corrections officers aren't the only staff that struggle with integrating corrections and hospice. Health staff often struggle with the standardized, rigid restrictions placed on inmates due to their status. *(Courtwright et al., 2008)*, Health staff often have a hard time navigating the bureaucracy of the prison environment, while trying to provide compassionate EOL care *(Courtwright et al., 2008)*.

To integrate corrections and hospice, a number of issues have to be resolved, including balancing compassionate care with prison regulations, and relaxing rules for terminally ill inmates while still providing proper security, and acknowledging the patient's family as part of the core care unit *(Yampolskaya & Winston, 2003)*.

Though there are challenges to overcome in integrating corrections and hospice, Wion et al. *(2016)* found that these programs had a positive impact on the overall prison population. Because hospice care provides compassion for terminally ill inmates, it allows other inmates to see the prison system as more than just punitive *(Wion & Loeb, 2016)*.

6.1.8.D IMPORTANCE OF VOLUNTEERS

Community-based hospice programs rely heavily on volunteers as an essential part of the care team *(Hoffman & Dickinson, 2011)*. In the prison environment, hospice programs have the same volunteer needs as community-based programs *(Hoffman & Dickinson, 2011)*. Because of delays caused by security approval for community volunteers in prison hospice programs, few programs have community volunteers. Hoffman et al. *(2011)* noted that community volunteers were used by only 41 percent of prison hospices, with 13 percent of those having only one volunteer.

Since so few community volunteers work in prison hospices, it helps explain why inmate-volunteers have become a central part of prison hospice programs. **As noted previously, 95 percent of prison hospice programs use inmate-volunteers** *(Hoffman et al. (2011).* Many sources echoed the use of inmate-volunteers as a central part of the prison hospice care team *(Hoffman et al., (2011; Linder & Meyers, 2007; Stone et al., 2012; Wion & Loeb, 2016)*. Besides a ready supply of inmates to act as volunteers in the hospice unit, Yampolskaya and Winston *(2003)* also noted that inmate-volunteers understand the culture of the prison and can have a positive impact on the general population, as well as on the hospice patient. Because of their availability and understanding of the prison system, a large number of inmate-volunteers have been used by prison hospice systems. Prison hospices are also using 21 or more inmate volunteers in a third of the prisons surveyed *(Hoffman et al., (2011)*.

NCCHC has clarified in their standards that, though there is an ample use of inmate-volunteers, they are not to be a substitute for required healthcare professionals. They also emphasize the need for screening, training and supervision *(Wion & Loeb, 2016)*.

Yampolskaya et al. *(2003)* found a common process for building an inmate-volunteer program in prison hospices. The process included identification and screening of potential inmates, training of the selected inmates, along with determination of job classification, and participation in care meetings *(Yampolskaya & Winston, 2003)*. Though there is a consistent process, the selection process and training varied greatly across facilities *(Yampolskaya & Winston, 2003)*.

Even though inmate caregivers make up a large part of the prison hospice program, inmate movement restrictions and other policies within the institution may limit the number of inmates who can be selected as volunteers *(Lincoln (2008)*.

Training of the inmate-volunteer is an important part of developing a viable volunteer program. Hospice programs are successful at training inmate caregivers, with over 50 percent of facilities reporting at least 30 hours of training provided *(Hoffman & Dickinson, 2011)*. In their inmate hospice volunteer (IHV) program, the Federal Bureau of Prisons has included 15 two-hour training sessions *(Chow, 2002)*. These sessions cover topics such as, providing care and comfort, exposure control, death and dying concepts, disease and medical conditions, psychosocial and spiritual issues, along with hospice standards and guidelines, and communication skills *(Chow, 2002)*.

The responsibilities of the inmate-volunteer can vary from facility to facility. Wion et al. *(2016)* found that inmate-volunteers provided a number of different services throughout prison hospice programs. Inmate-volunteers provided services, such as, assistance with ADL activities (including personal hygiene), assisting with communicating with the family, and helping transport the patient within the prison. They may also provide companionship, protection from predatory inmates, and sitting vigil as the terminally ill patient nears death *(Wion & Loeb, 2016)*.

Besides assisting the inmate-patient, inmate-volunteers are also transformed by the process *(Stone et al., 2012; Wion & Loeb, 2016; Yampolskaya & Winston, 2003)*. A number of sources noted that inmate-volunteers gain added compassion and "psychological rehabilitation" through their work with the terminally ill *(Stone et al., 2012; Yampolskaya & Winston, 2003)*.

6.1.8.E CESSATION OF CURATIVE TREATMENT

One of the central components of a community hospice program is the "cessation of curative treatment" *(Hoffman & Dickinson, 2011)*. Because of low-health literacy rates, inmates may not understand and therefore mistrust the requirement of do-not-resuscitate (DNR) orders *(Hoffman & Dickinson, 2011; Linder & Meyers, 2007; Stone et al., 2012)*. By requiring a DNR order, inmates may feel that the prison officials and health staff are not acting in their best interests, breeding additional mistrust *(Hoffman & Dickinson, 2011; Linder & Meyers, 2007; Stone et al., 2012)*. Stone et al. *(2012)* noted that informing a patient that they are terminally ill is stressful enough, without adding the complicated concept of DNR orders and treatment protocols.

Because of complexity and trust issues, prison hospice programs have been moving away from the cessation of curative treatments requirement for hospice admission *(Hoffman & Dickinson, 2011)*. The GRACE project recommends a standard that hospice and palliative care not be denied to patients who wish to "continue curative treatment'' *(Hoffman & Dickinson, 2011)*.

Both Hoffman and Dickinson *(2011)* and Wion et al. *(2016)* found that only 50 percent and 48 percent, respectively, of prison hospices required cessation of curative treatment as a prerequisite for admission. The only requirement for admission was an awareness of their prognosis and a given consent *(Wion et al., (2016)*.

Though not a requirement in a number of prison hospice programs, there is potential costs savings realized by having inmates sign DNR orders *(Hoffman & Dickinson, 2011; Yampolskaya & Winston, 2003)*. With DNR orders in place, prisons can save money that would have been spent on expensive life-saving procedures *(Hoffman & Dickinson, 2011; Yampolskaya & Winston, 2003)*. By removing DNR orders for admission into the prison hospice program, prisons are more likely to provide aggressive curative attempts to show they are doing everything possible to save an inmate's life *(Linder et al., (2007)*.

6.1.8.F COST SAVINGS

One of the advantages of providing hospice care within the prison environment is the potential reduction in medical costs *(Hoffman & Dickinson, 2011; Yampolskaya & Winston, 2003)*. Providing care within the prison will reduce the costs of medical transportation, the required security escort, and the costs of lengthy hospital stays *(Hoffman & Dickinson, 2011; Yampolskaya & Winston, 2003)*.

6.1.8.G PRISON HOSPICE UNIT SIZE

Despite the number of older prisoners now within the U.S. prison system, the average daily population (ADP) of prison hospice programs still remains low (Hoffman & Dickinson, 2011). **Most programs have an ADP range from 0 to 14, with the average being 2.43** *(Hoffman et al., (2011).* **Of the facilities offering hospice, the ADP totaled five or more in 18 percent, two to four in 29 percent, one in 32 percent and 0 in 21 percent of facilities** *(Hoffman & Dickinson, 2011).*

Besides the average daily population, the research also shows variations in the number of beds available per facility. **In their survey, Hoffman et al. (2011) found that 24 percent of facilities had an unlimited number of beds, 58 percent had one to nine beds, 16 percent had three beds, 11 percent had two beds, and 11 percent had only one bed available to hospice patients. Thirteen percent had beds available for 10-20 patients** *(Hoffman & Dickinson, 2011).* Wion et al. *(2016)* agreed, showing that the number of beds varied from one to three, up to "unlimited" and that nine patients was the highest number of patients most facilities could care for, with many only being able to support one to three patients at a time *(Wion & Loeb, 2016)*.

6.1.8.H WHERE IN THE PRISON IS THE UNIT LOCATED

Sources showed that prison hospice programs are located within multiple areas of the prison. As in the community hospice programs, where care is offered in many settings, the same is true for prison hospice programs *(Wion & Loeb, 2016)*. Hospice care may be provided in the general housing units, in the infirmary, in a separate medical treatment area, and in a day-program *(Wion & Loeb, 2016)*. NHPCO guidelines state that care should be provided in as many settings as security and healthcare can accommodate *(Wion & Loeb, 2016)*.

51% out of 49 responding agencies provided a prison hospice program. Of that 51%:

20%	offered the service in a separate unit
22%	offered the service in the infirmary
4%	offered the service as part of the housing unit
8%	offered the service as an outpatient program

(Anno et al., 2004)

Additionally, only 44 percent of the respondents reported that staff is assigned exclusively to the hospice unit

(Anno et al., 2004)

Because of the varied settings where hospice care may take place in a prison facility, it is likely that the patient may have to be moved from general population housing. Moving from general population can be a traumatic experience for inmates. Moving them to segregated housing separates them from friends: they may lose their "job," and they may have less opportunity for visitation *(Linder & Meyers, 2007)*. However, offsetting those difficulties will occur with increased security, reduced physical and behavioral demands, along with frequent check-ups by medical staff, and better access to medications for symptom reduction *(Linder & Meyers, 2007)*. The hospice patients may also have increased access to books, televisions, personalized diets and more options on how they spend their time *(Anno et al., 2004; Linder & Meyers, 2007)*. As a rule, the terminally ill inmate should be able to participate in the decision on where they should be housed *(Anno et al., 2004)*. To the extent that they are physically able, most inmates would prefer to stay within the general housing units *(Anno et al., 2004)*.

6.1.8.I STATE EXAMPLES

The Minnesota Department of Corrections does not provide its own hospice unit, owing to its small inmate population *(Anno et al., 2004)*. Instead, care is provided for terminally ill male inmates at either the transitional care unit, the mental health unit at MCF-Oak Park, or in a community facility under a conditional release program *(Anno et al., 2004)*.

The New York State Department of Correctional Services operates their only hospice program at the Coxsackie Correctional Facility *(Anno et al., 2004)*. The hospice service operates within the regional medical unit at Coxsackie, but it is not a discreet unit with a set number of beds *(Anno et al., 2004)*. Instead, it involves a series of services provided to inmate-patients who are terminally ill, and who have chosen to enter the hospice program *(Anno et al., 2004)*.

In Oregon, there is a hospice program located at the Oregon State Penitentiary in Salem *(Anno et al., 2004)*. Inmate-patients stay in their housing units as long as medically possible, but are moved to the infirmary once they become too ill *(Anno et al., 2004)*. Though there is no dedicated hospice staff, the medical staff at OSP is trained in hospice care by a community-based expert *(Anno et al., 2004)*.

In Ohio, the DOC has a six-bed hospice unit located at the state's Correctional Medical Center *(Anno et al., 2004)*. Eligibility for this service does require a prognosis of less than six months to live, and a cessation of curative treatment order *(Anno et al., 2004)*. In addition, due to the small population, there is no dedicated staff for this unit *(Anno et al., 2004)*.

6.1.9 PALLIATIVE CARE

In addition to prison hospice programs, Williams et al. *(2011)* noted that there should be additional efforts to develop prison palliative care programs. Though there are a number of inmates who may qualify for compassionate release, there are many more inmates who may not *(Williams et al., 2011)*. While hospice care is focused on inmate-patients who are actively dying, palliative care programs focus on diagnostic and preventive care, at the time of diagnosis of a serious medical illness *(Williams, Stern, Mellow, Safer, & Greifinger, 2012)*. Palliative care programs that focus on patient guidance and symptom control for seriously ill inmates has shown to improve quality of life, while reducing healthcare costs *(Williams et al., 2012)*.

Palliative care programs should be expanded to all inmate-patients who are seriously ill, not just inmate-patients who are near the final stages of the dying process, according to a roundtable survey of participants *(Williams et al., (2012)*. In addition, they felt that independent palliative care contractors may be able to break down the trust concerns that inmate-patients have around issues of serious and terminal illnesses *(Williams et al., 2012)*. Robust palliative care programs in prisons could help lower medical costs, while improving the health of the inmates *(Williams et al., 2011)*. However, Williams et al. *(2011)* has noted that currently there are limited prison palliative care programs.

6.1.10 COMPASSIONATE RELEASE

According to Williams et al. (2011), incarceration is justified on four principles: "Retribution, rehabilitation, deterrence, and incapacitation." The theory behind compassionate release is that, changes in the health status of the inmate may affect the justification for incarceration, and that sentence completion may no longer be justified for the terminally ill inmate *(Møller, Gatherer, Jürgens, Stöver, & Nikogosian, 2007; Williams et al., 2011)*. Because of increased medical costs within the prison system, many policy experts are now looking to expand the use of compassionate release. The aging prison population, prison overcrowding and the increasing deaths in prison, are also factors driving the call for expanded use *(Williams et al., 2011)*. The World Health Organization (WHO) also believes that the inmate-patient's life expectancy may be extended by receiving care within the community *(Møller et al., 2007)*.

Compassionate release programs are based on two premises: It is justifiable both legally and ethically to no longer incarcerate a subset of inmates who have a life-limiting, terminal illness, and the benefits to incarceration are outweighed by the financial costs of keeping them in prison *(Williams et al., 2011)*. Requests for compassionate release ask correctional administrators, parole boards, judges, and/or governors, to weigh the needs of terminally ill inmates against society's need for retribution, protection, and deterrence *(Maull, 2005)*.

There is a concern however, that compassionate release may just be shifting medical costs to Medicare or Medicaid. However, in cases where it is deemed to be safe and appropriate, compassionate

release can reduce the costs of hospital security, transport, and construction of dedicated protective housing *(Williams et al., 2011)*.

6.1.10.A COMPASSIONATE RELEASE PROGRAMS: PROVIDED, REQUESTED AND ISSUED

Many departments of corrections have programs in place for compassionate release of terminally ill inmates *(Lincoln, 2008)*. In fact, compassionate release is a requirement of a federal statute within the Sentencing Reform Act of 1984 *(Williams et al., 2011)*.

The majority of states and jurisdictions had some form of compassionate release program. Maull *(2005)* noted that 33 states and the Federal Bureau of Prisons had compassionate release programs, with the remainder of states having some mechanism where inmates could petition for release *(Maull, 2005)*. **In 2001, of the 49 agencies surveyed, 43 states offered some form of a compassionate release program** *(Anno et al., 2004; Linder & Meyers, 2007).* **All except five states had some form of compassionate release, and two states had voted to expand their programs** *(Williams et al., 2011).*

With the large numbers of prisoners who die during the review process for compassionate release, the exact numbers of requests are unknown *(Williams et al., (2011)*. What they did find is that only a small percentage of compassionate release petitions are granted. Williams et al. *(2011)* found that in 2008 within the Federal Bureau of Prisons, 399 deaths occurred and "27 requests for compassionate release were approved." During the final review process, six applicants died *(Williams et al., 2011)*. In another study, eight out of an average of 18 compassionate release requests, were granted *(Linder et al., (2007)*. Many compassionate release programs are not used because they are difficult to navigate *(Lincoln, 2008)*.

6.1.10.B RELATIONSHIP WITH COMMUNITY PROVIDERS

It is important that prisons develop relationships with community providers to provide help for the inmates who are granted compassionate release. Since many inmates would need to re-apply for Medicaid coverage, they may need placement assistance with a community provider, or help in facilitating a return to their family or home, for care. A relationship is needed with community providers to ensure a seamless transfer of care from the prison facility to the community facility *(Linder & Meyers, 2007)*. There is sometimes reluctance, from both family members and the community, to accept patients from a compassionate release program *(Linder et al., (2007)*. Knowing that, it is very important to have the relationship with community providers and develop a pre-release care coordination plan *(Linder & Meyers, 2007)*.

6.1.10.C STATE REQUIREMENTS FOR ELIGIBILITY AND APPROVAL

Compassionate release programs are comprised of two separate, but integrated elements: Eligibility and approval. Eligibility is based on medical evidence and approval is based on legal evidence *(Williams et al., 2011).*

Though guidelines for medical eligibility vary by state, most states require that the inmate suffer from a severely debilitating terminal or medical condition, or a condition that cannot be appropriately treated within the prison, and that the prisoner poses no societal threat *(Williams et al., (2011)*. To meet the eligibility guidelines, prisoners had to have a "predictable terminal prognosis," an expectation of a quick death, or a functional health status that no longer justifies incarceration *(Williams et al., (2011)*. Because of this, there are clinical flaws to the eligibility guidelines of compassionate release programs *(Williams et al., (2011)*.

Relying on a clinical prognosis for eligibility can create a "catch-22" for inmates. If the petition is submitted too late, the prisoner could die before it is completed. If the petition is submitted too early, a prisoner in better health could be released to society and potentially pose a threat *(Williams et al., 2011)*. Also, the requirement of a predictable timetable for death (such as six months to live), could exclude other inmates who may not pose a threat to society. Inmates with severe dementia, inmates in a vegetative state, or with end-stage organ disease may be excluded from compassionate release programs, even though they pose little threat to society *(Williams et al., 2011)*. These inmates could live from months to years, at the expense of the prison system, if not accepted into a compassionate release program *(Williams et al., 2011)*.

Another flaw was in the eligibility procedures themselves *(Williams et al., (2011)*. An inmate with severe cognitive impairment could be unable to complete the petition. Knowing that inmates have some of the lowest literacy rates in society, and that many may be estranged (or too distant) from family and friends, it may be very difficult to find the social support to help navigate the compassionate release process. It is also possible that these same inmates may not even know the compassionate release program exists *(Williams et al., 2011)*. Lincoln *(2008)* found that the compassionate release

program was rarely successfully used in some jurisdictions since the process was so restrictive and protracted.

Williams et al. *(2011)* and others have found flaws in the eligibility criteria for compassionate release that highlights the need for guidelines, based on disease trajectories, and not clinical prognosis. Knowing that eligibility is based on medical criteria, it is imperative that the medical profession highlight and help reduce the barriers caused by medically-related issues *(Williams et al., 2011)*.

6.1.10.D A SLOW, CUMBERSOME PROCESS: MOST DIE DURING REVIEW

Often the compassionate release approval process was so slow and cumbersome, that most inmates die before completion of the process *(Lincoln, 2008; Maull, 2005; Rich, 2013; Yampolskaya & Winston, 2003)*. However, the State of Vermont does have a fast-track option for prisoners facing imminent death. In some states and within the federal system, the approval process for the petition could take months and sometimes years to complete *(Williams et al., 2011)*. Even when inmates are granted compassionate release, the approval process is so cumbersome they are often so far into the end stages of their illness that they cannot enjoy any quality time with loved ones. *(Yampolskaya et al., 2003)*.

6.1.10.E PROPOSED CHANGES

Williams et al. (2011) has proposed changes to the current compassionate release programs in order to obtain a more consistent and effective program. The program should be evidence-based and transparent; and include patient advocacy for cognitively-impaired patients, a fast-track option for inmates facing imminent death, and a standardized application procedure that is well-described and well-disseminated *(Williams et al., 2011)*. Wion et al. *(2016)* found that in one prison, a social worker served as an advocate for inmates petitioning for compassionate release. They would also provide counseling for inmates whose petition was denied *(Wion & Loeb, 2016)*.

Williams et al. (2011) proposed changes to medical eligibility for compassionate release programs to be standardized, and criteria-based, not only on patient prognosis, but also on disease trajectory and functional status. They propose breaking the applicants into three groups *(Williams et al., 2011)*.

1. **Prisoners with a terminal illness.**
2. **Prisoners with Alzheimer's or dementia.**
3. **Prisoners with functional or cognitive impairment caused by serious illness.**

Finally, they propose a recall mechanism for all state and federal programs. If an inmate's medical condition improves substantially after release, they can be recalled back to the prison facility *(Williams et al., 2011)*.

6.2 DISCUSSION

In order for state departments of corrections to have more robust palliative, hospice care, and compassionate release programs, greater funding is needed. However, as noted in Lincoln *(2008)*, there is little public support for spending tax dollars on inmates. To gain access to that funding, public education is needed on the cost benefits of these programs. Politicians will not have the political will to increase funding, unless the public can see how these programs affect not only the inmate-patients, but also the community at large. State departments of corrections can go a long way in driving this conversation, by collecting data and providing research on the benefits of these programs.

As shown in the research, there is currently a great deal of variation on the acceptance criteria for prison palliative and hospice care programs *(Anno et al., 2004; Hoffman & Dickinson, 2011; Wion & Loeb, 2016; Yampolskaya & Winston, 2003)*. Development is needed for a nationally-recognized, evidence-based standard on what is required for acceptance into such programs. This would help state departments of corrections plan for adequate staffing needs, facilities needs, and potential reduction in litigation. It would also go a long way to help define the community standard of care. Though it is considered an essential component of a prison hospice program, there is also a great deal of variation on what constitutes the interdisciplinary care team *(Hoffman & Dickinson, 2011; Linder & Meyers, 2007; Stone et al., 2012; Yampolskaya & Winston, 2003)*.

Development of a nationally-recognized standard for members of this team can also help state departments of corrections with their staffing needs, as well as help to define the community standard of care.

One of the greatest challenges to state departments of corrections in inmate health is the general literacy and health-literacy of their inmates *(Linder & Meyers, 2007)*. Because many inmates have come from underserved communities and have not had access to care, many inmates struggle with discussions regarding their health and their healthcare. This is particularly true when discussing palliative and hospice care surrounding an inmate's end-of-life issues. Because of their lack of health literacy, many inmates will feel that the state has "given up" on them and is just trying to get the inmate to agree to less aggressive care *(Lincoln, 2008; Stone et al., 2012; Williams et al., 2011)*. This attitude will just help breed distrust in the correctional health system and drive many physicians to over-treat in order to reduce the chances of litigation. More funding for programs that promote literacy and health literacy are needed so providers can speak intelligently about the inmate's end-of-life treatments, without the inmate-patient feeling like the state is giving up on them. This could then have an effect on the number of inmates in palliative and hospice care programs, and define where that care takes place.

Terminally ill inmates should be placed in facilities with the highest level of healthcare services *(Anno et al., 2004)*. Research is needed on the factors to determine whether an inmate is treated in their local prison facility, a regional correctional health facility, or transported out to a community setting. **One of the most significant omissions noted in the research is the lack of data being kept by the state departments of corrections. In order to determine the best location to provide care to inmates, research is needed to compare average daily census of patients, current health conditions, number of inmate-patients transported to community-based facilities, along with costs for transportation and care in community-based facilities, costs to construct prison health facilities, costs to staff and maintain prison health facilities, and clinical outcomes. Only when that data is gathered and analyzed can states best determine where care should take place.**

A great deal of variation in pain management usage exists in prison-based hospice programs *(Hoffman & Dickinson, 2011; Lincoln, 2008; Stone et al., 2012; Williams et al., 2011)*. Research is needed on the use of pain medications in this setting. One of the concerns of healthcare providers and corrections officers is both the past use and abuse of medications by inmates, as well as the potential for security issues should the medications find their way into the prison black market *(Hoffman & Dickinson, 2011; Williams et al., 2011)*. Analysis is needed on both the effectiveness of the medications, as well as how much of the medication ends up in the prison black market. If it is determined that a large number of pain medications end up in the prison black market, this may cause inmates to be sent offsite for proper pain management.

Having families involved with care has already been recognized as a central tenant of hospice programs *(Hoffman & Dickinson, 2011)*. There is a great deal of variation in regards to family participation in prison-based hospice programs. Standards need to be developed, not only for what constitutes an inmate's "family," but, also how many visits they are allowed.

The standard definition of "family" may not apply to all inmates because of the distance from their local community to the prison facility, or because of strained relationships with blood relatives *(Linder & Meyers, 2007; Stone et al., 2012)*. Nationally-recognized standards should be developed that define what can constitute an inmate's "family." If other inmates fall into that category, then other standards should be developed on visitation rights. Crimes committed, time left on their sentence, and behavior histories could all come into question as other inmates are recognized as an inmate-patient's "family." Security staff would have to weigh the benefits of inclusion in the inmate-patient's care, against the security concerns of a particular inmate.

Currently a great deal of variation exists regarding the visitation rights of an inmate-patient's blood family *(Hoffman & Dickinson, 2011)*. Nationally recognized standards should also address this issue. Because of the rural location of many prisons, the definition of what constitutes an inmate's family could have an effect on where care takes place. If only blood relatives are considered family, then the inmate may have to be moved to an off-site location closer to that family, in order for them to participate in the care process.

Since hospice programs require a more compassionate approach than most corrections officers are used to, additional training is needed for corrections officers who are working in these units *(Hoffman & Dickinson, 2011; Stone et al., 2012; Wion & Loeb, 2016)*. It would be beneficial for corrections officers to understand the health and pain management concerns of this inmate-patient population. At the same time, the research showed that more training is needed on the regulations and security protocols of providing care in prisons for the health staff who are working behind the secured fence *(Courtwright et*

al., 2008). This will help health staff understand the concerns and needs of the correctional officers. A greater understanding of each others' roles and responsibilities, as well as an open and effective line of communication, can help break down barriers between front-line heathcare providers and corrections officers.

Whether or not states have adequately trained staff can help determine the location of care. If staff is unable to meet the needs of this frail segment of the inmate population, states will have no other recourse but to send them to an off-site facility.

Most sources in the research noted the use of inmate-volunteers as a central component of prison-based hospice programs. However, there is a great deal of variation on the selection, training, and responsibilities of inmate-volunteers within the prison hospice programs *(Yampolskaya & Winston, 2003)*. Development of a nationally-recognized standard could begin to address all three of these issues. This would help with the consistency, competency, and level of service provided by inmate-volunteers and help ensure the provider staff is more efficient and cost-effective, since they would then know what kind of help they will receive from the inmate-volunteers.

Many prison hospice programs require a cessation of treatment order as a qualification for admission into a program *(Hoffman & Dickinson, 2011; Linder & Meyers, 2007; Stone et al., 2012)*. However, there is still variation across state departments of corrections on this issue. Research is needed on the cost benefits of having cessation of treatment as a requirement into prison hospice programs. Some opine that having the cessation of treatment order saves costs of treatment that would otherwise have been provided *(Hoffman & Dickinson, 2011; Yampolskaya & Winston, 2003)*. Others say that not having the cessation of treatment would have the states spending more of the limited funding, to appear they have tried all possible treatments *(Linder & Meyers, 2007)*.

For inmates who have been required to provide a cessation of treatment order, there is an additional issue involved: The lack of trust that state departments of corrections are working with the inmate-patient's best interests in mind *(Hoffman & Dickinson, 2011; Linder & Meyers, 2007; Stone et al., 2012)*. Research is needed to determine if a cessation of treatment order saves costs, reduces access to care, creates better health outcomes, or increases the inmate-patient's quality of life.

Within the corrections environment, research is needed on the factors that affect where in the prison facility the hospice care program is located. It must be determined if it is located in the general housing unit, prison infirmary, in a separate prison medical area, or in an outpatient day program, *(Wion & Loeb, 2016)*. Much like with the needed research to determine the need for on-site vs. off-site care, the location of hospice services within the prison environment should be based on a number of factors: Operational costs, construction costs, staffing requirements and availability, security concerns, inmate-patient census, and inmate-patient health needs. Once that data is gathered and analyzed, then a proper determination can be made.

Though many state departments of corrections are now providing hospice programs, fewer are providing palliative care programs *(Williams et al., 2011)*. Palliative care programs and the number of inmate-patients eligible for such programs should be expanded to all states. All inmate-patients who are seriously ill should be eligible for these programs, not just inmate-patients who are in the final stages of life *(Williams et al., 2011)*. This expansion could have a great effect on where states choose to provide this care. The larger the program, the more difficult it may be for states to provide that service onsite. More research is also needed on correctional palliative care programs. Though there is evidence that these programs improve the quality of life for the inmate-patient, while reducing healthcare costs, more studies are needed to confirm this result. In addition, more pilot programs testing the effectiveness of these programs should be undertaken.

State departments of corrections can effectively save costs on both expensive healthcare interventions, and the location of care, by expanding their compassionate release programs *(Williams et al., 2011)*. Today, there is a great deal of state-to-state variation on the eligibility and approval of an inmate-patient for a compassionate release program *(Lincoln, 2008; Williams et al., 2011)*. Development of nationally-recognized standards for eligibility and approval would help alleviate confusion, make the process more efficient, and save costs. Removal of application flaws and predictable time table requirements would be invaluable in helping to expand these programs *(Williams et al., 2011)*.

In addition, by including disease trajectories, as well as functional status, this will allow for more inmate-patient inclusion into these programs *(Williams et al., 2011)*. An expedited application and approval process should also be added so that fewer inmate-patients die during the review period. Creating relationships with community providers will also help with continuity of care *(Linder & Meyers, 2007)*. Public health services can connect inmate-patients with Medicaid re-application, community-based skilled nursing providers, social work counseling, and family assistance.

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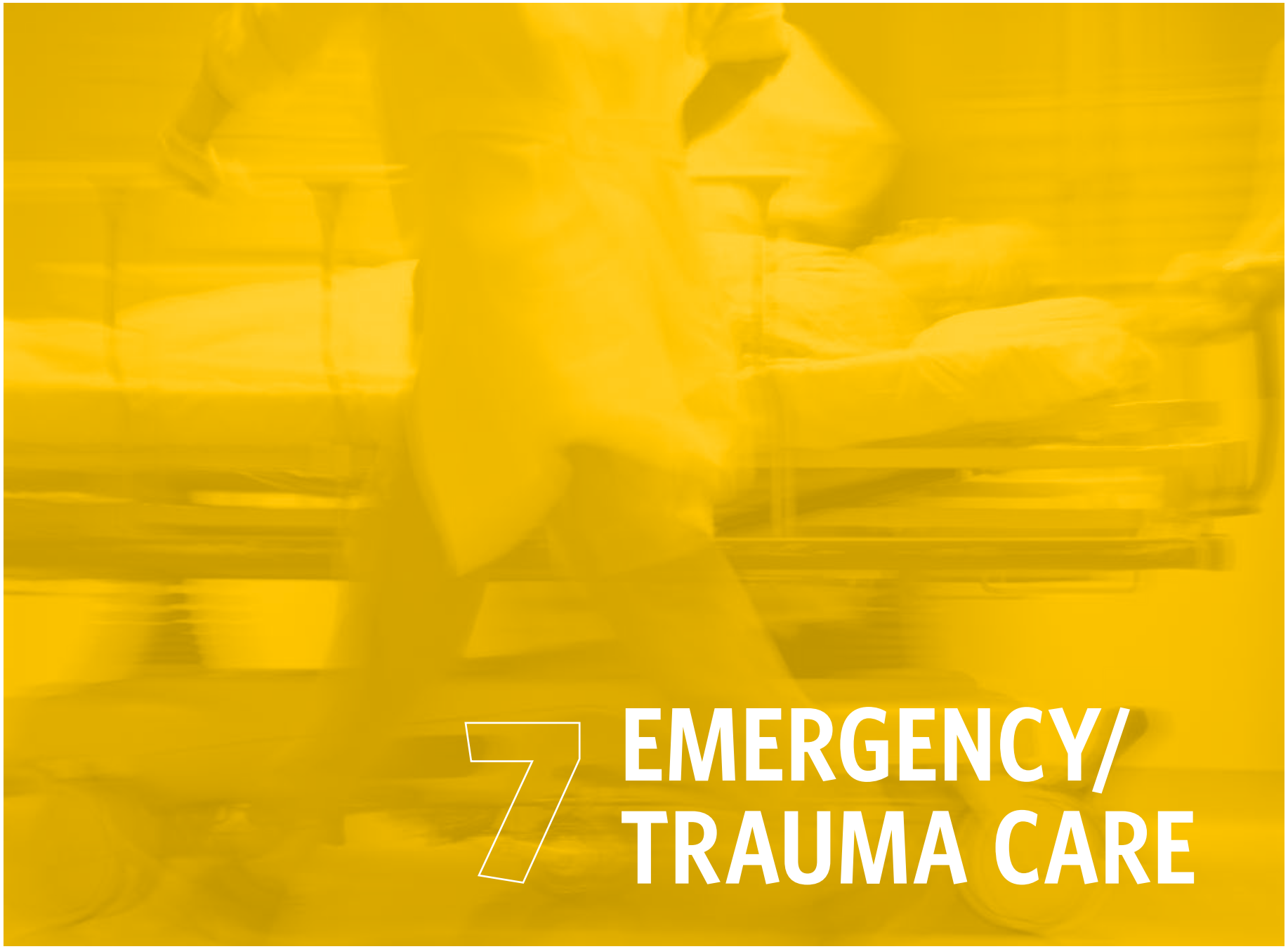

7 EMERGENCY/ TRAUMA CARE

7 EMERGENCY/TRAUMA CARE

7.1 RESULTS

U.S. prisons account for over half of the world's entire prison population, as well as, the single largest population of inmates *(Koester, Brenner, Goulette, Wojcik, & Grant, 2017)*. Inmates often come from underserved communities and have preexisting drug and mental health issues *(Koester et al., 2017)*. In addition, many inmates are aging and have additional health-related concerns *(Koester et al., 2017)*.

Lara-Milan *(2014)* noted that over the past four decades, the country's incarcerated population has increased sevenfold. In addition, they noted that most of that increase has been within the non-white, minimally-educated, urban poor *(Lara-Millán, 2014)*.

Though there have been many studies on infectious disease and chronic illness in this population, there have been limited studies on the acute care needs of prisoners *(Koester et al., 2017)*. Medical issues that could require the transportation of an inmate to a local emergency department include: Chest and abdominal pain, traumatic brain injury *(TBI)*, and facial and other injuries *(Koester et al., 2017)*.

7.1.1 TRAUMATIC BRAIN INJURY

Henning et al. (2015) noted that 85 percent of prisoners reported a history of traumatic brain injury (TBI). Increased anger, aggression, poor impulse control, and disciplinary issues have all been associated with TBI *(Henning et al., 2015)*. Templer et al *(1992)* studied the effects of attended (brought to the attention of a physician) and unattended (not seen by a physician) head injuries on different population groups, including inmates, college football players, and college students. Inmates reported that their unattended and undocumented head injuries left more permanent effects *(Templer et al., 1992)*. It was also reported that fights and blows to the head made up a larger portion of injuries to the inmate group than the other groups in the study *(Templer et al., 1992)*.

7.1.2 PRISON INJURIES

Prisons can be a violent environment and inmates tend to have anger and impulse issues. Because of this, injuries among inmates occur at a higher rate than in the general population *(Henning et al., 2015)*. The stress of incarceration, along with the issues caused by TBI, create a prison environment where traumatic injuries are common *(Henning et al., 2015)*. However, prison injuries are largely perceived as a disciplinary and management issue related to violent behaviors and unavoidable accidents *(Sung, 2010)*. Though they receive little attention in the research as compared to infectious and chronic diseases, prison injuries can destroy the livelihoods, health, and lives of thousands of inmates *(Sung, 2010)*. Due to the fact that most inmates are released within a few years, the social, emotional, and physical consequences of their prison-received injuries can pose challenges when the inmates are returned back to the community *(Sung, 2010)*.

As defined by Sung *(2010)*, violence-related injuries are those acquired in a fight, assault, or any incident where someone tried to harm them. By contrast, unintentional injury was defined as an accident, such as slipping or falling while at work, while playing sports, or while at other locations *(Sung, 2010)*. Though the research is inconsistent, the following studies break down the injury prevalence within prisons.

UNINTENTIONAL INJURY

In the survey by the CDC *(1996)*, it was noted that the number of unintentional injuries was larger than the intentional injuries by almost fourfold. In addition, nearly half of the unintentional injuries were due to recreational activities *(Centers for Disease Control and Prevention (CDC), 1996)*. Other causes of unintentional injury included occupational injuries related to prison work assignments *(Centers for Disease Control and Prevention (CDC), 1996)*.

In 2004, 32 percent of the 1.2 million state prisoners in the U.S. had been injured since their incarceration *(Sung, 2010)*.

This suggests that an estimated 32,000 out of every 100,000 U.S. prison inmates were injured during the course of their sentence *(Sung, 2010)*. Broken down by injury type, the research suggests approximately 15,700 per 100,000 inmates reported a violence-related injury, and approximately 22,000 per 100,000 inmates reported an accident-related injury *(Sung, 2010)*.

The thirty-two percent prevalence rate of injuries among prisoners is much higher than the other leading health conditions such as: Arthritis 15.3 percent, hypertension 13.8 percent, tuberculosis 9.4 percent, asthma 9.1 percent, heart problems 6.1 percent, hepatitis 5.3 percent, or HIV 1.6 percent *(Sung, 2010)*. However, it is lower than the incidence of mental health disorders: Fifty-six percent, and substance abuse disorders 53 percent *(Sung, 2010)*. In addition, having a recent history of a mental health disorder increased the inmate's odds of both violence-related and accident-related injuries *(Sung, 2010)*.

Violence-Related Injuries
15,700 per 100,000

Accident-Related Injuries
22,000 per 100,000

(Sung, 2010)

The 32% prevalence rate of injuries among prisoners is much higher than the other leading health conditions such as:

Arthritis
15.3%

Heart Problems
6.1%

Hypertension
13.8%

Hepatitis
5.3%

Tuberculosis
9.4%

HIV
1.6%

Asthma
9.1%

(Sung, 2010)

However, it is lower than the incidence of:

Mental Health
56%

Substance Abuse
53%

(Sung, 2010)

ACCIDENTAL INJURY

State inmates reported accidental injury 1.5 times more often than an injury resulting from a fight *(Maruschak, 2012)*. In addition, 17 percent of state inmates aged 35 or younger reported being injured in a fight, compared to 13 percent of those aged 45 or older *(Maruschak, 2012)*.

17%
Aged 35 or Younger

13%
Aged 45 or older

State Inmates reported being injured in a fight
(L. M. Maruschak, 2012)

Injuries Result of Violent Conduct
75.7%
OF WHICH
74.7%
Reported as "Assault With a Fist"

Injuries Reported as Non-Violent
23.5%
OF WHICH
62.7%
Reported as Slips & Falls

23.7%
Reported as "Activities Related to Sports"

(Henning et al., 2015)

According to a survey by Henning et al. *(2015)*, 75.7 percent of the injuries reported were the result of violent conduct, of which 74.7 percent were reported as "assault with a fist." Also in this survey, 23.5 percent of the injuries reported were the result of nonviolent injury, of which 62.7 percent were reported as "slips/falls" and 23.7 percent were reported as "activities related to sports" *(Henning et al., 2015)*. The remaining 0.8 percent of reported injuries in this survey were "self-inflicted" *(Henning et al., 2015)*. Henning et al. *(2015)* noted that the absence of penetrating injuries from this survey led them to conclude that slashing/stabbing incidents were minor enough to be triaged by the prison clinic, without needing transport for further intervention.

Over a three-year period 251 male prisoners needed to be transferred to a local emergency department for treatment *(Henning et al., 2015)*. Of those 251, 96 percent were admitted for additional care, and four percent were treated and released *(Henning et al., 2015)*. Most of the inmates presenting to the emergency department were ambulatory, however, 84.9 percent required a surgical intervention *(Henning et al., 2015)*. In addition, 56.6 percent had a history of drug abuse and 17.9 percent had a mental health condition *(Henning et al., 2015)*. When compared to ED admissions for the general population, violence-related injuries are 14 times higher for inmates, and accident-related injuries are 2.3 times higher for inmates *(Sung, 2010)*.

When compared to ED admissions for the general population

VIOLENCE-RELATED INJURIES **14X** **higher for inmates**

ACCIDENT-RELATED INJURIES **2.3X** **higher for inmates**

(Sung, 2010)

The average length of stay reported in this survey for each reported injury type is as follows: 4.65 days for violent injuries, 5.05 days for nonviolent injuries, and 4.5 days for self-inflicted injuries *(Henning et al., 2015)*.

Average Length of Hospital Stay

Violent Injuries	Non-Violent Injuries	Self-Inflicted Injuries
4.65 Days	5.05 Days	4.5 Days

(Henning et al., 2015)

Because the percentage of trauma due to violence observed in this survey is significantly higher than other reports of prisoner injury patterns, researchers believed that the lower-acuity injuries were treated in the prison clinic *(Henning et al., 2015)*. Henning et al. *(2015)* note that after implementation of an inmate injury triage system in Canada, the number of inmates transferred to a local emergency department decreased. However, decreased hospital referrals were offset by increases in severity of injuries, hospital admission rates, and surgical intervention likelihood *(Henning et al., 2015)*. It may be possible to reduce the amount and severity of traumatic injury within the prison population with a better understanding of the mechanisms and types of trauma they see *(Henning et al., 2015)*.

Involvement or exposure to violent incidents increased the likelihood of subsequent emergency department or hospital visits for injury *(Sung, 2010)*. Inmates with a past history of physical abuse, weapons victimization and violent offenses, are more vulnerable to both types of injuries while they are incarcerated *(Sung, 2010)*. Further, cognitive and behavioral problems exacerbated by mental health disorders in inmates make it difficult for this population to avoid injury *(Sung, 2010)*.

7.1.3 PRISON DRUG USE

Besides injury, drug abuse is another reason for inmates being transferred to the emergency department. In the 12 months prior to incarceration, 50 percent of state and federal inmates reported a history of drug abuse or dependence *(Butterfield et al., 2015)*. In addition, at the time of arrest, 25 percent reported being under the influence of drugs *(Butterfield et al., 2015)*. By using inventive means, drug abuse and misuse continues by prisoners during incarceration *(Butterfield et al., 2015)*. Body stuffing and body packing are two of those means. Body stuffing is the process of ingesting drugs when confronted by law enforcement, and body packing is the process of swallowing large amounts of drugs for reason of smuggling *(Butterfield et al., 2015)*. Drug exposure among prisoners was primarily through oral ingestion, and the primary reason for drug ingestion among inmates was self-harm *(Butterfield et al., 2015)*. The most commonly used drugs by inmates were methamphetamines, anticonvulsants, cleaning products, and acetaminophen *(Butterfield et al., 2015)*.

Adverse effects of drug use among inmates include vomiting, tachycardia, and hypertension *(Butterfield et al., 2015)*. Other less common, but more serious effects, include seizures, ventricular dysrhythmias, and cardiac arrest *(Butterfield et al., 2015)*. Inmates typically required medical interventions for these conditions including, benzodiazepines, other sedatives, activated charcoal, whole-bowel irrigation, and endotracheal intubation *(Butterfield et al., 2015)*. Inmates also had a higher risk of poor medical outcomes including death *(Butterfield et al., 2015)*. Body stuffers and body packers had a greater incidence of these conditions than the other inmate drug users *(Butterfield et al., 2015)*. Sixty-six percent of the inmates in the Butterfield et al. *(2015)* study required treatment within an emergency department. Fourteen percent required admission into an ICU.

7.1.4 USE OF EMERGENCY DEPARTMENTS

Most Common Inmate ER Complaints

Trauma 16.8%	Hematologic Concerns 5.9%
Abdominal Pain 13.5%	Seizures 4.5%
Chest Pain 9.0%	Other Symptoms 4.3%
Self-Injury 8.7%	Abscesses 4.0%
Neurologic Concerns 7.1%	Pulmonary Concerns 4.0%

(Koester et al., 2017)

Although private hospitals are often called upon to provide emergency services for inmates, there is little to no research on the actual volume of inmate-patients being seen in community hospital settings, without a robust state-by-state survey *(Natterman et al., 2016).* In the study by Koester et al. *(2017)*, there was a total of 576 ED visits from 410 different inmates. Of those 756 visits, 72.9 percent had an imaging study, 66.8 percent of patients had a laboratory study, and 39.8 percent resulted in hospital admissions *(Koester et al., 2017)*. The most common complaints for inmates presenting to the ED were: Trauma 16.8 percent, abdominal pain 13.5 percent, chest pain 9 percent, self-injury 8.7 percent, neurologic concerns, 7.1 percent

hematologic concerns 5.9 percent, seizures 4.5 percent, other symptoms 4.3 percent, abscesses 4 percent and pulmonary concerns 4 percent *(Koester et al., 2017)*. The patients presenting to the ED with mental health concerns were low at only 13.4 percent *(Koester et al., 2017)*.

Though local EDs are well equipped to treat a number of different health concerns, they are not the ideal locations to treat all health concerns *(Koester et al., 2017)*. The use of local EDs for non-emergent treatment is an ineffective use of limited healthcare funds, as treatment in an ED is more expensive than other treatment settings *(Koester et al., 2017)*. Koester et al. *(2017)* noted that since fewer than 40 percent of the patients required admission to the hospital, that the majority of the cases could have been treated in a lower acuity setting. Due to the fact that inmates require transportation and corrections officer escort when they are sent to the local ED, it may be beneficial to treat the inmate in a different healthcare setting *(Koester et al., 2017)*. Koester et al. *(2017)* also noted that the majority of the cases in their study were chronic in nature, possibly indicating a breakdown in chronic care that either is non-existent, or that is inadequate, which then allowed the condition to escalate to the point of needing an ED intervention.

A large percentage of the inmates in this study also had multiple presentations to the ED within the same year, indicating that their chronic health issues are not being adequately addressed, or that the disease has progressed to the point of needing emergency intervention and potentially, inpatient treatment *(Koester et al., 2017)*. Though not surprising, Koester et al. *(2017)* also noted that the majority of ED visits were trauma-related. Injuries among inmates occur at a higher rate than the general population *(Koester et al., 2017)*. This could indicate the need for more trauma care and otolaryngological and oral maxillofacial care to be located within the prison environment *(Koester et al., 2017)*.

The frequency in which inmates are brought to the ED can affect the care of the non-incarcerated patients still waiting to be seen *(Lara-Millán, 2014)*. Inmates who arrive in the ED are provided beds before the non-incarcerated patients, even though the inmate's condition may be non-urgent *(Lara-Millán, 2014)*. Health staff in the ED tend to give priority to the inmate-patient because they feel the corrections staff cannot wait the 12 hours or more that it may take for non-urgent patients to be seen within the public hospital ED *(Lara-Millán, 2014)*.

This supports the notion that the urban poor have greater access to healthcare if they are incarcerated, than if they are not *(Lara-Millán, 2014)*; hence, making the prison system the main system for social services for the urban poor *(Lara-Millán, 2014)*. It also supports the notion that ex-inmates will be less likely to access public institutions, thereby contributing to the higher rates of communicable disease, disability, general poor health, and mortality of this population *(Lara-Millán, 2014)*. In addition, given the high recidivism rates, there could be economic factors, due to an ex-inmate returning to prison, without having had any treatment of their serious medical conditions while they were back in the community *(Lara-Millán, 2014)*.

7.1.5 ALTERNATIVES TO THE ED

The New Jersey Department of Corrections has seen reduced numbers of inmates being sent to local emergency departments by returning the inmate to an infirmary level of care as soon as possible *(Reeves, Brewer, DeBilio, Kosseff, & Dickert, 2014)*. They have achieved this by partnering with the treating hospital physicians and limiting the trips to the emergency department for only those medical situations that are beyond the limits of care that can be provided in the correctional facility infirmary *(Reeves et al., 2014)*. As an example, in the State of New Jersey, 400 per 1,000 persons visit the emergency room annually, however only 29 inmates per 1,000 persons visit the emergency room annually *(Reeves et al., 2014)*.

The Ohio Department of Corrections and Rehabilitation created an urgent care center within its Correctional Medical Center (CMC), to reduce the number of inmates sent to local hospital emergency departments *(Geisler, Gregory T. et al, 2011)*. The urgent care center will treat minor traumas, abdominal pains, fractures, and other asymptomatic cases, in order to reduce the number of inmates transferred to local hospital emergency departments, such as the 2,240 inmates that were transported in calendar year 2010 *(Geisler, Gregory T. et al, 2011)*. The Ohio DOC predicts that the cost of care can be as low as 10 percent of the costs of sending inmates to a local hospital emergency department *(Geisler, Gregory T. et al, 2011)*. Since emergency departments treat patients in order of priority, the Ohio DOC feels that access to care will be increased, since inmates with less serious conditions will not have to wait to be treated, saving on transportation and custody staff time *(Geisler, Gregory T. et al, 2011)*.

7.1.6 LEVERAGING TELEMEDICINE

Telemedicine is ideal for correctional facilities as its use can improve access time to care, contain costs, decrease security risks, and decrease the need to transport inmates to outside facilities *(Ellis, Mayrose, Jehle, Moscati, & Pierluisi, 2001)*. **Vo (2008) noted that telemedicine programs in prison settings reduces the need for outside emergency department visits. They also noted that telemedicine technologies could cut transports to emergency departments by almost 42 percent (Vo, 2008).**

Telemedicine was provided to inmates who were contacting the emergency department with non-urgent or semi-urgent complaints *(Ellis et al., 2001)*. A total of 126 telemedicine encounters were recorded during the study period and 64 percent remained at the correctional facility, only 43 patients were transported to the emergency department after consultation *(Ellis et al., 2001)*. The average "on-screen" time for a telemedicine consultation was 13 minutes, with an additional 17 minutes for documentation. In comparison, the average time in the emergency department was one hour and 35 minutes, with an additional one-and-one-half hours for transportation *(Ellis et al., 2001)*.

All patient complaints of cold, fever, influenza, urinary tract infections, allergic reactions, and weak/dizzy/headache concerns were managed through telemedicine *(Ellis et al., 2001)*. In addition, 75 percent of chest pain patients who were ruled out for acute cardiac ischemia were managed through telemedicine *(Ellis et al., 2001)*. Patients who could not be managed by telemedicine included some abdominal pain patients, and all of the laceration, gunshot-wound and headache patients *(Ellis et al., 2001)*.

Within the telemedicine consultation, nurses acted as surrogate examiners by performing all examinations of the heart, lungs, and ears under the supervision of the consulting physician *(Ellis et al., 2001)*. They also performed diagnostic testing such as, EKGs, fluorescein eye staining, urine dipsticks, pregnancy tests, and purified protein derivative (PPD) injections *(Ellis et al., 2001)*. Ellis et al. *(2001)* also noted that physicians felt comfortable with the process because they could speak to the patients and observe the examinations. In addition, patients appreciated the timely access to care, as well as avoiding the embarrassment of being on display in the community hospital wearing shackles and corrections jumpsuits *(Ellis et al., 2001)*.

7.1.7 LOCATION OF CARE

Emergency Services Locations

Exclusively Off-Site	**15**	**states**
Both Off-site and On-Site	**29**	**states**
Exclusively On-Site	**0**	**states**

Of the 29 states that reported providing emergency services both off-site and on-site:

On-site services included triage, stabilization, and basic suturing	**18**	**states**
Provided at least one emergency room, or emergency department within the prison facility	**3**	**states**

(L. Maruschak et al., 2016)

7.2 DISCUSSION

For state departments of corrections, the key to trauma/emergency care is seeing the right patient, in the right setting, by the right provider. Too often, emergency departments have become the default provider of care. This is a problem, not only in correctional health, but community health, as well. As was discussed in Koester et al *(2017)*, emergency departments are some of the most expensive settings to provide care. Because of this, any patient who can be seen in a lower acuity setting should be seen in that setting. Due to limited state budgets, state departments of corrections cannot continue to use community-based emergency departments as default providers of care.

As was noted by Koester et al *(2017)*, overall, there is very little research related to the acute care needs of inmates. Little is known regarding the cost of care to transport and supervise the inmate-patient in the community hospital setting. In addition, as cited by Natterman et al *(2016)*, little is known regarding the types of conditions, acuity types, and admission rates of the inmate-patient within community-based emergency departments. Because emergency departments are some of the most expensive settings where care can take place, research should be conducted to see if the acuity level of the inmate patient is proper for transportation to the local community emergency department, or if it is more efficient to have that patient seen in a lower-acuity setting.

The goal of corrections officials should be to limit the number of inmates who are transported to the local community hospital emergency department, without affecting the quality of care. This can be

achieved through increased community-based services, health screening on intake, educational programing, addiction treatment, along with expansion of chronic care services, health service allocations, and by leveraging technology.

As was stated in Koester et al *(2017)*, many inmates come from underserved communities. Because many inmates have had little access to healthcare prior to incarceration, access to public health services should be increased. This will help identify health issues and allow treatment to begin prior to incarceration. This will not only limit the amount of care that has to be provided in prison, it will also offer the possibility to create continuity of care, if community healthcare and prison healthcare are coordinated. By treating health conditions prior to incarceration, it will prevent disease progression from reaching a point where emergency treatment is the only option.

As reported in the survey by Henning et al *(2015)*, a high percentage of inmates reported histories of traumatic brain injuries. These injuries can cause behavioral and impulse control issues that could increase the potential for violence against staff, or other inmates. Though the research on prevalence was unclear, and since injuries from violence make up a large volume of emergency department visits, inmates should be screened for TBI, upon intake. Screening for TBI could help identify inmates who may be prone to behavioral problems and also allows mental health staff to begin treatments, prior to an incidence of a violent outburst. This would then have the potential to reduce some violence-related injuries, thereby reducing the need to transport inmates to local emergency departments.

Besides violence-related injuries, the research had shown that many injuries within prisons are accident-related. As the Centers for Disease Control *(1996)* had noted, these accidents are mostly caused by athletic activities and prison work. To reduce these types of injuries, incentivized work safety and education programs could be added. Having incentives for attending the safety education, as well as days free from injury, would promote safe behavior for inmates in work programs. This program could be modeled on the safety programs from the construction industry. By providing this program, state departments of corrections could alleviate some of the work-related injuries, thus limiting some trips to the community-based emergency department.

As discussed in Butterfield et al *(2015)*, many inmates enter prison with drug dependence or addiction problems. As they begin their withdrawal from those substances in prison, their tolerance lowers as well. However, if they obtain illicit drugs through the prison black market and ingest amounts similar to what they were taking prior to incarceration, they have the potential to overdose. Because drug overdose cases utilize a large amount of health services; expansion of drug treatment programs could help reduce drug use in prison; thereby, reducing the frequency of overdose. Keeping illicit drug use out of prisons and providing drug treatment to inmates could help reduce trips to the ED for drug-related conditions.

The research has shown that a large number of inmates report having at least one chronic condition. This is especially true for older inmates who often have two or more chronic conditions *(Maruschak, Berzofsky, & Unangst, 2015)*. However, as noted by Koester et al *(2017)*, due to lack of proper chronic care management programs, many inmates are frequently returning to the community-based emergency department for treatment of their conditions. This is an expensive routine for prisons. If the inmate-patient's chronic conditions are not properly managed, the diseases will progress to emergent conditions that then require immediate intervention. Greater access to chronic care specialists and better management of those conditions will alleviate trips to the community-based emergency department.

Because of the cost of care for inmates in community-based emergency departments, alternatives to emergency care should be investigated. DOCs in both New Jersey and Ohio have created alternatives to transporting inmates to outside facilities for emergency care. The New Jersey DOC created a process whereby they transfer inmates to an infirmary level of care as soon as possible, and the Ohio DOC has created a correctional urgent care center to provide lower-acuity care to inmates within the prison walls *(Geisler, Gregory T. et al, 2011; Reeves, Brewer, DeBilio, Kosseff, & Dickert, 2014)*. Both of these concepts can and should be expanded to other state DOCs. This will not only save on transportation costs, but it also locates the inmate-patient in the proper acuity of care, thereby reducing the overall costs of care. In the case of Ohio, it also increases access to providers, as the inmate-patient can be seen more quickly, and does not have to wait for transportation.

Just as in the community setting, correctional primary care clinics could be used as immediate care centers during daytime hours, and then used as an urgent care center during off hours. This

would increase access to care, without having to transport inmates off-site. In addition, DOCs could construct more flexible spaces that could be used for trauma treatments, when the need arises. In the absence of creating additional spaces within the correctional health clinic, creating dedicated prison units in community-based emergency departments could also improve access and reduce costs. If a dedicated, secured inmate-patient unit is created in the community emergency department, fewer correctional officers would be needed to supervise the inmates. In addition, access could be increased because the inmate-patient would not be on the same priority list as the community patients.

Besides the location of care, staffing changes can help reduce transportation offsite. Because many of the injuries to inmates are the result of fights, adding certain specialists to the correctional health clinic could also alleviate trips to the emergency department. As noted by Koester et al *(2017)*, adding providers within prison facilities (with specialties in trauma care, otolaryngological and oral maxillofacial care), could limit the need to transport inmates to local hospitals for those types of care.

Finally, technology could be leveraged to improve access and reduce costs. Telemedicine, while not eliminating all trips to community emergency departments, has shown to significantly reduce them *(Ellis, Mayrose, Jehle, Moscati, & Pierluisi, 2001; Vo, 2008)*. This technology should be expanded to all state DOCs. In addition, mobile technology could be leveraged for acute care patients who are in need of imaging studies. In lieu of transporting them to community hospitals, mobile imaging technology could travel from state facility to state facility. However, there would still need to be some transports for time-sensitive, acute care.

7.2.1 IMPLICATIONS

Continuing to see all acute care cases in the community-based emergency departments increases costs to DOCs due to emergency departments being the most expensive care setting. The costs of treatment, transportation, and correctional officer escort can become unsustainable given limited state budgets.

Continuing to treat the inmate patient in community-based emergency departments also begins to affect wait times for community-based patients *(Lara-Millán, 2014)*. Because medical staff may try to see correctional patients as soon as possible, community-based patients may see extended wait times. In addition, community hospitals also have the security concern of seeing inmate-patients and community patients in the same setting. Inmates will also continue to suffer the indignity of being on display in shackles and jumpsuits to the community at large.

Designers need to create flexible spaces that can be used for basic care and also trauma. In addition, designers need to plan for a dock for any mobile technology that may be used.

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8 DENTAL CARE

8 DENTAL CARE

8.1 RESULTS

In 2008, for the first time, more than one in every 100 adults (2.3 million adults) was behind bars, according to the PEW Center on the States *(Glassman & Subar, 2010)*. Prison inmates have lower periodontal and oral health, than do people in the general population *(Barnes, Parker, Fultz, Rees, & Lyon, 1987; Møller, Gatherer, Jürgens, Stöver, & Nikogosian, 2007; Salive, Carolla, & Brewer, 1989; Treadwell & Formicola, 2005)*. **Prisoners tend to have patterns of dental decay that far exceed the general population** *(Costa, 2014; Møller et al., 2007; Treadwell & Formicola, 2005).* **This is due to their poor dental knowledge and lack of preventive dental care, which has led many to only seek care when symptomatic relief from a decayed tooth is required** *(Costa, 2014; Shulman & Sauter, 2012).* **A lack of dental insurance for most pre-incarcerated inmates also affects the lack of dental care prior to incarceration** *(Costa, 2014).*

Because most inmates come from underserved communities, socioeconomic factors for poor dental care, prior to incarceration, have never been higher *(Costa, 2014; Glassman & Subar, 2010; Møller et al., 2007)*. Dental care is only accessed when there is an emergent condition *(Costa, 2014)*. In addition, at least one quarter of the surveyed sample of inmates had one or more urgent dental treatment needs *(Treadwell & Formicola, 2005)*. Once an inmate's threshold for pain is modified by being deprived of drugs and alcohol, it is at that point that they become aware of their dental health issues *(Shulman & Sauter, 2012)*.

Medical care is one of the main cost drivers in corrections today and accounts for up to 10 percent of correctional spending *(Glassman & Subar, 2010)***. In addition, because of economic strain in state budgets, safety net coverage for adult dental services is being rapidly reduced or eliminated all together** *(Costa, 2014)***. However, studies have shown that overall dental health improves when access to dental health services is increased** *(Treadwell & Formicola, 2005).*

More oral healthcare problems are suffered by people with chronic medical illnesses, developmental disabilities, and psychosocial issues, than those who do not have those conditions *(Glassman & Subar, 2010; Shulman & Sauter, 2012)*. There is a link between oral health and medical health *(Treadwell & Formicola, 2005)*. Studies have shown interactions between infections within the mouth and health conditions such as, cardiovascular disease and diabetes *(Treadwell & Formicola, 2005)*. Improvements in oral health can equate to improvements in general health *(Treadwell & Formicola, 2005)*.

Prisoner health is a public health issue that can be addressed while the inmate is incarcerated, as well as, a continuum of care when they enter back into the community (Treadwell & Formicola, 2005). Good oral health provided to inmates will have benefits not only to the inmate, but to the community, as well *(Treadwell & Formicola, 2005).*

8.1.1 TYPES OF DENTAL CONDITIONS IN PRISONERS

The same population that is disproportionately incarcerated at higher levels is the same population in most need of oral healthcare *(Williams, 2007)*. **Periodontal disease and dental caries are arguably the most common diseases in the correctional healthcare setting** *(Costa, 2014)*. **The main factors driving this observation include** *(Costa, 2014):*

1. **The lack of prior preventive dental care by the average prisoner.**
2. **Behavioral issues, such as illicit drug use.**
3. **Socioeconomic challenges.**
4. **Untreated chronic conditions, such as HIV, hepatitis C, and cardiovascular disease, that complicate dental treatment.**

Inmate Dental Needs

93%	**required preventative dentistry counseling**
93%	**required removal of prophylaxis and calcium**
32%	**required Type I and Type II periodontal therapy**
12%	**required Type III and Type IV periodontal therapy**

Barnes et al.(1987)

Ringgenberd (2011) noted that up to 71 percent of inmates need some kind of dental care intervention.

It is unknown whether long-term prisoners have the same periodontal needs as newly incarcerated prisoners *(Barnes et al., 1987)*. Issues such as professional personnel shortages, lack of patient cooperation, inability to maintain long-term doctor and patient relationships, as well as other issues, prohibit that type of study *(Barnes et al., 1987)*. Because of this, long-term inmates may have different concerns than the newly incarcerated inmate *(Barnes et al., 1987)*. However, incoming inmates have a higher need for dental services than inmates who have been in the system for longer periods, possibly because inmates who have been in the system for longer periods have had greater access to care *(Ringgenberg, 2011)*.

The increased use of methamphetamines has elevated the concern about oral hygiene for illicit drug users to a new level *(Costa, 2014)*. Methamphetamine abusers who present with extreme circumferential smooth surface and carious legions are commonly referred to having "meth-mouth" *(Costa, 2014)*. The teeth affected by this condition may present insurmountable restorative challenges; in addition, cardiovascular conditions of the inmate may further complicate the provision of care *(Costa, 2014)*. It was noted in 2006 that half of the incoming inmates into the Iowa State Prison system had used or abused methamphetamines *(Ringgenberg, 2011)*. One of the now-telltale signs of having been incarcerated, is missing teeth *(Williams, 2007)*.

Serious health implications can come from poor oral health, such as nutritional problems, diabetes, cardiovascular disease, and oral cancers *(Møller et al., 2007; Williams, 2007)*. In addition, poor oral health also limits social, personal, and professional relationships *(Williams, 2007)*. Missing teeth, or poor oral heath, could limit job opportunities, as well as the pain and discomfort from impacted teeth, cavities, or oral cancer, could make searching for a job nearly impossible *(Williams, 2007)*.

8.1.2 BARRIERS TO CARE

The major obstacles to providing the community standard of dental care in prisons are staffing and finances *(Treadwell & Formicola, 2005)*. Most dental education programs do not provide training for the skills necessary to treat inmate-patients within the prison environment *(Glassman & Subar, 2010)*. In regards to staffing, only Florida and North Carolina have rotations for its dental students through the prison system *(Treadwell & Formicola, 2005)*. Additional programs to add such rotations could help alleviate the shortage of dentists within the prison systems *(Treadwell & Formicola, 2005)*. In addition, most oral health professionals have had very little training regarding treating inmates, including addressing behavior change strategies, how to navigate the prison organization, and case management, along with integration of oral health into general health systems *(Glassman & Subar, 2010)*. According to Williams *(2007)*, recruitment efforts for dentists and hygienists to serve this population should be increased, and any restrictions prohibiting hygienists from working with this population, should be removed.

New programs such as "direct-access" regulations allow for dental hygienists to work directly with patients in community settings, without dentist authorization *(Glassman & Subar, 2010)*. These programs, which are now available in 29 states, may be a way to improve access to dental care in prisons *(Glassman & Subar, 2010)*. In California, a program called "virtual dental home" is allowing dental hygienists and assistants to treat patients in a community setting, with oversight by office-based dentists using a telemedicine-like system *(Glassman & Subar, 2010)*. This also has potential for prison environments *(Glassman & Subar, 2010)*.

Because of inmates' comorbidities of chronic and communicable diseases such as, hypertension, HIV, and hepatitis C, many general dentists may not be comfortable treating them, and because of economic reasons, access to specialty dental care may not be attainable *(Costa, 2014)*. In addition, because of their untreated medical conditions, many inmates are susceptible to cellulitis, as a complication of unresolved long-term chronic dental conditions *(Costa, 2014)*. As a consequence, correctional dental professionals are faced with a population that has multiple dental concerns that could require acute interventions *(Costa, 2014)*. Because of limited funding and the limited number of dental health professionals available, most of the services are directed towards basic restorations and extractions *(Costa, 2014)*. Due to all of these concerns, the goal of correctional dentistry must be the alleviation of pain, and the restoration of function by providing partial and complete dentures *(Costa, 2014)*.

Another challenge to providing oral healthcare to inmates is that many times correctional officers are not trained in the prevention and treatment of oral diseases and may not recognize when an inmate needs a dental intervention *(Glassman & Subar, 2010)*. Creating interdisciplinary teams of dental, medical and mental health professionals, and custody staff, could help improve the oral health of inmates *(Glassman & Subar, 2010)*.

Correctional institutions are prime sites for the development of new models for education and training *(Glassman & Subar, 2010)*. However, the way prisons are managed may affect that possibility because they operate in political frameworks that may be resistant to change *(Glassman & Subar, 2010)*. Because of these issues, there has been little research to the specific periodontal treatment needs of prisoners *(Barnes et al.,1987)*.

8.1.3 RANGE OF SERVICES

Dental healthcare is considered an essential medical service by the National Commission on Correctional Health Care *(NCCHC)*, and the World Health Organization *(WHO) (Møller et al., 2007; Treadwell & Formicola, 2005)*. **The scope of dental care is much narrower than in the general community** *(Shulman & Sauter, 2012)***. The primary focus is to control pain (both chronic and acute), to stabilize dental pathology, and maintain and restore function** *(Shulman & Sauter, 2012)***.** Care is also sometimes dependent on the inmate's length of sentence and the mission of the facility *(Shulman & Sauter, 2012)*. That being said, the standard of all prison dental programs is to meet the community standard of care *(Shulman & Sauter, 2012)*.

Though dental care services vary widely among correctional facilities, most are accessed through a sick call, or other urgent care system *(Costa, 2014; Møller et al., 2007; Shulman & Sauter, 2012)*. It is important then, that correctional facilities have a triage protocol, where non-dental clinicians can separate the urgent dental needs, from the cases that can be seen by appointment, once their initial complaints are stabilized by antibiotics and analgesics, if needed *(Møller et al., 2007; Shulman & Sauter, 2012)*. **The most common dental procedures provided were: Extraction, erupted tooth, or exposed root; amalgam, two surfaces, primary or permanent; amalgam, one surface, primary or permanent; and dental prophylaxis** *(Ringgenberg, 2011)***.** In all, six codes for dental care accounted for 75 percent of the services completed *(Ringgenberg, 2011)*.

There is a wide range in the levels of dental services that are provided in prisons *(Costa, 2014)*. First, there are screening services that happen upon intake, including intra-oral exams, panoramic radiographs, and cancer screening *(Costa, 2014)*. Dental and medical exams are mandatory among recently incarcerated prisoners *(Barnes et al., 1987)*. Second, there are priority-based treatments for acute, active odontogenic infections which could include a localized cellulitis *(Costa, 2014)*. The third is would-be treatment that focuses on restorative dentistry *(Costa, 2014)*. Costa *(2014)* notes that in correctional settings, endodontic treatments are extremely limited and indirect restorations are very rarely considered. For long-term offenders, periodic intra-oral exams, dental hygiene services, and bite-wing radiographs should be made available *(Costa, 2014)*. Obtaining intra-oral radiographs, which are standard practice in community-based dental clinics, may not be available in all corrections dental clinics, or during after-hours consultations *(Shulman & Sauter, 2012)*.

According to Ringgenberg *(2011)*, the Iowa Department of Corrections classifies dental health needs into three levels:

- Priority I for immediate emergencies.
- Priority II for conditions to be addressed in the future, such as caries.
- Priority III for small caries *(Ringgenberg, 2011)*.

Care is then provided based on priority, where emergencies are seen within a day, and others are put on a waiting list to be seen based on dental staff capacity *(Ringgenberg, 2011)*. It was also noted that dental care is provided in all nine facilities in the state *(Ringgenberg, 2011)*.

Though oral healthcare varies among correctional facilities, the National Commission on Correctional Health Care (NCCHC) has standards for this service. **According to the NCCHC, oral healthcare services should provide the following** *(National Commission on Correctional Health Care, 2014):*

1. **Ensure all of the inmate's serious oral health needs are met.**
2. **Provide care based on the patient's need.**
3. **Oral screening should be provided during the intake process, by a either a dental professional, or a medical professional trained by a dentist.**
4. **Oral hygiene and prevention instructions provided by dental professional, to assist patients in oral self-care.**
5. **Use only licensed dental personnel to provide dental exams and treatment.**
6. **Keep all patient dental records within a system approved by the American Dental Association.**
7. **Patients are not denied care, based on poor oral hygiene practices.**

Most state prisons have a full-time staff, including a dental officer, and in many cases dental hygienists, and additional auxiliary staff *(Glassman & Subar, 2010)*. Often, a mid-level provider (RN or PA) is the first medical profession to assess an inmate's dental health needs *(Shulman & Sauter, 2012)*. Within the correctional health setting, these mid-level providers must be able to assess teeth and gum conditions, and evaluate abscesses, cavity pain and trauma *(Shulman & Sauter, 2012)*. Since this level of assessment is beyond the scope of most mid-level providers, they should also be trained by a dentist in these procedures *(Shulman & Sauter, 2012)*. Because of provider safety provisions required by OSHA, correctional dental facilities have been improved *(Treadwell & Formicola, 2005)*.

In the survey conducted by Maruschak et al. *(2016)* regarding scope of dental services they found the following:

Dental Services Locations

Exclusively off-site	**0**	**states**
Both off-site and on-site	**37**	**states**
Exclusively on-site	**7**	**states**

Oral Surgery Locations

Exclusively off-site	**9**	**states**
Both off-site and on-site	**31**	**states**
Exclusively on-site	**4**	**states**

For those states that provided oral surgery both off-site and on-site, the complexity of the procedure, and the use of general anesthesia determined the location of the procedure *(Maruschak et al., 2016)*.

8.2 DISCUSSION

Dental care is considered to be an essential medical service by the National Commission on Correctional Health Care *(2014)*. Because there is a link between oral health and general medical health, as noted by Treadwell et al *(2005)*, failure to provide adequate dental care to inmates could have a residual effect on the inmate's overall health. In addition, dental care is also required under the Estelle v Gamble 1975 Supreme Court decision. Failure to provide adequate dental care then also opens up the state department of corrections to potential litigation from their inmates.

In order to improve on the overall dental health of inmates, a number of factors need to be studied. These must involve:

- Increased staffing to make up some of the shortfalls.
- Developing nationally recognized standards.
- More thorough research.
- Increased funding for staff, facilities and equipment.

To increase inmate access to dental staff, there should be an expansion of the programs started in Florida and North Carolina that offer dental student rotations through the prison systems, as reported by Treadwell et al *(2005)*. These programs should be expanded to other states to help alleviate some of the staffing shortages in prison systems. This will not only increase an inmate's access to qualified providers, but it will also provide valuable experience for dental students in treating this highly complex patient population. Along with dental student rotations in prisons, there should also be expansion of non-traditional programs that allow for dental hygienists to work, without dentist authorization, as reported by Glassman et al *(2010)*. Using a system similar to telemedicine, these programs allow hygienists to work directly with patients with oversight from dentists.

These programs are very similar to the use of nurse practitioners and physician assistants for medical treatment in the community-based ambulatory clinic. In addition to these programs, more traditional training and recruitment efforts should be emphasized to increase staffing for correctional dental services.

Because of the morbidity of this patient population, prisons provide a great opportunity for dentists who want to work on more complex cases, which can be a point of recruitment tool for dentists who may be tiring of day-to-day, community-based dentistry. Another potential recruiting advantage is that with all care paid for by the state, dentists will be able to work without all of the paperwork and policies involved in insurance regulations. All of these programs would provide for additional staffing with dental services on-site within prisons. This additional staffing would then limit the need to contract for dental services off-site within the community.

Finally, as noted by Glassman et al *(2010)*, more training is needed for correctional officers so that they will be able to recognize the symptoms of dental distress and alert dental staff to the inmate's condition. Many times, correctional officers are

the first point of contact for inmates with dental, medical, or mental health concerns. Correctional officers should receive training to recognize signs of dental distress so they can refer the inmate to proper dental staff, before the issue becomes more severe. This will also allow the correctional officer to recognize the difference between an inmate who may be "acting out" and an inmate who is in genuine distress. By inmates gaining access to dental care, prior to their conditions becoming more severe, it could limit the amount of acute dental services states either have to provide on-site within the prison, or for contracted dental services off-site within the community.

The National Commission on Correctional Health Care *(2014)* has developed standards that they use when accrediting correctional health facilities, including dental services. However, there are no nationally recognized standards for correctional dental care regarding to services provided and patient outcomes. Development of such standards could help establish quality metrics, staffing levels, room utilization requirements, and the community standard of care. It could also help state departments of corrections determine how many dental clinic areas they need to provide on-site in the prison, or contracted with a community provider off-site. Development of such standards would not only give states a model of care to follow, it can also help reduce litigation by serving as a recognized standard that all states must provide.

In addition, there should be an expansion of the use of correctional dental clinics as beta sites for new training and education processes. Because of the morbidities in dental health of this population, correctional facilities can provide a prime site for new training and educational processes. In addition to providing valuable training and education to oral health students, these new training and education processes could help drive which dental health services departments of corrections choose to locate on-site.

More research is needed regarding correctional dental health services. Correctional dental healthcare involves some of the most complex cases and; therefore, can provide valuable information on dental conditions, interventions, and outcomes. As noted by Barnes et al *(1987)*, research is needed in regards to the newly-admitted prisoner, versus the long-term prisoner. Since many inmates come from underserved communities, there is evidence to suggest that newly-admitted inmates will have more serious dental health needs. However, once the inmate has been serving their sentence for a number of years, those conditions should have stabilized due to receiving care while in incarcerated. Studying these two patient populations will help to determine if each of these populations requires different interventions, which could affect the amount of dental services states need to provide within their prisons. In addition, more research is needed on why states are choosing to provide dental care either on-site or off-site, as reported in the survey by Maruschak et al *(2016)*. Factors such as costs of care, availability of qualified staff, patient volume, and distance to community-based providers could all affect the decision to provide care on-site or off-site.

Finally, more funding is needed to provide adequate staffing and facilities to allow for more dental services. Because the primary scope of correctional dental care involves restorations and extractions, as noted by Costa *(2014)*, an argument could be made that states are not providing the community standard of care. Because of this, in order to meet the requirement of the community standard of care, more services may need to be provided.

In addition, because of the lack of staffing and funding, most of the dental care is provided in cases that have the highest priority, similar to the process in Iowa, as reported by Ringgenberg *(2011)*. Those inmates who have moderate or low-priority cases, either have long wait times, or receive no care at all. This could lead to dental conditions progressing to a high priority status, or with the inmate beginning to act out, due to lack of care. Greater staffing levels and more funding will allow states to provide additional services and to treat the conditions at a lower-acuity level; thereby, limiting the need to create more acute services on-site.

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9 MENTAL HEALTHCARE

9 MENTAL HEALTHCARE

9.1 RESULTS

There are three times more mentally ill people in prisons in the U.S. than there are in mental health facilities *(Abramsky, 2003; Reingle Gonzalez & Connell, 2014)*. Because of a paradigm shift in the U.S. many people are now getting their inpatient mental health treatment in prisons *(Lamb & Weinberger, 2005; Reingle Gonzalez & Connell, 2014)*. What changed in the system? There was a radical reduction in the number of long-term, intermediate, and short-term inpatient mental health beds under the jurisdiction of mental health providers *(Lamb & Weinberger, 2005)*. **Los Angeles County Jail, Chicago's Cook County Jail and New York's Riker's Island now house more people with serious mental illness than in any of the nation's psychiatric hospitals** *(Macmadu & Rich, 2015)*.

Prisoners have mental illness rates two to four times greater than the general population *(Abramsky, 2003)*. In their study, Gonzalez, et al *(2014)* noted that in the year prior to their study, at least half of the male inmates and three quarters of the female inmates reported a mental health condition, as compared to nine percent of the general population. Kinsella *(2004)* noted that at least 16 percent of all state inmates in 1999 had a severe mental health problem. They also noted that states spent between five and 43 percent of their healthcare budgets on mental healthcare in 1998 *(Kinsella, 2004)*. By the year 2000, counselling or mental health therapy was being given to one of every eight state prisoners *(Kinsella, 2004)*. Of those inmates, 10 percent were receiving medications for their condition and 24-hour mental health housing was required for almost two percent *(Kinsella, 2004)*.

The costs associated with mental healthcare are very high *(Kinsella, 2004)*. According to their study, Kinsella *(2004)* noted that the cost to taxpayers to treat psychiatric disorders in jails and prisons is estimated to be $15 billion annually.

As a comparison, community treatment programs cost an estimated $60 day per inmate, while housing someone with a mental illness in prison can cost an estimated $137 per day, per inmate *(Kinsella, 2004)*.

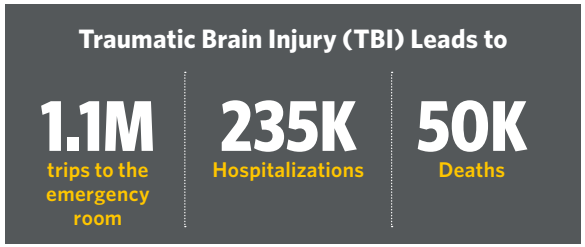
Another cost comparison was noted by Abramsky *(2003)* who opined that there may be economic incentives to keep channeling the mentally ill into prisons. It costs approximately $35K per year to house a seriously mentally ill prisoner; by contrast that same individual would cost $90K-$100K per year to hospitalize in a state-run mental health facility *(Abramsky, 2003)*.

Two public policies adopted over the last 30 years have been the catalyst for the increased number of mentally ill persons in the U.S. who are now incarcerated in prisons *(Abramsky, 2003)*. **First, a lack of funding, support and direction for the community mental health system, after the "deinstitutionalization" of the 1960s** *(Abramsky, 2003)*. **Second, the embracing of a punitive anti-crime agenda including the "war on drugs" (Abramsky, 2003). These policies dramatically expanded the prison population, the number of people sentenced for non-violent crimes, and the sentence length** *(Abramsky, 2003)*.

9.1.1 IMPACTS OF TRAUMATIC BRAIN INJURY (TBI) AND TRAUMA ON MENTAL HEALTH

9.1.1.A TRAUMATIC BRIAN INJURY

In the United States, traumatic brain injury (TBI) continues to be a major public health concern *(Ferguson, Pickelsimer, Corrigan, Bogner, & Wald, 2012)*. An estimated 1.7 million people per year in the U.S. sustain a TBI *(Ray, Sapp, & Kincaid, 2014; Shiroma, Ferguson, & Pickelsimer, 2010)*. In addition, TBI causes 1.1 million trips to the emergency room , as well as 235,000 hospitalizations and 50,000 deaths *(Shiroma et al., 2010)*.



TBI is often referred to as a "silent epidemic" due to limited public awareness of the issues and symptoms involved *(Ray et al., 2014)*. TBI is defined as "normal brain functions being disrupted by an external force, or penetrating head injury" *(Ray et al., 2014)*. The effects of TBI include: attention problems, decreased cognitive and emotional function, lack

of impulse control, and increased aggression *(Ray et al., 2014; Shiroma et al., 2010)*. It can also cause co-occurring conditions, such as depression, epilepsy, and substance abuse *(Shiroma et al., 2010)*. Because of these results, researchers hypothesized a link between the potential for criminal behavior and TBI *(Ray et al., 2014)*.

Adjustment to prison life can be difficult for inmates with TBI due to the behavioral and cognitive issues that come with the disease *(Ferguson et al., 2012)*. Health conditions such as chemical dependency and psychological problems can affect the inmate's ability to function, both within the prison and on their eventual return to the community *(Ferguson et al., 2012)*. Having a better understanding of TBI prevalence rates in prisons could help drive rehabilitation programs specifically designed for these conditions *(Ferguson et al., 2012)*.

In the survey by Ferguson et al. *(2012)*, the prevalence rate for TBI was 65 percent for male inmates and 72 percent for female inmates. Shiroma et al. *(2010)* reported the rates of TBI in inmates were between 25 percent and 87 percent. These results demonstrate that TBI is more prevalent in prison than in the general population *(Shiroma et al., 2010)*. Ray et al. *(2014)* noted that 14.3 percent of inmates included in their survey had a psychiatric disorder. This suggests that the incidence of mental illness among prisoners within their study is three to five times greater than in the general population, which is consistent with other research *(Ray et al., 2014)*. According to Ray et al. *(2014)*, a significant correlation between psychiatric disorders and TBI was found in their survey.

Domestic and other types of violence, higher rates of disciplinary infractions, and slower adaption to prison life have all been associated with a history of TBI *(Ferguson et al., 2012; Shiroma et al., 2010)*.

Prison officials may be mislead to believe that an inmate is being deliberately defiant if they do not have a clear understanding of TBI *(Ferguson et al., 2012)*. Because of this, disciplinary action may be taken against an inmate who has no awareness or control over their actions, and who is suffering from an invisible disease *(Ferguson et al., 2012)*. To help mitigate this, training for corrections staff should be conducted on the conditions of TBI *(Ferguson et al., 2012)*.

Screening and treatment for TBI within the prison environment can help improve the inmate's safety and corrections' management policies, as well as reducing the public health and social challenges to the community upon the inmate's release *(Ferguson et al., 2012; Shiroma et al., 2010)*. It may also be used to help divert inmates to much needed treatment facilities *(Ray et al., 2014)*.

9.1.1.B TRAUMA

Incarcerated populations have shown to have a high incidence of trauma, which continues while in prison *(Wallace, Conner, & Dass-Brailsford, 2011)*. Preventing further trauma while the inmate is in prison, is the challenge to mental health professionals *(Wallace et al., 2011)*. Trauma requires integrated treatment that recognizes the overlap among trauma, substance abuse, mental illness, and behavioral problems *(Wallace et al., 2011)*. Evidence-based treatments for these conditions need to be identified and disseminated to the mental health professionals working within the corrections environment *(Wallace et al., 2011)*.

Wallace et al. *(2011)* defined trauma as "experiencing, witnessing, or being threatened with events that involve serious injury, a threat to oneself or others, or possible death; the responses to which are intense fear, helplessness, or horror." They go on to define prison trauma as "bodily harm that can be either physical victimization, or sexual victimization, perpetrated by other inmates, or staff" *(Wallace et al., 2011)*. Additionally, trauma has also been categorized by type, duration, and onset, as well as prolonged and repeated incidences *(Wallace et al., 2011)*.

Inmates with a mental health disorder were found to be at risk for interpersonal trauma, as well as being more likely to report trauma of all forms, than inmates without mental health disorders *(Wallace et al., 2011)*. In addition, reentry into the community can also be complicated by trauma *(Wallace et al., 2011)*. As an example, men with PTSD or other trauma histories were more likely to enter community aftercare treatment, but they were also more likely to recidivate than inmates without PTSD *(Wallace et al., 2011)*.

Prison overcrowding, diminished ability to maintain order, and rising levels of prison violence are all consequences of mass incarceration policies that have increased the prevalence of trauma in prisons *(Wallace et al., 2011).* In their study, Wallace et al. (2011) noted that men were more likely to report traumatic events during incarceration than women, whose trauma events normally occur before incarceration. Within a six-month period, one third of inmates reported a trauma experience of some form, suggesting that prison-based interpersonal trauma is quite common *(Wallace et al., 2011)*. Trauma during incarceration can also follow after periods of solitary confinement, which can exacerbate mental health concerns *(Wallace et al., 2011)*.

More so than sexual victimization, physical victimization is common within the correctional setting and the rates of both are higher in prison than in the general community *(Wallace et al., 2011)*. Trauma in prison is associated with not only substance abuse and mental illness, but also physical illnesses as well *(Wallace et al., 2011)*.

There is a need for integrated, trauma-informed treatment that is gender-specific, and works not only for the incarcerated inmate, but also for an inmate facing community re-entry *(Wallace et al., 2011)*.

9.1.2 DIFFICULTIES FOR THE MENTALLY ILL IN PRISONS

Prisons were never intended to be care centers for the mentally ill; however, that is one of their primary functions today *(Abramsky, 2003).* Prisons have been described as "toxic" environments for the seriously mentally ill by many mental health providers *(Abramsky, 2003)*. They are overcrowded and tense places where all prisoners struggle to maintain stability, despite the presence of violence, the lack of privacy, the limitations on family contact, and the lack of educational and work opportunities *(Abramsky, 2003)*.

The mentally ill are also more susceptible to victimization from other inmates such as, assault, sexual assault, extortion and exploitation *(Abramsky, 2003)*. Their vulnerability is heightened when there is a lack of adequately-trained correctional officers to monitor and protect the mentally ill inmate *(Abramsky, 2003)*. Mentally ill prisoners will also find it difficult to consistently comply with prison rules *(Abramsky, 2003; Reingle Gonzalez & Connell, 2014)*. Some mentally ill inmates exhibit their illness through behaviors such as belligerence, aggression and violence *(Abramsky, 2003; Reingle Gonzalez & Connell, 2014)*. These behaviors, though part of their illness, are routinely looked at as disciplinary infractions *(Abramsky, 2003; Reingle Gonzalez & Connell, 2014)*. One study noted that although mentally ill prisoners account for only 18.7 percent of the prison populations, they account for 41 percent of the disciplinary infractions *(Abramsky, 2003)*.

Though mentally ill prisoners account for only

18%

of the prison populations

They account for

41%

of the disciplinary infractions.

(Abramsky, 2003)

9.1.2.1 SEGREGATION

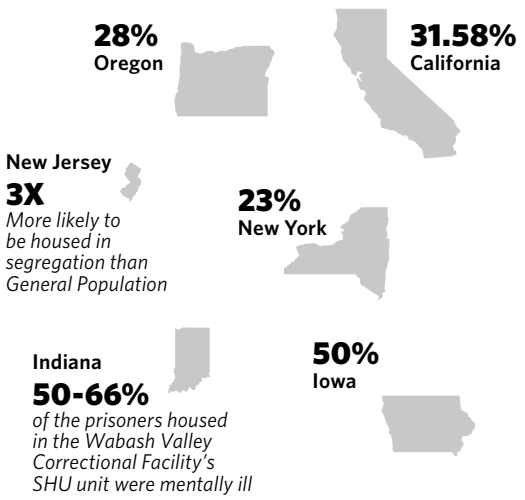
Security staff sometimes place mentally ill prisoners in high-security solitary confinement units because they see them as disruptive and difficult *(Abramsky, 2003)*. **Mentally ill prisoners are typically housed in segregated units, even though the isolated confinement can cause psychiatric breakdown** *(Abramsky, 2003).* The prison system then is not only acting as a warehouse for the mentally ill, but they are becoming an "incubator" for worsening illnesses and psychiatric breakdowns *(Abramsky, 2003)*. In addition, the rules created by security staff for solitary confinement of prisoners prevent little more than medications as treatment from mental health practitioners *(Abramsky, 2003)*. They are not allowed much needed counseling, group therapy and other structured activities *(Abramsky, 2003)*.

Segregation is a "prison within prison" that is used for prisoners who do not follow the rules and regulations that the prison is governed by *(Abramsky, 2003)*. There are a disproportionate amount of mentally ill prisoners who are confined in this setting *(Abramsky, 2003)*. Segregation can be either administrative or disciplinary *(Abramsky, 2003)*. Administrative segregation is a housing or classification decision and it could be administered indefinitely *(Abramsky, 2003)*. Disciplinary segregation is used as punishment and is usually of a fixed term *(Abramsky, 2003)*.

Though it is called a number of different terms, segregation normally includes the following restrictions *(Abramsky, 2003):*

1. **Prisoners are isolated and spend waking and sleeping hours locked in their cells.**
2. **Segregation cells usualy do not have windows.**
3. **Food is brought to the cell, where it is provided through a slot in the door.**
4. **Showers and exercise are allowed two to five times a week.**
5. **There is no access to mental stimulation.**
6. **Radios and TVs are normally prohibited.**
7. **Books and magazines are minimal (if any).**
8. **There are very limited personal possessions.**
9. **Inmates are normally shackled, handcuffed and escorted by two to three officers when they are out of their cells.**

At the time of their study, Abramsky (2003) noted that states were housing mentally ill inmates in segregation in the following percentages:



Prisoners have a greater risk of psychological deterioration within segregation, if they experience pre-existing psychiatric disorders *(Abramsky, 2003)*. Pain and suffering can be greatly increased by the stress, isolation, and restrictions of segregated housing *(Abramsky, 2003)*. Also, studies show that the longer the mentally disturbed inmate stays in segregation, the worse the long-term prognosis *(Abramsky, 2003)*. The mentally ill in segregation have even less access to mental health treatment than those in the general population *(Abramsky, 2003)*. Many times, corrections officers see the symptoms as an attempt to manipulate the system to get out of segregation *(Abramsky, 2003)*. An unfortunate cycle exists where mentally ill inmates are transferred from segregation to inpatient psychiatric centers, only to be released back into segregation once they stabilize *(Abramsky, 2003)*. This process puts them back into the same facility that caused the deterioration to begin with *(Abramsky, 2003)*. At the time of their study, **Abramsky (2003) noted that courts are now starting to rule that it is against the Eighth Amendment to house mentally ill inmates in segregation.**

The NCCHC has standards for inmates in segregation *(National Commission on Correctional Health Care, 2014)*. They note that any inmate in segregation needs to be monitored by a health professional *(National Commission on Correctional Health Care, 2014)*. They state that the frequency of monitoring should be based on the degree of isolation *(National Commission on Correctional Health Care, 2014)*. They also state that any change in the inmate's medical or mental health status should be reported to custody officials *(National Commission on Correctional Health Care, 2014)*. In their standards, NCCHC *(2014)* notes that special attention needs to be paid to the mentally ill in segregation. They note that inmates with serious mental illness can see an exacerbation of their condition when segregated, so care should be taken when reviewing the inmate's medical record; and security staff should be notified when a segregated inmate is under the care of mental health staff *(National Commission on Correctional Health Care, 2014)*.

9.1.2.2 ROLE OF SECURITY

Since they have experience with prisoners 24 hours a day, correctional officers are in a unique position to notice if a prisoner's mental health condition has started to deteriorate *(Abramsky, 2003)*. They will be able to notice if a prisoner has become non-communicative, extremely withdrawn, or has started to act bizarrely *(Abramsky, 2003)*. Correctional officers are also an important source for referrals of inmates to mental health staff *(Abramsky, 2003)*. Understanding the symptoms of mental illness enhances their ability to respond to the needs of the mentally ill *(Abramsky, 2003)*. This skill will become more and more important as more mentally ill people are confined to prisons *(Abramsky, 2003)*. Though it is lacking, more training for correctional officers on the signs and symptoms of mental illness will go a long way in helping them better respond to the needs of the mentally ill inmate *(Abramsky, 2003)*. In his study, Abramsky, *(2003)* noted that there was variation in the mental health training that was required of correctional officers. Mental health training ranged from a one-hour-and-45 minute course, up to a 20-hour course. In addition, the content of these courses was quite inconsistent *(Abramsky, 2003)*.

9.1.2.3 MENTAL HEALTH AND RECIDIVISM

Inmates who were diagnosed with any mental health disorder were 70 percent more likely to re-offend, than an inmate without a mental health diagnosis *(Reingle Gonzalez & Connell, 2014).* In addition, among former prisoners, the recidivism rates of inmates with a mental health disorder are 50 percent to 230 percent higher than inmates without a mental health disorder *(Reingle Gonzalez & Connell, 2014)*. Given the relationship between mental health and criminal behavior, the public health system has much to gain from providing better mental healthcare among inmates, particularly if it can reduce the costs associated with recidivism *(Reingle Gonzalez & Connell, 2014)*.

Innovative thinking is needed in the public health realm regarding intervention and prevention, due to the increasing prevalence of mental health conditions in prisons and the decline of correctional budgets *(Reingle Gonzalez & Connell, 2014)*. To reduce recidivism levels, specialized therapeutic communities, mental health courts, telemedicine, integrated family counseling, and cognitive behavioral therapies should be used in concert with pharmacotherapy, to help treat the inmate patient with mental health conditions *(Reingle Gonzalez & Connell, 2014)*. Inmates who have untreated mental health conditions will likely pose a public health risk due to increased recidivism *(Reingle Gonzalez & Connell, 2014)*.

9.1.2.4 DISCHARGE PLANNING

Although evidence suggests that discharge planning decreases the likelihood of discharged prisoners returning to prison, many states still do not assist inmates with community re-entry programs *(Abramsky, 2003)*. Many times, mentally ill inmates are released back into the community with as little as a one-week supply of medications *(Abramsky, 2003)*. This is frequently not enough medication to hold them over until an appointment with a community provider can be scheduled *(Abramsky, 2003)*. Thirty-four percent of adult correctional facilities do not provide discharge planning services, and for those that do, the extent and quality of that service is unknown *(Abramsky, 2003)*.

In their standards, NCCHC *(2014)* states that discharge planning should be provided for inmates who have serious health needs and whose release is imminent. The intent of the standard is to ensure that the inmate's health needs are met during the transition period to a community-based provider *(National Commission on Correctional Health Care, 2014)*. **NCCHC notes that an acceptable discharge planning system should include the following** *(National Commission on Correctional Health Care, 2014):*

1. **Linkages between the prison facility and community-based organizations.**
2. **Lists of community-based health providers.**
3. **Discussion of the importance of follow-up and after-care with the inmate.**
4. **Arrangement of specific appointments and medications for the inmate, at the time of their release.**
5. **Timely exchange of health information with the community provider. This information can include lists of problems, medications, allergies, procedures and test results.**

They also note that any inmate with a serious medical or mental health condition should also be given a referral to a specialized clinic, or a direct admission into a community hospital *(National Commission on Correctional Health Care, 2014)*.

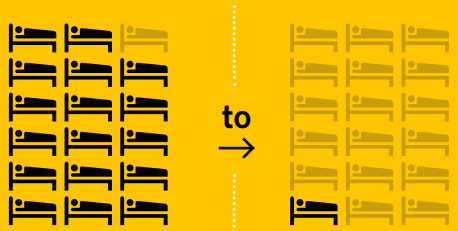
9.1.3 MENTAL HEALTH AND CRIMINAL JUSTICE

At the time of a study by Lamb & Weinberger *(2005)*, people with severe mental illness, who normally would have been treated in an inpatient psychiatric facility, are now entering the criminal justice system *(Lamb & Weinberger, 2005)*. The main reasons for this include: deinstitutionalization, the lack of community services, interactions between the severely mentally ill and law enforcement, and the difficulty in obtaining civil commitment *(Lamb & Weinberger, 2005)*.

9.1.3.1 DEINSTITUTIONALIZATION

Deinstitutionalization was a movement that began in the 1970s *(Macmadu & Rich, 2015; Smyer & Burbank, 2009)*. The intent being to move care from the nation's psychiatric hospitals, to more community-based care *(Macmadu & Rich, 2015; Smyer & Burbank, 2009)*.

By the year 2000, the number inpatient mental health beds in state hospitals had dropped from:



The state of California went ever further-they currently have two beds per 100,000 people *(Lamb & Weinberger, 2005)*. However, due to insufficient funding for community-based care, many people with mental health disorders received no care at all *(Macmadu & Rich, 2015)*. The untreated are left to deteriorate to a point where they commit a crime and are then sent to prison *(Abramsky, 2003)*. Abramsky *(2003)* refers to this as "Transinstitutionalization." This term describes the process of letting people remain untreated until they end up institutionalized in a prison setting *(Abramsky, 2003)*. Abramsky noted the problem with deinstitutionalization does not lie with those who have been deinstitutionalized, but with those who cannot get into institutions in the first place *(Abramsky, 2003)*. Because of this, many people with undiagnosed or untreated mental health conditions end up in the criminal justice system *(Macmadu & Rich, 2015)*.

9.1.3.2 LACK OF COMMUNITY SERVICES

Society has been reluctant in recent years to fund new, or even maintain, existing mental health treatment services *(Lamb & Weinberger, 2005)*. These services include community treatment services, non-forensic state hospitals, intermediate care facilities and acute care facilities *(Lamb & Weinberger, 2005)*. Because of this, it is unfortunate that prisons may be the only remaining institution where quality psychiatric care can be received *(Lamb & Weinberger, 2005)*.

The lack of adequate community mental health resources shows a direct link to the number of incarcerated individuals with a mental illness *(Abramsky, 2003)*. **Thousands have been prosecuted for crimes they would have never committed, if they had been given access to therapy, medication and assisted living facilities in the community** *(Abramsky, 2003)*.

In many states, intermediate care facilities have been used to replace state hospital beds *(Lamb & Weinberger, 2005)*. However, there is a shortage of these types of beds *(Lamb & Weinberger, 2005)*. Having a lack of long-term and intermediate care beds has had a great effect on mentally ill persons who cannot adjust to community living and require psychiatric hospitalization *(Lamb & Weinberger, 2005)*. The creation of more intensive mental health programs in the community has been cited by professionals in the field as one of the main ways for solving the criminalization of people with severe mental illness *(Lamb & Weinberger, 2005)*.

If the use of prisons to house the severely mentally ill is to be minimized, then there needs to be an increase in state-run psychiatric hospital beds, as well as an increase in locked intermediate psychiatric facilities *(Lamb & Weinberger, 2005)*. Keeping the severely mentally ill out of prisons, and therefore not labelling them as criminals, is not only more appropriate for their care, but it may cost less than incarceration in the criminal justice system *(Lamb & Weinberger, 2005)*.

9.1.3.3 THE MENTALLY ILL AND LAW ENFORCEMENT

Because people with severe mental illness who are now living in the community are not getting adequate treatment, it increases the possibility they will interact with law enforcement *(Lamb & Weinberger, 2005)*. In such cases, law enforcement may not recognize they are dealing with someone with a mental illness *(Lamb & Weinberger, 2005; Reingle Gonzalez & Connell, 2014)*. Once entered into the system as an "offender," a mentally ill person will be considered a criminal by both law enforcement and possibly the courts *(Lamb & Weinberger, 2005)*. As more interaction with law enforcement happens, the courts may be influenced more by their "long criminal history," than their mental illness and thus send them to the corrections environment *(Lamb & Weinberger, 2005)*.

Law enforcement, and legal and mental health professionals are concerned that prisons have become the main treatment option for people with mental illness *(Lamb & Weinberger, 2005)***. Even where good quality care, provided by mental health professionals, is being provided in prisons, it still doesn't solve the issue of treating the mentally ill in an environment designed for punishment and not treatment** *(Lamb & Weinberger, 2005)***.**

9.1.3.4 CIVIL COMMITMENT

The difficulty in obtaining court orders to commit persons with serious mental illnesses to mental health hospitals is another factor in why so many with mental illness are ending up in prisons *(Abramsky, 2003)*. Courts will not order involuntary commitment, unless they pose a direct threat to themselves or others *(Abramsky, 2003)*. They also point to the difficulty in obtaining a "reason-of-insanity" verdict for the increased number of extremely ill, or even psychotic persons in prison *(Abramsky, 2003)*.

9.1.4 ALTERNATIVES TO PRISON—DRUG COURTS AND DIVERGENT CENTERS

Diversion programs are starting to gain momentum as an alternative to incarceration *(Abramsky, 2003)*. Growing recognition of the costs (human, social and financial) of the U.S. experiment in "mass incarceration" has prompted the movement to divert certain low-level drug offenders into treatment programs *(Abramsky, 2003)*. This is also true for diverting low-level offenders with mental health issues into mental health treatment facilities *(Abramsky, 2003)*.

Mental health courts are designed to decrease the criminalization of the mentally ill, by hearing cases of people with mental illness who have been charged with crimes *(Lamb & Weinberger, 2005)* These courts collaborate with mental health practitioners to create a treatment plan that includes medications, therapies, housing, and rehabilitation *(Lamb & Weinberger, 2005)*. **In 22 states, there are approximately 90 mental health courts currently operating** *(Abramsky, 2003)***. A study in Connecticut noted that the cost of offenders who were diverted into drug treatment programs was about one third of the cost of those who were not** *(Abramsky, 2003)***.**

9.1.5 GUIDELINES

Guidelines for correctional mental health services have been created over the last few decades by organizations such as NCCHC, individual mental health experts, court rulings and settlement agreements *(Abramsky, 2003)*. **These guidelines include** *(Abramsky, 2003):*

1. **Procedures for screening and identifying the mentally ill.**
2. **Mental health treatment services, such as medications and therapeutic interventions.**
3. **An adequate number of trained mental health professionals.**
4. **Confidential clinical records.**
5. **Protocols for the identification and treatment of suicidal inmates.**
6. **Procedures to ensure timely access to mental health treatment.**
7. **Providing multiple levels of care including: emergency psychiatric services, acute inpatient wards, intermediate care, and outpatient services.**

Abramsky *(2003)* found that no prison system provides all of the noted components. **There are some common problems found with state prison mental health systems. These problems include** *(Abramsky, 2003):*

1. **Understaffing.**
2. **Poor screening and tracking of the mentally ill.**
3. **Lack of timely access to mental health treatment.**
4. **Lack of treatment due to the prisoner being diagnosed as "faking it."**
5. **Using medication as the sole treatment, with no access to therapies.**
6. **Lack of confidentiality.**
7. **Improper prescription delivery, availability and monitoring, and compliance with medications.**

Gonzalez, et al. *(2014)* concurred that an emphasis on screening and treatment of inmates with mental health conditions was an imperative from a legal and humanitarian perspective. They also noted that there is still a great deal of variation in prisons in screening and treatment processes, as well as limits on the usage of expensive medications for treatment *(Reingle Gonzalez & Connell, 2014)*. Declining budgets, the lack of qualified practitioners, and screening tools, are the main reasons for the failure to prescribe (or continuing to prescribe) medications *(Reingle Gonzalez & Connell, 2014)*.

9.1.5.1 TYPES OF SERVICES

In 2000, the following mental health services were provided in state prisons *(Kinsella, 2004)*:

Types of Mental Health Services	
Mental health screening at intake	70%
Psychiatric assessment	65%
24-hour mental healthcare	51%
Therapy/counselling by trained mental health staff	71%
Discharge planning services	66%

9.1.5.2 TYPES OF HOUSING

There are three levels of prison mental health services: acute care, sub-acute care, and outpatient care *(Abramsky, 2003).*

Acute care consists of 24-hour hospital-level services for patients suffering from *(Abramsky, 2003):*

1. **Psychosis.**
2. **Suicide risk.**
3. **Dangerousness that justifies intensive care and other treatments, including forced medication.**

Sub-acute care is provided outside the hospital setting, in a contained and safe environment, for patients suffering from *(Abramsky, 2003):*

1. **Severe and chronic conditions that require intensive management.**
2. **Psychosocial interventions.**
3. **Crisis management.**
4. **Psychopharmacology interventions.**

Outpatient care is provided in the general population for relatively normal-functioning prisoners who need the following treatments *(Abramsky, 2003):*

1. **Medication.**
2. **Psychotherapy.**
3. **Counseling.**
4. **Other interventions for non-severe, or chronic conditions, that may be in remission or asymptomatic.**

Abramsky *(2003)* noted that there is a shortage of both acute care and long-term intermediate care beds.

Short-term crisis care is an essential component of a correctional mental health system *(Abramsky, 2003)*. Most prisons either have an acute care facility, or they transfer the inmate to a psychiatric hospital or forensic center *(Abramsky, 2003)*. Once stabilized, the prisoner will be returned to the general population *(Abramsky, 2003)*. There are not enough inpatient beds and acute care facilities for the inmates that need them *(Abramsky, 2003)*.

Some states have created specialized intermediate care units for inmates who do not need acute care treatment, but are unable to function in the general population *(Abramsky, 2003)*. These facilities are used to provide more mental health treatment and social services than are available in the general population *(Abramsky, 2003)*. **It was noted that specialized intermediate care units can treat 80 percent of the inmate's mental health problems** *(Abramsky, 2003)***. While 33 states operate some kind of long-term intermediate care for the seriously mentally ill inmate, most were designed for only the psychotic inmate** *(Abramsky, 2003)***. Sheltered, supportive, or assisted housing for mentally ill inmates was only provided in five states** *(Abramsky, 2003)***.**

Seriously mentally ill inmates prefer to be housed in intermediate care facilities and even forensic hospitals, because of the treatments and programs available *(Abramsky, 2003)*. Abramsky *(2003)* noted that in New York, inmates had lower rates of infractions and violence when housed in the intermediate care facility, than they did when they were housed in the general population. Greater use of intermediate care facilities could break the pattern of cycling between crisis units for stabilization, and general population where they decompensate *(Abramsky, 2003)*.

Outpatient Mental HealthCare Locations		
Exclusively on-site	44	states

Inpatient Mental Health Care Locations		
Exclusively on-site	27	states
Both on-site and off-site	14	states
Exclusively off-site	3	states

Of the 27 states that reported providing services exclusively on-site:		
Clarified that a prisoner with a serious mental health issue may be transferred to an off-site facility	3	states
Off-site mental health facilities had dedicated secured units for the treatment of prisoners	3	states

(Maruschak et al., 2016)

9.1.5.3 LOCATION OF SERVICES

According to Maruschak et al. (2016), the location of mental health services in prisons as is follows:

- For outpatient mental healthcare, 44 of the 45 participating sites provided that care exclusively on-site *(Maruschak et al., 2016)*.
- For inpatient mental health care, 27 states provided care exclusively on-site.
- Fourteen states provided care both on-site and off-site.
- Three states provided care exclusively off-site *(Maruschak et al., 2016)*.

Of the 27 states that replied they provide care exclusively on-site, three of those states clarified that a prisoner with a serious mental health issue may be transferred to an off-site facility *(Maruschak et al., 2016)*. In three states, offsite mental health facilities had dedicated secured units for the treatment of prisoners *(Maruschak et al., 2016)*. Finally, in the 14 states that provided care both on-site and off-site, the determination of treatment location was based on the severity of the issue and the available community resources *(Maruschak et al., 2016)*.

9.1.6 RECOMMENDATIONS

The **Human Rights Watch** developed a series of recommendations for resource commitment to improve mental healthcare for inmates *(Abramsky, 2003)*. **Recommendations were divided into three categories, one for the U.S. Congress, one for public officials, and one for prison staff** *(Abramsky, 2003).*

Recommendations to the U.S. Congress
(Abramsky, 2003)

1. **Enact the "Mentally Ill Offender Treatment and Crime Reduction Act" (signed October 30, 2004)**
2. **Improve access to public benefits covering required mental health services**
3. **Repeal or amend the "Prison Litigation Reform Act" (PLRA)**

Recommendations to Public Officials
(Abramsky, 2003)

1. **Reduce incarceration of people with mental illness**
2. **Set high standards for mental health services in prisons**
3. **Improve confinement conditions**
4. **Establish performance reviews using independent reviewers**
5. **Establish internal quality review processes for prisons**
6. **Listen to prisoners' concerns**
7. **Support funding for mental health services**

Recommendations to Prison Officials
(Abramsky, 2003)

1. **Provide adequate number of qualified mental health staff**
2. **Provide mental health training for corrections staff**
3. **Ensure proper, specialized facilities for acute mental health prisoners**
4. **Ensure input from mental health staff in disciplinary proceedings**
5. **Exclude the seriously mentally ill from segregation confinement**
6. **Expand continuity of care protocols with community health**

9.2 DISCUSSION

Because of deinstitutionalization, limited community service programs, interactions between the severely mentally ill and law enforcement, and difficulty in obtaining civil commitment *(Lamb & Weinberger, 2005)*, there are now three times more mentally ill people in prisons than in community-based treatment facilities *(Abramsky, 2003; Reingle Gonzalez & Connell, 2014)*. Thousands have been prosecuted for crimes they wouldn't have committed if they had access to therapy, medications, and assisted living in the community *(Abramsky, 2003)*.

Law enforcement, the legal system, and mental health professionals do not want prisons to be the primary provider of mental healthcare services *(Lamb & Weinberger, 2005)***; however, that is what they have become today.** There has to be a complete paradigm shift, from incarcerating the mentally ill, to providing services and care in the community, and therefore de-criminalizing mental illness. It

costs $15 billion annually to treat psychiatric disorders in jails and prisons *(Kinsella, 2004)*. **By filtering funds to community-based mental health treatment, in lieu of prisons, the U.S. can: lower the population of its prisons, and provide much needed care to a marginalized population, save on correctional health care costs, and provide the proper mental health treatment in a setting designed for healing, in lieu of punishment.**

To help alleviate the problem of incarcerating the mentally ill, states must:

- Increase funding to provide services for community-based mental health programs.
- Increase funding and construct more community-based inpatient mental health beds.
- Increase funding for diversion programs.
- Standardize prison-based mental health screening and treatment processes.
- Increase mental health training for corrections officers.
- Increase training and treatments on the effects of TBI.
- Provide trauma-based treatment programs.
- Reduce the use of segregated housing for the mentally ill.
- Increase the number of prison-based acute care and intermediate care beds.
- Increase funding for programs to reduce recidivism.

All of these programs and services could go a long way towards keeping the mentally ill out of prisons and providing them treatment in facilities designed for healing and not punishment.

9.2.1 INCREASED FUNDING FOR COMMUNITY-BASED OUTPATIENT TREATMENT PROGRAMS

After the deinstitutionalization of the 1960s, the funding and support of community- based, outpatient mental health treatment that was supposed to provide care to those who were previously institutionalized, was not allocated *(Abramsky, 2003)*. Because of that lack of funding and services, those patients then began to interact with law enforcement. This started the process of criminalizing the mentally ill. This is not only a poor use of limited correctional health funding, it's also asking mental health professionals to treat this patient population in a facility designed for punishment.

More funding is needed for community-based mental health treatment programs. Community treatment programs costs an estimated $60 per day per person, where prison treatment programs costs and estimated $137 per day, per inmate *(Kinsella, 2004)*. Providing more community-based mental health treatment programs is not only a more cost-effective use of limited funding, it will help to provide care in a more humane and healing facility. In addition, having more services in the community will decrease the criminalization of people with severe mental health issues *(Lamb & Weinberger, 2005)*.

9.2.2 INCREASED FUNDING FOR THE CONSTRUCTION, STAFFING, AND MAINTENANCE OF COMMUNITY-BASED INPATIENT MENTAL HEALTH BEDS

In addition to the lack of funding for community-based outpatient treatment programs, following the deinstitutionalization of the 1960s, there was no funding to maintain non-forensic state hospitals, or intermediate and acute care facilities *(Lamb & Weinberger, 2005)*. In 1955 there were 339 inpatient mental health beds per 100,000 people in the U.S. By the year 2000 there were only 22 beds per 100,000 people *(Lamb & Weinberger, 2005)*. Because of this, people who would not normally be in the criminal justice system are there now, due to a lack of inpatient mental health treatment beds *(Lamb & Weinberger, 2005)*.

Some researchers have opined that states have a financial interest in housing the mentally ill in prison. They reported that it costs $35K per year to house a seriously mentally ill prisoner as compared to $90K-100K in a state-run mental health facility *(Abramsky, 2003)*. However, providing long-term and intermediate care beds in the community has a great effect on the mentally ill who cannot adjust to community living and need hospitalization *(Lamb & Weinberger, 2005)*. Therefore, more funding has to be provided to construct, staff, and maintain community-based inpatient mental health treatment beds. **Prisons are overcrowded, tense places where prisoners struggle to maintain stability, despite violence, lack of privacy, limited family contact, and limited education and work opportunities** *(Abramsky, 2003)***. Even in prisons that provide good care, the mentally ill are still treated in a facility designed to punish and not heal** *(Lamb & Weinberger, 2005)***.** To keep the mentally ill out of prison and to stop labelling them as criminals requires more state-run inpatient beds *(Lamb & Weinberger,2005)*.

9.2.3 INCREASED FUNDING FOR DIVERSION PROGRAMS

Diversion programs are gaining momentum *(Abramsky, 2003)*. Recognition of the human, social, and financial costs of mass incarceration is driving these programs for low-level drug and mental health offenders *(Abramsky, 2003)*. Mental health courts hear cases of people with mental illness in order to move them to treatment programs, in lieu of prison *(Lamb & Weinberger, 2005)*. These courts work with mental health professionals to create treatment plans that include appropriate therapies, medications, housing, and rehabilitation *(Lamb & Weinberger, 2005)*. Increasing funding for these programs is not only more cost-effective, it keeps people with mental health conditions out of prison. In Connecticut, the costs of diversion were about one third of those who were sentenced to prison *(Abramsky, 2003)*.

In addition to increased funding for mental health courts, civil commitment is another diversion program that needs increased access. Difficulties in obtaining court orders for committing people with serious mental illness is one of the reasons the mentally ill are being criminalized *(Abramsky, 2003)*. Unless they pose a direct threat to themselves or others, courts are reluctant to order involuntary commitment *(Abramsky, 2003)*. More access to civil commitment is needed to keep the mentally ill out of prison *(Abramsky, 2003)*. Commitment would give this population greater access to needed treatment programs and therapies. More funding for diversion programs and increased access to civil commitment is needed to keep this population out of prison and in a facility more appropriate to their care needs.

9.2.4 STANDARDIZED SCREENING AND TREATMENT PROCESSES

Though guidelines for correctional mental health services have been created over the last few decades *(Abramsky, 2003)*, there is still a great deal of variation on screening and treatment processes, and the use of expensive medications from state to state *(Reingle Gonzalez & Connell, 2014)*. Research is needed to help standardize the screening and treatment processes for the treatment of the mentally ill in prisons.

Standardized screening processes will help identify inmates who need mental health treatment and begin to get them access to much needed care, as well as give them access to appropriate housing. Standardized treatment processes will help create staffing models, treatment protocols, housing needs, and also define the community standard of care. This should help save on the limited correctional health funding available, by having standard processes in place, as well as reducing litigation, since the community standard of care will be defined. As noted in Gonzalez, et al. *(2014)* emphasis on screening and treatment of inmates with mental health conditions is imperative from a legal and humanitarian perspective. These screening and treatment processes will also help states determine how many patients they have to treat, their staffing needs, and where that care should take place.

In addition, there should be increased funding for medications. Failure to prescribe (or continue to prescribe) medications has been caused by declining budgets, the lack of qualified practitioners, and limited screening tools *(Reingle Gonzalez & Connell, 2014)*. Because of these issues, many states have been moving to less expensive, but sometimes less effective, medications. By increasing funding to these services, states can properly prescribe, deliver, monitor, and comply with proper medication formularies *(Abramsky, 2003)*.

9.2.5 INCREASED TRAINING IN MENTAL HEALTH CONDITIONS FOR CORRECTIONS OFFICERS

Because they provide constant supervision of inmates, correctional officers are an important source of inmate referrals to mental health staff *(Abramsky, 2003)*. Training corrections officers to understand the signs and symptoms of mental illness enhances the ability of frontline care givers to respond to the needs of the mentally ill *(Abramsky, 2003)*. These skills will become more and more important as the U.S. continues to criminalize this population *(Abramsky, 2003)*. Mentally ill inmates often express their illnesses through behaviors such as, belligerence, aggression, and violence *(Abramsky, 2003)*. Because of inadequate training these behaviors are routinely looked upon as disciplinary infractions *(Abramsky, 2003)*. Though mental illness is expressed in only 18.7 percent of prisoners, they account for 41 percent of disciplinary infractions *(Abramsky, 2003)*. This is primarily due to the lack of and inconsistency in training of correctional officers in the signs and symptoms of mental illness. Currently, mental health training can range from as low as a one-hour-and-45-minute course, to a 20-hour course *(Abramsky, 2003)*. In addition, the content that is covered is also inconsistent *(Abramsky, 2003)*.

More training on the signs, symptoms, and treatments of mental health conditions for corrections officers needs to be provided. In addition, standardized training courses should be developed to guarantee that all corrections officers are being trained with the same content. Having standardized and more extensive training will allow corrections officers to refer mentally ill inmates to mental health providers so that they can gain access to treatment, prior to their disease progressing to acute status. By identifying inmates who have mental illnesses, it will not only help states determine where those inmates should be housed and treated, but also limit inmates being labeled as disciplinary problems, and keep them out of segregated housing.

9.2.6 INCREASED TRAINING AND TREATMENTS ON THE EFFECTS OF TBI

Traumatic Brain Injury (TBI) has a high prevalence among inmates. Sixty-five percent of male and 72 percent of female inmates have had a TBI *(Ferguson, Pickelsimer, Corrigan, Bogner, & Wald, 2012)*. Behavioral and cognitive issues that come with TBI make it difficult for inmates with this disease to adjust to prison life *(Ferguson et al., 2012)*. Corrections officers may mistake TBI for defiance and take disciplinary action against the inmate who has no control or awareness of their actions *(Ferguson et al., 2012)*. Because of this, more training of correctional officers is needed on the conditions of TBI *(Ferguson et al., 2012)*. Having frontline corrections officers understand the signs and symptoms of TBI will help them divert the inmate receiving disciplinary actions, such as isolated housing, to much needed mental health treatment. By getting the inmate into appropriate housing for treatments, it will reduce the chances that the inmate acts out and create disturbances within the general population.

Besides correctional officer training, increased and standardized screening programs for TBI should also be considered. Screening for TBI can improve inmate safety, corrections management policies, and reduce public health and societal challenges upon release *(Ferguson et al., 2012; Shiroma, Ferguson, & Pickelsimer, 2010)*. By screening incoming inmates for TBI, it can help divert inmates to treatment centers, in lieu of housing them in general population, where they may be seen as a disciplinary problem *(Ray, Sapp, & Kincaid, 2014)*. If the U.S. is going to continue to criminalize the mentally ill, increased funding for correctional officer training, inmate screening, and inmate treatment programs, will help states determine the proper housing needs for this population, as well as determining where their care should take place.

9.2.7 PROVIDE TRAUMA-BASED TREATMENT PROGRAMS

There is a high incidence of trauma within incarcerated populations, which continues while the inmate is in prison *(Wallace, Conner, & Dass-Brailsford, 2011)*. Trauma requires integrated treatment that recognizes overlaps among trauma, substance abuse, mental illness, and behavioral problems *(Wallace et al., 2011)*. Evidence-based treatments for these conditions need to be identified, and provided to mental health professionals working with inmates within corrections *(Wallace et al., 2011)*. Funding needs to be increased for the development and distribution of these programs to provide much needed treatment. This treatment will help keep the inmate from being labeled as a disciplinary problem and keep them in treatment, in lieu of segregated housing. Understanding how many inmates they have who are mentally ill, will help states determine where that care should best take place.

Besides integrated, trauma-based treatment programs for inmates currently in prison, there are also similar programs that are needed for inmates facing community re-entry. For those inmates facing re-entry, there is a need for integrated, gender-specific, and trauma-informed treatment programs *(Wallace et al., 2011)*. Funding also needs to be increased to develop and distribute these community re-entry programs. These types of programs will provide an important continuum of care for these inmates. That continuum of care will not only help the overall mental healthcare of the released inmate, it will also help reduce the chances they will return to prison.

9.2.8 REDUCE THE USE OF SEGREGATED HOUSING FOR THE MENTALLY ILL

There is a disproportionate amount of the mentally ill confined to segregated housing *(Abramsky, 2003)*. Staff sometime put mentally ill in solitary confinement because they are seen as disruptive *(Abramsky, 2003)*. Even though the isolation and confinement can cause psychiatric breakdown, the mentally ill are routinely housed in segregated units *(Abramsky, 2003)*. In addition, security rules for solitary confinement offer limited options for treatment, other than medications *(Abramsky, 2003)*. This leaves these inmates with very little access to much needed counseling and therapies.

Prisoners with pre-existing mental health conditions have a greater risk for deterioration in segregation *(Abramsky, 2003)*. In addition, the longer they are in segregation, the worse the long-term prognosis *(Abramsky, 2003)*. Because of this, the prison system is not only a warehouse for mental illness; it is also an incubator *(Abramsky, 2003)*. By continuing to house the mentally ill in segregation, it creates a cycle where an inmate decompensates to an acute status, which sends them to inpatient treatment facility. Once they stabilize in the inpatient treatment setting, they are sent right back to segregation, where they decompensate again and restart the cycle *(Abramsky, 2003)*.

The U.S. prison system must stop housing the mentally ill in segregation. In fact, the courts are beginning to rule that it's against the Eighth Amendment to continue to house the mentally ill in this setting *(Abramsky, 2003)*. More funding is needed for training programs for corrections officers on the mentally ill. This training will help corrections officers understand the signs and symptoms of mental illness, so that they will no longer label the mentally ill as disciplinary problems, and instead provide referrals to mental health treatment. By keeping the mentally ill out of segregated housing, it will allow them to receive much needed mental health treatments and keep their illnesses from progressing to acute status. This should lessen the burden on not only the prison-based mental health system, but the community-based system as well.

9.2.9 INCREASE THE NUMBER OF PRISON-BASED ACUTE CARE AND INTERMEDIATE CARE BEDS

States have begun to create specialized intermediate care units for inmates who are unable to function in the general population, but do not need acute care treatment *(Abramsky, 2003)*. These facilities are used to provide additional mental health treatment and social services that are available in the general population, and can treat up to 80 percent of the inmate's mental health problems *(Abramsky, 2003)*. Thirty three states have long-term intermediate care beds, but they are mostly for psychotic conditions *(Abramsky, 2003)* Sheltered, supportive, or assisted housing is only available in five states *(Abramsky, 2003)*.

Funding is needed to construct more prison-based acute care and long-term immediate care beds *(Abramsky, 2003)*. Currently, there are not enough of these beds for all those that need them *(Abramsky, 2003)*. These beds have also shown to improve the overall conditions of the prison. In New York, lower infraction rates and less violence was reported for inmates housed in intermediate care beds, than in the general population *(Abramsky, 2003)*. This was due to access to mental health treatments and programs that are available in these units *(Abramsky, 2003)*. By constructing more of these beds, prisons and mental health providers can break the cycle of acute care, stabilization, and return to acute care *(Abramsky, 2003)*.

If the U.S. is going to continue to criminalize the mentally ill, more funding will be needed to create appropriate housing that provides all the required treatment and social services for this inmate population. If these units are not created, state departments of corrections will continue to see high numbers of mentally ill inmates decompensating to acute status, and who will have to be sent to inpatient treatment facilities.

9.2.10 INCREASED FUNDING ON PROGRAMS TO REDUCE RECIDIVISM

Inmates with a mental health disorder are 70 percent more likely to recidivate, than those without mental health disorders *(Reingle Gonzalez & Connell, 2014)*. More funding for treatment could mean a reduction in recidivism *(Reingle Gonzalez & Connell, 2014)*. Increased funding for specialized therapeutic communities, mental health courts, telemedicine, integrated family counseling, cognitive behavioral therapies, and pharmacotherapy could be used to treat inmates and lower recidivism *(Reingle Gonzalez & Connell, 2014)*. By reducing recidivism, state departments of corrections do not have to spend limited funds on inmates who continually return to prison. By keeping the released inmate out of prison, they can continue to receive care in more appropriate community-based mental health treatment centers.

Besides prison-based treatment programs, more discharge planning and community re-entry programs can reduce recidivism *(Abramsky, 2003)*. Thirty-four percent of states do not provide discharge planning services, and for those that do, the service is inconsistent *(Abramsky, 2003)*. Funding should also be increased for discharge

planning and community re-entry programs. This will provide a continuum of care for the released inmate, so that they continue their mental health treatments. By having access to a continuum of care within the community, they will be less likely to decompensate and find themselves back in prison. By keeping the released inmate in the community, states can save correctional healthcare dollars and the inmate will continue to receive care in a more appropriate setting.

9.2.11 IMPLICATIONS

The U.S. prison system is at a crossroads. Funding was never provided for community-based mental health services after the deinstitutionalization of the 1960s. Because of this, there has been a criminalization of mental health disorders. If the U.S. is going to continue to incarcerate the mentally ill, then a great deal of funding must be provided to construct appropriate housing; develop much needed programs, treatments, and therapies; and to provide training for correctional officers on the signs and symptoms of mental health disorders; along with increased staffing for mental health professionals.

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10 WOMEN'S HEALTHCARE

10 WOMEN'S HEALTHCARE

10.1 RESULTS

The criminal justice system was created by men, for men, therefore the unique needs of women inmates' are often left unmet *(Braithwaite, Treadwell, & Arriola, 2008; Cardaci, 2013; Covington, 2007)*. Within all levels of the criminal justice system, the needs of women inmates have been underrepresented *(Braithwaite et al., 2008)*.

The number of female inmates has increased six-fold over the past 20 years, outpacing the growth of the male population *(Braithwaite et al., 2008; Kruttschnitt, 2010)*. While the increase in the male prison population has grown by 67 percent since 1990, the female prison population has grown by 92 percent *(Baldwin & Jones, 2000; Freudenberg, 2002)*. More than 100,000 women are housed in state and federal prisons in the United States, accounting for just over six percent of all prisoners *(R. Aday & Farney, 2014; Harner & Riley, 2013a; Hoskins, 2004; Kruttschnitt, 2010; Springer, 2010; Zaitzow, 1999)*. Freudenberg *(Freudenberg, 2002)* noted that at some point in their lives, 11 out of every 1,000 women in the U.S. will be incarcerated. When broken down by race, African-American women are seven times more likely to be incarcerated than white women. **The number of female inmates has grown so fast that one third of the women currently housed in corrections institutions around the world are in the U. S.** *(Kruttschnitt, 2010)*.

Since 1990

Male prison population has grown by

67%

the female prison population has grown by

92%

(Baldwin & Jones, 2000; Freudenberg, 2002)

Motivations for criminal acts by women appear to be poverty and addiction *(Baldwin & Jones, 2000; Zaitzow, 1999)*. Between 70 percent and 80 percent of incarcerated women abuse drugs and/or alcohol *(Baldwin & Jones, 2000; Hoskins, 2004; Reviere & Young, 2004; Staton-Tindall, Duvall, Leukefeld, & Oser, 2007; Zaitzow, 1999)*. One source noted that drug use or dependence is higher among female inmates than it is for their male counterparts *(Butterfield et al., 2015)*. Other sources showed that one out of three women inmates reported committing crimes to obtain drugs, or money to buy drugs *(Staton-Tindall et al., 2007)*. This notion was echoed by Braithwaite *(2008)* who noted that most women inmates have been incarcerated for minor property and drug-related crimes. Female inmates were also under the influence of drugs or alcohol while in the act of criminal behavior.

Brewer-Smith (2005) noted that 80 percent of the inmates in their survey were under the influence of drugs or alcohol at the time of their crime. Staton-Tindall et al. *(2007)* found that at the time of their offenses, more that half of incarcerated women were under the influence of drugs or alcohol. Nearly 40 percent of the increase in the number of women inmates is for offenses related to illegal drugs *(Baldwin & Jones, 2000; Cardaci, 2013)*.

Like men's prisons, women's prisons are now becoming warehouses for people committing drug-related crimes *(Braithwaite et al., 2008)*.

The demographics of the typical female prisoners was summarized by Covington (2007)

1. **Disproportionately women of color.**
2. **30–35 years of age.**
3. **Typically convicted of a drug or drug-related crime.**
4. **Suffering from fragmented families, where other family members are also in the criminal justice system.**
5. **Survivors of physical and/or sexual abuse (as adults and children).**
6. **Suffering from substance abuse issues, as well as many physical and mental health problems.**
7. **High school or GED graduates, but with little vocational training, and varied work histories.**

Besides the increase in the population of female inmates, their sentence lengths have increased as well. **Since 1990, the number of women receiving sentences of more than one year has increased by 80 percent** *(Baldwin & Jones, 2000; Cardaci, 2013)*. Kruttschnitt *(2010)* noted that in the 1990s, the average sentence length for first-time offenders grew from 22 months to 29 months.

Many sources noted that mandatory and harsh minimum sentencing laws and the "war on drugs" has caused these increases and led to higher rates of incarceration for non-violent crimes, in lieu of more community-based alternatives

(Abramsky, 2003; Fisher & Hatton, 2009; Kruttschnitt, 2010; Zaitzow, 1999). With mandatory minimum sentencing laws, years of incarceration are handed out equally to women and men, even though women's roles and responsibilities in the crimes are different *(Braithwaite et al., 2008; Kruttschnitt, 2010)*. Because of this, women's ability to negotiate plea deals or to testify against their more violent counterparts for a lesser sentence is limited *(Braithwaite et al., 2008; Cardaci, 2013)*. It was reported in 2010 that 29 states had passed truth-in-sentencing laws, where offenders must complete 85 percent of their sentence before becoming eligible for release. This is especially true for inmates convicted of violent crimes *(Kruttschnitt, 2010)*.

As an example of these policies: In 1973, New York Governor Nelson Rockefeller signed a law that required a mandatory one-year minimum sentence for anyone convicted of possessing 500 mg or more of a controlled substance. Because of this law, the number of women sentenced to prison for drug offenses in New York has increased by 787 percent *(Cardaci, 2013)*.

Female Population Incarcerated for Drug-Related Offenses

IN THE 1980s	BY YEAR 2000
12%	35%

(Kruttschnitt, 2010)

These policies have also led to a change in the composition of the female prisoner population. In the 1980s, only 12 percent of the female prison population was incarcerated for drug-related offenses, while the majority were convicted of violent crime or property offenses *(Kruttschnitt, 2010)*. By the end of the century, 35 percent of the female prison population was incarcerated for drug-related offenses and only 28 percent were convicted of violent crime or property offenses *(Kruttschnitt, 2010)*.

At the time of their research, Baldwin *(2000)* determined that there were approximately 65 state prisons that housed women only and 56 state prisons that housed both men and women, and that half of the states in the U.S. housed less than 1,000 female prisoners *(Baldwin & Jones, 2000)*. Women are more often housed in maximum security facilities because of their small numbers *(Abramsky, 2003; Braithwaite et al., 2008)*. In these facilities, women of different security levels are either co-mingled, or separated by internal classifications. Also because of the small numbers, most states operate only one prison for women that is usually located in a rural area, making visitation from family and legal council difficult, as well as being removed from valuable community resources *(Braithwaite et al., 2008)*.

Because women make up only 10 percent of the prison population, little attention has been paid to their unique health needs *(R. Aday & Farney, 2014; Baldwin & Jones, 2000; Braithwaite et al., 2008; Cardaci, 2013; Covington, 2007; Hoskins, 2004)*. **This is of a particular concern for physical and mental healthcare.**

10.1.1 WOMEN'S HEALTH NEEDS

Even though it is a constitutional right, many women inmates receive inadequate healthcare *(Freudenberg, 2002)*. The available services and programs needed to support women's complex health needs in prisons has not kept up with the increased rate in which women are being incarcerated *(Harner & Riley, 2013b)*. Therefore, it is a challenge to provide them with comprehensive and appropriate healthcare *(Baldwin & Jones, 2000)*. If their serious medical conditions are not treated within the prison environment, they will bring those conditions back into the community upon release *(Hoskins, 2004)*.

Many women in prisons come from underserved communities and have not had consistent access to healthcare prior to incarceration *(Braithwaite et al., 2008; Cardaci, 2013; Covington, 2007; Fisher & Hatton, 2009; Hatton & Fisher, 2011; Magee, Hult, Turalba, & McMillan, 2005; Zaitzow, 1999)*. Addiction, trauma, and mental illness all contribute to the women's poor physical health prior to incarceration *(Harner & Riley, 2013a; Hatton & Fisher, 2011)*. **Women inmates are more likely to have serious medical problems than their male counterparts.** *(R. Aday & Farney, 2014; Anno et al., 2004; Braithwaite et al., 2008; Brewer-Smyth, 2005; Covington, 2007; Fisher & Hatton, 2009; Macmadu & Rich, 2015; L. M. Maruschak, 2012; Zaitzow, 1999)*. **Fifty-seven percent of women in state correctional facilities reported a current medical problem** *(Harner & Riley, 2013a; L. M. Maruschak, 2012)*. **Because of this, women seek medical care two and one half times more often than men** *(R. Aday & Farney, 2014; Zaitzow, 1999)*.

The sources in the literature cited varied examples of the medical and mental health conditions that were common among women inmates. However, they can be listed into separated categories including: communicable disease, sexually transmitted disease, chronic disease, reproductive health, as well as mental health. This population has a high risk of communicable disease, substance abuse, and mental health conditions *(Baldwin & Jones, 2000; Freudenberg, 2002; Hoskins, 2004; Magee et al., 2005)*. Because of the number of incarcerated women who have issues with substance abuse, there is a high risk in this population for communicable disease, such as hepatitis A, B, and C, human papillomavirus (HPV), and tuberculosis *(Braithwaite et al., 2008; Cardaci, 2013; Covington, 2007; Fisher & Hatton, 2009; Harner & Riley, 2013a; Hoskins, 2004; L. M. Maruschak, 2012; Staton-Tindall et al., 2007; Zaitzow, 1999)* The longer a female offender abuses drugs, the greater the increase for health problems, including chronic illnesses, and mental health issues *(Staton-Tindall et al., 2007)*. Because of their greater participation in prostitution, and the likelihood of sexual abuse, women have a greater chance of entering prison with sexually transmitted diseases (STD) or HIV/AIDS *(Braithwaite et al., 2008; Brewer-Smyth, 2005; Cardaci, 2013; Covington, 2007; Fisher & Hatton, 2009; Fleming, LeBlanc, & Reid, 2013; Hoskins, 2004; Staton-Tindall et al., 2007)*. Untreated STDs can lead to cervical cancer, secondary infections, infertility, and birth defects *(Covington, 2007)*.

Since many incarcerated women are coming from underserved communities and do not have access to healthcare prior to incarceration, many women enter prison with chronic medical conditions including:

- Arthritis
- Asthma
- Obesity
- Hypertension
- Anemia
- Emphysema
- Diabetes
- Seizures
- Ulcers

(Covington, 2007; Fisher & Hatton, 2009; Harner & Riley, 2013a; L. M. Maruschak, 2012; Rarey, 2011; Staton-Tindall et al., 2007; Zaitzow, 1999).

Women inmates also reported problems related to gynecological, prenatal and post-partum care *(Covington, 2007)*. Women in prison often complain of a lack of regular gynecological exams, breast exams, reproductive health treatments, and psychosocial counseling *(Braithwaite et al., 2008; Covington, 2007; Staton-Tindall et al., 2007)*. As most of these women have histories of physical and sexual abuse, they are also more susceptible to high-risk pregnancies, *(Braithwaite et al., 2008; Cardaci, 2013; Fisher & Hatton, 2009; Staton-Tindall et al., 2007)*. Women inmates also reported additional medical issues such as, fatigue, backaches, dental problems, mental health problems, and kidney infections *(Staton-Tindall et al., 2007)*. In addition, about 12 percent of women inmates reported having surgery and 49 percent reported having a dental problem since being incarcerated *(Harner & Riley, 2013a)*. Besides medical conditions, women also reported having other health impairments including speech, hearing, vision, and mobility *(Harner & Riley, 2013a)*.

10.1.2 CHILDREN AND THE COMMUNITY

Over two thirds of women in prison have children under the age of 18, and 15 percent have infants that are six weeks old, or younger *(Baldwin & Jones, 2000; Braithwaite et al., 2008; Freudenberg, 2002; Kruttschnitt, 2010; Zaitzow, 1999)***. In addition, in the U.S. nearly 1.3 million children have mothers who are incarcerated** *(Braithwaite et al., 2008)***. Since 1991, there has been a 131 percent increase in the number of women inmates who have minor children** *(Fisher & Hatton, 2009; Hatton & Fisher, 2011).* Most of the children will live with a grandparent or other family member while their mothers are incarcerated *(Baldwin & Jones, 2000; Hatton & Fisher, 2011)*. Family financial hardships and care for their children weigh heavily on the minds of incarcerated women *(R. Aday & Farney, 2014; Baldwin & Jones, 2000)*. Women inmates experience emotional trauma caused by relationship disconnections *(R. Aday & Farney, 2014)*. This can manifest itself in depression, sadness, loneliness, and uncertainty *(Abramsky, 2003; R. Aday & Farney, 2014)*.

Because there are fewer female inmates than male inmates, there are not many facility options for states to house women *(Fisher & Hatton, 2009)*. Women may be housed a great distance away from their children, making it difficult for them to maintain contact *(Fisher & Hatton, 2009; Kruttschnitt, 2010)*. One third of female inmates reported having contact with their children only once a month, or less *(Fisher & Hatton, 2009)*. Even if they are able to maintain contact, they may find keeping their families together to be difficult, as many states prohibit ex-felons from obtaining food stamps, public housing, or school loans *(Fisher & Hatton, 2009; Kruttschnitt, 2010)*.

Prison eliminates current income and potential earnings, post-release, because of limited options for employment *(Freudenberg, 2002)*. **However, even before incarceration 70 percent of female inmates were living on less than $1,000 a month** *(Kruttschnitt, 2010).* Even a short stay in a correctional facility can lead to homelessness *(Freudenberg, 2002)*. U.S. Department of Housing and Urban Development currently requires that public housing projects evict families who are housing a convicted felon, leaving some women being released from prison and having to choose between their children, partner, or homelessness *(Freudenberg, 2002; Kruttschnitt, 2010)*. Because of this, 20 percent of incarcerated women reported being homeless prior to imprisonment *(Kruttschnitt, 2010)*. In addition, inadequate housing, education, and employment opportunities are all common problems for women inmates returning back to their communities *(Freudenberg, 2002)*. The experience of incarceration can contribute to a downward spiral of economic dependence, social isolation, substance abuse, and mental and physical health problems *(Freudenberg, 2002)*.

Even though imprisonment causes trauma for the mother, it also has effects on the child *(Kruttschnitt, 2010)*. Studies show that having a parent in prison increases risks of failing grades, delinquency, unemployment, mental health issues, and drug abuse in children. Children also have more adverse reactions if their mother is imprisoned, imprisoned with longer sentences, or imprisoned in a more punitive context *(Kruttschnitt, 2010)*.

10.1.3 PROGRAMS FOR WOMEN

For most of incarcerated women, the services for health, mental health, and substance abuse are normally accessed for the first time in prison, *(Staton-Tindall et al., 2007).* Limited utilization of these services in the community by women offenders with substance abuse issues is directly linked to poverty, inadequate housing, dependent children, and limited community health resources *(Staton-Tindall et al., 2007).* When community services are limited, especially for preventive care, women will typically use emergency departments for their required healthcare *(Staton-Tindall et al., 2007)*. Incarcerated female substance abusers reported 13.7 lifetime emergency room visits *(Staton-Tindall et al., 2007)*. **Due to the lack of community-based preventive health services, coupled with the high use of emergency departments as a primary care service, prison facilities could see an increased use of medical and mental health services by women inmates** *(Staton-Tindall et al., 2007)***. Within the first six months of incarceration, women inmates made an average of 12.5 visits to sick call** *(Staton-Tindall et al., 2007)***. During a four-month period, a sample of 129 women inmates used a high of 2,869 prison health services, which is much greater than the general population** *(Staton-Tindall et al., 2007)***.**

In 2000 it was reported that 49 states provided programs specifically for women. *(Baldwin & Jones, 2000).* Most of these programs related to parenting, substance abuse, domestic violence, and life skills *(Baldwin & Jones, 2000)*. **There were four main types of programs within these categories** *(Baldwin & Jones, 2000).*

1. **Nursery programs, which allow women inmates to keep and care for their infants for a limited period. Most of these programs require the inmate to participate in child development courses.**
2. **Mentoring/self-esteem programs, which allow women to support each other as they develop skills in interpersonal relationships, leadership and communication.**
3. **Survivor groups, which provide support for women who have survived domestic violence or sexual abuse.**
4. **Women's health education, which provide basic sex education classes, including HIV prevention.**

Braithwaite *(2008)* also noted the need for programming for women. They noted that educational and vocational programs are common in men's prisons, but that these programs are a rarity in women's prisons *(Braithwaite et al., 2008; Zaitzow, 1999)*. **Though educational programs have been shown to reduce recidivism, especially among female inmates, most programs were eliminated as part of the Violent Crime Control and Law Enforcement Act of the mid 1990s** *(Kruttschnitt, 2010).* In 1997, only about one third of all inmates being released had participated in an educational or vocational program, even though vocational and job training has been shown to be important for women who are trying to reunite with their children *(Kruttschnitt, 2010; Zaitzow, 1999)*. These programs were also shown to reduce recidivism for women leaving prison. There has also been a lack of substance abuse programs in prisons, even though a large number of female inmates suffer from addiction *(Kruttschnitt, 2010)*. **In California, 80 percent of inmates report having a substance**

abuse problem, yet only 18 percent were placed in treatment programs. Finally, programming that would improve parenting has also been reduced, even though research shows that children can be a positive influence for change in female offenders *(Kruttschnitt, 2010)*.

10.1.4 WOMEN'S PRIMARY CARE

Because women inmates come from underserved communities, prison systems are finding themselves in the position of needing to provide healthcare services to their inmates. Unfortunately, finding the resources and facilities to provide that care continues to be a challenge *(Covington, 2007)*.

Primary care is an integrated, accessible healthcare service, given by health professionals that addresses a large percentage of a patient's personal health needs *(La Cerra et al., 2017)*. It is also marked by the sustained partnerships that health professionals build with their patients *(La Cerra et al., 2017)*. Primary care is the most "effective and efficient" manner of providing public health and is the bedrock of a prison health system, as characterized by the World Health Organization (WHO) *(La Cerra et al., 2017)*.

Successful prison primary care programs address a number of common issues *(La Cerra et al., 2017)*. First, they offer integrated care pathways, due to collaboration between health and custody staff, as well as promote wellness activities that can be continued after release. Second, they offer patient education programs that target substance abuse and communicable diseases. Third, they offer a multidisciplinary approach through the use of a team of specialists, good access to diagnostic services, and care in a local hospital, if the prison cannot provide any service *(La Cerra et al., 2017)*.

The federal prison system's general practitioner (GP) model is a good model for primary care and is also a way for states to control health costs, while not reducing access to care *(Zaitzow, 1999)*. The federal GP model is similar to an HMO model where general practitioners evaluate and treat most inmate health ailments and refer chronic and serious medical conditions to specialists *(Zaitzow, 1999)*. This then limits the need for specialist until the GP determines a specialist consultation is medically necessary, preventing unneeded and expensive consultations *(Zaitzow, 1999)*. The specialist can see the inmate-patient, either in the prison facility, or the inmate can be transported to the local hospital *(Zaitzow, 1999)*. The GP model also allows the general practitioner to develop a relationship with the patient, much like in the community setting; this would then limit the likelihood that the inmate would try to manipulate the system, either by attempting to obtain more medications, or by getting authorization for additional trips to an outside medical facility *(Zaitzow, 1999)*. According to the research, the medical staff in a GP model could include physicians, nurse practitioners, registered nurses or licensed practical nurses, and dentists *(Zaitzow, 1999)*.

10.1.4.1 WHERE CARE IS PROVIDED

Though most prisons maintain their own medical staff for treatment of inmates, many have relationships with local specialists to provide access to clinics as needed *(McDonald, 1999)*. This is especially true for women's prisons. **Due to their small population size in comparison to male prisons, officials are reluctant to create extensive health services within women's prisons** *(Zaitzow, 1999)***.** Because of this, women inmates are more likely to be transported to local community hospitals for their healthcare needs *(Zaitzow, 1999)*. Those needs could include required consultations, diagnostic testing and treatments, and hospitalizations *(McDonald, 1999)*. In addition, since most women's prisons are located in rural areas, transporting them to urban centers for required specialized care may create health risks for the inmate-patient *(Zaitzow, 1999)*.

As in a male prison, a typical female prison clinic looks very much like a community-based ambulatory health clinic. It usually consists of a trauma room, exam rooms, lab and pharmacy services, an imaging suite and dental operatories *(Anno, 2004; Rarey, 2011)*. There are normally also offices spaces included for providers, meeting and counseling spaces, and some form of secure medical records area *(Anno, 2004)*.

10.1.4.2 PUBLIC HEALTH

One of the best lessons to be learned from the last century is that public health systems can no longer ignore the needs of prison health, according to the WHO *(Møller, Gatherer, Jürgens, Stöver, & Nikogosian, 2007)*. Strong links need to be created between public health and prison health *(Møller et al., 2007)*. The use of prisons as default healthcare providers can be limited if public health and prison health work in cooperation *(Møller et al., 2007)*.

Public health agencies and maternal and child health services can provide links to community services and the continuation of care for female inmates being discharged back into the community *(Baldwin & Jones, 2000)*. **These institutions can collaborate with correctional facilities on a number of programs, including** *(Baldwin & Jones, 2000)*:

1. **Needs assessments and surveillance functions for to inmate health**
2. **Primary care services and prevention programming**
3. **Diagnostic, treatment, and screening services**
4. **Professional health service standards and quality assurance**

Maternal Child Health (MCH) professionals can provide female-specific programs, such as family planning, pregnancy care, substance abuse treatment, and chronic and communicable disease treatment *(Baldwin & Jones, 2000)*. They can also provide discharge planning services to ensure a continuum of care with public health services in the community *(Baldwin & Jones, 2000)*.

10.1.4.3 ACADEMIC PARTNERSHIPS

In order to improve quality and reduce costs, many state departments of corrections have outsourced their inmate healthcare *(Reeves, Brewer, DeBilio, Kosseff, & Dickert, 2014)*. While most have turned to private companies, a few have partnered with their local academic medical centers *(Reeves et al., 2014)*. Partnerships with academic medical centers (AMCs) are a logical choice that are gaining widespread popularity, even though the partnerships are still minimal in number *(Fraser Hale, Brewer, & Ferguson, 2008)*.

Strong links between academic medical centers and correctional health can be advantageous to both parties *(Kendig, 2004)*. Inmates gain access to specialists for their complicated medical conditions, and clinicians gain valuable experience treating a subset of patients not seen in the general community *(Kendig, 2004)*. In addition, correctional health offers unique opportunities for education and research in primary care that may not be available outside the corrections environment *(Fraser Hale et al., 2008)*.

10.1.4.4 WHERE CARE IS PROVIDED

Treating the inmate-patient in the AMC setting, when specialty care is required, is a concern of hospital leaders *(Trestman, Ferguson, & Dickert, 2015)*. Because of their corrections clothing, shackles and armed corrections officer escorts, hospital leaders worry about co-mingling community patients with the inmate-patients *(Trestman et al., 2015)*. A common solution to this problem is to create a dedicated inmate unit within the AMC *(Trestman et al., 2015)*. Another solution is leveraging telemedicine. Telemedicine is rapidly becoming more popular as a way to gain access to specialists, without transferring the inmate-patient to the AMC *(Trestman et al., 2015)*. Finally, a number of procedure-based services (e.g. orthopedic, dialysis, and ophthalmology) are now being scheduled in the corrections facility to limit the number of transfers *(Trestman et al., 2015)*.

10.1.4.5 DIAGNOSTIC AND TREATMENT SERVICES

Rarey *(2011)* noted that the state of Texas has a law that requires all women inmates over the age of 40 to receive yearly mammograms, accompanied by a corrections officer. As stated earlier, prison officials are reluctant to create extensive health services within women's prisons *(Zaitzow, 1999)* and because of this women inmates are more likely to be transported to local community hospitals for their healthcare needs *(Zaitzow, 1999)*. In the research by McDonald *(1999)*, they noted that although diagnostic equipment is limited in prisons, many women's prisons are building and equipping mammography suites, due to high use and cost effectiveness. In the survey by Maruschak *(2016)*, respondents reported the following in relation to mammography service: 18 states provided the service exclusively offsite, 16 states provided the service both offsite and onsite, and 10 states provided the service exclusively onsite. Of the states that provided the service onsite, 17 of them used mobile units, while the remaining state had their equipment at one facility *(L. Maruschak et al., 2016)*. In the states that reported using mobile units, any urgent or unscheduled exam was taken offsite due to schedule concerns *(L. Maruschak et al., 2016)*.

Mamography Locations

Exclusively on-site	**18**	**states**
Both on-site and off-site	**16**	**states**
Exclusively off-site	**10**	**states**

Of the states that reported providing services on-site:

Mobile units	**17**	**states**
Equipment at one facility	**1**	**states**

(L. Maruschak et al., 2016)

10.1.4.6 DENTAL CARE

Women also reported frustration and anger over the accessibility and quality of dental care in the Harner et al. *(2013a)* survey. They expressed concern over the use of extraction as the treatment of choice *(Harner & Riley, 2013a)*. They also reported that unnecessary extractions lead to increased pain, inability to eat solid foods, and low self-esteem *(Harner & Riley, 2013a)*. Multiple research investigations have reported a link between negative dental care experiences and past sexual trauma *(Harner & Riley, 2013a)*.

10.1.4.7 ACCESS TO CARE AND USE OF CO-PAYS

Harner et al. *(2013a)* noted that charging a medical copay was burdensome for many inmates. Some women inmates do not seek care due to the copay, potentially exposing other inmates to communicable diseases *(Harner & Riley, 2013a)*. In their survey Hatton et al. *(2011)* noted that women inmates needed to spend their limited funds on phone cards, hygiene products, and over the counter medications, in lieu of medical copays. They also noted that the copay funds were removed from their accounts at the time the request for medical consult was made, even though it could take weeks to months to receive an appointment *(Hatton & Fisher, 2011)*. Respondents in their survey also felt that access to care was based on sentence length and that inmates with shorter sentences were encouraged to "put off" care until they were released *(Harner & Riley, 2013a)*.

10.1.5 WOMEN'S CHRONIC CARE

Women have on average 4.2 chronic health conditions, histories of victimization, and high rates of mental health issues *(Aday & Farney, 2014)*. Women entering the prison system are much more likely to be affected by a communicable disease than women in the general community *(Baldwin & Jones, 2000)*. Drug-related crimes are the most common offenses that result in incarceration for individuals in the U.S., and injection drug use is one of the most common risk factors for HIV and HCV *(Springer, 2010)*. Due to the close living quarters, medical care costs, and disease prevalence in underserved communities, prison administrators are concerned about the spread of infectious disease in their facilities *(Zaitzow, 1999)*.

Given histories of drug abuse and sex work, many women inmates are at high risk for HIV and other STDs *(Springer, 2010; Zaitzow, 1999)*. **Female inmates have two times as many reported cases of STDs than their male counterparts** *(Macmadu & Rich, 2015)*. **In addition, female inmates also test positive for HIV at a rate higher than male inmates** *(Zaitzow, 1999)*.

Number of Inmates Infected with HIV From 1991 to 1995 rose by: *(Zaitzow, 1999)*

88% **for Female Inmates**

28% **for Male Inmates**

8.7% **of female inmates reported being HIV- positive, or have confirmed AIDS**

From 1991 to 1995 the number of female inmates infected with HIV rose by 88 percent, whereas the male inmate population rose by 28 percent *(Zaitzow, 1999)*. Among state and federal prisoners, 8.7 percent of female inmates reported being HIV-positive, or have confirmed AIDS *(Fleming et al., 2013)*. According to the study by Springer *(2010)*, heterosexual contact is the cause of women acquiring HIV in 83 percent of cases. Because of the high rates of HIV/AIDS in prisons, it is the policy of many corrections administrators to assume that all inmates are HIV-positive and treat them the same, as is done in hospitals *(Zaitzow, 1999)*.

40% **of women inmates tested for HCV tested positive**

20X **more than the general population**

Springer (2000)

In California...

55% **of incoming women offenders had the hepatitis C virus**

85% **of HIV-positive women were also HCV-positive**

Baldwin (2000)

Because 25 percent of HIV-infected individuals in the U.S. also have hepatitis C, HIV and hepatitis C virus (HCV) are important chronic conditions within the correctional population. Forty-percent of the women inmates tested are positive for HCV, which is 20 times more than among the general population (Springer, 2010). At the time of their study, Baldwin *(2000)* noted that in the state of California 55 percent of incoming women offenders had HCV and that 85 percent of HIV-positive women were also HCV-positive. Rates of tuberculosis (TB) were also a significant risk for this population *(Baldwin & Jones, 2000; Rarey, 2011; Zaitzow, 1999)*.

Due to the controlled environment of a prison, these facilities are ideal places to test and integrate prevention-based programs for the screening and testing for STDs, HCV, and HIV *(Springer, 2010)*.

The increase in AIDS patients in prisons has created a major escalation in medical costs *(Zaitzow, 1999)*. The largest portion of this increase is caused by the loss of Medicaid upon incarceration, since

Medicaid is the main method for financing AIDS-related treatment *(Zaitzow, 1999)*. This then pushed the cost of treatment to the states where the inmate is housed *(Zaitzow, 1999)*. The other reason for the increase in medical cost is medication *(Zaitzow, 1999)*. Some of the most effective medications for AIDS treatment are also some of the most expensive. Given the success of these medications, there is an ethical obligation for states to provide them to inmates *(Zaitzow, 1999)*.

Due to a lack of community resources, discharge planning activities, and prison treatment programs, many of the seven million prison and jail inmates released every year fall back into the same high-risk behaviors that they had before incarceration *(Springer, 2010)*. Sharing needles and unprotected sexual activity can all lead to a greater spread of blood-borne infectious diseases such as HIV and HCV *(Springer, 2010)*.

10.1.6 WOMEN'S ELDER CARE

Because of the previously mentioned mandatory minimum sentencing practices, more women are finding themselves aging in the prison setting *(Deaton et al., 2010; Reviere & Young, 2004)*. A number of states have also abolished parole in conjunction with "truth-in-sentencing" laws *(Deaton et al., 2010; Reviere & Young, 2004)*. Because of these issues, end-of-life care needs will be more prevalent as more inmates die in prison *(Deaton et al., 2010)*. The aging of the population is a growing concern for state prison systems *(Harner & Riley, 2013a)*. Prisons already struggle to provide the gender-specific needs of incarcerated women, much less the needs of aging women *(Harner & Riley, 2013a)*. The prison system was designed for young men, not aging women *(Reviere & Young, 2004)*.

As with their male counterparts, older female inmates not only have more medical care needs than younger inmates, they also have more psychosocial needs *(Aday, 1994; Smyer & Burbank, 2009)*. Because of their previous lifestyle, socioeconomic status, and prison environment, older inmates usually have worse health than the same age group outside of prison *(Deaton et al., 2010)*. **Forty-six percent of older inmates reported a health problem at the time of incarceration. They also reported, on average, three chronic conditions** *(Deaton et al., 2010)*.

Physiologically, prisoners are 10 to 12 years older than their chronological age. Fifty years old is considered elderly for an inmate *(Beckett et al., 2003; Mara, 2002; Mitka, 2004; Williams, Goodwin, Baillargeon, Ahalt, & Walter, 2012)*. Some of the causes of the age disparity are lack of adequate medical care, substance and alcohol abuse, and poor diet *(Smyer & Burbank, 2009; Williams et al., 2012)*.

In 2012, women inmates accounted for 5% of the total inmate population over the age of 55

Smyer & Burbank, 2009; Williams et al., 2012)

Deaton et al. *(2010)* noted that there were 112,000 women incarcerated in the U.S. system, with 7,000 of them over the age of 50. These numbers are increasing as Aday et al. *(2014)* noted that there were over 11,000 women over the age of 50 in U.S. prisons, with another 30,000 women in their 40s. In the study by Reviere and Young, *(2004)* survey respondents reported the following population numbers of female inmates over the age of 50: Twenty institutions reported less than five percent of their population was over the age of 50, 16 institutions reported between six percent and 10 percent of their population, and only three institutions reported over 12 percent of their female population as being over age 50 *(Reviere & Young, 2004)*. **Research has also noted that age is one of the main predictors of healthcare utilization in the prison environment, and that women access healthcare significantly more than male inmates; they also live longer and self-report "worse" as a health status** *(Williams et al., 2012)*.

For the majority of female inmates, prison is the first time they have had consistent access to medical care *(Aday & Farney, 2014)*. As a result, prison officials are challenged to provide care to an inmate population that has many chronic medical conditions, as well as cognitive impairments and other end-stage diseases *(Aday & Farney, 2014; Fisher & Hatton, 2009)*. Evidence suggests that prisons are failing to meet this challenge for these vulnerable inmates *(Fisher & Hatton, 2009)*.

10.1.6.1 HEALTH CONDITIONS

Older women in prisons bring with them a number of unique chronic medical and mental health challenges *(Aday & Farney, 2014)*. **Some of the more common chronic conditions include: arthritis, hepatitis, menopausal issues, digestive disorders, hypertension, and heart conditions** *(Aday & Farney, 2014; Harner & Riley, 2013a; Reviere & Young, 2004)*. **Cancer, diabetes, and kidney problems are also more prevalent in older female inmates** *(Aday & Farney, 2014)*.

Facilities screening, or performing routine examinations, for the following conditions:

ASKED ABOUT:		*TESTED FOR:*	
Menopause	98%	Cervical Cancer	92%
Asthma	92%	Heart Disease	88%
Arthritis	88%	Hypertension	86%
Urinary Incontinence	71%	Diabetes	85%

(Reviere & Young, 2004)

In the study by Reviere et al. *(2004)*, respondents to their survey reported screening, or performing routine examinations for the following conditions: 98 percent asked about menopause, 92 percent asked about asthma, 88 percent asked about arthritis, 71 percent asked about urinary incontinence, 92 percent tested for cervical cancer, 88 percent tested for heart disease, 86 percent tested for hypertension, and 85 percent tested for diabetes. Seventy-one percent of respondents to their survey reported providing mammograms to check for breast cancer *(Reviere & Young, 2004)*.

A variety of mental, emotional and physical health problems are common among older female inmates *(Aday & Farney, 2014; Deaton et al., 2010; Reviere & Young, 2004)*. **In their study, Aday et al. (2014) noted that older women in prisons suffered from a high or severe level of depression, anxiety and intrapersonal sensitivity. They also noted that half of the women who participated in their survey reported a history of physical or sexual abuse** *(Aday & Farney, 2014; Harner & Riley, 2013a; Reviere & Young, 2004)*. **Many times, these abuses lead to serious trauma and physical injuries** *(Aday & Farney, 2014)*.

Constant care may be required for many older inmates who also suffer from Parkinson's or Alzheimer's disease *(Beckett et al., 2003)*. Dementia, depression, anxiety and other mental health issues can be a challenge for the prison system. Many times the noise, overcrowding, and other inmate behaviors in prison can exacerbate these issues *(Beckett et al., 2003)*.

10.1.6.2 FUNCTIONAL IMPAIRMENTS

Functional impairments such as, problems negotiating stairs, difficulty standing in line for long periods of time, difficulty walking long distances, and difficulty walking independently were common among older female inmates *(Aday & Farney, 2014; Fisher & Hatton, 2009; Harner & Riley, 2013a; L. M. Maruschak, 2012; Reviere & Young, 2004)*. Many also suffered from back pain, headaches, chest pain, weakness, soreness, numbness, and hot or cold spells *(Aday & Farney, 2014; Reviere & Young, 2004)*. **Because of these impairments, 82 percent of older female inmates in their survey reported needing a lower bunk** *(Aday & Farney, 2014; Fisher & Hatton, 2009)*. They also noted that even though these impairments were evident, many prison policies still required them to complete activities they were no longer capable of such as, climbing stairs, standing in long lines, and walking long distances *(Aday & Farney, 2014; Harner & Riley, 2013a)*.

Functional ability is often graded on the person's ability to complete activities of daily living (ADLs). Those activities are defined by toileting, bathing, eating, dressing and transferring. However, these ADLs may not be appropriate in the prison environment. Because of that, some studies are creating new ADLs for the prison environment (PADL), which include getting in and out of top bunks, standing for head counts, dropping to the floor on command, getting to the dining hall, and hearing staff orders *(Smyer & Burbank, 2009; Williams et al., 2012)*. Many sources in the literature reported inmate issues with ADLs and 50 percent had reported having a fall in the previous year *(Aday & Farney, 2014; Fisher & Hatton, 2009; Harner & Riley, 2013a)*.

Besides activities of daily living, disabilities were also shown to be prevalent. **In the survey by Bronson et al. (2015), it was reported that 40 percent of female inmates reported having a disability; these included such problems as hearing, vision, ambulating, self-care, and living independently. In the study by Reviere et al. (2004), 70 percent of the respondents to their survey reported having female inmates in their population with disabilities.** These same respondents also reported providing accessible facilities including, dormitories, handicapped accessible rooms/cells, wheelchairs, walkers, canes, and handicapped-accessible showers for those inmates *(Reviere & Young, 2004)*. In addition to functional disabilities, 30 percent of female inmates also reported a cognitive disability *(Bronson et al., 2015)*.

The prison facility itself can also cause problems for older female inmates *(Aday & Farney, 2014; Deaton et al., 2010; Fisher & Hatton, 2009)*. They often find the facilities cold and damp, with poor lighting and ventilation *(Aday & Farney, 2014)*. Many states also require older female inmates to participate in physically demanding work programs, without modifying the facility for easier access *(Aday & Farney, 2014)*. **Aday et al. (2014) noted that 61 percent of the older females in their research stated that they were enrolled in work programs that were too difficult for them.**

10.1.6.3 LOCATION OF SERVICES

As noted earlier, because of the small population of women prisoners, most DOCs will have to contract with the local community facility to provide the specialized care needed by the elderly inmate *(Anno et al., 2004; Williams et al., 2012)*. However because of the remote location of many state prisons, finding providers in rural communities who can provide this specialized care may be difficult *(Anno et al., 2004)*. In addition, community providers may be reluctant, or ill-equipped to provide care to the elderly inmate *(Anno et al., 2004)*. If the facility does agree to treat the elderly inmate, specialty training on the issues surrounding this patient type will be required *(Anno et al., 2004)*. Of the seven prison facilities in their research, six are located in rural areas *(Aday & Farney, 2014; Deaton et al., 2010)*. This has led many of the inmates in their survey to express anxiety about receiving adequate care in remote locations *(Aday & Farney, 2014; Deaton et al., 2010)*.

Many state prisons are simply ill-equipped to provide proper care for the aging inmate who has advanced chronic diseases *(Aday & Farney, 2014; Deaton et al., 2010)*. Older inmates frequently need areas that are quiet, peaceful and private. It is hard for them to cope with the noise, speed and confusion of day-to-day life. This tends to put them in conflict with the general population *(Anno et al., 2004)*. It is a challenge for the medical staff to provide care in a facility that was designed to punish. It requires dedication and creativity on the part of the medical staff to adapt programs to fit the confines of the prison. *(Beckett et al., 2003)*

The research shows that there are many options being used for the housing of aging and elderly inmates; this includes integration into the general population (mainstreaming), senior housing units, hospice units, skilled nursing units, assisted living units, and transferring to less secure facilities *(Beckett et al., 2003; Hall, 1990; Mara, 2002)*.

Some research suggests increasing the use of segregated geriatric housing units, not only to be more cost effective, but to also to better utilize limited health resources *(Aday & Farney, 2014; Mitka, 2004; Smyer & Burbank, 2009)*. These resources include 24-7 medical staff, emergency care, and access to specialists in geriatrics, pulmonology, cardiology and nephrology *(Anno et al., 2004; Mara, 2002)*. These units may routinely house younger, disabled inmates, as well *(Aday, 1994; Anno et al., 2004)*. They will also be designed with minimal stairs and shorter distances to other key facilities within the prison, such as the dining hall, or recreation area *(Aday, 1994; Mara, 2002)*.

Chronic care clinics, preventive care, and increased medical exam frequency were a number of approaches used to provide care to the elderly inmate *(Reviere & Young, 2004)*. Special diets, special housing units, inmate volunteers, and compassionate release programs were also available to elderly women inmates *(Reviere & Young, 2004)*. Because of the amount of comorbidities in the aging female inmate population, greater use of screenings, diagnostic tests, lab work, and follow-up services will be required *(Aday & Farney, 2014)*. Research also suggests the use of annual geriatric assessments to determine if an aging inmate is housed in an appropriate setting, or if they are in a therapy or work program that is consistent with their functional status *(Aday & Farney, 2014)*.

Though they have very little knowledge or training in geriatric conditions or disabilities, correctional officers are many times the first contact an inmate has when they are seeking medical attention *(Aday & Farney, 2014)*. Because of this, some researchers noted that barriers to adequate healthcare for older female inmates include, lack of trust in healthcare providers, required copays, and access to proper medications *(Aday & Farney, 2014)*.

10.1.6.4 COMMUNITY LINKAGES

With 80 percent of older female offenders ultimately being discharged, a seamless linkage with community health programs should be established to guarantee continuity of care between correctional health and public health *(Aday & Farney, 2014; Braithwaite et al., 2008)*. Restoration of an inmate's Medicaid benefits or enrolling them for Medicare, should be part of the prison's discharge planning efforts, to guarantee continuation of proper medical care for the older female inmate upon their release *(Aday & Farney, 2014)*.

10.1.6.5 COMPASSIONATE RELEASE

The theory behind compassionate release is that inmate health status changes may affect the justification for incarceration, and that sentence completion may no longer be justified for the terminally ill inmate *(Williams et al., 2011)*. The aging prison population, prison overcrowding, increased medical costs, and the increasing deaths in prison are also factors driving the call for its expanded use *(Williams et al., 2011)*. In addition, because of problems negotiating prison ADLs and also struggling to complete mandatory work assignments, many advocates are calling for an expansion of compassionate release programs to include older inmates and inmates with disabilities *(Fisher & Hatton, 2009)*.

10.1.6.6 HOSPICE PROGRAMS

Hospice programs have proven successful in reducing the suffering of, and providing comfort to the terminally ill inmate who was not granted compassionate release *(Fisher & Hatton, 2009)*. In their study, Reviere et al. *(2004)* noted that 12 of 53 responding correctional jurisdictions had a formalized hospice program. Of the respondents who reported having hospice services, they were slightly more likely to be provided on-site than off-site *(Reviere & Young, 2004)*.

10.1.7 WOMEN'S REPRODUCTIVE HEALTH

Women in prison have special medical needs related to their reproductive health that need to be identified and treated in an appropriate manner *(Baldwin & Jones, 2000; Hoskins, 2004; Zaitzow, 1999)*. These issues could include screening for STDs, cervical and breast cancer, pregnancy and menopause *(Baldwin & Jones, 2000; Hoskins, 2004)*. **In the study by Staton-Tindall et al. (2007), female reproductive health problems were noted in more than three quarters of women in prison. Though it is a required standard by NCCHC and the WHO, reproductive healthcare, including gynecologic and obstetrics services, was provided to only 54 percent of pregnant inmates in 2004** *(Cardaci, 2013; Fisher & Hatton, 2009)***.** In fact, Harner et al. *(2013a)* noted that respondents were discouraged by medical staff from obtaining gynecological exams and pap smears. For the women who did receive reproductive care, the quality of care varied greatly *(Cardaci, 2013)*.

Not only do many women inmates often fail to receive adequate reproductive care after incarceration, many also have limited access to care before incarceration *(Cardaci, 2013)*. They have often received poor prenatal and nutritional care, been victims of abuse, have substance abuse issues, or have a sexually transmitted disease *(Cardaci, 2013)*. Many also have comorbidities of chronic health conditions such as, depression, hypertension, diabetes, or asthma *(Cardaci, 2013)*. **It has also been noted that the specialized care required by a pregnant inmate with a substance abuse problem is rarely available in prison facilities** *(Cardaci, 2013)*. Additionally, besides the lack of reproductive care, many women also face environmental issues such as inadequate ventilation and temperature control *(Cardaci, 2013)*. Many pregnant inmates also face challenges from their prison work assignments *(Cardaci, 2013)*. Some are required to maintain strenuous work assignments, work with harsh chemicals, and are not given adequate rest *(Cardaci, 2013)*.

In the survey by Maruschak *(2016)*, respondents reported the following in relation to the location of gynecological services: Three states provided the service exclusively offsite, 27 states provided the service both off-site and on-site, and 14 states provided the service exclusively onsite. Respondents who reported that they provided gynecological services both onsite and off-site, state that gynecological procedures were routinely taken off-site *(L. Maruschak et al., 2016)*. For colposcopies, 23 states provided the procedure exclusively off-site, 12 states provided the procedure both off-site and on-site, and nine states provided the procedure exclusively on-site *(L. Maruschak et al., 2016)*.

Gynecological Services Locations		
Exclusively off-site	3	states
Both off-site and on-site	27	states
Exclusively on-site	14	states

Colposcopy Services Locations		
Exclusively off-site	23	states
Both off-site and on-site	12	states
Exclusively on-site	9	states

(L. Maruschak et al., 2016)

10.1.7.1 SCREENING

Because of the controlled environment of prisons, there are many opportunities to provide screening, preventive health, and follow-up care for an at-risk population for cervical cancer *(Magee et al., 2005; Springer, 2010)*. Such interventions have already shown to be successful for diseases such as, hepatitis C and tuberculosis *(Magee et al., 2005)*. Integrating preventive testing in prisons, such as the Pap test with follow-up care, can help reduce disease transmission, promote healthier behaviors, and reduce medical costs, while benefitting the individual and the community *(Magee et al., 2005)*.

Screening Pap Smears

62% of women inmates reported Pap smear screenings

40% of the Pap smears reported an abnormal result, which is 6 times greater than the general population

(Magee et al., 2005; Springer, 2010)

Screening Pap smears were only reported in 62 percent of the population cited in the Springer *(2010)* study. Of that group, 40 percent of the Pap smears reported an abnormal result, which is six times greater than the general population *(Springer, 2010)*. In their study regarding Pap testing, Magee et al. *(2005)* noted that survey respondents reported that exam rooms were not up to level of cleanliness that they understood met medical standards. They also reported a lack of privacy in the exam room *(Magee et al., 2005)*. Many respondents reported that the $5 copay required was a hardship, since many only make three to seven cents an hour in their prison work program *(Magee et al., 2005)*. Because of past sexual trauma, many respondents also expressed aversion to having a male physician examine them and perform the test *(Magee et al., 2005)*.

10.1.7.2 CHILDBIRTH

According to the sources in the literature, the pregnancy rate of women in prison ranges from a low of four percent to a high of 10 percent *(Baldwin & Jones, 2000; Braithwaite, Treadwell, & Arriola, 2008; Cardaci, 2013; Hatton & Fisher, 2011; Hoskins, 2004; Macmadu & Rich, 2015; Maruschak, 2012; Sufrin, Creinin, & Chang, 2009)*. It was also noted that this percentage could be higher because more than half of the correctional facilities do not test for pregnancy *(Hoskins, 2004)*. In addition, sources noted that 1,400 give birth each year *(Hatton & Fisher, 2011; Sufrin et al., 2009)*. In the survey by Maruschak *(2012)*, 54 percent of pregnant inmates reported they received pregnancy care.

Childbirth in Prison

4-10% pregnancy rate among women in prison

1,400 inmates give birth each year

54% of pregnant inmates reported receiving prenatal care

(Baldwin & Jones, 2000; Braithwaite, Treadwell, & Arriola, 2008; Cardaci, 2013; Hatton & Fisher, 2011; Hoskins, 2004; Macmadu & Rich, 2015; Maruschak, 2012; Sufrin, Creinin, & Chang, 2009)

Because women inmates report histories of drug and alcohol abuse, and physical and sexual assault, they are at greater risk for complicated pregnancies, childbirth, and mothering *(Fisher & Hatton, 2009; Hatton & Fisher, 2011)*. Pregnant inmates pose additional healthcare burdens to states, due to prenatal and postpartum care and newborn care requirements *(Hoskins, 2004)*. In a survey where 19 of the 50 state departments of corrections responded, inadequacies were found in the care that was provided to pregnant inmates *(Cardaci, 2013)*. Though all 19 respondents provided prenatal care, there were no standards on how that care was provided *(Cardaci, 2013)*, how many prenatal care visits the women received, and where and who provided the care. All varied among the 19 respondents *(Cardaci, 2013)*. The 19 respondents also included lacking in providing an adequate diet and sufficient rest *(Cardaci, 2013)*. Items that were specifically noted were a lack of fruits and vegetables in the diet, and a lack of access to lower bunks *(Cardaci, 2013)*. It was also noted that less than half of the respondents provided reduced workloads, childbirth education, counseling, or breastfeeding support *(Cardaci, 2013)*.

Because few prisons have adequate facilities for childbirth, prenatal care, is often provided by both the prison facility and a community provider *(Cardaci, 2013)*. This partnership can often cause gaps in the care, as well as delays to care because the transfer of the inmate to the community facility may not be looked upon as a priority *(Cardaci, 2013)*. **Any delay in care can cause undue anxiety the mother, reduce the opportunity to request analgesics, as well as increase the risk of dangerous, unsupervised cell births** *(Cardaci, 2013)*. **Cardaci (2013) reported cases of female inmates suffering early pregnancy miscarriages while alone in their cells.** Cardaci *(2013)* also notes that some contracts with private, for-profit healthcare providers may also result in substandard care.

Although one might expect that birth outcomes of incarcerated women would be poor as compared against women in the general population, Baldwin *(2000)* noted that there were no significant birth-weight differences between the two groups. This could possibly be explained by the fact that high-risk pregnant women in prison are getting adequate shelter and nutrition, have limited access to smoking, alcohol, or drugs, and are also getting routine prenatal care *(Baldwin & Jones, 2000; Hoskins, 2004)*. However due to cost and transportation limitations, many at-risk pregnant women have limited access to gynecologists and obstetricians *(Baldwin & Jones, 2000)*.

In the survey by Maruschak *(2016)*, respondents reported the following in relation to the location of obstetrical services: Nine states provided the service exclusively off-site, 34 states provided the service both off-site and on-site, and only one state provided the service exclusively on-site. Of the states who reported providing the service both off-site and on-site, 29 of those states preferred to send inmates off-site for childbirth *(L. Maruschak et al., 2016)*.

Obstetrical Services Locations		
Exclusively On-Site	**1**	**states**
Both On-site and Off-Site	**34**	**states**
Exclusively Off-Site	**9**	**states**
Of the states who reported providing the service both off-site and on-site:		
Preferred to send inmates off-site for child birth	**29**	**states**

(L. Maruschak et al., 2016)

10.1.7.3 SHACKLING POLICIES

Because of the gender-neutral prison policies enacted in the 1970s, non-violent female offenders were treated the same way as violent male offenders *(Cardaci, 2013)*. **This means that during hospitalization, women inmates can be shackled for any reason, included during childbirth** *(Cardaci, 2013)*.

It has been documented that shackling pregnant inmates during transport or during treatment poses undue risks to the mother and the fetus *(Cardaci, 2013)*. According to Amnesty International, women inmates who are giving birth, or who have just given birth should not be shackled if they are being guarded by corrections officers *(Cardaci, 2013)*. According to international standards, restraints should only be used when an inmate poses a risk to themselves or others, when they are an escape risk, or when there is potential of property damage *(Cardaci, 2013; National Commission on Correctional Healthcare, 2014)*. **However, many states still allow for the restraint of pregnant inmates** *(Cardaci, 2013; Hoskins, 2004)*. **In fact, when many pregnant inmates are transferred to a community hospital for childbirth, they may be routinely shackled by the wrist, ankle, and/or abdomen** *(Cardaci, 2013)*. **The landmark decision of Nelson v. Correctional Medical Services, the U.S. Court of Appeals for the Eighth Circuit held that: Without regard to whether she posed a security or flight risk, shackling a women while she was in labor violated her Eighth Amendment rights** *(Cardaci, 2013)*.

Though the risks to shackling pregnant women are well-documented, the majority of states still allow the process *(Cardaci, 2013)*. The state departments of corrections and the Association of State Correctional Administrators feel that anti-shackling laws prevents corrections officers from using their professional judgment *(Cardaci, 2013)*. Though there has never been a documented escape attempt during childbirth, corrections officials feel that it is not possible to create legislation that covers all the potential reasons for needing to restrain an inmate *(Cardaci, 2013)*.

Besides the concerns of shackling during childbirth, patient privacy is also an issue *(Cardaci, 2013)*. Even though Amnesty International calls for female prisoners to only be guarded by female corrections officers, male corrections officers routinely supervise female inmates even during childbirth *(Cardaci, 2013)*. Even in states that ban shackling, there is no consistent policy for protecting the privacy of the inmate during childbirth, and the postpartum period *(Cardaci, 2013)*. During childbirth, these inmates are normally surrounded by corrections officers and unfamiliar health providers *(Cardaci, 2013)*. They are very rarely given access to the comforting support of friends, family, or life partners *(Cardaci, 2013)*.

10.1.7.4 BONDING WITH NEWBORNS

Female inmates rarely have the opportunity to bond with their newborns *(Cardaci, 2013)*. Even when they deliver in a community hospital, most of these inmates are separated from their infants soon after birth *(Cardaci, 2013)*. **Hoskins (2004) noted that most infants are removed from their inmate mothers within 24-72 hours after delivery.** Most infants are placed with family or foster agencies until the completion of the inmate's sentence, unless parental rights have been terminated *(Cardaci, 2013; Harner & Riley, 2013b)*. This lack of bonding time with their newborns can contribute to the inmate's poor mental health *(Harner & Riley, 2013b)*.

10.1.7.5 POST PARTUM NEEDS

Though the support of friends and family is crucial during the postpartum period, much like during labor, that access is severely restricted *(Cardaci, 2013)*. This is of a particular concern when the mother is separated from their newborn soon after birth *(Cardaci, 2013)*. NCCHC notes in their standards that inmate mothers are at risk for postpartum depression due to the separation from their infant after birth *(National Commission on Correctional Healthcare, 2014)*. Because of this, medical staff should work with the mental health staff to identify and treat this issue *(National Commission on Correctional Healthcare, 2014)*. Because mandatory minimum sentencing keeps women separated from their infants for extended periods of time, often at rural locations, this can have a negative effect on the woman's parenting skills and her attachment with her baby *(Cardaci, 2013)*.

10.1.7.6 PREGNANCY TERMINATION

There are also special medical needs for women inmates who choose to terminate their pregnancies *(Baldwin & Jones, 2000)*. Such needs include medical treatment, counseling, and family planning services *(Baldwin & Jones, 2000)*. Though there had been only one study completed at the time of their research, Sufrin et al. *(2009)* noted that 84 percent of reproductive-aged women incarcerated in Rhode Island reported that they had an unplanned pregnancy, and that 35 percent had histories of at least one abortion.

Within the highly regulated and controlled setting of prisons, abortion raises many interconnected issues, including legal, moral, constitutional, political, financial and medical concerns *(Sufrin et al., 2009).* **Though legal precedents exist that establish the female inmate's right to decide to terminate a pregnancy, studies show that the availability of those services is inconsistent** *(Fisher & Hatton, 2009).*

Courts have been consistent on the principle that a woman does not lose her right to decide whether to continue her pregnancy because of incarceration *(Kasdan, 2009)*. There are two amendments to the U.S. Constitution that courts have cited for the requirement for prisons to allow abortion services to women inmates: The Eighth Amendment that prohibits cruel and unusual punishment, and the Fourteenth Amendment that prohibits states from depriving a person privacy, without due process of the law *(Sufrin et al., 2009)*. The Eighth Amendment has guaranteed all prisoners the right to healthcare, and the Fourteenth Amendment protects women's rights to choose to have an abortion, regardless of incarceration *(Sufrin et al., 2009)*. **Though states have continued to restrict abortion services to female inmates, the courts have consistently held states must reasonably provide abortion services for women who chose to terminate a pregnancy** *(Kasdan, 2009).*

According to the Sufrin et al. *(2009)* survey, responses on abortion services did not differ by a provider's individual or institutional characteristics. However, providers from states with a Republican-dominated legislature or with a Medicaid policy that severely restricted coverage for abortion, were more likely to indicate that availability of abortion services was limited, than were those whose states had a predominantly Democratic legislature or a Medicaid program that covered all or most medically-necessary abortions *(Sufrin et al., 2009)*. Despite the legal consensus that incarcerated women are required to have adequate access to abortion services, many states refuse to facilitate access *(Kasdan, 2009)*.

In a nationwide survey by Sufrin et al. *(2009)*:

68%	**of respondents allow incarcerated women to obtain an elective abortion**
	OF THESE
44%	**refer the inmate to a counselor for option discussions**
54%	**assist the inmate in arranging an appointment**
88%	**will provide transportation to the appointment**

(Sufrin et al., 2009)

This study was also cited by Kasdan *(2009)*, who also noted that many facilities that do allow abortions, provide little if any logistical assistance in setting up, paying for, or transportation to the appointment. Though they do not have to assume the costs of elective abortions, states must assume those costs for women who are seeking abortions for specific health concerns *(Kasdan, 2009)*.

Public health and correctional officials need to be aware that prisons must allow timely access to abortion services for all women inmates who request these services *(Kasdan, 2009)*. Abortion services are an important part of women's reproductive health services; however, because of the discretion afforded to correctional

officials, varied and sometimes unconstitutional interpretations of laws and medical standards create barriers to women inmates obtaining these services *(Sufrin et al., 2009)*. The gap in abortion services is just a small example of the larger challenge to provide the needed reproductive heath services required by female inmates *(Kasdan, 2009)*.

10.1.7.7 STATE-BY-STATE REPORT CARD

A state-by-state report card for conditions experienced by pregnant inmates and their children was created by The Rebecca Project for Human Rights and the National Women's Law Center *(Cardaci, 2013)*.

State Report Card for Conditions Experienced by Pregnant Inmates and their Children

GRADE	STATES
A-	1
B	7
C	22
D or F	21

(Cardaci, 2013)

The states were graded on prenatal care, shackling policies, and family-based alternatives to prison *(Cardaci, 2013)*. When the grades were tabulated, one state received an "A-," seven states received a "B," 22 states received a "C," and 21 states received a "D" or "F" *(Cardaci, 2013)*. The goal of the report card was to help states develop programs that are tailored to the needs of pregnant women inmates and also to break the cycle of addiction, abuse, and future incarceration *(Cardaci, 2013)*. Hoskins *(2004)* noted that very few correctional facilities have programs for incarcerated women that focus on prenatal care and childbirth preparation.

Knowing that the health of many pregnant inmates was poor prior to incarceration, development of childbirth classes, prenatal education, and explanations of procedures and care during labor and delivery will help reduce the risk to the mothers and the infants *(Cardaci, 2013)*. To help prevent transmission, HIV-testing, counseling and education should be given to all pregnant women inmates *(Cardaci, 2013)*. Any pregnant inmates with positive results should be given appropriate care equal to the community standards of care *(Cardaci, 2013)*. This was echoed by Fisher et al. *(2009)* who noted that educational programs have improved post-incarceration contraceptive use, and has reduced unplanned pregnancies *(Fisher & Hatton, 2009)*. In addition, Lamaze and doula programs have increased satisfaction among the women receiving care *(Fisher & Hatton, 2009)*.

10.1.8 WOMEN'S MENTAL HEALTHCARE

As with the male inmate population, two public policies that were adopted over the last 30 years have been the catalyst for the increased number of mentally ill persons who have been sentenced to prisons *(Abramsky, 2003)*. First, the "deinstitutionalization" of the community mental health system, and second, the embracing of the "war on drugs" *(Abramsky, 2003)*. These policies dramatically expanded the prison population, the number of people sentenced for non-violent crimes, and the sentence length *(Abramsky, 2003)*. Deinstitutionalization was a movement that began in the 1970s to move care from the nation's psychiatric hospitals, to community-based care *(Macmadu & Rich, 2015; Smyer & Burbank, 2009)*. By the year 2000, the number of state hospital inpatient mental health beds had dropped from 339 beds, to just 22 beds per 100,000 people *(Lamb & Weinberger, 2005)*.

Many women in prison suffer from significant mental health issues, some of which were apparent before incarceration, and some that were caused by incarceration *(Harner & Riley, 2013b)*. Because of their histories of victimization and violence, most women come into prison having suffered from stress, trauma, and fear *(Aday & Farney, 2014; Harner & Riley, 2013b)*. They also have histories of drug abuse, poverty and unemployment *(Aday & Farney, 2014; Harner & Riley, 2013a)*. Prisons themselves can be considered trauma-inducing environments because they lead to: loss of family contact, being stripped of identity, and additional victimization from other inmates or staff *(Abramsky, 2003; Harner & Riley, 2013b)*. All of these factors contribute to women struggling to cope with the prison environment *(Aday & Farney, 2014; Harner & Riley, 2013b)*.

Although the female prison population has grown dramatically, the availability of mental health services has not grown proportionately *(Abramsky, 2003; Harner & Riley, 2013b)*. Because of the limited mental health resources, most prisons operate from a "crisis-oriented" model of mental healthcare, out of necessity *(Harner & Riley, 2013b)*.

Research has noted that 73 percent of women in state prisons have symptoms of mental disorders, compared to 12 percent in the general community, and 55 percent of men *(Covington, 2007; Ferguson, Pickelsimer, Corrigan, Bogner, & Wald, 2012; Hatton & Fisher, 2011)*.

This was echoed by Braithwaite *(2008)* who noted that the prevalence of psychiatric disorders is higher in incarcerated women than it is in the general community.

Percentage of individuals with Symptoms of Mental Disorders

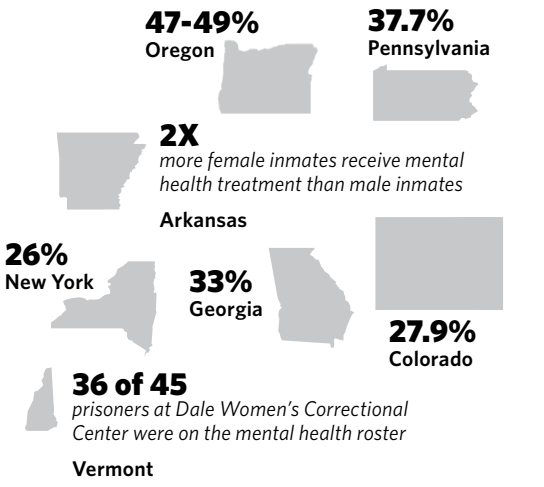
73% of Female Inmates

12% of Females in the General Population

55% of Male Inmates

(Covington, 2007; Ferguson, Pickelsimer, Corrigan, Bogner, & Wald, 2012; Hatton & Fisher, 2011).

Women State Prisoners suffering from mental illness:



(Abramsky, 2003)

Though there is a lack of data, recent studies report that the criteria for at least one psychiatric condition is met by up to 80 percent of incarcerated women *(Baldwin & Jones, 2000; Rarey, 2011).* **In addition, Staton-Tindall et al. (2007) noted that 64 percent of incarcerated women had a previous mental health disorder diagnosis.**

The most common mental health conditions of this population include, substance abuse, post traumatic stress disorder (PTSD), and depression *(Baldwin & Jones, 2000; Fisher & Hatton, 2009; Harner & Riley, 2013b; Staton-Tindall et al., 2007)*. In addition, because of their high incidence of mental health issues, women inmates also pose an increased risk for suicide *(Staton-Tindall et al., 2007)*.

Research has also shown that three quarters of the women who had a mental health disorder also met the criteria for a substance abuse disorder *(Covington, 2007; Fisher & Hatton, 2009; Reviere & Young, 2004)*. **According to the study by Springer (2010), a history of substance abuse or dependency is reported in between 30 percent and 80 percent of prisoners. The most common co-occurring disorders for addicted women include depression, disassociation, PTSD, anxiety disorders, eating disorders, and personality disorders** *(Covington, 2007; Hatton & Fisher, 2011; Staton-Tindall, Duvall, Leukefeld, & Oser, 2007).*

Although many female inmates suffer from drug and alcohol addiction, few programs are available to help treat these conditions *(Braithwaite et al., 2008; Covington, 2007; Zaitzow, 1999)*. **This was echoed by Freudenberg (2002) who noted that less than 10 percent of incarcerated women are offered drug treatment programs.** It was also reported that 85 percent of opioid-addicted inmates will relapse back into drug use within one year of release, regardless of sentence length *(Springer, 2010)*. Though treatments such as methadone and buprenorphine are shown to be successful in preventing relapse and reducing recidivism, few state prisons offer such treatments *(Springer, 2010)*. Because of this, many women fall back into the pattern of addiction once released, since they are unable to cope with the pressures that led to the initial addictions *(Braithwaite et al., 2008; Covington, 2007)*.

10.1.8.1 ABUSE

	FEMALE INMATES	GENERAL POPULATION
Reported being sexually abused as a child	**59%**	**20-27%**
Reported being physically abused by an intimate partner	**75%**	**22%**

1 in 4 women in state prisons reported being sexually abused before the age of 18

(Byrd & Davis, 2009; Hatton & Fisher, 2011; Hoskins, 2004; Zaitzow, 1999)

More than 90 percent of women inmates may have suffered from victimization prior to incarceration *(Byrd & Davis, 2009; Harner & Riley, 2013; Staton-Tindall, Duvall, Leukefeld, & Oser, 2007)*. Fifty-nine percent of incarcerated women reported being sexually abused as a child, compared to 20-27 percent in the general community *(Byrd & Davis, 2009; Hatton & Fisher, 2011; Hoskins, 2004; Zaitzow, 1999)*.

One in four women in state prisons reported being sexually abused before the age of 18 *(Baldwin & Jones, 2000; Byrd & Davis, 2009; Reviere & Young, 2004)*. In addition, 75 percent reported being physically abused by an intimate partner, compared to 22 percent in the general community *(Byrd & Davis, 2009; Hatton & Fisher, 2011; Hoskins, 2004; Zaitzow, 1999)*.

There is also evidence that female inmates may be sexually abused by prison staff *(Braithwaite et al., 2008)*. This type of abuse normally happens during routine medical examinations *(Braithwaite et al., 2008)*. Harner et al. *(2013b)* noted that many mental health issues were identified during an inmate's routine gynecological examinations. During those examinations, many women inmates expressed guilt, shame, anger, and discomfort from past sexual trauma *(Harner & Riley, 2013b)*.

10.1.8.2 CHILDHOOD TRAUMATIC EVENTS

Covington *(2007)* noted the relationship between childhood traumatic events *(CTEs)* and mental health concerns. Greater exposure to CTEs increased the odds of a woman needing psychotropic medications, receiving mental health treatment, having alcohol dependence, or making a suicide attempt *(Covington, 2007)*. An experience of seven CTEs increases a woman's likelihood of needing mental healthcare as an adult by 980 percent *(Covington, 2007)*.

10.1.8.3 TRAUMATIC BRAIN INJURY

In the research by Brewer-Smith *(2005)*, respondents in their survey showed that within the female prison population there was a high prevalence of neurologic conditions, such as traumatic brain injury (TBI), with loss of consciousness, and psychiatric disorders. The cause of the TBI disorders were reported to be sustained from physical or substance abuse *(Brewer-Smyth, 2005)*. **Ninety-five percent of the women inmates in their survey had abnormal neurologic histories and/or neurologic examination abnormalities that predated their incarceration** *(Brewer-Smyth, 2005)*. Some of the women inmates were cognitively impaired, or mentally challenged *(Brewer-Smyth, 2005)*. **In the study by Ferguson et al. (2012) it was noted that female inmates (72 percent) had a higher prevalence of TBI than their male inmate counterparts (65 percent).** It was also noted in their study that female inmates with acquired brain injury have different behavioral and cognitive impairments that their male inmate counterparts, and will therefore require different treatment and management *(Ferguson et al., 2012)*. Covington *(2007)* noted that physical, emotional, and sexual abuse has been experienced by a high number of women in the prison system. The recognition of the role trauma plays in the evolution of physical and mental health conditions has been a major development in healthcare research *(Covington, 2007)*

10.1.8.4 DISCIPLINARY ISSUES

Like their male counterparts, female inmates with mental illness may find a hard time coping with the controlled environment of prison, thereby accumulating disciplinary infractions *(Abramsky, 2003)*. Research shows that women prisoners who currently, or in the past, had mental health problems had significantly higher disciplinary problems *(Abramsky, 2003)*. In addition, women prisoners who are on psychotropic medications had disciplinary infraction rates twice as high as other female prisoners, as well as other male prisoners who were also on medications *(Abramsky, 2003)*. **In a New York women's prison, 80 percent of the "unusual incident reports" involved inmates who had mental health issues** *(Abramsky, 2003)*.

10.1.8.5 INTERVENTION AND MANAGEMENT, RATHER THAN TREATMENTS

Prison mental healthcare is primarily based on crisis intervention and managing symptoms, rather than providing treatment *(Fisher & Hatton, 2009; Harner & Riley, 2013b)*. Inadequate treatment and substance abuse programs, along with the harsh conditions of prisons, all contribute to the adverse consequences for women inmates *(Fisher & Hatton, 2009)*. These consequences include, sentence length, increased isolation, hopelessness, self-mutilation, and suicide *(Fisher & Hatton, 2009)*.

Because women inmates have suffered from victimization, have been removed from their families, locked away, and stripped of their power, a trauma-informed system of treatment could be beneficial *(Harner & Riley, 2013)*. **A trauma-informed system is guided by four principals** *(Harner & Riley, 2013b):*

1. **Understanding the trauma**
2. **Understanding the survivor**
3. **Understanding the available services**
4. **Understanding the service relationship**

Understanding the trauma: Traumatic experiences are integrated into the survivor's understanding of the world in which they live, and become the organizing feature of the women's life *(Harner & Riley, 2013b)*. Because of this, clinicians need to anticipate the inmate's predictable and unpredictable physical, functional, and emotional responses to trauma *(Harner & Riley, 2013b)*.

Understanding the survivor: Clinicians need to understand that the survivor is not defined by her symptoms, diagnosis, or specific trauma *(Harner & Riley, 2013b)*. Clinicians should try to understand the survivor holistically, in context with her life experiences, and not as a one-dimensional collection of symptoms *(Harner & Riley, 2013b)*.

Understanding the available services: Restoring "autonomy and control" to the survivor should be the context from which available mental health services are considered *(Harner & Riley, 2013b)*. Through crisis-based services are important; they should be only one piece of a range of services that helps build on the survivor's strengths, and supports additional skills that will improve her mental health *(Harner & Riley, 2013b)*.

Understanding the service relationship: Survivors need collaborative relationships that allow them to be recognized as co-contributors to their health plan *(Harner & Riley, 2013b)*. Because of their past trauma, survivors do not react well to a relationship where there is a clear power imbalance *(Harner & Riley, 2013b)*.

In the survey by Harner et al. (2013b), respondents reported the following factors that led to improved mental health:

1. **Access to proper medications**
2. **Being "clean" of illegal substances**
3. **Working with mental health providers on their "issues"**
4. **Being removed from violence**
5. **Rediscovering religion**
6. **Having time to heal old wounds and adjust to the prison environment**

Because many standard prison operating practices such as pat downs, body searches, restraints, and seclusion can re-traumatize the female inmate, gender-responsive, woman-centered care is essential in creating a essential meaningful system of care *(Covington, 2007)*.

10.1.8.6 ALTERNATIVES TO INCARCERATION

One alternative to the increasing costs of providing mental healthcare to women inmates is the greater use of mental health courts *(Fisher & Hatton, 2009)*. Mental health courts divert individuals with mental health problems from the criminal justice system to a supervised treatment program *(Fisher & Hatton, 2009)*. This option requires greater investment in community-based mental health and substance abuse treatment programs *(Fisher & Hatton, 2009)*.

10.1.9 AREAS FOR IMPROVEMENT

According to their research, Baldwin (2000) noted three specific areas in which women's health could be improved.

1. **Classification and screening for women in prison, with particular attention to needs related to childhood sexual abuse, domestic violence, and children's needs**
2. **Additional mental health programs and substance abuse treatment**
3. **Increased inter-agency coordination of services and programs**

Classification and screening: In their research, Baldwin *(2000)* noted that although women inmates require unique housing and programming needs, most prisons still use the same classification criteria that they use for male inmates. This is especially true for prisons housing less than 1,000 women *(Baldwin & Jones, 2000)*.

Mental health programs: With the prevalence of mental health issues and substance abuse problems, quality programs are needed *(Baldwin & Jones, 2000)*. Since many women inmates come from abusive backgrounds, therapeutic communities need to be created, along with providing individual and group counseling *(Baldwin & Jones, 2000)*. In addition, since two thirds of women inmates have minor children and suffer from separation anxiety, programs designed to alleviate those concerns should be implemented *(Baldwin & Jones, 2000)*. Girl Scouts Behind Bars, which connects female inmates with their daughters two Saturdays a month, and Mothers with Infants Together (MINT), which allows infants to stay with their mothers up to two months, have been some of the most successful programs *(Baldwin & Jones, 2000)*.

Interagency Collaboration: Because of the increase of women in prison and the fact that entitlement programs are lost upon incarceration, coordination is needed with public health resources for discharge planning *(Baldwin & Jones, 2000; Fisher & Hatton, 2009)*. Community disruption and higher crime rates can be caused by flooding underserved communities with ex-offenders, without providing adequate post-release services, thereby damaging the social cohesion and its positive effects on health *(Freudenberg, 2002)*. Strong partnerships between correctional, public health, and community organizations can help provide pre-and post-release services such as: drug treatment, healthcare, employment and vocational training, social services, mental health treatment, and housing *(Freudenberg, 2002; Hoskins, 2004; Kruttschnitt, 2010)*. Since Medicaid and Medicare are revoked upon incarceration, and because it can take up to three months for the re-enrollment process, it is important to have linkages to the community to ensure continuity of care for the released inmate *(Springer, 2010)*.

Though respondents in the Harner et al. *(2013a)* survey reported improvements in their health conditions during incarceration, mainly due to access to previously unavailable care; they also reported a lack of resources that focused on promoting health. In their study, Ziatzow *(1999)* suggests that women inmates are an ideal population for divergence to a community-based correctional program. Because they commit crimes that pose little threat to public safety, that they have lower recidivism rates, and that they respond better to community programs, they can more economically serve their sentences in community-based correctional programs *(Zaitzow, 1999)*.

10.2 DISCUSSION

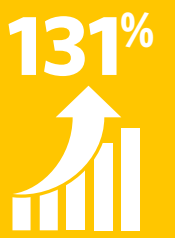
In the year 2000, women inmates were held exclusively in 65 state prisons and in 56 state prisons that housed both men and women *(Baldwin & Jones, 2000)*. Of those state prisons, half of the states housed less than 1,000 female inmates *(Baldwin & Jones, 2000)*. In addition, most states only operate one prison facility for women, due to their small population numbers *(Braithwaite, Treadwell, & Arriola, 2008)*. Little attention is paid to women inmate's unique health needs, because they only make up 6.5 percent of the inmate population *(Aday & Farney, 2014; Baldwin & Jones, 2000; Braithwaite et al., 2008; Cardaci, 2013; Hoskins, 2004)*. Though they only make up a small proportion of the inmate population, women inmates are more likely to have a serious medical condition than male inmates *(Aday & Farney, 2014; Anno et al., 2004; Braithwaite et al., 2008; Brewer-Smyth, 2005; Covington, 2007; Fisher & Hatton, 2009; Macmadu & Rich, 2015; L. M. Maruschak, 2012; Zaitzow, 1999)*. In fact, women inmates seek medical care 2.5 times more than their male counterparts *(Aday & Farney, 2014; Zaitzow, 1999)*. Balancing the increased need for medical services against the relatively small population is a challenge for state departments of corrections. Available health services and programs have not kept up with the increased incarceration rate of women *(Harner & Riley, 2013a)*. State departments of corrections will have to increase funding for all aspects of women's correctional health services in order to keep up with the numbers of women who are now entering prison.

10.2.1 CHILDREN AND COMMUNITY

Keeping their families together after incarceration is a difficulty for many women inmates. Many face employment challenges after release from prison because of limited job opportunities *(Freudenberg, 2002)*. This makes it very difficult for women to keep families together, as many states prohibit ex-felons from obtaining food stamps, public housing, or school loans *(Fisher & Hatton, 2009; Kruttschnitt, 2010)*. In addition, HUD requires that families that are housing a convicted felon have to be evicted from public housing *(Freudenberg, 2002)*. This leaves little less than homelessness and falling back into criminal behavior, addiction, and risky lifestyles for many women released from prison. If the

U.S. is going to continue to incarcerate women in the numbers that are currently being imprisoned, then many of these policies will have to be reversed. Policies that help convicted female felons, in lieu of hurting them, need to be developed. Employment opportunities, educational programs, food stamps, and housing should all be available for women who have been released from prison. More programs that help to keep families and communities together will limit recidivism, which then has a domino affect on the number of health services that prisons need to provide.

Since the 1990s, there has been a 131% increase in the number of women in prison who have minor children *(Fisher & Hatton, 2009; Hatton & Fisher, 2011)*, **and nearly 1.3 million children in the U.S. have mothers who are incarcerated** *(Braithwaite et al., 2008)*.



Since the 1990s, there has been a 131 percent increase in the number of women in prison who have minor children *(Fisher & Hatton, 2009; Hatton & Fisher, 2011)*, and nearly 1.3 million children in the U.S. have mothers who are incarcerated *(Braithwaite et al., 2008)*. In addition, having a parent in prison increased a child's risk of failing grades, delinquency, unemployment, mental health issues, and drug abuse *(Kruttschnitt, 2010)*. Because of the effect on their children, keeping women out of prisons should be a priority. Changes should be made to mandatory minimum sentencing laws, so that sentences for women better reflect their role in the crimes being committed. In addition, reducing the rate of imprisonment for non-violent drug offenders, caused by the war on drugs, should be undertaken. The focus of the criminal justice system should be not only on public safety, but also on the effects of imprisonment on the prisoner, their families, and their community *(Fisher & Hatton, 2009)*.

For many women from underserved communities, the first time they access health, mental health, and substance abuse treatment is in prison *(Staton-Tindall, Duvall, Leukefeld, & Oser, 2007)*. When there are limited community health resources, women will typically use the emergency room for their health needs *(Staton-Tindall et al., 2007)*. Because of the lack of community-based services, women in prison access health services more so than the male population.

12.5 average number of visits to sick call within first 6 months of incarceration

129 female inmates

2,869 uses of prison health services in a four-month period

(Staton-Tindall et al., 2007)

Within the first six months of incarceration, women inmates visited sick call an average of 12.5 times, and during a four-month period, 129 women inmates used a high of 2,869 prison health services *(Staton-Tindall et al., 2007)*. Because of the high use of prison health services by women inmates, more community-based public health services dedicated to women's health issues, are needed. Having greater access to health, mental health, and substance abuse treatment in the community will not only keep many women out of prison, it will also improve their health prior to entering prison, thereby reducing the need for expensive care once they are incarcerated. If these community-based services are not provided, they will continue to use the emergency department as their primary care provider, as well as needing an increased the use of limited correctional medical and mental healthcare, once incarcerated *(Staton-Tindall et al., 2007)*

10.2.2 PROGRAMS FOR WOMEN

Vocational and education programs that are common in men's prisons are rarely available in women's prisons *(Braithwaite et al., 2008; Zaitzow, 1999)*. Though these programs have been shown to reduce recidivism, and are also important for women trying to reunite with their children, most were eliminated as part of the Violent Crime Control and Law Enforcement Acts of the 1990s *(Kruttschnitt, 2010)*. Besides educational and vocational programs, substance abuse programs are also a rarity in women's prisons, even though women inmates have a high prevalence rate for addiction *(Kruttschnitt, 2010)*. In addition, programming to improve parenting skills has also been eliminated, even though children have been shown to be a positive influence for change in female inmates *(Kruttschnitt, 2010)*. Programming that supports educational, vocational, substance abuse, and parenting skills need to be added and expanded within women's prisons. These programs will reduce recidivism for women inmates, as well as giving them the skills and opportunities to keep their families and communities together.

10.2.3 WHERE CARE IS PROVIDED

Due to the small population size of women's prisons, many state officials are reluctant to provide extensive health services within the prison walls *(Zaitzow, 1999)*. Because of this, women inmates are more often transported to community hospitals for their healthcare needs *(Zaitzow, 1999)*. However, most women's prisons are also located in rural areas, making transporting long distances for required healthcare an inherent risk *(Zaitzow, 1999)*. Research is needed comparing the locations of women's prisons, the location of their primary health provider, costs of provided services, costs of transportation, and clinical outcomes. This research will help determine if additional health services within the women's prison can be provided in a cost-effective manner; if a regional correctional healthcare facility that serves both male and female inmates can be provided; or if a current contract with a community-based healthcare provider is still the most cost-effective and clinically-prudent model.

10.2.4 PARTNERSHIPS

In lieu of, or in addition to, expanding women's correctional health within the prison walls, partnerships with public and academic health systems are needed. Strong links between correctional health and public healthcare help reduce the use of prisons as the default healthcare providers for underserved communities *(Møller, Gatherer, Jürgens, Stöver, & Nikogosian, 2007)*. In addition, partnerships with public health agencies and maternal and child health services can provide valuable female-specific programs such as, family planning, pregnancy care, substance abuse treatment, chronic and communicable disease treatment, and discharge planning services *(Baldwin & Jones, 2000)*. Though partnerships between prison health and academic medical centers are still minimal *(Reeves, Brewer, DeBilio, Kosseff, & Dickert, 2014)*, they provide a great opportunity for expanded access to specialists, as well as increased opportunities for provider education and medical research *(Fraser Hale, Brewer, & Ferguson, 2008)*. Partnerships with public and academic health systems should be developed and expanded, not only to enhance access to needed specialists, but to also provide a continuity of care before, during, and after incarceration. By having this continuity of care, identification and treatment of medical and mental health conditions can be started prior to incarceration, limiting the amount of correctional health funds that need to be spent while the inmate is incarcerated.

Though creating partnerships with public and academic health systems increases access to needed specialists and facilities, it still requires the transportation of the inmate to community-based hospitals for their care, which has inherent safety and security concerns. One solution to this problem is to create dedicated secured units for the inmate-patients within the community-based hospital *(Trestman, Ferguson, & Dickert, 2015)*. This would still allow inmate-patients to access the health providers without the co-mingling of community-based and prison-based patients; who are normally shackled, in corrections clothing, and escorted by armed corrections officers. If it is cost-effective to do so, more dedicated secured units for inmate-patients should be created in community-based hospitals. Another option to create partnerships with public and academic health systems, without the co-mingling of their patients, is to expand the use of telemedicine *(Trestman et al., 2015)*. Telemedicine allows the inmate-patient access to specialists without the cost and security concerns of transportation to the community-based hospital. New telemedicine programs should be created that are dedicated to the medical and mental health needs of women inmates. If systems are already in place, they should be expanded. Because of their small population numbers, telemedicine is a perfect system for expanding women's health services in prisons.

10.2.5 DIAGNOSTIC AND TREATMENT SERVICES

The state of Texas now has a law that requires that every female inmate over the age of 40 be offered a yearly mammogram *(Rarey, 2011)*. Because of their high use and cost effectiveness, many prisons are now building and equipping mammography suites *(McDonald, 1999)*. However, in states where construction of a mammography suite is not cost-effective, mobile technology may be a solution. Seventeen states currently use mobile technology for mammography services *(L. Maruschak, Chari, Simon, & DeFrances, 2016)*. The use of mobile technology should be expanded to more states who cannot justify the costs of constructing dedicated diagnostic services for women. This technology can also be used for more than just mammography. Diagnostic testing such as Ultrasound, MRI, CT, and general radiology, can all be provided through mobile technology. In addition, minor procedures, and even surgery, can be provided through mobile technology. Because of their small population numbers, women's prisons are a prime candidate for the expansion of mobile technology use to provide required care.

10.2.6 DENTAL CARE

More dental services than simply extraction should be provided to women inmates. Many women in prisons have expressed concern over extraction as the treatment of choice in prisons *(Harner & Riley, 2013a)*. Dental services in women's prisons should be expanded to the full range of services that are offered in the community. To provide these expanded services in a cost-effective manner, state departments of corrections can provide care in either the prison facility, in a regional correctional health facility, at a community-based dental health provider, or through mobile technology. Collecting data on patient volumes, available staffing, typical dental conditions, and costs of care can help states determine where their dental care should take place.

10.2.7 ACCESS TO CARE AND USE OF CO-PAYS

Medical copays are burdensome for inmates, and may cause many inmates to not seek care, which can potentially expose other inmates to communicable disease *(Harner & Riley, 2013a)*. In lieu of medical copays, women inmates need to spend their limited funds on phone cards, hygiene products, and over-the-counter medications *(Hatton & Fisher, 2011)*. In addition, the National Commission on Correctional Healthcare opposes the copay system, as they believe that it will deter some inmates from requesting needed care *(Schaenman, Davies, Jordan, & Chakraborty, 2013)*. Research is needed on the effects of medical copays on the health conditions of female inmates. Because women inmates access healthcare services more often than male inmates, any program that limits access to needed healthcare should be eliminated.

10.2.8 WOMEN'S CHRONIC CARE

Women inmates have a high risk for HIV and other STDs due to their past histories of drug abuse and sex work *(Springer, 2010; Zaitzow, 1999)*. In fact, women inmates have a prevalence rate for STDs that is two times more than their male counterparts *(Macmadu & Rich, 2015)*. Because of this, more funding is needed for research and screening of HIV, HCV, and STD. By providing additional funding for HIV, HCV, and STD screening, infected inmates can be identified, treatments can begin earlier, and the possibility of spreading the disease to other inmates can be minimized. From the standpoint of research, prisons are ideal locations for the development of programs for the screening and testing of these diseases, because of the controlled environment *(Springer, 2010)*. Taking advantage of the high prevalence rates and the controlled environment within prisons can help in developing new screening processes and treatments for these diseases, which will limit their spread not only within prisons, but also in the community at-large, once the inmate is released.

One of the causes of the increases in correctional healthcare costs is due to the increase in the number of AIDS patients *(Zaitzow, 1999)*. Some of the most effective medications for the treatment of AIDS are also the most expensive *(Zaitzow, 1999)*. In order to maintain the community standard of care, more funding should be provided for these HIV treatments. However, states are also trying to balance the ethical obligation to provide the most expensive care against how to best use the limited number of funds available *(Zaitzow, 1999)*. If overall funding for correctional health is not increased, the ability to provide more effective, but also more expensive treatments, may be limited.

10.2.9 WOMEN'S ELDER CARE

Prisons are struggling to provide gender-specific treatments and programs to women inmates, much less the aging woman inmate *(Harner & Riley, 2013a)*. Similar to their male counterparts, aging women inmates have more medical and psychosocial needs *(Aday & Farney, 2014; Smyer & Burbank, 2009)*. Women inmates also access more health services than their male counterparts; they live longer, and self-report lower health status *(Williams, Stern, Mellow, Safer, & Greifinger, 2012)*. Since evidence suggests that prisons are failing to meet the needs of this vulnerable population *(Fisher & Hatton, 2009)*, more funding for programs and services dedicated to aging female inmates is needed. In addition to programs and services, more screening is needed on specific health issues for aging women. By expanding screening services, more early detection and treatment of geriatric issues can be provided, which should lower costs, as treatments can begin prior to the conditions progressing to acute status.

10.2.10 FUNCTIONAL IMPAIRMENTS

Functional ability is often defined by the person's ability to complete Activities of Daily Living (ADLs). However, ADLs that are used in the community setting are not appropriate for the prison setting. Though some have started to define prison ADLs as getting in and out of top bunks, standing for head counts, dropping to the floor on demand, getting to the dining hall, and hearing staff order *(Smyer & Burbank, 2009; Williams et al., 2012)*, they are not yet a nationally recognized standard and may not be appropriate for a women's prison. Research is needed to define a nationally-recognized standard for ADLs in a women's prison. This will help states

track the functional ability of their inmates and also help determine when an inmate may have to be moved to a more appropriate level of care.

In addition to ADLs, prisons also have to determine how to react to their inmates with disabilities. Because of the small population size of women inmates, it may not be cost-effective to create dedicated housing units for disabled inmates. However, knowing that between 40 percent *(Bronson, Maruschak, & Berzofsky, 2015)* and 70 percent *(Reviere & Young, 2004)* of women inmates may have a disability; prisons need to determine how they are going to accommodate this inmate population. Research is needed on the numbers and conditions of disabled inmates, in order to determine the changes that prisons may have to make to their physical plant, to accommodate these inmates.

10.2.11 COMMUNITY LINKAGES, COMPASSIONATE RELEASE, AND HOSPICE

Three other programs that should be expanded to help reduce the cost of healthcare for elderly woman inmates: are community linkages, compassionate release, and hospice programs. Linkages between public health and correctional health provide a continuity of care that ensures that released inmates are still provided appropriate medications and treatment *(Aday & Farney, 2014; Braithwaite et al., 2008)*. Linkages with other community services can also help the released inmate re-enroll in Medicaid, find housing, schedule follow-up medical appointments, and access other community-based services. Compassionate release programs were designed to allow early release for terminally ill inmates whose medical conditions no longer justify them completing their sentence *(Williams, Sudore, Greifinger, & Morrison, 2011)*.

Some advocates are calling for the expansion of compassionate release programs to include older inmates and inmates with disabilities, due to their problems negotiating prison ADLs, as well as completing mandatory work assignments *(Fisher & Hatton, 2009)*. Expansion of compassionate release programs will allow terminally ill and disabled inmates to receive care in a more appropriate and cost-effective setting, thereby reducing the cost of care to the states.

Finally, hospice programs should also be expanded. There programs provide comfort for the terminally ill inmate who has not been granted compassionate release *(Fisher & Hatton, 2009)*. These programs provide care in an appropriate setting that is more cost-effective than transporting the inmate to the community hospital. Expansion of all three of these programs will provide the inmate better care, in a more appropriate setting, and in a more cost-effective manner.

10.2.12 WOMEN'S REPRODUCTIVE HEALTH

Although it is a required prison health service by both the NCCHC and the WHO *(Cardaci, 2013; Fisher & Hatton, 2009)*, reproductive healthcare is not provided consistently across prison systems, even though more than three quarters of inmates reported reproductive health issues *(Staton-Tindall et al., 2007)*. In addition, only 54 percent of pregnant inmates reported receiving prenatal care *(L. M. Maruschak, 2012)*, and the specialized care for a pregnant inmate with substance abuse problems is rarely available *(Cardaci, 2013)*. In the states that do provide reproductive health and prenatal care, there was great variation in the care provided and the location of where the care took place *(Cardaci, 2013)*.

Because prisons often send their inmates to community hospitals for prenatal care and childbirth *(Cardaci, 2013)*, greater linkages with community health providers should be created. This will allow for a greater continuity of care as, well as close any gaps in care due to transportation delays and miscommunication. This should save money by reducing duplicate testing, as well as providing care in a more timely manner; thereby, reducing the potential for litigation.

In addition to greater linkages with community services, standards for reproductive healthcare should be created. These standards would remove the variation in care from prison facility to prison facility, and would begin to establish the community standard of care. These standards can also begin to address issues such as: the number of ob/gyn visits, reproductive health screenings, required diets, need for lower bunks, reduced workloads, childbirth education, counseling, and breast feeding support *(Cardaci, 2013)*. By having these standards, it would limit variation on the care provided, as well as reducing potential litigation, which should inturn reduce the overall cost of care.

10.2.13 SHACKLING POLICIES

Although it has been well documented that shackling a pregnant women inmate during transport or treatment poses undue risk to both the mother and the fetus, many states still allow this process *(Cardaci, 2013)*. In fact, when many inmates are giving birth within community hospitals, they are routinely shackled by the wrist, ankle, and/or abdomen *(Cardaci, 2013)*. Because there has not been a documented case of attempted escape during childbirth *(Cardaci, 2013)*, and also due to the

risks to both the mother and the infant *(Cardaci, 2013)*, shackling of inmates during childbirth should be eliminated or severely restricted. By having such restrictions in place, it would reduce potential litigation against the prison facility and the community provider, without affecting the safety and security of the community.

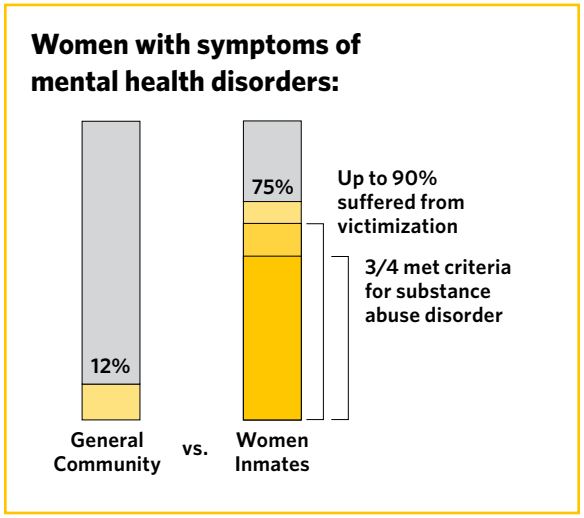
10.2.14 BONDING WITH NEWBORNS

After childbirth, it has been noted that most infants are removed from their mothers within 24 to 72 hours, even if the inmate has delivered in a community hospital *(Hoskins, 2004)*. The research has shown that this process negatively affects the inmate's mental health *(Harner & Riley, 2013a)*. More research is needed on the affects of limited bonding time on both the mother and the infant. This research will then help drive policy decisions on whether the mother should be allowed more bonding time than the current 24 to 72 hours.

10.2.15 PREGNANCY TERMINATION

The fact that women do not lose their right to decide whether to continue their pregnancy during incarceration has been a consistent decision by the courts *(Kasdan, 2009)*. However, many states still refuse to provide adequate access to abortion services *(Kasdan, 2009)*. Because of the discretion afforded to correctional officials, varied and sometimes unconstitutional interpretations of laws and medical standards has created barriers for women inmates in obtaining these services *(Sufrin, Creinin, & Chang, 2009)*. Though the courts have been consistent on the inmate's right to these services, variation of access needs to be removed. The more state departments of corrections limit access that the courts have deemed required, the more states open themselves up for litigation for not providing the community standard of care.

10.2.16 WOMEN'S MENTAL HEALTHCARE



(Covington, 2007; Ferguson, Pickelsimer, Corrigan, Bogner, & Wald, 2012; Hatton & Fisher, 2011 Fisher & Hatton, 2009; Reviere & Young, 2004)

Up to 73 percent of women inmates have symptoms of mental health disorders, compared to just 12 percent in the general community *(Covington, 2007; Ferguson, Pickelsimer, Corrigan, Bogner, & Wald, 2012; Hatton & Fisher, 2011)*. In addition, up to three quarters of the women with mental health disorders also met the criteria for a substance abuse disorder *(Covington, 2007; Fisher & Hatton, 2009; Reviere & Young, 2004)*, and up to 90 percent may have suffered from victimization *(Byrd & Davis, 2009; Harner & Riley, 2013a; Staton-Tindall et al., 2007)*. The quantity of mental health programs available for women inmates has not kept pace with their incarceration rate *(Abramsky, 2003; Harner & Riley, 2013b)*. Out of necessity, because of limited mental health resources, most prisons operate from a "crisis-oriented" model of care *(Harner & Riley, 2013b)*. Because of these factors, mental health programs and treatments specifically for women should be expanded. Up to 95 percent of women inmates will be released, and if their mental health conditions are not treated in prisons, they will bring those conditions right back to their communities. In addition, the lack of adequate mental health programs and treatments in prison also increases the chance that they will fall back into abusive relationships, and risky lifestyle behaviors, which greatly increases their chances to recidivate.

In addition to an increase in prison-based mental health services, community-based services that were promised after the deinstitutionalization of the 1960s, also need to be funded. If those community-based mental health and substance abuse treatment programs were available, many of those now in prison wouldn't have interacted with law enforcement to begin with. In order to limit the criminalization of the mentally ill, more community-based mental health and substance abuse programs and treatments need to be provided. Along with expansion of community-based and prison-based mental health and substance abuse programs and treatments, additional screening services for TBI is also needed. Ninety-five percent of women inmates in one survey had abnormal neurologic histories or exams that predated their incarceration *(Brewer-Smyth, 2005)*. By screening inmates for TBI, they can be identified as having an illness to be treated, in lieu of being labeled as a disciplinary problem. All of these factors: Increased community-based mental health programs and treatments, increased prison-based mental health programs and treatments, and increased screening for TBI, can all work to reduce the costs of women's correctional mental healthcare. By providing the right treatment, to the right patient, in the right setting, care can be provided in the most cost-effective manner, without affecting patient outcomes.

10.2.17 ALTERNATIVES TO INCARCERATION

Expanding alternatives to incarceration is another way to reduce the high costs of healthcare in women's prisons,including a greater use of drug courts and mental health courts to divert women out of prison, and instead into supervised mental health and drug treatment programs *(Fisher & Hatton, 2009)*. This will not only reduce the costs of care, but it will also reduce the population in women's prisons.

10.2.18 CORRECTIONS OFFICER TRAINING

Many times corrections officers are the first contact point for inmates requesting healthcare services. However, corrections officers are not trained to recognize when an inmate's functional or cognitive abilities are declining, when dental issues are progressing to acute status, or when mental health illnesses are causing behavioral disturbances. Since correctional officers are in 24-7 contact with inmates, more training for officers regarding medical and mental heath conditions is required. Besides the amount of training needed, consistency of that training is also required. This will ensure that all correctional staff is receiving the same information. By having correctional officers trained in this information, it will ensure that inmates gain access to care in a timely manner, thereby reducing the chance that the inmate's conditions will progress to acute status.

10.2.19 IMPLICATIONS

The biggest challenge for state departments of corrections in regards to women's health needs is balancing the medical and mental health of this population against their relatively small population numbers. Because of the amount of gender-specific medical and mental healthcare needs, it is difficult to provide cost-effective care and to determine where that care should take place. Because of safety and security issues, it is also not possible to provide care to male and female inmates at the same time within the same spaces. Transportation also then becomes an issue. If, because of the relatively small population numbers, states prefer to transport inmates to the local community hospital, then the distance to that hospital becomes a health concern. Due to the rural location of many women's prisons, the nearest community hospital can be many miles away. In an emergent situation, distance and time become critical.

Creating a regional correctional medical facility could also involve this same concern for distance. Since most regional correctional medical facilities are also part of a larger male prison campus, it could be many miles away from the women's prison facility. More data is needed so that state departments of corrections can determine the amount and location of women's medical and mental health services. States need to analyze: female inmate population numbers, their sentence lengths, their health conditions, on-site available health services, off-site available health services, distances to community hospitals or regional correctional health facilities, the costs of transportation, the costs to provide care, and inmate health outcomes. Once this data is analyzed, the amount of on-site and off-site services can be determined.

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11 SAFETY AND SECURITY

11 SAFETY AND SECURITY

In order to determine the best location to provide inmate healthcare, some overarching issues need to be considered. These include safety and security issues surrounding the provision of care for inmates within a community-based health facility, and issues surrounding the transportation of inmates from one facility to another. Those topics will be discussed in the following sections.

11.1 RESULTS

11.1.1 DEMOGRAPHICS

Because they come from underserved communities, inmates are among the highest risk for untreated serious medical conditions *(Carter, 2015)*. Large numbers of inmates have issues with mental health, substance abuse, and personality disorders *(Carter, 2015; Graves, 2007)*. Infectious disease is also prevalent in corrections environments, with HIV, TB, and hepatitis being among the most prominent diseases *(Carter, 2015)*. While most prisons have internal facilities to handle routine medical and mental health services, a large number of inmates will still need to be transported to community hospitals for specialized and complex care *(Carter, 2015; Graves, 2007; McDonald, 1999; Rarey, 2011; Smith, 2016)*. Even though the costs of transportation and supervision of inmate-patients in community hospitals can be high, it is usually still cost-effective, based on the underutilization of some community providers *(McDonald, 1999)*.

Common medical conditions that usually require transportation to a community hospital include *(Rarey, 2011)*:

- **Cardiac associated chest pain**
- **Severe hypertension or shock**
- **Respiratory conditions that require blood gas monitoring**
- **Cardiac arrhythmias**
- **Abdominal complaints that result in surgery**
- **Epilepsy with multiple seizures**
- **Closed head injuries with loss of consciousness**
- **An acute altered mental status**
- **Drug overdose**
- **Tuberculosis**

11.1.2 SECURED ENVIRONMENTS

Public hospitals and staff are ill-equipped to provide care to forensic patients, both from a staffing and facilities standpoint *(Carter, 2015; Smith, 2016)***. Public hospitals are the only unsecured environment that are a critical part of the criminal justice system** *(Smith, 2016)***.** Many community hospitals do not have dedicated prison wards or units *(Carter, 2015; Smith, 2016)*. The need to provide secured environments is not only to prevent escape attempts, but to also provide security for hospital staff and other community members *(Graves, 2007)*. The International Healthcare Security and Safety Foundation reported 99 hospital escapes from April 2010 to April 2011 in their 2011 Prisoner Escape Study *(Smith, 2016)*.

2011 Prisoner Escape Study

99 hospital escapes from April 2010 to April 2011

(Smith, 2016)

Due to the amount of overtime required and staffing needed to supervise an inmate-patient within a community hospital, the California Department of Corrections and Rehabilitation (CDCR) is looking to create locked guarded units in community hospitals *(California State Auditor, 2010)*. CDCR believes by creating these units, they can gain operational efficiencies in their corrections officer staffing *(California State Auditor, 2010)*.

It is not unusual for a community hospital to treat patients from multiple correctional facilities at one time *(Carter, 2015)*. Patients may come from federal prisons, state prisons, or county jails *(Carter, 2015)*. Because of this, the hospital should designate a single staff member to be the point person for all forensic facilities *(Carter, 2015)*. Hospital staff should note that inmate-patients who arrive at community hospitals, (before they have completed their intake screening) may have serious chronic conditions that have not yet been treated *(Rarey, 2011)*.

Because inmates pose a flight risk, as well as potential dangers to themselves and others, they may be restrained on arrival to the hospital *(Graves, 2007; Smith, 2016)*. The types of restraints could include handcuffs, handcuffs with belly chain, leg irons, and ankle cuffs with chains *(Smith, 2016)*. It is not uncommon for corrections officers to use

wheelchairs to move inmate-patients who are shackled, because it is faster than having them walk *(Smith, 2016)*. Nurses should communicate concerns to the corrections officer if the restraints are limiting the ability to provide medical care *(Graves, 2007; Smith, 2016; Thurmond, 2002)*. Any conflicts between corrections officers and the medical staff on the use of restraints, should be addressed with the hospital administration and the corrections supervisor *(Graves, 2007)*. Once an inmate is classified as a patient, the medical staff must follow the hospital policies and procedures on the use of restraints *(Graves, 2007)*.

Most correctional facilities have agreements with local hospitals that require at least one corrections officer to accompany an inmate at all times, and that medical staff must be accompanied into the room while providing care *(Graves, 2007; McDonald, 1999; Smith, 2016)*. If the inmate-patient is being moved to a different part of the hospital for testing or procedures, the corrections officer will escort the patient to and from that location, as well as accompanying the patient into the procedure or testing room itself *(Graves, 2007; Smith, 2016)*.

11.1.3 HOSPITAL SECURITY PROTOCOLS

Community hospitals should have policies in place for the care of forensic patients *(Carter, 2015; Smith, 2016).* **Such policies should include directives on such items as: prisoner restrictions, patient confidentiality, use of restraints, corrections officer orientation, prisoner intra-hospital movement guidelines, nursing care guidelines, admission and discharge policies, medical records policies, firearms policies, and active shooter policies** *(Smith, 2016).* Both corrections staff and medical staff need to keep in mind that corrections officers are not trained in providing custody administration in a hospital environment, and that medical staff is not trained to care for inmates outside prison walls *(Smith, 2016)*.

Medical staff needs to be aware of the special needs and restrictions required during treatment of the inmate-patient *(Rarey, 2011; Smith, 2016)*. Any breach in protocol can create dangers for the inmate, staff, patients, and visitors *(Rarey, 2011; Smith, 2016)*. Because most corrections officers providing escort to inmate-patients in community hospitals are on overtime pay, the corrections facility may put pressure on the hospital and staff to discharge the inmate-patient back to the corrections facility as soon as possible *(Carter, 2015)*. In addition, the corrections facility may provide only one corrections officer, in lieu of two, or in some cases, provide no escort at all *(Carter, 2015)*. Depending on the security classification of the inmate, they may be accompanied by one, two, or even up to four corrections officers *(Carter, 2015; Smith, 2016)*. Female inmates should always be accompanied by at least one female corrections officer, even if the other officers are male *(Carter, 2015)*.

Under no circumstance should hospital security staff take responsibility for securing the inmate-patient *(Carter, 2015; Rarey, 2011)*. If there is an escape attempt, hospital security should not try to stop or apprehend the inmate *(Carter, 2015)*. They should only monitor the situation and keep staff, patients, and visitors out of harm's way *(Carter, 2015)*. If any corrections facility uses contract security services, the hospital should ask for qualifications and weapons certifications for all contract security staff entering their facility *(Carter, 2015)*.

Correctional officers who will be escorting forensic patients into community hospitals need to be trained in the hospital's procedures for unusual clinical events (codes), security and administrative communications, and clinical and administrative restraint distinctions *(Carter, 2015; Smith, 2016)*. This training and orientation should be documented and kept on file as it is a JCAHO requirement *(Carter, 2015; Smith, 2016)*.

11.1.4 NURSING CONCERNS

Time saving measures that nurses normally perform, such as, leaving extra supplies in the patient room, can be a security breach when treating the inmate-patient *(Graves, 2007; Smith, 2016).* Some supplies, as simple as rolls of tape, a box of tubing, extra linens, scissors, hemostats, or dressings, could be used by the inmate to harm themselves, or others *(Graves, 2007; Smith, 2016)*. Staff should only bring what is needed into the room to provide adequate care, and all items should be removed from the room after completion of the task *(Graves, 2007; Smith, 2016)*. Dietary trays should always have plastic utensils, and knives of any material are often prohibited *(Graves, 2007)*. All restrictions should be discussed with the corrections officer to ensure staff and patient safety *(Graves, 2007)*.

Medical staff should never wear stethoscopes around their necks, or have scissors or hemostats in their pockets when entering the inmate patient's room, as these items can easily be used as weapons *(Chow, 2002; Graves, 2007; Smith, 2016)*. It is also important that medical staff do not reveal any personal information about themselves to the inmate-patient, and that hospital identification badges are either turned over, or the last names covered *(Graves,*

2007; Rarey, 2011; Smith, 2016). Research has also shown that the less the medical staff knows about the crimes the inmate has been convicted of, the less bias they show towards them *(Rarey, 2011; Smith, 2016)*. It is also important to rotate medical staff so that the inmate-patient does not become familiar with the providers *(Graves, 2007)*.

Medical staff should never ask the corrections officer to step out of the room, as being alone with the inmate-patient can put the medical staff in danger *(Rarey, 2011)*. Medical staff should also position themselves in exam and treatment rooms so that they are close to the door, in case they need to exit the room quickly *(Rarey, 2011)*. Medical staff should also not assume that a female inmate-patient is less dangerous than a male inmate-patient *(Rarey, 2011)*. In addition, medical staff should avoid riding in elevators with inmate-patients and their corrections officer escorts *(Rarey, 2011)*.

Visitation, any form of communication (telephone, cards, or letters), and television are all available to the inmate-patient at the discretion of the corrections officer *(Graves, 2007; Rarey, 2011)*. Any cards, letters, packages, flowers, and fruit baskets must all be inspected by the corrections officer, prior to distribution to the inmate-patient, as this may be an attempt to send contraband *(Graves, 2007)*. This was echoed by Patton *(2014)* who noted that for the Oklahoma Department of Corrections, inmate-patients will not be allowed visitation or telephone calls, except under extreme circumstances. This could include the inmate-patient being in critical condition, or being admitted for an extended period of time, of up to two weeks, or longer *(Patton, 2014)*. Any changes in the inmate patient's condition should be reported to the correctional facility *(Graves, 2007)*. Medical staff should not have any direct communication with the inmate-patient's family, even in the case of death *(Graves, 2007)*. All communication regarding the inmate patient's condition to the family, or the media, will be handled through the correctional facility *(Graves, 2007)*.

Because of their histories of illicit drug use, pain management for the inmate-patient can be a challenging issue *(Graves, 2007)*. If pain medications are prescribed, nursing staff should ensure that any oral medications have been swallowed *(Graves, 2007)*. It is also important to watch for signs and symptoms of withdrawal *(Graves, 2007)*.

Though HIPAA protects the privacy of the inmate-patient's health record, it may be necessary for the continuum of care for hospital staff to share discharge summaries, discharge instructions, follow-up appointments, and medications, with the corrections staff, when the inmate-patient is being discharged back to their corrections facility *(Graves, 2007; Rarey, 2011)*. Under no circumstances should an inmate-patient be informed of any scheduled follow-up appointments, as having that information poses security risks for potential escapes *(Graves, 2007; Rarey, 2011; Smith, 2016)*. In the case of surgeries, the inmate may know the procedure is impending, but they will not know the date, time, or hospital location *(Smith, 2016)*.

Though corrections staff and medical staff may have different priorities regarding inmate-patient care, they both have the same goals of protecting the patient and the community *(Graves, 2007)*.

11.1.5 SECURITY CONCERNS

The safety and security of the inmate-patient is the sole responsibility of the corrections staff, from the time the inmate-patient enters the hospital facility, until the time they are re-admitted to their correctional facility *(Lashley, 2010; Rarey, 2011)*. This was echoed by Patton *(2014)* who notes that the security of inmates being transferred to a non-prison hospital for medical care is the responsibility of the Oklahoma Department of Corrections. The corrections officer should keep visual supervision of the inmate-patient at all times *(Lashley, 2010; Rarey, 2011)*. **Failure to continuously monitor the inmate-patient is the primary reason for most hospital escapes, injuries, and deaths** *(Lashley, 2010; Rarey, 2011)*.

Corrections officers should not use Mace, pepper spray, pepper foam, or pepper balls within a hospital setting *(Lashley, 2010)*. These chemical agents could get into a ventilation system and have serious effects on patients, especially those with cardiopulmonary conditions *(Lashley, 2010)*. The use of Tasers can also be an issue due to the prevalence of oxygen and flammable liquids within hospitals *(Lashley, 2010)*. The clinical environment offers a prime example of why corrections officers should be trained in multiple forms of interventions *(Lashley, 2010)*.

Hospital exam, treatment, and patient rooms are not secure environments; they are confined spaces, with glass in the doors and are filled with sharp objects, blunt-force instruments,

biohazardous materials, flammable liquids, dangerous gases, and chemicals *(Lashley, 2010; Rarey, 2011; Smith, 2016).* **When an inmate-patient is being brought to a treatment room, that room should be made as safe as possible** *(Lashley, 2010; Rarey, 2011; Smith, 2016).* **Anything moveable such as,chairs, over-bed tables, rolling cabinets, biohazard bins, IV poles, and soiled laundry hampers should be removed from the room** *(Lashley, 2010; Rarey, 2011; Smith, 2016).* **Any additional supplies that may be stored in the room should be secured** *(Lashley, 2010; Rarey, 2011; Smith, 2016).*

If the inmate-patient is going to be treated in an open ward, as in the case of a perioperative care area, they should be located at the far end of the treatment bays, or in an isolation room *(Smith, 2016)*. If they are in a treatment bay, the cubicle curtain should be pulled completely around the bed, as to block the view to anyone not providing direct care *(Smith, 2016)*. Many times, the corrections officer will accompany the inmate-patient into a surgical suite *(Smith, 2016; Thurmond, 2002)*. In that case, the corrections officer will have to put on proper surgical attire *(Smith, 2016; Thurmond, 2002)*. Most corrections officers will wear the surgical attire over their uniforms, with only their holstered weapon exposed for immediate access *(Smith, 2016)*. There may also be an additional corrections officer stationed outside of the OR *(Thurmond, 2002)*.

The inmate-patient should be restrained at all times, unless medical necessity requires the restraints be removed *(Lashley, 2010; Patton, 2014; Thurmond, 2002)*. In the surgical suite, inmate restraints may have an effect on patient positioning, the use of electrosurgical equipment, and the ability to perform resuscitative measures *(Smith, 2016; Thurmond, 2002)*. Pregnant inmate-patients should not be restrained *(Patton, 2014)*. In addition, hospital restraints should not be used for administrative purposes *(Lashley, 2010; Rarey, 2011)*.

The Oklahoma Department of Corrections requires that while at a non-prison hospital, corrections officers are positioned such that the armed officer is never within the inmate-patient's room *(Patton, 2014; Smith, 2016)*. For medium-security inmates and above, the armed officer will be stationed just outside the patient room, and the non-armed officer will be stationed inside the room *(Patton, 2014; Smith, 2016)*. If the inmate-patient needs to be transported to another area of the hospital, the armed officer will remain out of reach of the inmate patient at all times, while the non-armed officer remains in close proximity to the inmate-patient *(Patton, 2014; Smith, 2016)*. In cases where the inmate-patient is incapacitated or terminally ill, the number of corrections officers may be reduced from two to one *(Patton, 2014)*.

Regarding other hospital treatment areas, the Oklahoma Department of Corrections has the following guidelines *(Patton, 2014)*. In a surgical suite, after the inmate-patient is put under anesthesia, the corrections officer can return to the holding area to await completion of the surgery *(Patton, 2014)*. In the post-anesthesia recovery area, the corrections officer remains outside the recovery area, unless called by the medical staff *(Patton, 2014; Smith, 2016)*. In the emergency department, the officer will take the inmate-patient through the standard triage process and is not to take them in through the back door directly into the emergency area *(Patton, 2014)*. Once the inmate-patient is roomed, the corrections officer is to remain in the treatment room with the patient *(Patton, 2014)*.

Medical staff should be mindful of the performance of the corrections officers while they are in the hospital *(Smith, 2016).* **Corrections supervisors should be notified if the medical staff notice any breaches in protocols, such as: Too few corrections officers guarding the inmate, officers who are out of uniform or disrespectful to hospital staff, refusal to follow policies, asleep on duty, distracted from monitoring the inmate-patient, permitting visitors without authorization of hospital security, two male officers guarding a female inmate-patient, two female officers guarding a male inmate-patient, and the absence of restraints** *(Smith, 2016).*

11.2 DISCUSSION

Public hospitals are the only unsecured environment that are a critical component of the criminal justice system *(Smith, 2016)*. From both a security and staffing standpoint, public hospitals and staff are not equipped to provide care to forensic patients *(Carter, 2015; Smith, 2016)*.

Due to the required overtime and staffing needs, the California Department of Corrections and Rehabilitation is looking at creating locked guarded units in their local community hospitals *(California State Auditor, 2010)*. Most public hospitals provide one or two rooms within their emergency department that can be quickly converted into an "anti-ligature" safe room for patients brought to the ED who need mental health isolation. In addition, most also provide one or two rooms within the ICU and medical/surgical nursing units for rooming a patient needing infectious isolation. With small amounts of additional modification, these spaces could be converted into rooms that can house inmates.

Depending on the volume of inmate-patients that a public hospital sees, those facilities can create either a series of secured rooms, or entire secured units. By creating these secured spaces, the number of correctional officers needed to provide administration of the inmate-patients can be reduced. The public hospital would no longer be treating the inmate-patient in a random room, requiring the 2-1, or 4-1 corrections officer to inmate-patient ratio; they would be treating the inmate-patient in a unit specifically designed for that patient population. All the treatment spaces would be designed and equipped properly, and corrections office staffing ratios would be in line with what they provide in the prison facility. Public hospitals and corrections facilities should begin to collect patient data to determine the inmate-patient volume treated in the public hospital. Having that information will help determine how many secured rooms the public hospital should create.

Corrections officers who will be escorting inmate-patients in the public hospital need to be trained on the policies and procedures for that facility *(Carter, 2015; Smith, 2016)*. This training should cover such items as, codes, communication, the use of restraints, and roles and responsibilities of staff *(Carter, 2015; Smith, 2016)*. Because public hospitals are a foreign environment for the administration of inmates, each party (security and medical) must understand each other's roles and responsibilities. They will also need to understand what each party (security and medical) needs to do to be able to provide security and medical care. Though corrections staff and medical staff have different priorities, they are both charged with protecting the patient and the community *(Graves, 2007)*.

Besides corrections officers who will be escorting inmate-patients in the public hospitals, medical staff who will be treating the inmate-patient also need training. Medical staff needs training on how to provide treatment to the inmate-patient, including the use of restraints, personal safety, correctional office escort, and the restrictions on visitors and gifts *(Graves, 2007; Rarey, 2011; Smith, 2016)*. Medical staff also needs training on the proper way to set up a treatment room prior to rooming the inmate-patient. This should include such items as medical equipment, extra supplies, and dietary utensils *(Graves, 2007)*. In addition, anything that is stored in the room should be locked *(Graves, 2007)*.

Additional training for both corrections staff and medical staff on treating the inmate-patients in the public hospital setting will go a long way in guaranteeing the safety and security of the staff, the public, and the inmate-patient.

Creating secured units in public hospitals would help ensure the safety and security of those environments. These units would be able to:

- Reduce the number of corrections staff needed
- Limit the amount of treatment space needed to be built in the prison facility
- Limit the need to "inmate-proof" unsecured treatment rooms in the hospital
- Reduce transportation costs since inmates could then be transported in larger numbers.
- Limit the trips that community-based medical staff would have to make to a prison healthcare. facility. (There would still be the security risks of transporting the inmate-patient out of the prison)

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12 TRANSPORTATION

12 TRANSPORTATION

12.1 RESULTS

In 2012 in the U.S., there were 2.3 million people incarcerated, according to the U.S. Bureau of Justice Statistics *(Mason, Burke, & Owen, 2013)*.

Many inmates have conditions that need medical intervention *(Mason et al., 2013).* **As an example, 44 percent of state inmates reported having a medical condition in 2004** *(Mason et al., 2013).* **Of that group, 70 percent had received treatment by a medical professional** *(Mason et al., 2013).* **Injuries and fights are also common in the corrections environments, with 32.6 percent of state inmates reporting an accident, or fight since their incarcerations** *(Mason et al., 2013).* **In addition, the elderly inmate population, which has grown by 750 percent since 1990, utilizes a larger proportion of limited health resources, with most suffering from at least three chronic conditions** *(Mason et al., 2013).* **Elderly inmates often need access to specialty care that is not available within the prison facility, and are five times more likely to be transported to an outside medical facility for treatment** *(Mason et al., 2013).*

The Federal Bureau of Prisons has seen an increase in the number of aging inmates, as well as an increase in complex medical conditions *(Federal Bureau of Prisons, 2016)*. Because of this, the BOP has had to contract with outside medical facilities for some specialty care *(Federal Bureau of Prisons, 2016)*.

12.1.1 REASONS FOR TRANSPORT

Due to limitations of resources, staffing, and finances, correctional facilities will never be able to provide the full-range of medical services required by their inmates *(Mason et al., 2013)*. Though many prisons can provide basic medical services, such as diagnostic testing, medication distribution, and minor injury treatment, most still have to transfer inmates to local hospitals for complex testing, treatment, and specialized care *(Mason et al., 2013)*.

According to the Federal Bureau of Prisons (BOP) *(2016)*, many prisoners make multiple trips to outside hospitals each day for both scheduled and emergency visits. Due to the remote locations of many of its prisons, the BOP considers travel distance, as well as, the range of medical services an outside hospital can provide when determining service contracts *(Federal Bureau of Prisons, 2016)*. The BOP *(2016)* had also noted that they will pay a higher reimbursement rate to an outside facility that is closer, (in lieu of contracting with an outside facility, at a greater distance), but at a lower reimbursement rate, due to the cost of transportation. Because of this, the BOP has located its federal medical centers near large metropolitan areas, in order to access medical specialists *(Federal Bureau of Prisons, 2016)*.

Much like the Federal Bureau of Prisons, state department of corrections also use outside medical providers to supplement the care provided within the corrections facilities *(Federal Bureau of Prisons, 2016)*. According to the NCCHC standard, patients should be transported to medical, dental, and mental health appointments in a safe and timely manner *(National Commission on Correctional Health Care, 2014)*.

Without a detailed state-by-state survey, there is no solid data on the number of inmate-patients being treated in a community hospital, *(Natterman & Rayne, 2016)*. However, the Maryland Department of Public Safety and Correction Services collected information on costs and volumes of inmates using inpatient care, outpatient specialty care, surgical care, and emergency departments *(Natterman & Rayne, 2016)*. **Using that data, it can be extrapolated that approximately 28 percent of inmates were treated at an outside medical facility during a 12-month period** *(Natterman & Rayne, 2016).*

12.1.2 TYPES OF TRANSPORT

Inmate transportation can be by car, van, bus, or aircraft. The New York Department of Correctional Services defines any inmate movement, outside of the prison facility, such as for medical appointments, court appearances, funeral visits, or deathbed visits, as "local movement" *(New York State, 1991)*. Such movement is not normally monitored or counted, and is handled and financed by the owning facility *(New York State, 1991)*.

Physician approval is required for all inmate-patient travel, especially by air *(Heidi Bale RN, 2009)*. Air transport, that can be either handled by commercial or private carriers, has both space and altitude considerations *(Heidi Bale RN, 2009)*. The reduced cabin barometric pressure, caused by the lack of water vapor and cabin pressure, can affect patients with respiratory, cardiac and orthopedic conditions, and head injuries *(Heidi Bale RN, 2009)*. Mental health and dental conditions can also be affected by these pressurization issues *(Heidi Bale RN, 2009)*.

The Texas Department of Criminal Justice (TDCJ) is one example of a state department of corrections that has outsourced their medical transportation *(Mason et al., 2013)*. TDCJ has contracted with the University of Texas Medical Branch (UTMB) managed care unit to provide medical transports for the over 100,000 TDCJ inmates *(Mason et al., 2013)*. TDCJ uses both buses and ambulances for routine and emergency medical transports *(Mason et al., 2013)*. Each inmate is provided a security classification by TDCJ; however, if emergency transportation is being used, the inmate is placed in full restraints and managed with extreme caution, regardless of classification *(Mason et al., 2013)*.

12.1.3 PROCESS FOR TRANSPORT

Scheduling a medical transport can be difficult, as the physician, inmate-patient, and two or more corrections officers, must be available at the scheduled time *(Brunicardi, 1998)* . In addition, scheduling conflicts such as, unexpected guests for the inmate, unexpected parole hearing, unexpected physician emergency, and miscommunication can be costly *(Brunicardi, 1998)*. The NCCHC recommends that medical staff keep a record of all missed appointments and that monthly reports are sent to the responsible health authority *(National Commission on Correctional Health Care, 2014)*.

Prior to the transportation of the inmate, the data to be gathered includes: patient name, major illness or injury, reason for medical escort, current location of patient, and the destination facility, along with movement date, current treatment plan, and required follow-up care *(Allbaugh, 2016; Heidi Bale RN, 2009; National Commission on Correctional Health Care, 2014).*

Medical staff assess the medical need and determine if the transport is for a routine, scheduled appointment, or for an emergency *(Allbaugh, 2016)*. The NCCHC standards require that health staff ensure that transport to care outside of the prison facility occurs on a timely basis *(National Commission on Correctional Health Care, 2014)*.

It is best to send the medical record to the receiving facility prior to the inmate-patient's arrival *(Allbaugh, 2016; Heidi Bale RN, 2009)*. However, patient confidentiality must be maintained during the transport process *(National Commission on Correctional Health Care, 2014)*. Staff should not notify any inmate on the date, time, method, or route of any transportation, with the exception of medical transports, that may require some inmate preparation *(Allbaugh, 2016; Mason et al., 2013)*. In addition, as much as possible, corrections officers who are transporting should use multiple routes for their destinations, so that inmates cannot become familiar with the route for any given trip, and the times of transport should also be staggered *(Mason et al., 2013)*.

During transport to or from an outside medical facility, all inmates should be treated as if they were of the highest security classification, regardless of their actual classification *(Allbaugh, 2016; Mason et al., 2013)*. According to the NYDOCS, any inmate being transported to an outside facility is always accompanied by at least two correctional officers *(New York State, 1991)*. The inmates are also restrained and both the inmate and transport vehicle are checked for contraband at intervals during the transport *(Allbaugh, 2016; New York State, 1991)*. All vehicles owned by the NYDOCS are fitted with hardware that separates the inmates from the corrections officers, as well as preventing escape *(New York State, 1991)*. The Oklahoma Department of Corrections requires transport vehicles to have all inside door and window handles removed, as well as a Plexiglas shield installed, in order to reduce the risk of the exchange of bodily fluids *(Allbaugh, 2016)*. All transport vehicles should be thoroughly searched before and after each use *(Allbaugh, 2016)*. Inmates should also be thoroughly searched, prior to departure, and again on return *(Allbaugh, 2016)*. Higher security inmates may also require visual body cavity searches *(Allbaugh, 2016)*.

Special procedures may have to be followed when an inmate is being transferred to and from an outside medical facility *(Mason et al., 2013)*. Medical conditions, such as full-arm casts, may limit the traditional use of wrist and ankle restraints *(Mason et al., 2013)*. Pregnant inmates may also be transported without the use of restraints *(Allbaugh, 2016; Patton, 2014)*. Elderly or chronically ill inmates may go into cardiac arrest, requiring corrections officers to take emergency action *(Mason et al., 2013)*. In addition, the NCCHC standard requires that, if needed, medications of sufficient supply should be made available to the inmate during transport *(National Commission on Correctional Health Care, 2014)*. Once the inmate arrives at the hospital, they may not be received by trained custody staff *(Mason et al., 2013)*. In this case, the corrections staff supervise the inmates, alongside hospital security and medical professionals, who typically do not have the same level of training on inmate management *(Mason et al., 2013)*.

Prior to arriving at the medical facility, corrections officers should contact the security and medical personnel to allow time for the hospital to initiate all necessary security protocols *(Mason et al., 2013)*. Medical personnel and corrections officers should know in advance what hospital entrance will be used to bring an inmate into the facility. It may also benefit both parties to admit the inmate discretely by concealing that fact that the person is an inmate *(Mason et al., 2013)*. This can be achieved by covering their corrections clothing and restraints with a blanket *(Mason et al., 2013)*.

It has been reported that, because many physicians and hospital staff are worried that inmate-patients will not receive follow-up care when they are returned to their prison facilities, they may be reluctant to discharge them *(Heidi Bale RN, 2009)*.

12.1.4 SECURITY CONCERNS

Inmates are transported to community hospitals and clinics in the U.S. every day for treatment, and each transport opens up opportunities for inmates to attempt escape or cause harm *(Mason et al., 2013)*. When an inmate is transferred from the prison to another location, the secure and stable environment of the correctional health facility transforms to a less secure, unpredictable and mobile environment where help may not always be readily available *(Heidi Bale RN, 2009)*.

Transporting inmates poses a safety risk for correctional officers, health care professionals, and anyone else they may encounter *(Lawrence, 2014; Mason et al., 2013; Williams & Heavey, 2014)*. Even though some high security inmates may pose a greater security risk than lower security inmates, any inmate could seize an opportunity for escape, with even a brief security breach *(Mason et al., 2013)*.

Transportation vans should be wheelchair-accessible, and the patient must be able to sit upright with safety restraints *(Heidi Bale RN, 2009)*. **According to the NYDOC, the corrections officer to inmate ratio during inmate transports can range from 2:1 for a local emergency transport, to 1:12 for inter-facility bus transport** *(New York State, 1991)*. Transport staff should also consider the covered terrain, the required route, and any planned stops for restroom breaks or care interventions *(Heidi Bale RN, 2009)*.

There are benefits to having the outside medical staff come to the prison to see patients which include: the safety and security issues of transporting patients outside the prison walls, the number of staff needing to leave the prison facility to provide escort, and the transportation and overtime costs associated with outside medical care *(Federal Bureau of Prisons, 2016)*.

12.1.5 COST OF TRANSPORT

Because many prisons are located in remote areas, transportation of inmates to hospitals for specialty care and overnight stays is one of the many drivers of correctional healthcare costs *(Lawrence, 2014; Trusts, 2014)*. The transportation of inmates from the prison facility to outside medical facilities can be costly to states *(Mason et al., 2013)*. **Variables that can have an effect on the cost of inmate transport include: The number of trips, the inmate to correctional officer ratio, inmate capacity of the vehicle being used, scheduling ability for the transport, distance of transport, and timeliness of transport** *(New York State, 1991)*.

45,000 **inmate transports to other facilities occur each month in the U.S.**

$3.1 M **spent by New York Department of Correctional Services in 1989-1990 on patient transfers.**

$19.3 M **spent in one year on all patient transportation by the California Department of Corrections and Rehabilitation**

The annual nationwide cost to transport inmates has exceeded $90 million.

(Mason et al., 2013)

It has been estimated that 45,000 inmate transports to other facilities occur each month in the U.S. *(Mason et al., 2013)*. In 1989-90, the New York Department of Correctional Services spent an estimated $3.1 million on inter-facility movement *(New York State, 1991)*. In California, $19.3 million was spent in one year on all patient transportation by the California Department of Corrections and Rehabilitation *(Mason et al., 2013)*. According to the research, the annual nationwide cost to transport inmates has exceeded $90 million *(Mason et al., 2013)*.

Specifically related to medical services, a 2003 study of 35 state DOCs and four Canadian prisons reported 24,648 transports *(Mason et al., 2013)***. The Legislative Analyst's Office in California reported that transportation and correctional officer costs for medical transports can exceed $2,000 per inmate, per day** *(Edwards, Brown, & Taylor, 2012; Schaenman, Davies, Jordan, & Chakraborty, 2013; Trusts, 2014)*.

According to the NYDOCs, the largest cost of local inmate movement is the correctional officer escort *(New York State, 1991).* **The NYDOCs estimated the cost of local transport for inmates to be $8.5 million per year** *(New York State, 1991).* **According to the California State Auditor** *(2010),* **transportation and medical guarding were responsible for nearly $136 million, or 32 percent of overtime costs in fiscal year 2007-2008. In addition, it was estimated that to transport inmates to outside medical providers, the Federal Bureau of Prisons spent $60 million in overtime pay** *(Federal Bureau of Prisons, 2016).*

The Pennsylvania Department of Corrections was able to reduce medical transportation costs by consolidating inmates, who require specific medical treatments at a single location *(Go Time, 2016)*. By consolidating all radiation treatment cases, and transporting to their State Correctional Institution (SCI) at Somerset, the DOC was able to achieve an annual costs savings of over $500,000 *(Go Time, 2016)*. Any inmate that requires radiation treatment is transferred to SCI at Somerset, and is then treated at the local hospital on an outpatient basis, resulting in a significant cost savings *(Go Time, 2016)*.

12.1.6 RECOMMENDATIONS

Communication between corrections officers and medical staff should be the highest priority, as many times medical staff are not familiar with treating inmates, and corrections staff may be unfamiliar with medical facilities, treatment practices, and procedures *(Mason et al., 2013)*. Poor communication could lead to lapses in security, such as, if medical personnel do not notify the corrections staff, or if an inmate is transferred to another location in the hospital for testing *(Mason et al., 2013)*. Training programs should be implemented for medical staff on working with inmates, and for corrections staff on working in hospitals, *(Mason et al., 2013)*.

In addition, emergency plans should be created in collaboration between hospital staff and corrections staff, in order to limit problems from occurring, or to isolate problems that have already occurred *(Mason et al., 2013)*. Corrections officers' weapon safety is another issue to be considered for the hospital environment *(Mason et al., 2013)*. For example, the Oklahoma Department of Corrections has a policy that no weapons are allowed in patient holding areas, or in patient rooms *(Mason et al., 2013)*.

Leveraging telemedicine is a way to limit the public exposure to inmate-patients, by limiting the number of inmates who need to be transported to a local hospital *(Doarn, Justis, Chaudhri, & Merrell, 2005; Edwards et al., 2012; Lawrence, 2014; Mason et al., 2013; Trusts, 2014; Vo, 2008)*. According to the California Department of Corrections and Rehabilitation, telemedicine consultations saved between $4.6 million to $9.2 million in transportation and corrections officer costs in 2008-2009 *(California State Auditor, 2010)*. In the research by Kinsellla *(2004)*, it was noted that the DOCs in Texas and Ohio were saving between $200 and $1,000 every time they use a telemedicine consultation, in lieu of sending the inmate to a local hospital. Vo *(2008)* reported that DOCs in New York and Texas saw reductions in patient transports of 38 percent and 36 percent, respectively, due to telemedicine. In addition, researchers noted that for 95 percent of prisoners examined, at least one trip to outside facilities could be avoided using telemedicine *(Vo, 2008)*. McDonald et al. *(1999)* saw a savings of $27,500 and a reduction of 35 transports to outside facilities during their telemedicine demonstration period. However, telemedicine cannot replace transports to an outside medical facility, for the purpose of treatments and procedures that require specialized equipment *(McDonald et al., 1999)*.

12.2 DISCUSSION

Telemedicine consultations saved between

$4.6M to $9.2M

in transportation and corrections officer costs in 2008-2009.

(California State Auditor, 2010)

DOCs in Texas and Ohio report saving between

$200 and $1,000

every time they use a telemedicine consultation, in lieu of sending the inmate to a local hospital.

(Kinsellla 2004)

DOCs in New York and Texas saw reductions in patient transports of

38% and 36%

respectively due to telemedicine

Vo (2008)

Correctional facilities will never be able to provide the full range of medical services needed by their inmates because of resource, staffing, and financial limitations *(Mason et al., 2013)*. While most prisons can provide basic medical services, such as diagnostic testing, medication distribution, and minor surgical treatments; they will still need to transport inmates to local hospitals for complex testing, treatment, and specialized care *(Mason et al., 2013)*. **Though inmates make multiple trips to outside medical facilities each day for both scheduled and emergent visits** *(Federal Bureau of Prisons, 2016),* **there is no solid data on the number of inmate-patients being treated in community hospitals** *(Natterman & Rayne, 2016)***.** More data is needed on the number of transports to community hospitals, the medical conditions that required that transportation, (whether it was a scheduled or emergent transport), and the length of stay at the community hospital, along with the clinical outcome.

Because of the need for the availability of two correctional officers, the physician and the inmate-patient transport to outside medical appointments is difficult to schedule *(Brunicardi, 1998)*. In addition, unexpected conflicts, such as unscheduled guests, parole hearings, physician emergencies, and miscommunication between the prison and the receiving facility, can all cause the transport to be cancelled *(Brunicardi, 1998)*. More research is needed on the frequency of these cancellations in order to determine if new processes are needed for scheduling outside medical visits and transportations.

One of the many drivers of correctional healthcare costs is the transportation of inmates to local hospitals for care, due to prisons being located in remote areas *(Lawrence, 2014; Trusts, 2014)*. There are many variables that drive the costs of the transportation of inmates including, the number of trips, the inmate to corrections officer ratio, capacity of the transportation vehicle being used, schedule, distance, and timeliness *(New York State, 1991)*. Though there have been a few smaller studies regarding the costs of transporting inmates, there has not been a comprehensive study related only to costs of transportation of inmates for medical appointments, or for emergencies. A more thorough study of medical transportation costs is needed to determine if additional medical services should be provided within the prison facility. In addition, more research is needed on the potential reduction of medical transportation, due to the expansion of telemedicine programs.

The implications of this lack of data regarding medical transportation of inmates is that states do not know how many heath services they should provide on-site or off-site. A great deal of inefficiency could be avoided and wasted dollars may be saved, if more information was available. States could be wasting millions of dollars on medical transportation to local hospitals that could be eliminated, if they chose to provide those services on-site. In addition, the reverse may be true. States could also be providing health services on-site that may be cheaper to provide off-site, if they would transport the inmate to the local hospital. Until there is a comprehensive analysis of the data, states will never know for sure if they are using the most cost-effective processes to provide the best care.

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13 CONCLUSION

13 CONCLUSION

13.1 RECURRING ISSUES IN PROVIDING QUALITY HEALTHCARE FOR INMATE-PATIENTS

Throughout this review we presented and explored a number of recurring themes within each care category that affect not only the quality and quantity of inmate healthcare, but also the challenges facing state departments of corrections in determining the appropriate location(s) to provide that care. Insufficient community-based services, the lack of nationally recognized standards, little to no continuity of care, limited use of current technologies, staffing limitations and inconsistent training programs, and reduced or removed inmate programming and limited use of alternatives to incarceration were consistent themes in all the care categories.

Another key component of the research concerns the lack of inmate data collection that positions correctional health well behind community health, as far using evidence-based and data-driven decisions to determine both the amount of health services, and the location of where those health services are best provided.

13.1.1 COMMUNITY-BASED SERVICES

The lack of community-based services within many care categories was referenced in this study as an impediment to providing quality inmate healthcare, as well as increasing recidivism. The sources referenced highlighted the social implications of insufficient community-based services, as well as the health implications. From a social perspective, insufficient community-based services are cited as one of the main reasons that released inmates struggle with re-establishing themselves or applying for assistance programs such as, Medicaid, food stamps, housing, Social Security and Welfare *(Anno, 2004)*. In addition, in regards to women inmates, the insufficient community-based services make it more likely that these released inmates may face homelessness due to limited help with employment services, educational and parenting programs, and assistance with housing *(Freudenberg, 2002; Kruttschnitt, 2010)*. The insufficiency of these community-based services makes it more likely that inmates will fall back on past poor lifestyle choices and recidivate *(Kruttschnitt, 2010; Wallace, Conner, & Dass-Brailsford, 2011)*. This then increases the inmate population and affects the quantity and quality of health services that states can afford to provide.

From a health perspective, the insufficient community-based services was cited as one of the main reasons that people from underserved communities only seek care once their medical condition reaches emergent status *(Conklin, Lincoln, Wilson, & Gramarossa, 2002)*. Because of this, many emergency departments in underserved communities are overburdened and their limited resources are strained. From a women's health perspective, insufficient community-based health services that are dedicated to the specific health needs of women, is also a reason that many seek care only in local emergency departments. Because of these insufficient community-based health services, many inmates enter prison with untreated medical conditions which then requires state departments of corrections to provide increased health services.

From a mental health perspective, studies cited the lack of funding for community-based outpatient treatment centers, after the deinstitutionalization of the 1970s, as the primary reason for the increase of the mentally ill being sentenced to prison *(Abramsky, 2003)*. Because of this, many with mental health conditions are either not being treated, or only being treated in the local emergency department, thereby increasing the number of mental health services that need to be provided in prison *(Abramsky, 2003; Macmadu & Rich, 2015)*.

With the of sufficient community-based services, it is difficult for released inmates to not only reintegrate themselves as a productive part of their community, but to also obtain needed medical and mental health services after release from incarceration.

13.1.2 THE NEED FOR NATIONALLY RECOGNIZED DEFINITIONS AND STANDARDS

Across care categories, lack of nationally recognized standards and variations within care processes was consistently cited as a problem within the correctional health system. This lack of standardization creates inefficiencies within care processes, and makes state departments of corrections vulnerable to litigation. It also limits the possibility of creating consistent data sets that can be used for further research and study. This then can affect the quantity and quality of inmate healthcare provided in the future.

In the elder care category, a number of examples show that the lack of nationally recognized standards and the variation in processes affect inmate healthcare. First, was the definition of what constitutes "elderly" in regards to an inmate's age *(Williams, Stern, Mellow, Safer, & Greifinger, 2012)*. Some researchers used the age of 50, some used the age of 55, and others used the community standard age of 65 *(Beckett, Peternelj-Taylor, & Johnson, 2003; Mara, 2002; Mitka, 2004; Williams, Goodwin, Baillargeon, Ahalt, & Walter, 2012)*. All agreed that an inmate's lifestyle, as well as their limited access to health services prior to incarceration, accelerated the onset of geriatric conditions. In addition, there is not yet a nationally recognized standard on what constitutes "elderly" as it applies to inmates *(Smyer & Burbank, 2009; Williams et al., 2012)*. Not having this nationally recognized standard is limiting the data sets that can be compiled for research, which ultimately affects the quality and quantity of care.

Second, was the definition of prison activities of daily living (PADLs). It was noted in the research that the community-based standards of ADLs, do not apply to the prison environment *(Smyer & Burbank, 2009; Williams et al., 2012)*. In addition, even though some researchers have begun to establish prison-based ADLs, there is not yet a nationally recognized standard. The research noted that having this standard would allow state departments of corrections to determine when inmates may need to be moved to more appropriate housing, as well as what modifications they may have to make to their facilities. It would also allow them to determine when inmate-workers may have to be re-assigned to less physically demanding work activities.

Finally, there is a need for prison-specific screening procedures for determining cognitive impairments. Screening methods used in the community setting are not appropriate to the prison setting , due to the lower educational and literacy status of inmates as well as the fact that cooking, laundry and other daily tasks are routinely completed for inmates *(Williams et al., 2012)*. By not having this standard, it is difficult for correctional health staff to determine when an inmate's cognitive abilities are in decline, and thereby provide them with the appropriate treatment and programs.

In the palliative care category, there were also a number of research examples showing where standards are lacking. First, there is no standard for acceptance into palliative or hospice care programs. Some programs require a terminal prognosis, some require a cessation of curative treatment, and some require the signing of a DNR order *(Hoffman & Dickinson, 2011; Ratcliff & Craig, 2004; Wion & Loeb, 2016; Yampolskaya & Winston, 2003)*. In addition, some programs may require combinations of these elements, and some may not have any acceptance requirements. Without a standard of acceptance, it is difficult to plan for staffing and facility needs, as well as posing the risk of opening up the state departments of corrections to litigation.

Second, the variation in the use of pain medications was cited as an issue. The research noted that due to the fact that many inmates suffer from addiction, as well as the concern that medications could end up in the prison black market, many state departments of corrections are reluctant to provide pain medications *(Hoffman & Dickinson, 2011; Lincoln, 2008; K. Stone, Papadopoulos, & Kelly, 2012; Williams, Sudore, Greifinger, & Morrison, 2011)*. Because of this variation, there is no consistent process by which pain medications are prescribed to inmate-patients in palliative and hospice care. This not only affects the comfort care of inmates suffering from end-of-life symptoms, it also opens up state departments of corrections to litigation.

Third, though family care is a tenant of hospice programs, there is no nationally recognized standard on what can constitute an inmate's "family" *(Hoffman & Dickinson, 2011; Linder & Meyers, 2007; K. Stone et al., 2012)*. Because many inmates are estranged from blood relatives, other inmates are many times the only "family" an inmate knows. If other inmates are included as part of an inmate's "family," then other standards will have to be created around visitation rights. Not having this standard can cause undue hardships for the inmate in end-of-life care.

Finally, there was a great deal of variation on the selection, training, and responsibilities of inmate volunteers for prison hospice programs *(Wion & Loeb, 2016; Yampolskaya & Winston, 2003)*. Without any nationally recognized standards, hospice programs cannot develop consistent levels of competency and services provided. This affects the level of care inmates in the end stages of life receive.

In the dental care category, there was variation referenced in the research on the level of services provided by different state departments of corrections. Even though dental care is an essential service per the National Commission on Correctional Healthcare, the research noted that there are no nationally recognized standards for correctional dental care regarding the services provided and patient outcomes *(Ringgenberg, 2011; Shulman & Sauter, 2012)*. Because of this, states are open to litigation for not providing the community standard of care.

In the mental health category, the research found that, though there have been guidelines for correctional mental health services published over the last few decades, there is still variation on the screening and treatment processes for inmates with mental illness *(Reingle Gonzalez & Connell, 2014)*. By having variation in these processes, there is inconsistency in which inmates may be identified for mental healthcare, as well as which treatments may be provided. Having this inconsistency creates opportunity for litigation, as well as makes it difficult for state departments of corrections to assess staffing, facilities, and funding needs.

In the women's healthcare category, there is variation in the reproductive healthcare services provided to women inmates and where that care takes place. This has led to gaps in care, as well as delays in care due to miscommunication and transportation *(Cardaci, 2013)*. This variation in care can cause undue harm to the mother and the baby, as well as creating opportunities for litigation. In addition, there was also inconsistency in the shackling policies of women inmates in labor. Though it has been documented that shackling a mother in labor creates a risk to her and the baby, many states still allow the process *(Cardaci, 2013; Hoskins, 2004)*. This can also lead to potential litigation for state departments of corrections. Finally, there is inconsistency in the availability of pregnancy termination services for women in prison. Though the courts have been consistent on the inmate's right to these services, many states still refuse to provide abortion services *(Kasdan, 2009; Sufrin, Creinin, & Chang, 2009)*.

13.1.3 CONTINUITY OF CARE

The fact that a minimal-to-no continuity of care exists from pre-incarceration, to incarceration, and onto release, was evident in a number of care categories. The ambulatory care category referenced partnerships with public health and academic medical centers provide a way to support continuity of care *(Conklin et al., 2002; Trestman, Ferguson, & Dickert, 2015)*. By partnering with these institutions, inmates have the possibility of seeing the same care provider within the prison as they do outside of it.

In the elder care category, the lack of case management and social work services proved to be impediments to providing a good continuity of care from within the prison, and outside of it *(Anno et al., 2004; Smyer & Burbank, 2009)*. The lack of continuity of care can cause duplication of testing and treatments, as well as inefficiencies in the use of limited health resources. It can also cause undue harm to the inmate-patient, as many released inmates struggle with obtaining follow-up care appointments upon release.

13.1.4 USE OF TECHNOLOGY

The limited use of current technologies was referenced by studies in many of the care categories. Telemedicine, electronic medical records (EMRs), picture archiving and communication systems (PACS), and mobile technology were all referenced as the types of technology that is lacking within the correctional health realm. Though telemedicine is now becoming more popular with state departments of corrections, they are still well behind the community-based health system in using other medical technologies such as, EMRs, PACS and mobile technology. The limited use of these

systems makes it difficult for state departments of corrections to partner with community-based providers that routinely use these technologies, as well as potentially limiting their ability to provide the community standard of care.

13.1.5 STAFFING AND TRAINING

Staffing limitations and inconsistent training programs are impediments to providing quality care to incarcerated individuals. Many care categories referenced lack of staffing as a major challenge in providing the community standard of care. Within the ambulatory care category, the availability of medical students as one of the advantages of partnering with academic medical centers for inmate care *(Kendig, 2004)*. It also referenced telemedicine as a way to gain access to specialists, without having providers travel to the prison facility, or having the inmates travel to the AMC *(Doarn, Justis, Chaudhri, & Merrell, 2005)*.

The dental care category also referenced the use of students to help alleviate the lack of staffing *(Treadwell & Formicola, 2005)*. In addition, they referenced a program similar to the use of nurse practitioners and physician assistants for medical treatments. These programs allow for dental hygienists to provide care directly to inmate-patients under the supervision of dentists *(Glassman & Subar, 2010)*.

In the emergency care category, the creation of urgent care centers reduced the use of limited emergency care staffing *(Geisler, Gregory T. et al, 2011)*. It was also noted that this option reduces health costs by treating the low-acuity inmate in a less acute setting.

In the mental healthcare category,there is a need for additional diversion programs to limit the number of mentally ill sentenced to prison *(Abramsky, 2003; Lamb & Weinberger, 2005)*. This would then reduce the need for additional mental health staff. Finally, many of the care categories referenced the need for mobile technology as a way to reduce the staffing needs of the prison health facility.

Inconsistent training programs are impediments to providing the community standard of care. The research, inconsistent training programs cited for corrections staff, medical and mental health inmate volunteers. Therefore, corrections staff should be cross-trained in different care categories.

In the palliative care category, researchers noted the need for corrections staff to understand the health and pain management needs of that population *(K. Stone et al., 2012; Wion & Loeb, 2016)*.

In the dental care category, corrections staff to recognize the signs and symptoms of dental distress and be able to refer inmates to dental staff, before the issue becomes acute *(Glassman & Subar, 2010)*.

In the mental healthcare category, the research referenced that by providing additional training for correctional officers in the signs and symptoms of mental health issues, it would limit the number of inmates with mental health issues being labeled as behavioral problems, or being housed in segregation *(Abramsky, 2003)*.

The research also referenced the need for training in general mental healthcare, the effects of TBI, and the effects of trauma *(Ferguson, Pickelsimer, Corrigan, Bogner, & Wald, 2012; Wallace et al., 2011)*. I

In the women's healthcare category, the research referenced a need for increased training for corrections staff in all aspects of medical and mental health conditions related to the unique needs of women inmates *(Aday & Farney, 2014)*.

Finally in the safety and security category, the research referenced the need for corrections staff to be trained in the policies and procedures of the community-based hospital to which they may be escorting inmate-patients *(Carter, 2015; Smith, 2016)*.

Regarding medical and mental health staff, the research referenced the need for this staff to understand the regulations and security protocols for providing care within a corrections environment. In addition, the research also referenced the need for medical staff to be trained in the proper way to provide care to an inmate-patient, including the use of restraints, personal safety, correctional officer escort, and the restriction on visitors and gifts *(Smith, 2016)*.

In the palliative care category, additional training needs for inmate-volunteers were referenced in the research. For inmate-volunteers, the lack of consistency in training programs was noted as a problem in creating core competencies for these volunteers who are working as physical and emotional support for inmates in the final stages of end-of-life care *(Chow, 2002; Hoffman & Dickinson, 2011)*.

13.1.6 PROGRAMMING AND DIVERSION OPPORTUNITIES

Reduced or eliminated inmate programming and the limited use of alternatives to incarceration were cited in multiple care categories as additional impediments to providing quality healthcare to inmates. In inmate programming, the lack of literacy and health literacy programs for inmates was referenced in a number of care categories. First, it was noted that the low literacy and health literacy of inmates makes it difficult for inmates to manage their chronic conditions, as well as breeding distrust of medical staff when they need to discuss hospice or end-of-life care *(Lincoln, 2008; Linder & Meyers, 2007)*.

Second, in the emergency/trauma care category, there was discussion regarding the creation of prison work safety programs modeled on the programs in the community-based construction industry. This could help reduce the number of injuries received by inmates during their prison work programs.

Third, in the mental healthcare category, the lack of discharge planning and community re-entry programs for released inmates was referenced as a reason for the high rates of recidivism *(Abramsky, 2003)*.

Finally, in the women's healthcare category, the lack of programs that support education, vocations, substance abuse, and parenting skills was referenced as a reason for the high rates of recidivism of women inmates *(Baldwin & Jones, 2000; Braithwaite, Treadwell, & Arriola, 2008; Zaitzow, 1999)*. Though these programs have been shown to improve conditions for inmates and helps reduce recidivism, many state departments of corrections continue to limit these services.

Besides the lack of inmate programming, the limited use of alternatives to incarceration was also referenced in many care categories as a reason for inadequate inmate healthcare. In the palliative care and women's healthcare categories, the research referenced the expansion of compassionate release programs as a way to reduce the costs of inmate healthcare *(Williams et al., 2011)*. It would also allow the inmate to receive care in a setting more appropriate to their needs. The mental healthcare and women's healthcare categories called for the expansion of diversion courts and increased access to civil commitment as ways to reduce the numbers of the mentally ill in prison *(Abramsky, 2003; Fisher & Hatton, 2009; Lamb & Weinberger, 2005)*. Expanding the use of both of these alternatives to incarceration would allow the mentally ill to receive care in a setting more appropriate to their care needs.

The research has shown that increasing the availability of inmate programming and alternatives to incarceration would allow inmates to receive valuable re-entry education, and also allow them to receive care in a setting more appropriate to their health needs. The research referenced that these elements will not only reduce the cost of care, but it will also reduce recidivism.

13.1.7 INMATE DATA COLLECTION

The final recurring theme throughout all care categories was the limited collection of inmate data. The lack of data collection makes it very difficult to determine appropriate locations for care and staffing needs. State departments of corrections collect very little, if any, data on:

- The average daily census of inmate-patients
- Current health conditions
- Inmate-patient wait times
- Exam and treatment room utilization

Along with the number of inmate-patients transported to community-based facilities:

- Costs of that transportation
- Costs of care in community-based facilities
- Staffing levels
- Costs to construct prison health facilities
- Costs to staff prison health facilities
- Costs to maintain prison health facilities
- Clinical outcomes

By not collecting and analyzing this data, state departments of corrections will remain well behind community health in using evidence-based and data-driven practices to determine the amount and location of their inmate healthcare.

13.2 SERVICE AND POLICY CHANGES TO REDUCE PRISON POPULATIONS

Before discussing the questions that state DOCs should consider when determining if their correctional health services should be provided on-site within the prison environment, or off-site with a community provider, it's important to first discuss how the U.S. prison population can possibly be reduced. The following are a number of areas where the research noted alternatives to continuing to incarcerate large numbers of our citizens.

13.2.1 CREATING OR EXPANDING COMMUNITY-BASED SERVICES

Most inmates come from underserved communities and have not had access to healthcare prior to incarceration *(Ahalt, Binswanger, Steinman, Tulsky, & Williams, 2012; Council of State Governments Justice Center, 2013; Macmadu & Rich, 2015; Marquart, Merianos, Hebert, & Carroll, 1997; Rich, Wakeman, & Dickman, 2011; T. H. Stone & Winslade, 1998; Trestman et al., 2015; Winter, 2008)*. By providing more medical services in the community, there would be a reduced use of the prison system as the default healthcare provider, in those areas that are underserved. In addition, increased services in the community would also allow identification and treatment of conditions, prior to incarceration, which would limit the amount of care that may need to be provided, once people are incarcerated.

In addition to medical services, increased community-based mental health services would also help reduce the prison population. Deinstitutionalization, a movement that began in the 1970s, intended to move mental healthcare from the nation's psychiatric hospitals to more community-based care *(Macmadu & Rich, 2015; Smyer & Burbank, 2009)*. Though the number of inpatient mental health beds in state hospital declined from 339 per 100,000, to 22 per 100,000 *(Lamb & Weinberger, 2005)*; the promised funding for community-based mental health services to make up for this reduction in beds, never occurred *(Macmadu & Rich, 2015)*. Because of that, more people with untreated mental health disorders were allowed to deteriorate to a point where they committed a crime *(Abramsky, 2003)*. This has lead to the condition where the U.S. has three times more mentally ill in prisons that they do in mental health facilities *(Abramsky, 2003; Reingle Gonzalez & Connell, 2014)*. If an increased number of community-based mental health and substance abuse services was provided, it would facilitate mental healthcare in a more appropriate setting, and it would also significantly reduce the number of people sentenced to prison.

Finally, expanding community-based services that focus on housing, vocational, and educational programs is a way to reduce the prison population. The U.S. prison system currently has a recidivism rate of 70 percent *(Ha & Robinson, 2011)*. In addition, the highest risk of recidivism for newly released inmates is within the first six months of discharge *(Abramsky, 2003)*. Evidence-based educational, job training, and treatment programs that focus on health, residential and employment services have been shown to reduce recidivism and enhance public safety *(McGarry, 2010)*. Based on the success of these programs in reducing recidivism, they should be expanded.

13.2.2 CONTINUITY OF CARE

Creating a continuity of care between prison health services and community health services is also a way to reduce the prison population. Discharge planning varies greatly across prison systems and many inmates are released with little more than a two-week supply of medications and no follow-up care appointments *(Rich et al., 2011)*. Since prisoners become members of the community when released, the lack of care coordination, case management, or discharge planning services (to ensure continuity of care), causes inmates to fall back on the same risky behaviors that originally sent them to prison *(Ha & Robinson, 2011)*. These behaviors will either put them right back in prison, or make them a burden on already limited community-based emergency services.

13.2.3 ALTERNATIVES TO INCARCERATION

Diversion programs should be expanded to reduce the number of people that are sentenced to prison. These programs include drug courts and mental health courts that divert people from prison to community-based supervision and treatment facilities *(Lawrence, 2014)*. Since 2001 these programs have shown to have a 20 percent reduction in the number of drug offenders entering prison *(Lawrence, 2014)*.

13.2.4 IMPLEMENTING NEW SENTENCING POLICIES

The research has shown that the mass incarceration sentencing polices were responsible for the increases in prison populations *(Macmadu & Rich, 2015; McDonald, 1999; Raimer & Stobo, 2004; Rich et al., 2011)*. Mandatory minimums sentencing, the

war on drugs, truth-in-sentencing laws and the three-strikes policies should be reviewed to see if new sentencing policies could be enacted that will reduce the prison population—without jeopardizing public safety.

13.2.5 EXPANDING COMPASSIONATE RELEASE PROGRAMS

Compassionate release programs are used when it is no longer justifiable, both legally and ethically, to continue to incarcerate a terminally ill inmate, and when the benefits of keeping them in prison are outweighed by the financial costs to continue to do so *(Williams et al., 2011)*. Many states are now moving to standardize and simplify the application process so that more terminally ill inmates can apply for and receive compassionate release *(Williams et al., 2011)*. In addition, some are also calling for an expansion of the types of medical conditions that should be eligible for compassionate release, including prisoners with Alzheimer's or dementia, as well as prisoners with functional or cognitive impairments caused by serious illnesses *(Williams et al., 2011)*. Expansion of these services would not only save costs, it would also reduce the prison population—without jeopardizing public safety.

13.2.6 EXPANDING PAROLE OPTIONS

Technical violations of parole, not the commission of new crimes, account for a significant portion of national prison admissions each year (McGarry, 2010). Because of the rising costs of incarceration, many states are now reviewing their parole and sentencing policies, and are either enacting "good-time" credit programs, or expanding eligibility for parole or probation (McGarry, 2010). There should be continued expansion of these programs in order to reduce prison populations, as long as they do not affect public safety.

13.3 APPROPRIATE QUESTIONS TO DETERMINE AN OPTIMAL MIX OF CARE LOCATIONS

With so many variations in the models of care and health services provided, (in addition to the limited research on the topic), it is not possible to determine a cohesive recommendation on where inmate healthcare should take place. However, based on the research, it is possible to create a list of questions that state departments of corrections should consider when determining if their correctional health services should be provided on-site within the prison, or off-site using a community provider, or some combination of the two. Those questions should include:

Questions

What are your inmate-patient volumes?

1. How many inmates do you currently house?
2. What is the age range of your inmates?
3. What is the average length of sentence?
4. What are your inmates common medical and mental health conditions?
   a. Did those conditions require hospitalization?
   b. If so, what was their average length of stay?

Who are your potential off-site health delivery partners?

1. Potential partners could include: public health facilities, academic health facilities, community health facilities, regional correctional medical centers, private for-profit providers, features of, or combinations of all.
2. What is their capacity to treat inmates?
    a. What is their average daily census?
    b. Do they have capacity to treat your inmate-patient volume?
    c. What services do they provide (e.g. ambulatory care, emergency care, chronic care, elder care, hospice care, mental healthcare, dental care, and women's healthcare)?
    d. Is their staff trained in providing care to inmates?
        i. If not, can a training program be created?
    e. Do they have dedicated and secured inmate nursing units?
        i. If not, do they have capacity to create them?
        ii. If not, what are their safety and security concerns and protocols?
    f. What is their capacity for technology?
        i. Do they have a telemedicine program? Can that program be used to treat your inmates without requiring transport?
        ii. Do they use an electronic medical record system? Can that system be expanded into your prison environment?
        iii. Do they have a PACS system for diagnostic imaging? Can that system be expanded into your prison environment?
        iv. Is there an ability to merge their health information technology systems with your systems?
    g. How far are they located from your prison facility?
        i. What are the costs for transportation?
        ii. What is your capacity to transport (e.g. van, bus, ambulance, air)?
        iii. How will emergency transports be handled?
3. Are they accredited by any organization (NCCHC, ACA, JCAHO, or state departments of health)?
4. What is your contract model with your health partners? Will you have performance criteria (e.g., health outcomes) in your contracts?
5. What are the costs of care in their facilities?
6. What are their health outcomes?

Questions to ask surrounding on-site care

1. What is your capacity to treat inmates?
    a. What is your average daily mental health and medical health census?
    b. Do you have capacity to treat your inmate-patient volume?
    c. What services can you provide (e.g. ambulatory care, emergency care, chronic care, elder care, hospice care, mental healthcare, dental care, and women's healthcare)?
        i. What is the backup plan for emergencies?
        ii. Are you going to be a regional correctional health facility or a stand-alone correctional health facility?
    d. Do you have adequate health staff? If not, can more be hired? If so, can they be retained?
    e. Do you have dedicated mental and medical health treatment areas?
        i. If not, can they be created?
        ii. Do you have the required ancillary support (i.e. lab, pharmacy, materials handling, dietary, sterile storage, linen storage, laundry, and sterile processing), to support your correctional health treatment areas?
        iii. Are your correctional health treatment areas set up as dedicated spaces, or are those areas flexible and adaptable for multiple uses?
        iv. Is the use of mobile technology an option for your location or prison system?

f. What is your technology capacity?
    i. Do you have a telemedicine program? If not, is there a potential for providing this type of care in your prison system?
    ii. Do you have an electronic medical records system? If not, would your prison system invest in one?
    iii. Do you have a PACS system for diagnostic imaging? If not, would your prison system invest in one?
    iv. Do you have any health information technology systems? If not, would your prison system invest in any?
g. How far away are you located from other prison facilities in your system?
    i. What are the costs for transportation to those facilities?
    ii. What is your capacity to transport (e.g. van, bus, ambulance, air)?
    iii. How will emergencies be handled?
2. Are you accredited by any organization (NCCHC, ACA, JCAHO, or state departments of health)? If not, are you working towards accreditation?
3. What is your staffing model (employed, contracted, or private providers)? If you are using private providers, is there performance criteria (e.g., health outcomes) in your contracts?
4. What are your costs of care in your facilities?
5. What are your health outcomes?

What are the costs of care and health outcome differences between on-site and off-site care facilities?

In addition to the above list of questions state DOCs should consider when determining where their inmate healthcare should take place, there are also questions that community-based health providers should consider when determining if they would agree to provide health services to inmate-patients. Those questions should include:

1. What is your capacity to treat inmates?
    a. What is your average daily census?
    b. Do you have capacity to treat the inmate-patient volume?
    c. What services can you provide to inmate-patients (e.g., ambulatory care, emergency care, chronic care, elder care, hospice care, mental healthcare, dental care, or women's healthcare)?
    d. Is your staff trained in providing care to inmates?
        i. If not, can a training program be created and implemented?
    e. Do you have dedicated secured inmate-patient treatment spaces?
        i. If not, do you have capacity to create them?
            1. If so, does your state have a certificate-of-need process?
            2. If not, what are your safety and security concerns and protocols?
            3. How will your patients react to inmate-patients being cared for in the same treatment areas?
    f. What is your technology capacity?
        i. Do you have a telemedicine program? Can that program be used to treat inmate-patients, without transporting them to your facility?
        ii. Do you have an EMR system? Can that system be expanded into the prison environment?
        iii. Do you have a PACS system for diagnostic imaging? Can that system be expanded into the prison environment?
        iv. Is there an ability to merge your health information technology systems with the prison systems?
    g. How geographically far away are you from the prison facility?
        i. How will emergency transports be handled?
2. What are your accreditations (JCAHO,or state departments of health)? Does the state department of corrections wish to be NCCHC-, or ACA-accredited?
3. What is your preferred contract model with the prison facilities? Will you allow performance criteria (e.g., health outcomes) in your contracts? What is your payer mix?
4. What are your costs of care? What will your billing rates be to the state department of corrections?
5. What are your health outcomes?

13.4 IMPROVEMENTS TO PROVIDE EXPANDED ACCESS FOR LESS MONEY

Besides the previously discussed service and policy changes and on-site or off-site locations of care, there are other improvements and changes that can be made to the U.S. correctional health system that can also help to reduce the overall cost of providing healthcare to inmates. These include:

Collecting Data

Correctional health is well behind community health when it comes to the collection and analysis of data. State departments of corrections should begin using data to drive decisions on providing health services, staffing needs, costs of care, and health outcomes. This data can also help state departments of corrections set utilization targets for all types of treatment spaces, and also help to determine when certain treatments need to be expanded or reduced.

Remove Variation from the Process

The research has shown that there is a great deal of variation in all aspects of the current correctional health system. This is another area where correctional health can take some cues from community health. Community healthcare organizations have used various approaches (e.g., Six Sigma, or Lean Process Mapping) to make their processes more efficient and take waste out of their systems. Savings could be achieved by standardizing and creating more efficient operational models.

Evidence-Based Design

Evidence-based design has been used for decades by designers working in the community health setting. This type of informed design uses evidence from research to help inform design decisions to improve patient outcomes, increase staff satisfaction, and create operational efficiencies. By applying and testing these principals in correctional health, state departments of corrections can potentially reduce costs of care, retain staff, and improve their healthcare operations.

Use of Technology

Correctional health is also behind community health when it comes to the use of technology. Electronic medical records systems, PACS systems, and telemedicine are all staples of the community health system, but are a rarity in correctional health. Though these systems have an upfront, initial cost, those costs are more than made up by reductions in duplicate testing, use of remote providers, reduction in transportation, and early detection and treatment of the inmate's health conditions. These systems are not only more efficient, but they also provide the opportunity to create a wider network of providers which will increase access to care and provide faster diagnosis and treatment plans.

Expand Research

More research is needed in the correctional health realm. Though this study is a step toward helping state department of corrections determine the best locations to provide care, more research is needed on this subject. In addition, medical research within correctional health should be expanded. Because of the controlled environment of corrections, prisons are an ideal location for research on medical interventions, health delivery processes, and patient outcomes.

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14 APPENDIX

14 APPENDIX

AUTHOR	YEAR	TITLE	SOURCE	MAIN FINDINGS
Abt	1999	Telemedicine Can Reduce Correctional Health Care Costs	U.S. Department of Justice, Office of Justice Programs, National Institute of Justice	1. Discussion of how care was originally delivered. 2. Discussion on what defines a telemedicine system. 3. Telemedicine will not reduce transport costs for services that cannot be provided remotely. I.e. Emergency, Surgery, Invasive Tests and Care requiring non-moveable equipment. 4. Discussion of other benefits to Telemedicine other than encounter costs.
Aday	1994	Golden Years Behind Bars: Special Programs and Facilities for Elderly Inmates	Federal Probation	1. Prisons are designed for younger, active inmates. The elderly cannot ambulate in these facilities. 2. Some states have age based policies and classifications. 3. Specialty units normally don't have stairs and are close to key services (i.e.. Food, Recreation, etc.) 4. Small elderly inmate populations may make it tough to justify separate facilities.
Aday, et al.	2014	Malign Neglect: Assessing Older Women's Health Care Experience in Prison	Journal of Bioethical Inquiry	1. With an average of 4.2 chronic health conditions, frequent histories of victimization, and high rates of mental health issues, the women's experiences of negotiating health care was particularly challenging. 2. Discussion of concerns of women in prison, including penal harm, co-payments, pain of imprisonment, malign neglect, health disparities, and challenges of older women inmates. 3. Older women naturally experience health complications that require greater use of screenings, diagnostic examination, lab work, and follow-up services than other segments of the prison population. 4. While some inmates may initially view medical care in prison as a buffer against the hostile nature of prison, this view is quickly dispelled by the realities of scarce resources and constant attempts to create road blocks for healthcare treatment. 5. Current prison healthcare policies in the United States do not recognize the principle of equivalence of care and as a result, fall short of the human rights framework for prisoners recognized internationally.
Ahalt, et al.	2011	Confined to Ignorance: The Absence of Prisoner Information from Nationally Representative Health Data Sets	Journal of General Internal Medicine	1. Demographics on prisoner health vs non-incarcerated. 2. Despite the large and complex population, there is not a lot of data on the subject matter. 3. At the time of this article, very little research had been done regarding the connection between incarceration and individual or public health.

AUTHOR	YEAR	TITLE	SOURCE	MAIN FINDINGS
Ahalt, et al.	2013	Paying the Price: The Pressing Need for Quality, Cost and Outcomes Data to Improve Correctional Health Care for Older Prisoners	Journal of the American Geriatrics Society	1. 95% of prisoners are eventually released. 2. Though general prison population has shown a decline, the older prisoner population is growing rapidly. 3. Experts in geriatrics could help the health needs of the older inmate patients. 4. Failure to discharge plan creates burdens on community health once the prisoners are released. 5. Cost-effectiveness may differ according to site (e.g., community hospital vs specialized prison medical facility) according to factors such as the medical condition treated, the safety profile of the prisoner, or the correctional institution's distance from community-based services.
Allbaugh	2016	Transportation of inmates	Oklahoma Department of Corrections	1. Staff are not allowed to notify inmates of impending transport unless required for surgical preparation. 2. For all medical transports, any medical condition should be noted by the medical staff and medical staff will determine if the transport is routine or emergent. 3. Transport officers will search the vehicle before and after each use, and Inside rear door and window handles should be removed and a Plexiglas shield installed to reduce bodily fluid transfers. 4. The inmate will be thoroughly searched prior to departure and on return. 5. The inmate shall be restrained at all times, with the exception of a pregnant inmate who shall not be restrained. If more than one inmate is being transported, they shall be restrained to the highest security level.
Anmann Talerico	2003	Growing Old in the Correctional System	Journal of Psychosocial Nursing	1. Inmates over 50 are the fastest growing population and have many neglected acute and chronic health conditions and should be considered a unique group. 2. Prisons were never designed with the older inmate in mind. Special adaptations are frequently required. 3. Older offenders fall into three types: long-term offenders; repeat offenders; first-time offenders. Each has specific needs. 4. First-timers represent the largest amount of older offenders. Lifers tend to be model prisoners, having learned to navigate the system. For habitual offenders, prison is a haven and is better than their circumstances on the street. 5. Prison authorities are confronted with issues related to housing, program development, soaring health costs and human rights of older offenders.
Anno, et al.	1996	A Preliminary Model for Determining Limits for Correctional Health Care Services	Journal of Correctional Health Care	1. Description of services normally provided to inmates, separated into categories. 2. Discussion of over-treatment and rationing of care. 3. Discussion of factors that should be deemed irrelevant when discussing inmate healthcare. 4. Discussion of factors to be reviewed when determining to provide or deny a health benefit.
Anno	2004	Prison Health Services: An Overview	Journal of Correctional Health Care	1. Three accreditation bodies (NCCHC, ACA, and JCAHO). 2. Description of how care providers are contracted, including private for-profit companies. Some statistics on the number of states that use private companies. 3. No research on quality standards throughout the prison systems. 4. Most terminally ill inmates will die behind bars. Most facilities are now creating palliative and hospice care units. 5. There needs to be linkages created between public health agencies (community health, jail, and prison). Many dollars are wasted on repeated testing and diagnostics because information is not shared between agencies.

AUTHOR	YEAR	TITLE	SOURCE	MAIN FINDINGS
Anno, et al.	2004	Addressing the Needs of the Elderly, Chronically Ill, and Terminally Ill Inmates	U.S. Department of Justice, National Institute of Corrections	1. Challenges facing corrections systems include: Management and housing of inmates with special needs; special accommodations, facilities, and programs for inmates with special needs; cost containment in providing for inmates with special needs; epidemiological considerations; preparing correctional staff to respond to the requirements of special needs inmates; and functional assessment of special needs inmates. 2. Three prison populations overlap considerably: the elderly, the chronically ill, and the terminally ill. 3. More than half of the state DOC had located the delivery of medical services at one site. At 23 DOCs, terminally ill inmates were cared for at a single location. At 15 DOCs, elderly inmates were placed in a single facility. 4. Elderly inmates consume a disproportionate amount of health services. 5. A well-organized chronic clinic that focuses on outcomes can reduce costs from ED visits and hospitalizations.
Baldwin	2000	Health Issues Specific to Incarcerated Women: Information for State Maternal and Child Health Programs	Women's and Children's Policy Center, Johns Hopkins University, School of Public Health	1. Because it is such a small population, it is difficult to provide comprehensive and appropriate care. 2. Demographics on disease types and prevalence. 3. Reports on pregnant incarcerated women. 4. Costs and transportation are limiting factors on pre-natal care for inmates. 5. Community-based program that lets infants stay with their inmate mothers for two months after birth.
Bale	2009	Planes, Vans and Automobiles: Medical Escort of the Forensic Patient	The Forensic Examiner	1. Discussion on process and equipment to bring for the transport of inmate-patient.
Barnes, et al.	1987	Periodontal Treatment Requirements of Recently Incarcerated Prison Inmates	Journal of Periodontal Research	1. Young men require less therapy than older ones. 2. The findings indicate extensive need for periodontal and adjunctive therapy. 3. Research indicates that periodontal and oral health of inmates is below that of the general population. 4. Dental examinations are mandatory for new inmates. 5. It is unknown if long term incarceration leads to more dental needs.
BOP	2008	The Federal Bureau of Prison's Efforts to Manage Inmate Health Care	U.S. Department of Justice, Office of the Inspector General, Audit Division	1. Discussion of the BOP care level designations. 2. Discussion of the primary care provider teams as a way to have consistency of providers to patient. 3. Discussion of facility type and services provided, including a pilot project for mobile surgery. 4. Needs Assessment to determine what can be provided in-house. 5. Discussion of regionalized reference laboratories in lieu of individual contracts.
BOP	2016	The Federal Bureau of Prisons' Reimbursement Rate for Outside Medical Care	Office of the Inspector General, U.S. Department of Justice	1. Reference to cost of transportation - $60M in overtime pay in 2014. 2. Comparison of safety v transportation issues. 3. FBOP located its federal medical centers near metropolitan areas, so they can have access to a number of hospitals for specialty care. 4. Rural facilities sometimes have to pay local hospitals higher reimbursement rates in order to limit the cost of transportation, even though hospital a further out may charge a lower rate. 5. It is cheaper to have the provider come to the prison; but, some providers don't want to lose the treatment time to travel.

AUTHOR	YEAR	TITLE	SOURCE	MAIN FINDINGS
Braithwaite	2005	Health Disparities and Incarcerated Women: A Population Ignored	American Journal of Public Health	1. The health of incarcerated women is worse than men and also women in the general population 2. Over the past 20 years, the number of women in state and federal prisons has increase six-fold - outpacing males. Despite the increase, little attention has been given to women's health concerns. 3. Inmates who are released without drug treatment tend to fall back into same patterns and problems. 4. Psychiatric disorders are higher among women inmates. 5. Women's prisons are generally in rural areas, and further from their families. Women's prisons generally have less treatment and educational programs than their male counterparts. Public health officials are asking for more treatment programs for women, which will benefit the community.
Brewer-Smyth	2005	Women Behind Bars: The Challenge to Care	Journal of Christian Nursing	1. Demographic stats on women in prisons.
Broderick	2016	Medicine Behind Bars	Minnesota Medicine	1. Large prison medical facilities are like clinics, outpatient hospitals and EDs rolled into one. 2. Care is interdisciplinary in larger facilities. 3. Many physicians feel safer in the prison environment because of the security layer. 4. Physicians like not having to deal with billing. 5. Description of the Minneapolis systems.
Bronson, et al.	2015	Disabilities Among Prison and Jail Inmates, 2011-2012	U.S. Department of Justice, Office of Justice Programs, Bureau of Justice Statistics	1. Statistics and demographics on disabilities among state and federal prisoners. 2. Information on aging prisoners with disabilities and chronic conditions. 3. Chronic conditions include: cancer, high blood pressure, stroke-related problems, diabetes, heart-related problems, kidney-related problems, arthritis, asthma, and cirrhosis of the liver. 4. Infectious diseases include: tuberculosis, hepatitis B and C, or a sexually-transmitted infection (excluding HIV/AIDS). 5. Cognitive disabilities were the most common.
Brunicadi	1998	Financial Analysis of Savings from Telemedicine in Ohio's Prison System	Telemedicine Journal	1. Data on number of transports, prior to telemedicine. 2. Discussion on the logistics of patient transport and the primary reason for face-to-face meetings after a telemedicine visit. 3. Discussion of how telemedicine allows for simultaneous visits with sub-specialists and allows for greater access to those specialists. 4. Discussion and comparison of actual incurred costs between traditional visits and telemedicine visits, 5. Discussion on how using telemedicine lowers the amount of time from initial request to an actual consult, thus reducing backlog.
Butterfield, et al.	2015	Symptomatic Exposure Among California Inmates 2011-2013	Journal of Medical Toxicology	1. Nearly 50% of state and federal prisoners report a history of drug abuse or dependence in the 12 months prior to incarceration, and 25% were under the influence of drugs at the time they committed their offenses. Scattered reports suggest that rather than being a "dry" environment, drug abuse, and misuse continue to occur during incarceration, often by inventive means. 2. Prisons and jails house large numbers of person with serious mental illnesses, and the suicide rate in these institutions is many times that of the general population. 3. Inmates constantly required more interventions. They also had a higher risk of a poor outcome (major health effect or death) compared to non-inmates. 4. Dependence among female inmates may exceed that of their male counterparts. 5. More generally, methamphetamine abuse has been documented to be a significant source of emergency department-related visits and hospital costs. In addition, inmates had a substantially higher risk of drug abuse and suicide attempts and suffered more serious clinical side effects.

AUTHOR	YEAR	TITLE	SOURCE	MAIN FINDINGS
Byrd, et al.	2009	Violent Behavior in Female Inmates: Possible Predictors	Journal of Interpersonal Violence	1. Research results suggest that the frequency of physical abuse experiences may serve as a risk factor for women's violet behavior. 2. Incarcerated women may have experienced more severe and frequent acts of violence than women in the general population. 3. Numbers on abuse and violence against incarcerated women and women in the general population. 4. The frequency of physical abuse may be the best indicator. 5. More trauma focused interventions may be better programs for incarcerated women.
Cardaci	2013	Care of Pregnant Women in the Criminal Justice System	American Journal of Nursing	1. Demographics and causes for the increase in women's population in prison. 2. The problems treating women in facilities that were designed as gender-neutral, as well, as gender-neutral policies. 3. The specialized treatment required by pregnant women with a substance addiction is seldom available in correctional facilities. Incarcerated women, of whom roughly 10% are pregnant at the time of incarceration, often have undiagnosed or untreated chronic conditions, such as depression, diabetes, hypertension, or asthma. In addition, the healthcare received by many incarcerated pregnant women fails to meet recognized medical and legal standards. 4. Discussion of restraint and injury and other ethical issues.
Carson	2015	Prisoners in 2014	Bureau of Justice Statistics	1. Statistics and demographics on the state and federal prison population in 2014.
Carson, et al.	2016	Aging of the State Prison Population, 1993-2013	U.S. Department of Justice, Office of Justice Programs, Bureau of Justice Statistics	1. Demographic and statistics on the aging of inmates and the causes of the increases. 2. Longer sentences, more time served, and increased admissions among older offenders led to aging in the state prison population.
Carter	2015	Securing Forensic Patients in the Public Hospital Setting - Part 1	SecurityInfoWatch.com	1. Discussion on treating forensic patients in a public hospital setting.
CDC	1996	Injury Surveillance in Correctional Facilities: Michigan, April 1994-March 1995	Centers for Disease Control	1. The number of unintentional injuries was nearly four times greater than intentional injuries. 2. The total rate of injuries was between 1 1/2 - 2 1/2 times greater than the general population.
CDCo	2012	University of Connecticut Health Center Correctional Managed Health Care Overview	Connecticut Department of Corrections	1. Discussion of services provided and location. 2. Discussion on cost of Women's Services.

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Chang Ha, et al.	2011	Chronic Care Model Implementation in the California State Prison System	Journal of Correctional Health Care	1. Description of the CDCR health system. 2. Description of space needs for a CCM system. 3. Description of education materials needed and the literacy level of CDCR prisoners. 4. Care coordination, case management, and discharge planning are critical to continuity of care and reduction of post incarceration ED visits. 5. Implementing a patient-centered care model will improve outcomes through evidence based processes.
Chari, et al.	2016	National Survey of Prison Health Care: Selected Findings	National Health Statistics Report	1. State-by-state statistics on location of services and services provided.
Chettiar, et al.	2012	At America's Expense: Mass Incarceration of the Elderly	American Civil Liberties Union	1. Demographics and statistics on the elderly in prison. 2. Prisons are becoming nursing homes.
Covington	2007	Women and the Criminal Justice System	Women's Health Issues, Jacobs Institute of Women's Health	1. Demographics on women inmates. 2. Medical and mental health problems of women inmates. 3. The role of trauma. 4. Discussion of CTEs childhood traumatic events and the effects on women. 5. Discussion of CTEs and offending.
Chow	2002	Initiating a Long-Term Care Nursing Service for Aging Inmates	Geriatric Nursing	1. Increase of aging inmates is caused by the implementation of the 1984 Comprehensive Crime Control Act and the 1986 Anti-Drug Abuse Act. 2. With this rapidly growing population, more space and more medical, mental health and gerontological nursing personnel are required to provide LTC services. 3. The BOP decided to meet these challenges by converting a FCI to a FMC, which achieved accreditation from JCAHO in ambulatory and LTC. 4. BOP patient classification system. Class I: Self Care. Class II: Minimal Care. Class III: Intermediate Care. Class IV: Modified Intensive or Skilled Care. These categories are based on the inmates ability to perform ADLs. 5. Discussion that an inmate's crime or current behavior should not affect the care that they receive.
Collins, et al.	2007	The Penitentiary Visit - A new role for Geriatricians?	Age and Aging	1. Geriatricians have limited access to aging inmates, but this should change with the changing inmate demographics. 2. Discussion of the disease prevalence of older inmates as well as discussion of ADL impairments of older inmates. 3. Discussion of compassionate release. In addition, discussion of difficulties of releasing long term inmates in regards to housing and family support. 4. Discussion of high suicide rates among recently released older prisoners. 5. Key points: 1. The number of older inmates is increasing and the trend will continue; 2. inmates exhibit accelerated aging and have many comorbidities; 3. there is a need for geriatric medicine and forensic psychology services for older inmates; and 4. geriatricians will have a large impact on the treatment of older inmates."
Colsher, et al.	1992	Health Status of Older Male Prisoners: A Comprehensive Survey	American Journal of Public Health	"1. Demographics on elderly inmates in Iowa. 2. Needs for new physical plants to house the mobility impaired.

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Conklin, et al.	2002	A Public Health Manual for Correctional Health Care	Hampden County Sheriff's Department	1. Definition of a public heath model. 2. The public health model reduced the need for post-incarceration ED visits by providing continuity of care. 3. In the public health model, sick call in performed on the housing unit in a private room. The nurse will also triage the patient for further care. 4. Discussion of care that is provided off-site: chronic care; convalescent care; and multidisciplinary care. 5. Discussion of medical and mental health services and their locations.
Corrections Compendium	2006	Inmate Health Care and Communicable Diseases	Corrections Compendium,	1. Description of state-by-state survey of health system: Population, treatment and services provided.
Costa	2014	Dental Care in Corrections	Disease-a -month	1. The most prevalent disease in correctional health is in dental and most pre-incarceration access to treatment revolved around pain relief, thus most enter prison with a pattern of decay far beyond that of the general population. 2. Socioeconomic challenges have arguably been a greater barrier to dental care. The emergence of methamphetamine abuse has resulted in Meth Mouth. In addition, chronic conditions such as cardiovascular disease may complicate the delivery of dental care. 3. Correctional dentists are faced with a transient population that presents with multiple dental concerns that may require acute intervention. Staff are challenged to prioritize cases and most funds are targeted for extractions and basic restorations. The basic objective is to alleviate pain with a secondary goal of restoration of function. 4. Surveys suggest a wide variety of services offered at individual prisons and access to endodontic treatment is extremely limited. 5. Consistent access to dental care for long-term inmates should be developed.
Courtwright, et al.	2008	Shackled: The Challenge for Caring for an Incarcerated Patient	American Journal of Hospice & Palliative Medicine	1. Hospice care for inmates is widely recognized as an important way of providing efficient, cost-effective palliative care to a growing number of dying inmates. However, prison restrictions prevented the healthcare team from sharing the patient's clinical status with his family. The patient was forbidden many interventions that would have improved his comfort, such as watching television. 2. Trying to provide compassionate care for prisoners in the hospital setting can be daunting. When the inmate's condition deteriorates to the point of requiring hospital admission outside the confines of a correctional facility. There is a cultural conflict between the prison system which embodies punitive and restrictive norms, and the health care system which embraces caring for all of the patients' needs, individual empowerment, and compassion. Inmate status imposes a standardized, often rigid, set of restrictions on care delivery. These restrictions can profoundly hamper the efforts of the health-care team members as they attempt to navigate the complex bureaucracy that surrounds inmate care,while trying to mitigate the patient's sense of suffering during treatment and death. 3. The reality, however, is that few of us have frequent enough contact with prisoners, especially those with terminal diseases, to know the extent of their restrictions. Navigating the cessation of their rights becomes its own task. 4. For dying patients who are also prisoners, we have the challenge of balancing the return of their rights against the limitations incurred by their incarceration. 5. Cancer caused 23% of the deaths per 100 000 inmates in 2004. The other leading causes of death:heart disease (27%), liver disease (10%), and acquired immunodeficiency syndrome (7%).

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Cropsey, et al.	2012	The Unmet Medical Needs of Correctional Populations in the United States	Journal of the National Medical Association	1. While the requirement for care is well documented, the standard of care is not. 2. Some statistics on population.
Damberg, et al.	2011	A Review of Quality Measures Used by State and Federal Prisons	Journal of Correctional Health Care	1. Some data on state's use of in-house or out-of-house services. 2. Survey information from CA, FOB, MO, NY, OH, TX, and WA.
Davis, et al.	2015	Bridging the Gap: Improving the Health of Justice-Involved People through Information Technology	VERA Institute of Justice	1. Often healthcare services in correctional facilities do not reflect modern science, medicine, technology, or treatment.
Deaton, et al.	2009	The Effect of Health and Penal Harm on Aging Female Prisoners' Views of Dying in Prison	OMEGA	1. Demographics on aging female prisoners, including prevalence of conditions. Older female offenders were found to possess a significant number of health problems, as well as a high degree of anxiety and depression. 2. Older female offenders, by the very nature of their fragile mental and physical health condition, have difficulty coping with a harsh prison environment that engenders considerable stress and anxiety. It is the experience of neglect, denigration, humiliation, and lack of care and treatment that gives aging and dying in prison a new significance. 3. While views of death in prison have been found to contain negative connotations, other models have included positive views of death acceptance that symbolized death as passage to a better afterlife or death as a relief or escape from pain. 4. These sentiments are similar to those suggested by Glamser and Cabana (2003) who compared dying in prison to a wasted life and Bolger (2004) who reported that dying in prison was a huge letdown for the family. 5. Inadequate facilities and poor healthcare both serve as a constant reminder of their status as prisoners. If prison steals away the dignity and true identity of those who are in a vulnerable state of existence, the journey into the unknown becomes more ominous. As many women indicated, if you die in a total institution, your identity suffers immeasurably.
Doarn, et al.	2005	Integration of Telemedicine into Correctional Medicine: An Evolving Standard	Journal of Correctional Health Care	1. Telemedicine can increase access to specialty care, though there are barriers to use. 2. Before telemedicine, many outside trips to specialists were required. 3. There needs to be increased consultations to make it cost-effective. Some states are moving to a hub model where patients are transported to a central facility for their telemedicine visit. 4. Discussion of specific state programs, as well as legal issues related to treating patients over state lines. 5. Review of four factors to a successful telemedicine program.

AUTHOR	YEAR	TITLE	SOURCE	MAIN FINDINGS
Dumont, et al.	2012	Public Health and the Epidemic of Incarceration	Annual Review of Public Health	1. Care systems vary from prison to prison as well as from state to state. 2. Small facilities normally rely on community-based providers. 3. Larger facilities (more than 1000 beds) have an array of in-house services, including surgery. 4. It is not always clear who is providing the care. Ten percent of inmates are in correctional facilities that are privately owned or operated by for-profit companies. 5. Many of the public facilities have contracted out their health services to private companies or local academic centers.
Ellis, et al.	2004	A Telemedicine Model for Emergency Care in a Short-Term Correctional Facility	Telemedicine Journal and E-Health	1. Correctional facilities are good uses for telemedicine since it can increase access, decrease wait times and limit transfers to outside facilities. 2. Telemedicine was provided for patients with semi-urgent or non-urgent complaints upon calling the emergency room. An EKG was available at the home facility for fax review by the consulting emergency physician. 3. Sixty four percent of patients remained at the facility after the telemedicine visit. The average on-screen time was thirteen minutes, versus one hour and thirty five mintues for an on-site ER visit. In addition, another 1.5 hours of transport time would need to be included. 4. Nurses acted as the surrogate examiner under the direct visual supervision of the consulting physician and performed several diagnostic tests. Physicians felt comfortable with the activities performed by the nursing staff. 5. Telemedicine is effective for triage, emergency consultation, and pre-transfer consultation.
Ferguson, et al.	2012	Prevalence of Traumatic Brain Injury Among Prisoners in South Carolina	The Journal of Head Trauma Rehabilitation	1. TBI is a major public health concern. 2. Once incarcerated, behavioral issues caused by TBI can make adjusting to prison life more difficult. TBI, along with chemical dependency, can make the ability to function in and out of prison difficult. 3. A clearer understanding of TBI could help drive rehab programs. 4. TBI screening may become a standard of care. 5. Mental illness is far more prevalent among women than men. The prevalence of TBI among male and female inmates was 65% and 72% respectively"
Fisher, et al.	2009	Women Prisoners: Health Issues and Nursing Complications	Nursing Clinics of North America	1. Estimates indicate that six percent to ten percent of incarcerated women are pregnant, and approximately 1400 give birth each year. 2. There are now more individuals with severe mental illness in the Los Angeles County Jail, Chicago's Cook County Jail, and New York's Rikers Island Jail than there are in any single psychiatric hospital in the nation. 3. Prison mental health is focused on managing crisis and symptoms, rather than providing treatment for psychiatric problems. 4. Discussion of women inmates social health. Since 1991, the number of women in state and federal prisons who have minor children increased 131%. 5. If mothers are able to complete their prison term without losing custody of their children, they may still find it difficult to keep their family relationships intact in states that prohibit those convicted of a felony from obtaining services such as, food stamps, public housing, and loans for school.
Fleming, et al.	2013	The Status of HIV Prevention Efforts for Women in Correctional Facilities	Journal of Women's Health	1. Demographics of women in prison. 2. HIV stats of women in prison. 3. Prevalence of HIV and HCV in this population.

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Fowler-Kerry	2003	Palliative Care within Secure Forensic Environments	Journal of Psychiatric and Mental Health Nursing	1. There is a growing number of elderly and dying inmates in need of palliative care services. 2. The issue facing healthcare professionals is not whether palliative-care programs should be offered to those in secure forensic environments, but rather how the programs can be adapted and implemented to meet the needs of those inmates with life-limiting illnesses. 3. We would agree that all inmates, regardless of the circumstances of confinement, are entitled to humane and compassionate care, care that remains at the cornerstone of palliative care. 4. Angola has a model palliative care program. 5. There needs to be increased awareness by the public, healthcare professionals and policymakers that effective and relatively inexpensive methods are available to control the suffering of the terminally ill.
Fraser Hale, et al.	2008	Correctional Health Primary Care: Research and Educational Opportunities	Journal of Correctional Health Care	1. Partnerships with academic medical facilities are gaining popularity. The stigma surrounding the environment of care is limiting for students. Also, the facility where care is not the priority can be a challenge. Marketing the pathology of the inmate-patient to the best and brightest students may peak their interests to provide care where it can do the most good. 2. Limiting the spread of disease in prison clearly limits the spread in the community. In addition, release and re-entry need to be coordinated for continuity of care. 3. Research in the correctional setting is limited by regulatory issues (IRBs) and needed support from the DOCs. 4. Funding is an issue; but, funding agencies can be reminded of the overlap with community health and the importance to align those funds. 5. Outcomes do not normally drive correctional health. They are more concerned with structure and process (three pillars of evaluation).
Fraser Hale, et al.	2015	Academic-Correctional Health Partnerships: Preparing the Correctional Health Workforce for the Changing Landscape-Focus Group Research Results	Journal of Correctional Health Care	1. Not a lot of research on staffing and retention of correctional health staff. 2. Because of the pathology of the patients, correctional health can be an important teaching tool for students. 3. It is also important from a community health standpoint, as the bulk of the population return to their respective communities.
Freudenburg	2002	Adverse Effects of U.S. Jail and Prison Policies on the Health and Well-Being of Women of Color	American Journal of Public Health	1. Effects of incarceration on women and women of color. 2. Discussion of the downward cycle culminated by incarceration. 3. Correctional policies can contribute to adverse heath outcomes. 4. Growing international interests between health and human rights may provide some intervention. 5. Because of tough-on-crime policies,many states are not spending more on corrections, than on education and healthcare.

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Geisler, et al.	2011	The Cost of Correctional Health Care: A Correctional Institution Inspection Committee Summary of Ohio's Prison Health Care System	A Correctional Institution Inspection Committee summary of Ohio's prison health care system	"1. Discussion of where care is provided in Ohio DOCs (institutional infirmaries; specialty facilities; corrections medical center and OSU Medical Center). 2. Majority happens in infirmaries designed similar to a community ambulatory center. Some specialty care is also provided in infirmaries (podiatry; optometry; OBGYN; chronic care; and dental care). 3. Ohio DOC has two skilled nursing facilities. OSUMC staff see patients in these facilities. 4. They opened an urgent care unit at CMC to limit the number of inmates sent to OSUMC for emergency care. 5. Non-prescription meds can be purchased through commissary.
Glassman, et al.	2010	Creating and Maintaining Oral Health for Dependent People in Institutional Settings	Journal of Public Health Dentistry	1. People with chronic medical illnesses, developmental disabilities, and psychosocial issues experience more oral healthcare problems than others who do not suffer from these conditions 2. Medical care is one of the principal cost drivers in corrections budgets today. From 1998 to 2001, healthcare spending in state prisons grew 10 percent annually, totaling $3.7 billion and accounted for about 10 percent of correctional spending. 3. Because of the care mandate, most correctional facilities have positions for at least one full-time dental officer, and many sites have fulltime registered dental hygienists and other auxiliary staff 4. Oral health specifically is a significant issue in prison populations. Incarcerated individuals are much like members of lower socioeconomic groups in general, and have higher levels of oral disease 5. there are some common challenges to improving the oral health of these groups. These include the need to work with care givers in addition to the individual, the workload of staff in institutional settings, lack of education about the prevention and treatment of oral diseases among institutional staff, and the difficulty accessing oral health professionals for many dependent people in institutional settings"
Godley	2009	Physician, Where Art Thou?	American Journal of Bioethics	1. Physicians are professionally and legally obligated to help those in medical need. 2. The care rendered by the physician is supposed to be free of prejudice because the medical professional code mandates that we rise above our personal biases. 3. There is no litmus test administered at any point in a physicians career that assesses whether care rendered was free of racial, ethnic, political, religious, or, gender bias and studies in the US show that some physicians biases regularly influence their practice patterns. 4. The common thread among these examples is that physicians (knowingly or not) served the interests of the government over those of the ill individuals. 5. In essence, physicians, at different times and places in history have allowed themselves to be used as agents of the state (or, in the case of the Nazi physicians, actively solicited the role) and have triaged and provided care that reflected governmental values."
Goldstein	2014	Health Information Privacy and Health Information Technology in the U.S. Correctional Setting	American Journal of Public Health	1. Limited use of EHRs in the corrections setting. 2. This limited use makes it difficult to share information between correctional health services and community health services.

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Gonzales, et al.	2014	Mental Health of Prisoners: Identifying Barriers to Mental Health Treatment and Medication Continuity	American Journal of Public Health	1. Correctional facilities are considered the largest provider of mental health services, though inmate access to health and MH services has been sporadic. Over 1/2 male and 3/4 of female inmates report having MH conditions, in comparison to nine percent in the free world. Depression was the most prevalent mental health. condition reported by inmates, followed by mania, anxiety, and post-traumatic stress disorder. 2. Discussion of limited treatment options causing disciplinary problems and increased use of solitary confinement. 3. Increased screening and treatment is needed from a legal and humanitarian standpoint, though to date a great deal of variation remains in screening and treatment of MH disorders. For example, many medications are expensive and therefore not widely used. Budget limitations restrict treatment only to the most severe. In addition, qualified professionals are in short supply and most screening tests are not for diagnostics, but to determine security risks. 4. The incarceration experience itself poses a challenge to MH treatment. In addition, the public health system has a great deal to gain from better mental health treatment among inmates, particularly in reducing the costs associated with high recidivism rates. However, inmates who have lingering, untreated mental health conditions are likely to pose a major public health risk (e.g., recidivism) in the future. 5. Even when validated (and reliable) screening tools are used to identify mental health conditions, inmates are often misclassified because of the conditions under which the screening tools are administered.
Graves	2007	Caring for the Incarcerated in the Intensive Care Unit	Dimensions of Critical Care Nursing	"1. Inmates pose a risk for flight, threats to themselves or others, and may be restrained 2. Discussion with the security staff may need to happen if restraints are impeding care 3. Corrections officers need to be with the patient at all times and must accompany the care giver into the room 4. Report changes in condition to correction's officers. 5. Inmate is not to be informed of follow-up visits.
Hall	1990	Special Needs Inmates: A Survey of State Correctional Systems	Illinois Department of Corrections	"1. Data on where these special needs inmates are housed. 2. Definition of special housing includes: mental health units; special rehabilitation units; geriatric units; extended care units; infirmary facilities 3. info regarding hospice care. 4. Info for mental health"
Harner, et al.	2013	The Impact of Incarceration on Women's Mental Health: Response from Women in a Maximum Security Prison	Qualitative Health Research	"1. Many women enter prison with complex mental health issues, including depression, anxiety, PTSD, and addiction. Some mental health issues were active pre-incarceration. Some mental health issues were caused by incarceration. Clinical practice needs to be sensitive to women's mental health issues. A simple gynecological exam could cause trauma due to past abuses. The most common factors contributing to poor mental health within prison included: (a) isolation and lack of mental stimulation, (b) drug misuse, (c) negative relationships with prison staff, (d) bullying of vulnerable prisoners, and (e) lack of family contact. Treatment modalities supported by evidence for nonincarcerated populations do not necessarily transfer to the incarcerated population 2. Available services are not keeping pace with the increase in population 3. Evidence supports that more than 90% of incarcerated women have experienced victimization 4. The fact that women benefited in any way from imprisonment is by itself an alarming commentary on the status of women's health and safety in the United States."

AUTHOR	YEAR	TITLE	SOURCE	MAIN FINDINGS
Harner, et al.	2013	Factors Contributing to Poor Physical Health in Incarcerated Women	Journal of Health Care for the Poor and Underserved	1. Prisons have become the primary healthcare provider for some of the poorest and sickest women in the United States. 2. Women described several specific prison-based factors that affected their physical health: limited and complicated access to care; nutritional concerns; limited physical activity; and smoking in prison. In addition to limited access to care, other institutional factors, including the prison environment itself, may affect women's physical health during imprisonment. 3. While available data is sparse, previous investigations suggest that incarcerated women have complex, chronic, and co-morbid physical health problems, many of which were antecedents to incarceration. It is possible that these problems may be affected by both the nature of incarceration, as well as access to and use of prison health services. 4. Health is a fundamental human right, especially for individuals held in the custody of the state.
Hart, et al.	2002	Implementing Telemedicine in Correctional Facilities	US Department of Justice, Office of Justice Programs, National Institute of Justice	1. Results of pilot study. Savings from averted trips is modest, but some performance indicators are enhanced. 2. Discussion of the most effective use of telemedicine. 3. Discussion of other benefits of telemedicine. 4. Telemedicine is not intended to replace in-facility medical care, but to supplement it. 5. Discussion of facility requirements to house telemedicine.
Hatton, et al.	2011	Using Participatory Methods to Examine Policy and Women's Prison Health	Policy, Politics & Nursing Practice	1. Demographics of women in prison and pre-incarceration access to care. 2. Prisons are geographically remote from core services. 3. The last decade, however, has witnessed a dramatic shift in the location of these populations from traditional settings, such as shelters, community health clinics, and psychiatric hospitals, to jails and prisons. 4. The problems with co-pay.
Henning, et al.	2015	Patterns of Traumatic Injury in New York City Prisoners Requiring Hospital Admissions	Journal of Correctional Health Care	1. Bellevue hospital provides trauma services for NYCDOC. 2. Statistics on types of injuries. 3. Background/demographic info with emphasis on TBI. Discussion of more TBI screening. 4. Study results discussed. 5. Seventy Five percent of injuries were due to violent conduct, while 96% required hospital admission and 84% required surgical intervention. Average LOS was 4-5 days.
Hoffman, et al.	2011	Characteristics of Prison Hospice Programs in the United States	American Journal of Hospice & Palliative Medicine	1. Demographics of the graying of U.S. prisons and the types of chronic diseases that are prevalent. Discussion on the causes of rapid aging of prisoners and statistics on the number of inmates dying in prison 2. Hospice care should be standard treatment for terminally-ill prisoners because hospice care has been the standard of quality healthcare for those who are terminally-ill in the community since the 1970s. The National Prison Hospice Association (NPHA) and the Guiding Responsive Action for Corrections in End-of-Life(GRACE)Project separately developed ''standards of practice'' and "operational guidelines,'' respectively, to facilitate the implementation of hospice in prisons. 3. Discussion of programs that follow the NPHA and GRACE guidelines. 4. Detailed discussion of prison hospice programs, including the five challenges facing implementation of prison hospice programs. 5. Discussion of cost-saving advantages to implementing prison hospice programs.

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Hoskins	2004	Women's Health Care in Correctional Facilities: A Lost Colony	Obstetrical & Gynecological Survey	1. Demographics and women's special health needs. 2. Discussion of pregnancy rates and pre-and-post natal care. 3. Discussion of community re-integration programs. 4. Though organizations accredit prison healthcare, there are no uniform standards.
Howle, et al.	2010	CDCR: Inmates Sentenced Under the three Strikes Law and a Small Number of Inmates Receiving Specialty Health Care Represent Significant Costs	California State Auditor, Bureau of State Audits	1. Discussion of CDCR demographics. 2. Inpatient acute medical and surgical care accounts for most of the specialty care costs. Outpatient Surgery was the next highest (but significantly lower). A small number of inmates are accounting for a large portion of the costs. 3. Inmate stays in hospital settings are sometimes longer, because there is no recovery beds in the facility when the hospital is ready to release them. 4. Some data on transportation costs and officer hours (i.e.. overtime). 5. Some discussion of creating inmate units in community hospitals to reduce officer staffing needs.
HRW	2003	Ill-Equipped: U.S. Prisons and Offenders with Mental Illness	Human Rights Watch	1. Discussion on the reason for more mental health patients in prisons. 2. Cost differences between housing the behavioral patient in a state facility vs. a prison. 3. Discussion on the types of prison mental health treatment facilities. 4. Need for specialized intermediate care units. 5. Information on women's mental health.
Justice Center	2013	The Implications of the Affordable Care Act on People Involved with the Criminal Justice System	Corrections.com	1. Discussion of demographics.
Kasdan	2009	Abortion Access for Incarcerated Women: Are Correctional Health Practices in Conflict with Constitutional Standards?	Perspectives on Sexual & Reproductive Health	1. Legal rights to abortion in prisons and the percentage of states that provide abortions. 2. How is it paid for? 3. Public Health and Corrections need to work together. 4. Abortion is only one gap in women's reproductive health services. 5. Health professionals can help correctional authorities implement standards of care that recognize and meet the complete range of reproductive health needs that women may experience while incarcerated, and as they prepare to return to their families and reenter the community.
Kendig	2004	Correctional Health Care Systems and Collaboration with Academic Medicine	Journal of the American Medical Association	1. Discussion of expanding collaborations with academic medicine.

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Kendig	2016	The Potential to Advance Health Care in the U.S. Criminal Justice System	Journal of the American Medical Association	1. There are legislative changes that are reducing the incarcerated population, icl. Reduction in mandatory minimums, diversion of non-violent drug offenders to treatment centers, expanded parole, and lenient sanctions on parole offenders. 2. Two, 296,400 in 2007 to 2,224,400 in 2014. 3. Reduced overcrowding should reduce health costs. 4. Shifting from inmate populations to community-based services. The challenge will be to find adequate funding to keep up pace. 5. Discussion of the partnership with community health and with academic medicine.
Kinsella	2004	Corrections Health Care Costs	The Council of State Governments	1. Continuity of care is an issue in costs of health-care post incarceration. 2. Contributors to increases in correctional healthcosts are communicable and chronic disease, mental illness, elderly inmates, substance abuse treatment and prescription drugs. Some cost-savings measures include inmate co-pays, telemedicine, privatization, disease prevention programs and compassionate release. Courts have mandated the construction of new facilities as the current facilities do not meet the standard of care. 3. Description of responses to elderly inmate costs. 4. States are moving to centralized pharmacies or group-purchasing consortiums to reduce drug costs. 5. Description and demographics on the five payment models for care.
Koester, et al.	2017	Inmate Health Care Provided in an Emergency Department	Journal of Correctional Health Care	1. There is limited data on the acute care needs of this population. 2. Five Hundred and Seventy Six ED visits studied; 48.6% from State Prisons. Of the 576, 66.8% had Labs; 72.9% had Imaging; 39.8% were admitted. The most common complaints were trauma, abdominal pain, chest pain, self-injury, neuro, hematologic, seizures, and abscesses, pulmonary. 3. Since fewer than 40% were admitted, it shows that a large portion of patients could be seen in a less acute setting. 4. Because of the security and space needs of these patients, it would be better to see them in a less acute, secured setting. 5. There were multiple visits listed as part of this study, leading to the belief believe that chronic care was lacking, or severe health crisis required hospitalization.
Krauth	2003	Corrections Agency Collaborations with Public Health	U.S. Department of Justice, National Institute of Corrections	1. Data and statistics on who and how states are providing care.
Kutscher	2013	Rumble over Jailhouse Healthcare	Modern Healthcare	1. Discussion on the pros and cons of privatized contract health services.
Kruttschnitt	2010	The Paradox of Women's Imprisonment	Daedalus	1. Demographics of women in prison. 2. Factors driving the increase in population. 3. Socioeconomic factors. 4. Effects on children. 5. Social service safety nets removed due to being incarcerated.

AUTHOR	YEAR	TITLE	SOURCE	MAIN FINDINGS
La Cerra, et al.	2017	Primary Care Program in Prison: A Review of the Literature	Journal of Correctional Health Care, 1-10	1. Definitions of primary care and the main players from a health staff standpoint. 2. Primary care is required to plan health services inside and outside of the prison. 3. In the prison setting, the inmates see the nurses more than any other health professional. On intake; during incarceration; and during discharge planning. 4. Good description of Lit Review methods. 5. Discussions of the positive aspects of implementing a primary care model.
Lamb, et al.	2005	The Shift of Psychiatric Inpatient Care from Hospitals to Jails and Prisons	The Journal of the American Academy of Psychiatry and Law	1. Discussion of the current state of mental health in prisons. 2. Discussion of mental health courts as diversion, in lieu of the correctional system (treatment and housing). 3. If mental health care was moved to the proper setting, the need for new prisons could be reduced.
Lamb-Mechanick, et al.	2000	Prison Health Care Survey - An Analysis of Factors Influencing Per Capita Costs	National Institute of Corrections	1. Data on factors affecting health care costs, payment models, and locations and numbers of services provided. 2. The major finding is that it not the range or number of services, but rather the method of care delivery and staffing mix that most affected per capita prison health care costs. 3. Payment models studied include: DOC employee model; fee-for-service model; Pre-negotiated discounted fee-for-service model; capitated rate for specific services; and global capitated rate. 4. Findings report that staffing practices (what types and how many practitioners used) is one of the most important determinants of healthcare costs.
Larra-Millan	2014	Public Emergency Room: Overcrowding in the Era of Mass Imprisonment	American Sociological Review	1. Are offenders brought through the system faster than free-world populations, thereby increasing the wait times for general patients? Often the staff doesn't want to burden the officers with extended wait times 2. Are general patients losing beds to the endless patient flow of corrections patients. 3. Is prison becoming the primary distributor of social services to the poor? 4. Ex-inmates are less likely to access public services outside of prison. Adding to that the recidivism rates, are inmates returning to prison in poorer health?
Lashley	2010	The Things to Avoid in Prisoner Hospital Visits: Complacency and Pepper Spray	correctionsone.com	1. Discussion on how to secure an exam room. 2. Discussion on how to secure the patient. 3. Failure to continuously monitor the patient is a recipe for disaster.
Lawrence	2014	Managing Corrections Costs	National Conference of State Legislatures	1. Twenty percent of prison spending was on healthcare in 2008. 2. High rates of disease, growing elderly inmate population, and location contributed to costs. 3. Prescription and OTC dugs costs have also increased. 4. Prisons are located in remote, non-urban areas. Transportation costs of inmates to hospitals and caregivers to prisons can be high. 5. Over a 13-year period, UTMB documented $780M savings due to using telemedicine.
Lincoln	2008	Improving the Conditions of Confinement: End of Life Care in Prison	Pharos of Alpha Omega Honor Medical Society	1. Prisons have become one of the largest health-care providers in the nation. 2. The history of healthcare in corrections and the litigation that drove changes to care. 3. The conflict between medical and corrections staff and other barriers to care. 4. Discussion of organizations that monitor and accredit correctional healthcare. 5. The demographics of the aging inmate, prison hospice programs, and compassionate release.
Linder, et al.	2007	Prison Inmates and Palliative Care	Journal of the American Medical Association, August 22/29, Vol 298, No 8	1. Bone marrow transplants are difficult to access in the prison environment. 2. In a resource-strapped setting, there are ethical and practical dilemmas in respect to access to ultra-expensive and highly-specialized therapies. 3. Most clinicians provide opioid analgesics, only if inmate life expectancy was less than six months.

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Linder, et al.	2007	Palliative Care for Prison Inmates: "Don't Let Me Die in Prison"	Journal of the American Medical Association	1. Issues related to palliative care and hospice care in prisons include; standards, inmate-physician and inmate-family relationships, confidenialility, interdisciplinary care, DNR orders and AMD, medical parole, and the use of inmate volunteers. Successful systems take the best from the community system and add the corrections overlay. 2. For many inmates, prison is the first time they have had consistent access to care. Inmates are more likely to have both low literacy and low health literacy, driving confusion, frustration and poorer health outcomes 3. Usually 1 or 2 prisons in a system are designated as a central health facility. This also normally includes hospice. Some data suggests that limited curative or life-prolonging approaches are available. 4. Discussion of impediments to hospice programs in prisons. There is little option for pain relief between pill calls, and sometimes physicians will over treat in order to avoid litigation.
Magee, et al.	2005	Preventative Care for Women in Prison: A Qualitative Community Health Assessment of the Papanicolaou Test and Follow-Up Treatment at a California State Women's Prison	American Journal of Public Health	1. Women in prison have unique health needs. 2. Cervical cancer is at high risk in prisons for many factors. 3. Concerns over cleanliness and privacy of treatment/exam spaces.
Mara, et al.	2000	Aging in Place in Prison: Health and Long Term Care Needs of Older Inmates	The Public Policy and Aging Report	1. Patient ethnography. 2. The cost for caring for older inmates is three times the cost of caring for younger inmates. 3. Pennsylvania example - Laurel Highlands. 4. Review of hospice care.
Macmadu, et al.	2015	Correctional Health is Community Health	Issues in Science and Technology	1. Discussion of ways that correctional health-care is administered; public correctional care, private industries, or academic medical centers. No studies have been done on uniform quality-of-care standards. 2. Ninty five percent return to their communities. Because of the lack of health resources in these communities, most people rely on ER visits once the condition has become acute. Incarceration does offer opportunity for post release linkages to public health. Chronic conditions are rampant in prisons. 3. When mental health institutions closed in the 1970s, community health was not funded to make up the difference. Most then went into incarceration. 4. Though women make up only 10% of the population, they have a greater burden of disease than men do. five percent- six percent of women are pregnant upon incarceration. STI is twice as common among women than men. 5. Prisons are becoming sites for nursing home care and treatment of chronic conditions. In five states, spending on corrections exceeds spending on higher education.

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Mara	2002	Expansion of Long-Term Care in the Prison System: An Aging Inmate Population Poses Policy and Programmatic Questions	Journal of Aging & Social Policy	1. Discussions on demographics of impairment and older inmates. Discussions on types of models of care and where they are provided. 2. Louisiana has a 600-bed long-term care facility (skilled nursing, HIV & AIDS, mental health services, medical monitoring, nursing home care, and hospice). Pennsylvania had a dedicated facility which has different levels of care (geriatric to long term care). Pennsylvania also uses other models. 3. The other model would be to provide officers at a state-run nursing home, as well as other models such as infirmary care (nursing home) and day hospitals. 4. Discussion of facilities needs/issues for long-term care patients. Evaluate needs on a system-wide basis, not facility-by-facility. 5. Discussion of hospice care.
Maruschak	2004	Medical Problems of Prisoners	Bureau of Justice Statistics	1. Arthritis and hypertension were the two most common medical problems, other than a cold or virus. 2. A third of state inmates report having an impairment, and reports of medical problems increase with age 3. Female inmates were more likely than male inmates to report a current medical problem. 4. Four percent of female inmates reported being pregnant at admission. 5. 149,000 state inmates had a surgical procedure since admission. 50,400 were 45 years or older.
Maruschak, et al.	2015	Medical Problems of State and Federal Prisoners and Jail Inmates, 2011-12	Bureau of Justice Statistics	1. Demographics and statistics on health conditions of the incarcerated.
Marquart, et al.	1997	Health Condition and Prisoners: A Review of Research and Emerging Areas of Inquiry	The Prison Journal	1. Prisoner healthcare and healthcare delivery are sometimes hidden costs. 2. Criminal justice policmaking affects the type and cost of care that needs to be provided. 3. Discussion of female health services needs. 4. First reference to building secured hospitals, in lieu of using community hospitals as a way to reduce costs.
Mason	2013	On the Road Again: The Dangers of Transporting Ailing Inmates	Corrections Today	1. Data on transporting costs. CDCR estimates that costs of medical transports total $19.3M in one year and $90M nationwide. It is estimated that more that 45K trips each month occur to outside facilities. Telemedicine could potentially reduce the number of transports needed. 2. Elderly inmates are five times more likely to be transported to an outside facility than younger inmates 3. Escape is always a risk while transporting inmates. During transport, all inmates should be assumed to be the higher security classification. There needs to be collaboration between corrections staff and the outside medical staff on entries, procedures, weapons control, etc. 4. Transport should use multiple routes to the medical facility. Inmates should not even know they are going to be transported. Times should be staggered. 5. Transportation procedures need to be in place regarding medical emergencies and inmate physical restrictions.

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Maull	2005	The Prison Hospice Movement	EXPLORE	"1. The NPHA mission is to assist correctional healthcare professionals and community healthcare professionals and organizations in the development of high-quality, humane, and compassionate end-of-life and elder care programs in correctional health care facilities. 2. Responses to the needs of terminally ill inmates are accelerating. Current practices can be described under two broad categories: release and services for inmates. 3. Discussion of challenges in lack of standards in compassionate release programs. The majority of terminally ill inmates will not receive compassionate releases before they die. 4. In the correctional setting, a classic "total institution" care is institution-centered, not patient-centered. Prison hospice units are anything but home-like, and security regulations prohibit any efforts to personalize a cell or hospital room. Although hospice and palliative care may look very different in a correctional setting when compared with community hospice units or home care, it has nonetheless dramatically changed and improved the quality of care of terminally ill and dying prisoners. 5. The advent of hospice care in prisons has dramatically improved pain management and symptom control, which were previously minimal and substandard, to say the least.
McDonald	1999	Medical Care in Prisons	Crime and Justice	1. Prison medical care is pulled in two directions: one is to expand care and the other is to limit it. 2. Prisoners are taken to local hospitals for specialist treatment, diagnoses, observation and surgery. 3. Diagnostic equipment is usually limited because of low numbers, though X-ray and mammograms have been purchased. As an example, Nevada built and abandoned a surgery unit. 4. In an environment where hospitals in the outside community are underused, it is usually more cost-effective to use these facilities on an as-needed basis, even while counting the cost of transport 5. Although they are not building full-service hospitals, many DOCs are building specialty medical facilities to care for acute chronic conditions that do not require hospitalization.
McGarry	2010	The Continuing Fiscal Crisis in Corrections	VERA Institute of Justice	1. The 2007 financial crisis made states rethink policies. 2. States eliminating mandatory minimums and three strikes rules. 3. Being "smart of crime" in lieu of "tough on crime."
McGillen	2011	The Financial Impact of Inmate Health Care: Maintaining a Cost Effective and Efficient System	Pinellas County Sheriff's Office	1. Discussion of advantages of using a private contractor and the cautions of using a for-profit service. 2. Physical plant layout can effect labor costs. 3. Discussion of a co-pay system. 4. Elderly inmates represent 42% of all hospital days. Special housing units have been created in response. 5. Technology can reduce labor and increase efficiency, but there are start-up costs.
Mitchell, et al.	2015	Defining Success: Insights from a random assignment, multi-site study of implementing HIV prevention, testing, and linkage to care in U.S. jails and prisons	AIDS Education and Prevention	1. Implementation of strategies has failed to keep pace with the evidence-based treatment strategies that have been developed. 2. Disparity between research and practice is particularly acute in the correctional setting.

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Mitka	2004	Aging Prisoners Stressing Health Care System	Journal of the American Medical Association	1. Some discussion about separate elder care facilities in prisons. 2. The use of chronic care clinics. Inmates over 55 have up to three chronic conditions and up to 20% have mental illness. 3. The use of hospice care for dying inmates. 4. Fellowships for medical students learning geriatrics. 5. Implementing treatment guidelines.
Mumola	2007	Medical Causes of Death in State Prison, 2001-2004	Bureau of Justice Statistics	1. Demographics on the causes of death while in custody. two thirds of deaths are caused by: 1. heart disease (27%); 2. cancer (23%); 3. liver disease (10%); 4. HIV/AIDS (7%) 2. Elderly inmate demographics. 3. Length of sentence also had an effect on numbers. 4. Lung cancer was the most prevalent cancer diagnosis. Breast cancer was #2 for women. 5. Mortality rates in prison is 20% lower than in the general public.
Natterman, et al.	2016	The Prisoner in a Private Hospital Setting: What Providers Should Know	Journal of Health Care Law & Policy	1. Security issues and informed consent. 2. Ethical issues surrounding the inmate-patient. 3. More states are moving to third-party contractors. 4. Maryland saw 28% of prisoners being seen in a private facility in one calendar year. 5. Ethical issues surrounding organ donation and transplant. Organ transplant could reduce medical costs of certain inmates.
NY State	1991	State Prison Inmate Movement	U.S. Department of Justice, National Institute of Justice, Legislative Commission on Expenditure Review	1. Some discussion and statistics on "local" inmate movement. 2. An inmate is always accompanied by at least two corrections officers during transport. Inmates are restrained and vehicles checked for contraband throughout the transport. 3. Discussions of the costs of transportation. 4. Inmate-to-officer ratios during moves.
Patton	2014	Security of Offenders in Non-Prison Hospitals	Oklahoma Department of Corrections	1. Discussion of officer security protocols and weapons security. 2. Discussion of patient movement within the hospital to diagnostics and testing. 3. Discussion of security protocol during surgery, and during an ED visit. 4. Discussion of use of restraints. 5. Discussion of offender rules for visitation while in the hospital.
PEW	2014	State Prison Health Care Spending	The Pew Charitable Trusts, MacArthur Foundation	1. Cost drivers: distance to services; disease prevalence; and age. 2. Transportation costs in California can exceed $2K per days.
Phillips, et al.	2011	Aging Prisoners Treatment Selection: Does Prospect Theory Enhance Understanding of End-Of-Life Medical Decisions?	The Gerontologist	1. Discussion of inmate preference for end-of-life care, and the reasons behind those preferences. 2. Prison design is not meant for the older inmate. 3. Costs of elder care in prisons, and the need for more research. 4. The effects on possible parole on inmate care decisions. 5. ADL impairments of the study group.

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Raimer, et al.	2004	Health Care Delivery in the Texas Prison System	Journal of the American Medical Association	1. Description of the Texas system. 2. Description of facilities, services provided, number of beds and accreditations. Galveston Hospital has JCAHO accreditation. 3. Description of the Texas Chronic Care program. 4. Description of the Texas Telemedicine system.
Rarey	2011	Imaging Correctional Facility Patients	Radiologic Technology	1. Lists medical conditions not best to be treated in corrections infirmaries. 2. Talks about continuity of care and lack of medication continuation can cause acute medical emergencies. 3. Our prisons are becoming "a maximum security nursing home." 4. Most infirmaries do not have advanced imaging (CT/ MRI/etc.) or Telemetry. Discussions on the location of mammography services. 5. Hospitals are the least safe environment for inmates (they are not "hardened" units). Discussion on safety issues surrounding the imaging of inmates. The differences in imaging patients behind the fence vs. in free-world facilities Change the environment as much as possible before the inmate arrives. Medical restraints should NOT be used as security restraints. Do not discuss follow up dates or times.
Ratcliff, et al.	2004	The GRACE Project: Guiding End-Of-Life Care in Corrections 1998-2001	Journal of Palliative Medicine	1. GRACE - Guiding Responsive Action in Corrections at End of Life. Project promoted end of-life care programs in-correctional setting. 2. Correctional facilities have become “a critical frontier for acute, chronic, and end-of-life care,” especially for the urban poor. 3. The reasons for advanced aging are not difficult to understand: “socioeconomic status, lack of access to medical care, their lifestyle and other factors common to this population, before entering prison. 4. They also identified several areas of concern, including program eligibility, compassionate release, selection and supervision of inmate volunteers, and the role of security on the care team. Discussion of standards development. Discussion of pilot projects and impediments to care.
Ray, et al.	2014	Traumatic Brain Injury among Indiana State Prisoners	Journal of Forensic Sciences	1. Discussion and definition of TBI. 2. Correlation between TBI and psychiatric disorders. 3. Suggestion that TBI, screening can predict criminal behavior. 4. CDC discussion on TBI as a public health concern. 5. TBI screening on intake could help identify needed medical and psychological interventions.
Reeves, et al.	2014	Benefits of a Department of Corrections Partnership with a Health Sciences University: New Jersey's Experience	Journal of Correctional Health Care	1. Mention of percentage that outsource care (private and partnerships) and mention of states. 2. Hospitalization and ER visits were reduced. 3. Discussion of telemedicine program. 4. Universities can find that partnering with corrections fulfills their public health mission. 5. Benefits to the DOC include: continuous quality improvement; improved staff retention and training; cooperation with other state agencies; focus on state of the art, evidence-based treatment. Benefits to the AMC include: enhancement of its public health mission; professional training opportunities; one opportunities for research.
Reviere, et al.	2004	Aging Behind Bars: Health Care for Older Female Inmates	Journal of Women & Aging	1. Demographics of older women in prison. 2. Description of some services provided and the location of those services.

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Rich, et al.	2011	Medicine and the Epidemic of Incarceration in the United States	New England Journal of Medicine	1. Demographic data on incarceration numbers and disease prevalence.
Rich	2013	Justice, Mercy, and the Terminally Ill Prisoner	Cambridge Quarterly of Healthcare Ethics	1. Discussion of criminal justice on an aging population. 2. Discussion of sentencing standards. 3. Discussion of advanced aging of inmates. Anticipate 4,000% increase by 2030. 4. Philosophical discussion around deliberate indifference. 5. Mercy, compassionate release and justice. Problems with current compassionate release programs. Care should be equal to that outside of prison.
Riggenburg	2011	Initial Dental Needs and a Projection of Needed Dental Capacity in the Iowa Department of Corrections	Journal of Correctional Health Care	1. Incoming inmates have a higher need of dental services than long-term inmates, presumably due to inmates getting care in the system. Research shows up to 71% of prisoners needing some sort of dental intervention. 2. Discussion of dental priority needs, based on the ADA model. 3. In 2006, in Iowa, more than half of the incoming inmates have used, or abused meth. 4. Discussion of the four most commonly dental procedures/interventions. 5. Discussion of staffing needs based on services provided.
Rold	2008	Thirty Years After Estelle v. Gamble: A Legal Retrospective	Journal of Correctional Health Care	1. Discussion of self-treatment of minor ailments. 2. Because the doctor-patient relationship is mandated by the state, medical shopping is not possible. This absence of choice removes the "competitive quality controls" of the market. 3. Collegiality with other providers is diminished because prison health care is has been isolated from the larger medical community and prisons are often in rural areas far from tertiary care centers 4. Discussion of what is considered a serious medical condition.
Rundle	2009	California Uses Medication Dispensing Machine in Correctional Facilities	digitalcommunities.com/articles/California-County-Uses-Medication-Dispensing-Machine-in.html	1. Medications are processed through a central pharmacy to the machines.
Salive, et al.	1989	Dental Health of Male Inmates in a State Prison System	Journal of Public Health Dentistry	1. Dental decay is the most common of all chronic illnesses. 2. Discussion of the DFMT index. 3. The need for dental treatment is higher in prison than the general population.
Schaenman, et al.	2013	Opportunities for Cost Savings in Corrections Without Sacrificing Service Quality: Inmate Health Care	The Urban Institute	1. Discussion of saved transportation costs due to telemedicine. Costs can reach $2K per 24 hours. It also increases access to specialists. 2. Discussion of free-world lock-down units to reduce numbers of correctional officers needed, if census warrants it. 3. Discussion of using volumes to determine if healthcare services should be provided in-house. 4. Make sure staff are working at the top of their license. 5. Discussion of contract (private) services.

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Schnittker, et al.	2015	The Institutional Effects of Incarceration: Spillovers from Criminal Justice to Health Care	The Milbank Quarterly	1. In 2013, 623,337 prisoners were released from state and federal prisons and 631,168 were admitted to them. 2. Most prisoners consume more care than they did before incarceration. For many, this is due to improved access from the community they come from. 3. For emergency room visits, frequent users make up 4.5% to 8% of patients, but make up 21% to 28% of visits. 4. Some info for the general introduction.
Shiroma, et al.	2010	Prevalence of Traumatic Brain Injury in an Offender Population: A Meta-Analysis	Journal of Correctional Health Care	"1. Definition and demographics of TBI. 2. Side effects of TBI. 3. CDC definition of TBI. 4. Discussion on screening and resource allocation.
Shulman, et al.	2012	Treatment of Odontogenic Pain in a Correctional Setting	Journal of Correctional Health Care	"1. A mid-level provider and physicians need to triage dental complaints when the dental clinic is closed. Any non-dental clinician responsible for examining dental complaints should be trained by a dentist. 2. Discussion of the author's opinion of standards of care. 3. Inmates have a higher prevalence of infectious and chronic diseases. 4. In facilities that have a dental program, they are usually seen through an urgent care, or sick call system. Access to dental services varies widely in correctional facilities. There needs to be a triage protocol. 5. Discussion on the focus of correctional dentistry. Correctional dentistry is narrower in focus than in private practice. The standard of care should be that which is available in the community.
Smith	2016	Perioperative Care of Prisoners: Providing Safe Care	AORN Journal	1. Discussion of the implications of correctional staff in hospitals and nursing staff treating inmates. Discussion on how to prep hospital rooms for inmates. Public hospitals were not designed to serve a prison population. 2. Ninty-nine hospital escapes from April 2010 to April 2011. This was the first study on this subject. Hospitals rarely have holding cells and are the only public place where prisoners are allowed to travel to different areas of the facility. The hospital setting is the only unprepared environment that is an integral component of the criminal justice system. 3. Corrections officers are generally not prepared to provide custody of prisoners in a healthcare environment and nursing personnel are often not prepared or competent to care for inmates outside of prison walls. Any location where an inmate may be cared for must be free of objects an inmate could use to harm himself or others. 4. In most cases, an inmate was aware of an impending surgery, but not the date, time or location of the hospital. How to locate the inmate in the perioperative area and how to communicate with the surgical team. Process for post operative care."

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Smyer, et al.	2009	The U.S. Correctional System and the Older Prisoner	Journal of Gerontological Nursing	1. Older prisoners use a disproportionate amount of heath services, though this is not much different than the free world. Costs for caring of an older prisoner can be up to three times as much as a younger prisoner. Comorbidities are found in 85% of older prisoners and most have three or more chronic conditions. Socioeconomic factors of poor health of older prisoners. Discussion of how health-care in prisons could help the socioeconomic disparities. Discussion of free world vs incarcerated ADL activities. 2. Discussion on the reason and laws surrounding the increase of older inmates. The increase in crime can only account for 12% of the increase in population, where are new sentencing policy accounts for 88% of the increase in population. Discussion of recidivism rates of average age and older inmates. 3. Discussion of alternatives to incarceration for non-violent offenders who currently make up 50% of the incarcerated population. Moral discussion of continuing to incarcerate someone with dementia. 4. Discussion of deinstitutionalization and the rise of mental health disorders in prisons. 5. Discussion of transition planning and compassionate release. Discussion of collaborations between prison and community services."
Springer	2010	Improving Health Care for Incarcerated Women	Journal of Women's Health	1. Female prisoner demographics and disease rates. 2. Effects on communities for non-treatment of offenders. 3. Disease prevalence. 4. Loss of Medicaid on incarceration. 5. Upon incarceration, important screening and prevention services should be offered universally to all prisoners, including immediate STD screening,(including HIV and HCV testing); vaccination against hepatitis A and B; cervical cancer screening with Pap smears; breast cancer screening with mammograms; and offering not only treatment of nicotine dependency, but also pharmacotherapies for drug and alcohol abuse and dependency.

AUTHOR	YEAR	TITLE	SOURCE	MAIN FINDINGS
Staton-Tindall, et al.	2007	Health, Mental Health, Substance Abuse, and Service Utilization Among Rural and Urban Incarcerated Women	Women's Health Issues	1. More than 3/4 of incarcerated women reported having reproductive health problems. Other studies have uncovered other health problems, including sexually-transmitted diseases, pregnancy and gynecological problems, fatigue, backaches, obesity, dental problems, mental health issues, kidney infections, and chronic health problems such as hepatitis, HIV, hypertension, emphysema, and asthma. In addition to physical health, mental health problems such as depression and anxiety are common among incarcerated women. One study reported that 64% of incarcerated women had been previously diagnosed with a psychiatric disorder. Commonly identified psychiatric diagnoses include major depression, bipolar disorder, antisocial personality disorder, and PTSD. Women prisoners often present characteristics associated with increased suicide risk. A high percentage of incarcerated women also report a history of physical or sexual victimization which may potentially have a strong influence on mental and/or physical health. 2. One of the most noted factors among incarcerated women is substance use, which contributes to and complicates health and mental health treatment. The Bureau of Justice Statistics (BJS) reports that approximately half of all female inmates were under the influence of alcohol or drugs at the time of their offense. One out of three female offenders self-reported committing a crime to obtain drugs or money to buy drugs that lead to their incarceration. Length of a drug-using career increased the likelihood of mental health issues, HIV/STDs, and chronic illnesses reported among a sample of female offenders. 3. Services for health and MH are often accessed for the first time in prison. Limited service utilization in the community among substance-using female offenders is associated with economical disadvantages, inadequate housing, dependent children, and limited access to community health care. 4. Discussion of ER visits for health services prior to incarceration. 5. Female prisoners make 12.5 visits to "sick call" within the first six months of incarceration.
Stephan	2005	Census of State and Federal Correctional Facilities, 2005	Bureau of Justice Statistics	1. Data on number of medical employees.
Stern, et al.	2010	Patient Safety: Moving the Bar in Prison Health Care Standards	American Journal of Public Health	1. Three organizations provide the standards for care in corrections, American Public Health Association (APHA), the National Commission on Correctional Health Care (NCCHC), and the American Correctional Association (ACA). 2. Patient safety guidelines were developed from a number of sources; the Agency for Health Care Research and Quality, the National Quality Forum, the National Committee for Quality Assurance, the Institute for Safe Medication Practices, and the World Health Organization 3. Standards for the community setting do not always translate to the correctional setting. 4. Table of safety standards in prisons. 5. Standards for women's care. 6. This is for INSIDE the prison.
Stoller	2003	Space, Place and Movement as Aspects of Health Care in Three Women's Prisons	Social Science & Medicine	1. The clinic still takes on the culture of the prison. 2. Prisons are built for exclusion, separation and confinement. 3. Inmates cannot choose their care provider. 4. Patient ethnographies. 5. This info belongs in the general introduction to the whole document.
Stone, et al.	1998	Report on a National Survey of Correctional Health Facilities: A Needs Assessment of Health Issues	Journal of Correctional Health Care	1. Because of lack of funding, community standard of care may be tough to achieve.

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Stone, et al.	2006	Health Care Quality in Prisons: A Comprehensive Matrix for Evaluation	Journal of Correctional Health Care	1. Performance indicators listed, including women's health.
Stone, et al.	2012	Establishing Hospice Care for Prison Populations: An Integrative Review Assessing the UK and USA Perspective	Journal of Palliative Medicine	1. Without careful explanation, provided in an atmosphere of trust, a referral to hospice can be seen by the patient as evidence that the physician has given up and withdrawn care. The inmate sees the professionals who care for him as part of the institution that imprisons him. Discussion of trust and DNR order requirements. Discussion of patient's minimal understanding of medical terminology. 2. The aim of effective end-of-life care is to provide physical, psychological, social and spiritual care to those with life-limiting conditions. The intention behind prison hospices was to afford terminally ill inmates the right to approach death with dignity, unshackled and supported in the most appropriate way possible. 3. Discussion of the creation, eligibility and staffing of prison hospice programs. Discussion of proper amenities. 4. Components of a prison hospice program. Discussion of challenges. Discussion of the GRACE project. The importance of volunteers. 5. Difficulties with pain medications.
Sufrin, et al.	2009	Incarcerated Women and Abortion Provision: A Survey of Correctional Health Providers	Perspectives on Sexual & Reproductive Health	1. Of the 286 respondents who returned analyzable surveys, 68% indicated that inmates at their facility can obtain “elective” abortions. Eighty-eight percent of this group indicated that their facility provides transportation, but only 54% said that they help to arrange appointments. 2. Responses did not differ by providers’ individual or institutional characteristics. However, providers from states with a Republican-dominated legislature or with a Medicaid policy that severely restricted coverage for abortion, were more likely to indicate that availability of abortion services was limited than were those whose state had a predominantly Democratic legislature or a Medicaid program that covered all or most medically necessary abortions. 3. Legal precedents. 4. Discussion of lack of national standards in abortion services. Discussion of state policies and inconsistencies. Discussion of political affiliation and access to abortion. 5. Discussion of NCCHC standards .
Sung	2010	Prevalence and Risk Factors of Violence-Related and Accident-Related Injuries among State Prisoners	Journal of Correctional Health Care	1. Thrity-Two of inmates report being injured since their admission. Effects of prison injuries as it relates to infectious and chronic diseases. Yet, it receives little attention. Because most prison inmates will be released after a year or a few years of incarceration, the adverse physical, emotional, and social consequences from injuries that occur in prisons will also pose challenges when the inmates return to the community. 2. Definitions of the different types of injuries. Statistics on inmate injuries, compared to the general community. Injuries are more widespread than other medical conditions. 3. Discussion on causes and risk factors of injuries. 4. Correlations between mental health issues and injuries. 5. This dilemma requires prison authorities to provide an optimal environment to maximize the violence reduction impact of work assignment, while minimizing the risk of work-related accidents.

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Taylor	2012	Providing Constitutional and Cost Effective Inmate Medical Care	Legislative Analyst's Office	1. Discussion on costs of transportation and oversight. 2. Discussion of "defensive medicine" and over treating due to litigation. 3. Discussion of telemedicine. Twenty-six of 44 states in 2010 were using telemedicine. 4. Discussion of percentage of state using private providers. Discussion of services normally sent to outside providers. Thirty-two states contracted out some or all aspects of their healthcare. Most to private prison health care providers, though a small portion partnered with an AMC. 5. Discussion of utilization management.
Templer, et al.	1992	Exploration of Head Injury Without Medical Attention	Perceptual and Motor Skills	1. Inmates did not have a larger amount of unattended of undocumented injuries as predicted. 2. Definitions of different injuries for this study. 3. Inmates reported more permanent effects of their unattended and undocumented injuries. 4. Fights and blows to the head make up a large portion of the head injuries for inmates. 5. Inmates and Football players did not have a larger portion of unattended and undocumented head injuries as suspected.
Thivierge-Rickard, et al	2007	The Association Between Aging Inmate Housing Management Models and Non-Geriatric Health Services in State Correctional Institutions	Journal of Aging & Social Policy	1. Discussion of different aging inmate housing options and access to healthcare. 2. Discussion of different state models. 3. Discussions on the cause of the increase in the aging inmate population. 4. Discussion of "age friendly" environments for inmates.
Thomas, et al.	2004	Developing a Correctional Medicine Rotation for Medical Students	The Journal of Correctional Health Care	1. Discussion of logistics of locating medical students in the prison setting. 2. Most prisons are a "medically alien setting."
Thurmond	2002	Providing Perioperative Care to Patients Who Are Incarcerated	AORN Journal	1. Description of JCAHO regs on restraints. 2. Discussions on issues of corrections officers in the OR and recovery area. 3. Discussion of potential delays in surgical schedule due to inmates. 4. Ethics question about over anesthetizing to limit restraints.
Treadwell, et al.	2005	Improving the Oral Health of Prisoners to Improve Oral Health and Well-Being	American Journal of Public Health	1. General health and oral health are linked. Prison dental care was upgraded due to OSHA standards. Dental care is listed as an essential service from NCCHC. 2. A study found that inmates had more missing teeth at every age, and a higher percentage of unmet dental needs, than did employed adults in the U.S. population. One fourth of the sample group had a urgent treatment need. 3. Current research is explicating the interaction between infections in the mouth and cardiovascular disease and diabetes. 4. Dental health is improved when access is provided. 5. Finances and staffing are major obstacles to oral health in prisons. Dental schools in North Carolina and Florida have programs in which students are rotated through prisons.

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Trestman, et al.	2014	Behind Bars: The Compelling Case for Academic Health Centers Partnering with Correctional Facilities	Academic Medicine	1. Discussion and statistics of states that have partnered with AMCs. Discussion of dedicated units within AMCs. 2. States that have partnered with Texas since 1978, and Connecticut since 1997, New Hampshire since 2001, Massachusetts from 1998 to 2013, and New Jersey since 2005. 3. Corrections has an opportunity to integrate into medical home models and to build on continuity-of-care systems. 4. Public health is affected by this population, as 95% return to the community. 5. Telemedicine and in-house specialty clinics may limit the need for transfer to the AMC.
Vo	2008	The Telehealth Promise: Better Health Care and Cost Savings for the 21st Century	AT&T Center for Telehealth Research and Policy, Electronic Health Network, University of Texas Medical Branch	1. Transfers eliminated in Texas due to telemedicine. 2. Reduce overlapping tests due to three-way communication with patient, primary care provider and specialist 3. Three types of telehealth encounter: store-and-forward, real time video, and hybrid.
Wallace, et al.	2011	Integrated Trauma Treatment in Correctional Health Care and Community Based Treatment Upon Re-entry	Journal of Correctional Health Care	1. Definitions and demographics on trauma in corrections environments. 2. Discussion of trauma prevalence among inmates. 3. Discussion of the history of trauma among inmates.
Wang, et al.	2014	A Tool for Tracking and Assessing Chronic Illness Care in Prison	Journal of Correctional Health Care	1. Can the chronic care model established for treating disease in the community be adapted for the correctional setting? Chronic disease in prison is expected to rise with the increasing age of inmates. In spite of the heavy disease burden, prisons are not designed to provide chronic disease care and have limited clinical space. 2. The quality of care in prisons is variable due to profit motives, or limited state budgets. Many state governments do enforce a basic standard of care, though they do not include public reporting of health outcomes, nor is receipt of funding based on outcomes. Texas, Missouri and California publicly report care data. California uses a well-established community-based chronic care model, that seeks to improve disease care at the patient, practice and organizational level. 3. Six strategies for improving chronic disease treatment: self-management strategies, community linkages, delivery system redesign, decision support, clinical information support, and health system support. These have not been adapted for the corrections setting. 4. The ACIC is a 34-item self-management tool for assessment. Most feel that this is a useful tool. The study identified areas where the tool needs to be revised to fit the correctional health setting. 5. Ninety-five of the patients will be released, so the medical homecare for patients with a history of incarceration should reflect care that spans multiple settings during incarceration and after release.

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WHO	2007	Health in Prisons: A WHO Guide to the Essentials in Prison Health	World Health Organization	1. "One of the strongest lessons from the end of the last century is that public health can no longer afford to ignore prison health." There needs to be strong links between prison health and community health. Collaboration will prevent prisons from being used as default healthcare services. Prisoners should be connected to public health agencies prior to release. Discussion of UN rights to care. Prisoners should not leave prison in a worse condition than when they entered. 2. Description on why there should be political support for healthier prisons. Where possible, prisoner health and public health should be recieved from the same body. 3. Health and security staff need to respect each other's roles. 4. Where possible within the prison environment, the patient should be empowered to make healthy choices. Ensure that the prison promotes health and not just providing healthcare. 5. Every prison should have medical, nursing, dental, psychological, and pharmacy services, with admin support. Every prison should have access to health services at all hours.
Williams	2007	Prison Health and the Health of the Public: Ties that Bind	Journal of Correctional Health Care	"1. Discussion of demographics. 2. Discussions of impediments to quality care. 3. Discussion of improvements to public health partnerships to increase continuity of care. 4. Information on oral health. 5. Information on chronic, HIV, and mental health.
Williams, et al.	2009	Caregiving Behind Bars: Correctional Officer Reports of Disability in Geriatric Prisoners	Journal of the American Geriatrics Society	1. Discussion of disability and ADL issues in geriatric prisoners.
Williams, et al.	2011	Balancing Punishment and Compassion for Seriously Ill Prisoners	Annals of Internal Medicine	1. Statistics on the use of palliative and hospice care in corrections environments. 2. Demographics on aging inmates. 3. Transportation costs.
Williams, et al.	2012	Addressing the Aging Crisis in U.S. Criminal Justice Health Care	Journal of the American Geriatrics Society	1. Statistics on costs for incarcerating older adults. Older inmates use more healthcare services and are more often treated in outside community hospitals. 2. Discussion on how prison environments are not suited to cognitive impaired patients. 3. Older prisoners cost up to three times as much as younger prisoners to incarcerate, mostly due to healthcare costs. 4. Suggestion of new ADL guidelines for prisoners. 5. Data on hospice care.
Williams, et al.	2012	Aging in Correctional Custody: Setting a Policy Agenda for Older Prisoner Health Care	American Journal of Public Health	1. The group identified nine priority areas to be addressed: definition of the older prisoner, correctional staff training, definition of functional impairment in prison, recognition and assessment of dementia, recognition of the special needs of older women prisoners, geriatric housing units, issues for older adults upon release, medical early release, and prison-based palliative medicine programs. 2. Discussion of changing demographics of prisoners 3. Prisons unprepared for the treatment of older offenders. Prisons designed for younger offenders need to be redesigned for the physical and cognitive impairments of older inmates 4. Based on the 95% released statistics, partnerships with community services need to be addressed to promote continuity of care and reduction of recidivism rates.

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Williams, et al.	2014	How to Meet the Challenges of Correctional Nursing	Nursing2014	1. Discussion on the idiosyncrasies of nursing in the corrections environment. 2. Discussion of "inmate" vs "patient."
Wion, et al.	2016	End-Of-Life Care Behind Bars: A Systematic Review	American Journal of Nursing	1. Quality guidelines for hospice and end-of-life care in correctional settings by the national hospice and palliative care organization. 2. Discussion of availability of beds and census. Hospice or EOL care was sometimes offered in a separate area of the infirmary, in housing units, or in day programs outside of prison. 3. Requisites for admission into a prison EOL program and comparison to community standards. 4. Discussion on who provides care and NCCHC & NHPCO standards. Discussion of services provided. Discussion of inmates as caregivers. 5. Discussion of stakeholder's views on prison hospice. Corrections officers not judging EOL care in a positive manner, especially for inmates convicted of a heinous crime. Inmates reception of hospice care. Barriers to EOL care in prisons.
Wilper, et al.	2009	The Health and Health Care of US Prisoners: Results of a Nationwide Survey	American Journal of Public Health	1. Data on access to care.
Winter	2008	Improving the Quality of Health Care Delivery in a Corrections Setting	Journal of Correctional Health Care	1. Ninety-five of inmates will be released back into the community at a rate of 600K per year. 2. Some discussion of telemedicine. 3. Quality discussion may belong in an overall wrap-up. 4. Information for disease management and chronic care and telehealth and partnerships.
Wolf	2016	GO-TIME: Department of Corrections Saves $500,000 by Reducing Inmate Transportation Costs	GO-TIME	1. Discusses consolidation of services to limit transportation costs.
Yampolskaya, et al.	2003	Hospice Care in Prisons: General Principals and Outcomes	American Journal of Hospice & Palliative Care	1. Most prison hospice programs share common elements. They also share common outcomes; cost effectiveness; enhanced correction; and comfort care. Though most prison hospice programs have similar components, there are large variations on how they are applied, staffed, and on the eligibility requirements. 2. EOL care for inmates is difficult in facilities that are not designed to provide EOL care. It is getting cost prohibitive to send inmates to local hospitals for EOL care. Most state are now creating hospice programs 3. Discussion and causes of increased inmate population and aging. Prisoners suffering from disease is disproportionate to the severity of their offenses. 4. Inmates have historically not died with compassion or dignity. Medical parole is too restrictive and most inmates die before it can be achieved. Medical staff is reluctant to prescribe narcotic medications. 5. The results of data analysis revealed five principle components of prison hospice care: 1) establishing hospice care inside the prison; 2) inclusion of multidisciplinary teams; 3) inmate volunteer involvement; 4) comfort care; and 5) end-of-life care.

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Zaitzow	1999	Women Prisoners and HIV/AIDS	Journal of the Association of Nurses in AIDS Care	1. Demographics and political reasons for the increase in women prisoners. Characteristics of female prisoners. Medical services for women in prison. Special health needs of imprisoned women. 2. Anecdotally, women are shipped out more than men do to the small size of women's prisons. 3. The CDC recommends that all personnel treat all prisoners as though they were HIV-infected to protect staff and inmates from the possibility of becoming exposed to the HIV virus from an infected inmate. Moral issues surrounding segregation of HIV-positive inmates. 4. (Estelle v. Gamble, 1976), this decision did not grant inmates unqualified access to healthcare. Furthermore, lower courts have subsequently interpreted this standard to mean that inmates rarely have a right to the best medical care. The best care is provided by those institutions that are operating under court order to improve medical care. Improving the physical plant to limit the spread of infection. 5. Discussion on the use of community-based programs for female offenders.

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