COMMUNITY HOSPITAL TRENDS AND LESSONS

Katie Fricke
AIA, NCARB, ACHA
Health Planning Principal

Katie.Fricke@hdrinc.com

COMMUNITY HOSPITAL DEFINITION(S)

The Community Hospital and its role in the continuum of care continues to evolve as healthcare delivery shifts to a more holistic model. The push and pull with tertiary facilities, as well as with the post-acute support network, make the Community Hospital an essential and delicate transition point. A focus on neighborhood-based care, telehealth, disease management, along with appropriate preventive and follow-up care, shines a spotlight on the Community Hospital as the nucleus for outreach and patient convenience. In order for the Community Hospital to respond to these changing influences, its design must also be nimble. Adaptability and expandability, while always important planning considerations, play a major role in the development of a successfully responsive Community Hospital.

Defining a Community Hospital is not simple or straight forward. The American Hospital Association[1] defines Community Hospitals as all nonfederal, short-term general, and other special hospitals. Other special hospitals include obstetrics and gynecology; eye, ear, nose, and throat; long term acute-care; rehabilitation; orthopedic; and other individually described specialty services. Community hospitals include academic medical centers or other teaching hospitals if they are nonfederal short-term hospitals. Excluded are hospitals not accessible by the general public, such as prison hospitals or college infirmaries. Overall, according to the AHA statistics, there are over 5,000 Community hospitals in the US. This definition leads to a very broad capture of hospitals!

If we focus more on Community Hospitals that are part of a larger health system, the large number starts to decrease, down to about 3,500 Community hospitals, according the AHA 2020 Hospital Statistics. The merger and acquisition trends impacting overall healthcare play a large role in the development of these systems. "Before 2010, health systems whose revenue was in the ballpark of $750 million to $1 billion were largely satisfied serving one or two cities. Now, those systems are gunning to serve entire counties or even larger regions." (Kaufman Hall, Q2 2019 M&A Quarterly Activity Report [2]). Regionality of the health systems within a hub and spoke model is very common for Community Hospitals, who are a component of the spokes.

To drill down further, the Community Hospital defined for this feature will be considered part of a Health System, but will not be the hub or the tertiary center. Instead, it is a smaller hospital, typically in a smaller town or suburb of a larger town. These hospitals draw from their neighborhood fabric and rely on that sense of community for their own characterization and identity. They often are one of the major employers for the area and tend to also be a community social gathering space, beyond the administration of patient care.

While not the "big house," these hospitals have a strong relationship with the tertiary center, relying on it for access to resources. It is both supported by, and works in support of the larger facility. Some vibrant Community Hospitals may actually have relationships with multiple tertiary centers. These hospitals often lean on the tertiary hospitals for central support for supply chain and logistics. They support the larger hospital by managing relatively lower acuity local patients closer to home, allowing the larger facility to provide higher acuities of care.

The actual size of these hospitals varies widely. These are not "Micro Hospitals," which tend to be in the 8-15 bed range and typically less than 60,000 SF, according to Becker's Hospital Review[3]. Instead, these Community Hospitals generally are 36-50 beds to start, but almost always with plans for growth. These are full-service hospitals that include licensed beds, an Emergency Department, Surgery, Imaging and ancillary support. The key in this definition are the shared characteristics. The focus for this evaluation will be community hospitals that are shared at a neighborhood scale and part of a larger health system.
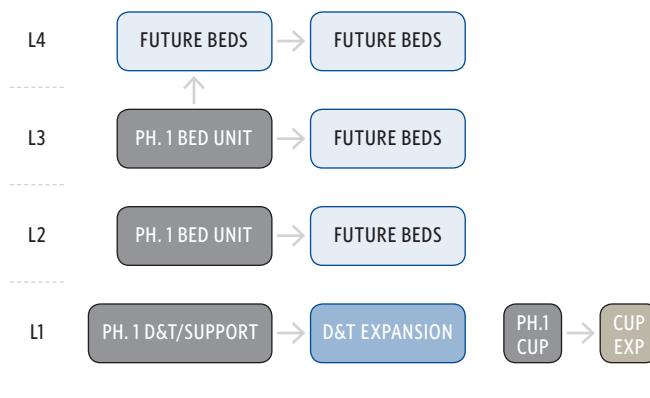
GROWTH MINDSET

There are five types of growth that must be considered and accommodated when designing a Community Hospital.

These must be applied at every scale (campus master planning to room detailing) and reconsidered at every milestone of the project, to make sure that near-term decisions have not complicated the longer term plans for growth.

While the hospital is growing, likely also is the community that is being served. Regular analytic check-ins related to demographic shifts and changes in market share should support growth at every stage.

Exponential Growth

Exponential Growth for a Community Hospital translates into the ability to grow from small to much larger. For several recent HDR projects, the amount of planned growth was over 300%! This means that a hospital that starts around 50 beds may be planned to grow to 150-200 beds. The strategy for how and where to achieve that level of expansion has significant implications to the entire campus and the full project team. If the additional beds are all planned as a vertical expansion to the first phase, then that may impact the mechanical approach to air handler locations, for instance. It may also change the code requirements for the first building phase if the future expansion triggers high-rise requirements. If the future beds are planned as a horizontal, then vertical expansion, that impacts site design, elevator locations, etc. Community Hospitals may start small due to limited capital, Certificate of Need constraints, or simply the priority of speed to be in a market, either offensively or defensively. Planned extensive growth, however, is a theme for these Community Hospitals.

L4	FUTURE BEDS → FUTURE BEDS	
L3	PH. 1 BED UNIT → FUTURE BEDS	
L2	PH. 1 BED UNIT → FUTURE BEDS	
L1	PH. 1 D&T/SUPPORT → D&T EXPANSION	PH.1 CUP → CUP EXP

Supportive Growth

BEDS

Exponential growth in beds propels reciprocal growth in nearly every other department in the hospital to support the beds. Diagnostic and treatment departments like Surgery and Emergency Department (ED) may fuel the need for more beds and/or have to grow because of the beds. An added trauma designation in the ED or new surgery specialties would likely have an impact on bed needs. As Operating Room need grows, so grows the prep, recovery and PACU needs. As ED grows, so does the demands on the Imaging department.

AMBULATORY BALANCE

Another type of supportive growth is the modulation between institutional and ambulatory use. In the beginning, a Community Hospital will likely open with a large proportion of ambulatory patients utilizing campus resources. Imaging modalities and operating rooms may start with a healthy mix of both inpatients and outpatients to maximize the capacity of these investments. So initially, sensitive planning is needed to help separate these patient populations, as appropriate. As the beds grow, this may increase the inpatient utilization in the hospital and drive growth for outpatients elsewhere on the site or somewhere else in the health system's network. Depending on the growth strategies, this may even steer decisions to invest in making an ambulatory building structured to be converted to institutional occupancy for future flexibility, which impacts initial costs.

ANCILLARY SUPPORT GROWTH

A third type of growth is in ancillary support spaces, and this doesn't always translate directly into expansion in square feet. Departments like Food Service, Lab, Pharmacy and Central Sterile Processing are highly equipment driven. The initial investment in the Community Hospital includes kitchen appliances, pharmacy compounding hoods, lab analyzers and sterilizers that can accommodate a certain capacity which may be beyond the needs of phase one. Understanding the equipment utilization, how much capacity is built in, and trigger points for needing more, are critical data points in ascertaining the plans for growth in support departments. Recognizing the balance between equipment replacement and actual growth in area adds another layer of complexity to the planning.

Incremental Growth

Incremental growth occurs over time and likely includes options and alternatives to respond to scenarios that are not yet fully identified. The likelihood that a hospital will grow from 50 beds to 200 beds in one big building blitz is not very high. Instead, the need will arise for two more ORs and the support spaces for it. A Women's unit will start without an NICU and capture the volumes to justify that addition, or a Rehab service line will be added to the campus as a single bed unit with additional therapy space needs.

Incremental growth requires a different architectural response than the larger exponential growth. This includes careful strategies around intentional soft space and maximizing flexibility. For the OR example, this may mean that two OR-sized storage rooms are planned around the clean core and more prep and recovery bays than initially needed are shelled, but not equipped, for the future support. For the NICU expansion, it may include a rooftop zone adjacent to the delivery suite that allows the Women's service line to expand with appropriate access to natural light while maintaining the infant security needs. This scenario development can become very complicated and must be tied to project budgets and the hospital's long term strategic planning. Detailed documentation of the agreed-upon plans for growth, by department, is highly recommended.

Seed Planting

Incremental growth may actually translate into an alternative strategy for establishing a community hospital: a phased approach over time that begins without the initial inpatient overlay. Like planting a small seed, many community hospitals begin very intentionally with outpatient functions that are carefully master planned to bloom. Particularly when market forces are unknown, capital is constrained or competition is tight, a smaller initial investment can help a health system begin to cultivate a long-term community relationship for a hospital before adding licensed beds.

MEDICAL OFFICE BUILDING STRATEGY

One common scenario is to plant the first seed of a hospital campus with a simple medical office building. A key design decision includes the placement of the MOB in the context and with the development of the full buildout of a campus plan. Another consideration is the strategic population of the MOB with providers who can grow their patient base and provide support as a hospital is warranted. This scenario also works well when speed to market and an initial geographic presence in the area is a driver. This investment becomes part of the established continuum of care in the network, supplementing services from care at home, primary care, and telehealth, with patient convenience at the forefront.

FREESTANDING ED STRATEGY

A second common scenario is a more robust approach, an outpatient 'healthplex' that typically includes a freestanding emergency department, imaging, and lab. When planned as such, this investment actually can evolve into the chassis for the diagnostic and treatment platform of the inpatient hospital in the future. It may be even more advanced and include ambulatory surgery, rehab, a cancer center or even observation beds. Typically this is planned in conjunction with associated MOB support including onsite primary care and specialty providers. As the initial investment becomes more complex, design of the first phase can either help or hinder the ability to supplement it in the future. Identification of expansion zones, building code classifications, careful structural planning to enable vertical growth, and overall campus master planning become that much more critical to be able to layer on the balance of a hospital in a later phase.

Lab & Imaging

Freestanding ED

Future Hospital Addition
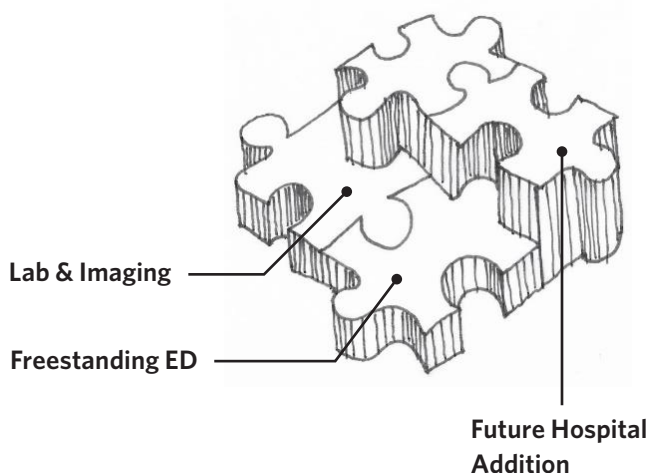
Infrastructure Growth

The exponential, incremental, supportive and seed growth strategies described previously obviously impact more than just space. Engineering and Site Planning are vital to successful Community Hospital planning.

Early decisions and clear team communication are paramount. The approach to mechanical design, for instance, can support or hinder growth. There will be pros and cons to each decision that must be weighed by the full team. Should a penthouse be included in the first phase because it the least expensive option, but it has to be converted into an interstitial floor in a later phase for vertical expansion? Can the hospital remain operational during that transition? Where should the energy plant and medical gas tank farm go to minimize service runs in the first phase, but be out of the way of expansion zones in the future? How will the energy plant grow to support such extensive growth in the hospital? How much additional capacity should be included in the low voltage IDF rooms to support future server racks? These sort of questions must be posed for all types of infrastructure-from the largest bus ducts to the detailed decision of sizing the ED decontamination holding tank.

Site planning is also a team effort. True campus master planning should document assumptions, growth zones, and initial strategies for each discipline. Where will future growth for ambulatory services be accommodated if the inpatient volumes expand? Will the site be graded to support just the first phase of the hospital? How disruptive will future site work be to ongoing operations? If the site begins without licensed beds, exactly how will the site be master planned for each anticipated building and function?

Parking involves complex scenario planning, in and of itself. The different types of parking needs (inpatients/ family, staff, and outpatients) married with the evolving growth of each type over time create matrices and if-then planning assumptions for each type, quantities and parking locations. Most sites begin with surface parking and the preference is generally to avoid structured parking due to costs. The progressive consumption of the site, however, may drive that response as a long term solution. Identifying the trigger points and locations for parking must reinforce and support the hospital's growth.

TRENDS AND LESSONS LEARNED

From a series of recent Community Hospital projects of similar scale and scope, three key trends stand out with some take-away thoughts for consideration.

The following considerations can allow for a more comprehensive planning effort while providing maximum flexibility.

Finding Balance

Finding balance amidst the sheer amount of growth likely being planned at the Community Hospital level is daunting and tricky.

USER GROUPS

When planning a Greenfield site where administration and staffing for the hospital may not be on-boarded yet, finding balance in the user groups who help craft these strategies require careful thought. If all the attendees represent the tertiary hospital in the system, the tendency will be to plan the Community Hospital like the "big house." This will lead to scope creep and operational models that may be challenged at a smaller scale. A good balance for user group composition includes some representation from the tertiary facility to represent the resources available for sharing PLUS representatives from other Community Hospitals in the system, if at all possible.

STAFFING BALANCE

The initial scale of a community hospital also creates challenges in finding balance in FTEs, for both day and night shifts. For some units, especially overnight, staffing is limited and connectivity and staff visualization will help make the design successful. In addition to thinking through how to reduce physical isolation for patients and staff, operational conversations about how to access help should occur. How will a resuscitation team respond to code blue? What technology will be integrated for access to help?

NON-REVENUE GENERATING SPACES

This is a constant balance of needs versus wants. On-call rooms are critical in making sure that staff are available for patient care, especially in more rural sites. However, finding the balance in the right complement of rooms, relative to a small number of initial inpatient beds, is always a discussion point. Sharing staff lounges between a few adjacent departments is becoming more commonplace, but there are often still silos where expectations may not align with that model. Similarly, more and more health systems are standardizing their office approach to define who needs a private office and where hoteling or touchdown spaces will suffice. Modest lobbies contribute to ease of wayfinding, infiltration of natural light and may bolster the patient experience, but they must be balanced with HVAC, fire code implications and cost.

Marshfield Medical Center Lobby, Eau Claire, WI

MEDICAL OFFICE SPACE

MOB space is generally in high demand at Community Hospitals. Whether the office space is connected physically to the hospital or in a separate building on the campus, it must be balanced with the services and constraints of the hospital, itself. It may act as a less expensive location for some business functions serving the hospital (think conference or administrative spaces). It may be designed for multidisciplinary clinics or individual leased spaces, or a combination of both. Medical Office space is both an amenity and pleaser to the providers on the campus, as well as a necessary driver and support for the primary and specialty care delivered at the hospital. MOB space will also need growth zones as the campus evolves.

Standards and Branding

There are many benefits to a Community Hospital as part of a larger Health System. It can draw on the resources of a larger institution to minimize the space or services that must be on the community campus. Leveraging that network requires many early operational decisions during the programming phase- especially for the approach to support departments. For instance, is there an existing central lab / referral lab that can minimize the lab equipment needed at the Community Hospital? Is there an opportunity for a centralized or offsite central processing center to support surgical services at multiple locations? That would change the CPD program from equipment-intensive to become space for queuing and staging clean and used case carts. Logistics and warehouse space is another likely candidate for centralization, particularly if the system is part of a group purchasing organization. Reinforced as a lesson learned from the height of pandemic, leaning on a centralized supply chain warehousing system can support multiple sites, mitigate uncertainty around access to supplies, and minimize the onsite demand for storage.

Another benefit to a Community Hospital in a system is the ability to apply standardization across the network. Standards help create efficiencies and consistency from site to site. They help reduce unwanted variation in care and also in the patient experience across the care continuum. These standards hopefully also incorporate lessons learned from previous projects to inform current planning. The design team is an ambassador for the health system's facility standards. The team must understand and implement the standards while knowing when to make recommendations on best practices or challenges due to code changes. In addition to design standards, finish and signage standards also help brand each hospital as part of that larger whole. The design team must work together to find a balance in carrying standards forward, while integrating and expressing the unique characteristics of the community in which the hospital is anticipated.

Flexibility

At the initial scale of a roughly 50-bed hospital, it is imperative that as many spaces as possible serve multi-functions. There are so many code minimum requirements for rooms and clearances that must be accommodated, that overlap and synergies should be found to maximize flexibility and minimize the first costs. Some traditional space alignments may be the combination of clean linen and clean supply in one room or lockers along the wall of a lounge (if no scrubs/ changing is required.) Waiting, shared between adjacent and similar units is another option.

The integration of technology to help minimize built space and maximize flexibility is another key theme. Registration technology is allowing more and more to migrate online at home, to kiosks or bedside, drastically reducing the physical space for traditional registration desks. Similarly, Telehealth and eICU Virtual Care Center investments are minimizing what functions actually have to occur in person in the hospital setting and standardizing patient pathway protocols. Mobile technology docks are a great way to supplement the imaging technology internal to the building. They also may be an important strategy in facilitating growth and equipment replacement without downtime in the hospital.

While managing the high expectations of growth and the multiple options for inpatient and ambulatory evolution on the campus, design teams are cautioned to proceed carefully. No crystal ball can capture all what-if scenarios. Original premises for planned growth should be revisited often to confirm the direction and impacts of new information. As portions of the campus grow, a health-check of the supporting functions for the affected departments should also occur holistically. If the beds grow too much without corresponding growth in ancillary support, the operational model may suffer.

All that built-in flexibility is likely to benefit Community Hospitals in addressing future pandemic planning, too. An overlay study of what really needs to stay in the hospital, and what can migrate to the outpatient environment, be supported remotely, or even shift to home health will continue to inform the programming of Community Hospitals. Flexibility in the provisions for patient isolation for both inpatients and in the ED should be incorporated, even at this small scale. As hospitals transition to a "new normal" post pandemic, the key will be flexibility in maintaining appropriate protective measures while preserving the community integration that is the lynchpin to this hospital type.

[1] https://www.aha.org/statistics/fast-facts-us-hospitals
[2] https://www.kaufmanhall.com/sites/default/files/documents/2019-07/q2-2019-mergers-acquisitions-report_kaufmanhall.pdf
[3] https://www.beckershospitalreview.com/capital/5-common-questions-about-micro-hospitals-answered.html