

THINK BIG

when designing small spaces

Critical access hospitals offer essential services in a smaller footprint

By Bob Siebenaller and Lynne Gochenour

PEOPLE WHO LIVE FAR OUT IN THE COUNTRY

accept the inconvenience of long trips to a shopping mall or long rides on a school bus in exchange for the benefits of a rural lifestyle. But more than 60 years ago, the government decided having to make too long of a trip to the hospital was an inequity that needed to be resolved. It committed federal dollars to the construction and improvement of hospitals in underserved areas. Then in 1997, as part of the Balanced Budget Act, Congress authorized the creation of critical access hospitals, or CAH, to support the concept of small rural hospitals.

To make it financially feasible for CAHs to offer essential services despite low patient volumes, these facilities receive more generous reimbursements from Medicare and Medicaid than typical hospitals. To qualify, a CAH must meet these specific criteria:

- > Provide inpatient care, emergency care, laboratory services and radiology;
- > Have a maximum of 25 beds;
- > Be at least 35 miles from another hospital or be certified as a necessary provider;
- > Have a 96-hour average length of stay;
- > Contract with at least one physician;
- > Have an agreement with a network hospital for quality assurance, patient referral, credentialing and more.

Despite reimbursements, decisions related to space, staff and services must be driven by cost efficiency if a CAH is to be fiscally viable.

Mercy Willard Hospital is a new critical access hospital located in Willard, Ohio.



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RENOVATE OR REPLACE

Many CAHs in the U.S. are close to 50 years old. Their mechanical and electrical systems are too outdated to support equipment and technologies now available. There are multiple hindrances to providing the highest standard of care and they struggle to recruit and retain qualified staff.

Replacing the hospital is often the favored option. Not only does it solve these problems, but in many circumstances, it makes economic sense. Given low floor-to-ceiling heights it is very costly to modify the mechanicals to meet current codes. The cost to add such upgrades as fire suppression and other safety systems, IT systems, pneumatic tubes and to accommodate highly-sophisticated equipment is multiplied when working around existing conditions.

If the community decides to replace the hospital it can continue to serve the local people without disruption of care. In addition, if the old hospital becomes a construction zone, it can result in safety hazards and the confusion that goes along with rerouting patients and visitors.

DESIGN CHALLENGES OF 'INS AND OUTS'

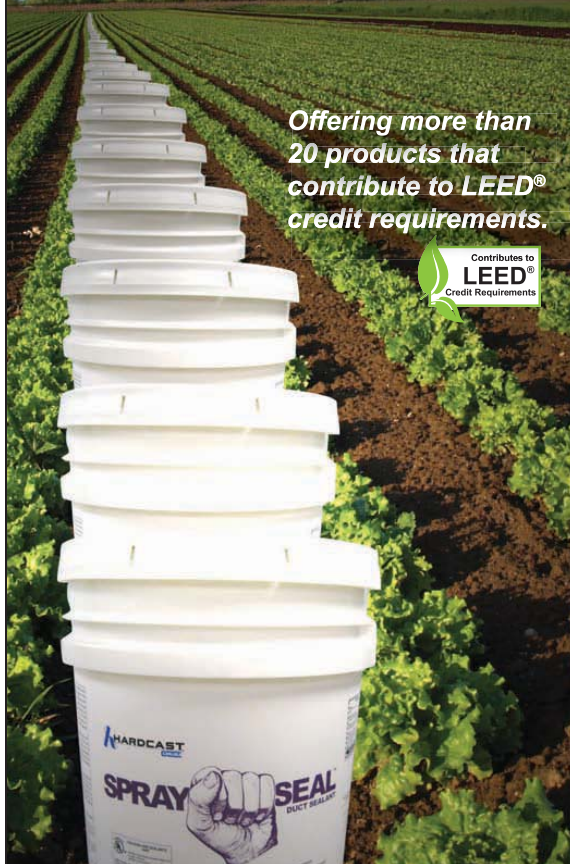
Larger hospitals are designed to clearly separate emergency department traffic from outpatients and visitors, and create yet another separate entrance for staff. Areas for delivery of clean materials, supplies and food are distinct from waste and recyclables. With the small footprint characteristic of a CAH, creating these separations is much more challenging if not impossible. Designers have to carefully locate service areas as far away from the front door as possible and, if needed, visually separate them with landscaping or architectural features.

SHARING STAFF AND SPACE

To optimize square footage, many new CAHs have a central, light-filled, public space that can handle a combination of functions. It can be the welcoming front door where both inpatients and outpatients enter and register and also serve as the waiting room for multiple departments, such as radiology and laboratory. Another advantage to these multi-purpose spaces is they create opportunities for more efficient staffing.

The variation in the numbers of in-patients and outpatients at any one time makes it difficult to have the right amount of staff always available. A cross-trained nursing staff that can work in various departments including emergency is a viable solution, especially if units are located adjacent to each other.

With the passage of HIPAA in 1996, healthcare environments must be designed so patient information remains confidential. Even small hospitals cannot



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compromise this requirement. They need spaces where conversations can remain private such as registration and admitting areas. However, with creative planning of under-used areas, consultation rooms for example, can double as a guest office or place for financial consulting.

The trend in constructing new CAHs is to keep them on one level to save the space of stairways and elevators and avoid duplication of closets, supply rooms and consultation spaces.

FLEXIBLE YET PRIVATE PATIENT ROOMS

While it might be cost-effective to have semi-private patient rooms, it is a poor configuration in terms of patient care and comfort in a CAH. On any given day, patient rosters will represent both genders, a range of ages and conditions. Privacy needs cannot be addressed by closing a curtain. Realistically, the fewer the beds, the greater the need for private rooms that can be adapted to different levels of care. The solution is to design private rooms to be flexible — to serve as a recovery room, a delivery room or various other specialized spaces.

USING OFF-SITE SERVICES

Another strategy for economizing starts with evaluating the costs of delivering services, such as laundry and food, off-site. Warming kitchens use far less energy, space, equipment and personnel than a full kitchen and make sense in facilities having a limited number of in-patients.

An experienced design resource will also examine the pros and cons of utilizing mobile units for a variety of clinical services, including CT, MRI, PET, ultrasound and mammography. Mobile units allow the hospital to rent time instead of investing in equipment that can quickly become outdated. They are also less costly than building interior spaces to house them.

ECONOMICAL AND APPEALING

Despite the focus on economy of design, appearances should not be compromised. Designers should apply the same principles for designing healing environments to small rural hospitals as they do to large urban ones.

These might include the selection of colors that are conducive to healing, incorporating natural light into patient rooms and reducing noise. Interiors need to communicate to potential staff, patients and the community the hospital offers quality care.

The CAH is often central to the function and identity of the community. As such, the look and feel of the spaces should reflect local preferences and culture. There are many ways to bring the interior in tune with the local aesthetic. One hospital involved local artists by displaying their work in spaces where people gathered.

CAHs are not all about working within size and budget limitations; “small” has its benefits. Unlike metropolitan hospitals, CAHs are essentially free from pressures to compete with neighboring medical facilities. Also, many decisions are made by the hospitals’ staff and community rather than a board of directors making many of the around 1,300 CAHs nationwide a source of local pride. ■

Visualizing design of Mercy Willard Hospital

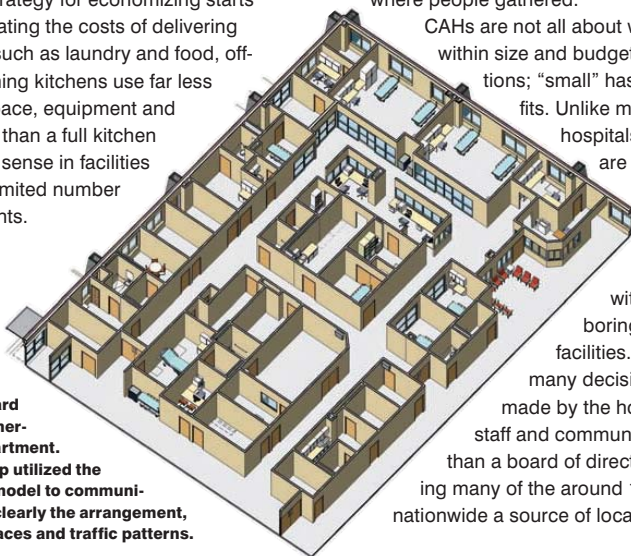
In developing Mercy Willard Hospital, SSOE’s design team utilized BIM/Revit for the schematic design and all subsequent phases. Creating a full 3D model early in the process created significant benefits for both the client and the project team.

Hospital staff and administration were not accustomed to reading and interpreting 2-dimensional floor plans and elevations, yet it was important for them to be involved in the planning process. Given the high profile nature of this replacement hospital in the community, they were eager to have input into developing the best plan for their needs. The BIM/Revit 3D plan allowed the local team to clearly visualize the spaces, department by department, during the schematic design phase.

The design team continued to build more detail into the 3D model. The hospital staff was able to see the placement of equipment, casework, furniture, lighting and soft-fits. Without BIM, this level of detail would not have been added until the design development phase, after the schematic floor plan has been approved.

Interior finishes were also rendered within the 3D model to help the client visualize the overall appearance of the space. Throughout this process, the designers were able to revise the plan quickly and present multiple options for review.

From a project planning perspective, using BIM/Revit enabled design decisions to be made earlier in the process. This improved coordination between disciplines including architects, interior designers, engineers and equipment vendors.



A 3D floor plan of the Mercy Willard Hospital emergency department. SSOE Group utilized the BIM/Revit model to communicate more clearly the arrangement, sizes of spaces and traffic patterns.

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