



Post-Acute Care Centers - Designing for Better Outcomes



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In the wake of the “Impact Act” of 2014, senior care organizations have been adapting to the required implementation of new assessment and quality measures to facilitate coordinated care and improve patient outcomes. At the same time, the shift from a fee-for-service volume based payment system to a value based payment system tied to outcomes has added another layer of complexity. A new formula has emerged:

New Payment Systems = New Systems of Care

As an Architect specializing in Post-Acute Care (PAC) design, I see the formula a little differently:

New Payment Systems = New Systems of Care = New Architectural Solutions

It’s understandable that a PAC Administrator who is fighting the daily “Battle of the Bundle” might not be focusing on their building’s physical plant. However, in doing so they are missing an important opportunity because the right design choices can result in better patient outcomes and a better bottom line.

Of course, design can make a much bigger impact when you are talking about a new “Ground-Up” building. But there are a number of renovation approaches that can also make a difference.

First, let’s talk about new construction.

There are dozens of evidence based studies that positively link patient physiologies to natural light and access to the outdoors. Designing from scratch gives an architect the ability to locate the building on its site, to take maximum advantage of sunlight and views and to incorporate daylight harvesting systems into the facade design. New footprints can also include all-season solariums to allow patients to connect with the outdoors year round.

Good Design can also improve infection control and reduce re-hospitalizations. The most basic step to achieving this goal is to create as many private rooms as the project budget can handle. Private Rooms = Better Infection Control, this is indisputable. Private rooms with private showers also provide greater fall protection as residents do not have to traverse large central tub rooms with wet floors and gaps in grab bar protection. Installing overhead lift systems in a bank of patient rooms may also reduce the likelihood of falls during two person transfers.



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Combine a robust air ventilation system featuring rapid air changes with a high percentage of private rooms and you have the backbone of very good infection control system. Overlay a telemetry system in a suite of your more “Acute” rooms and you might prevent a condition from becoming a re-hospitalization.

Learning from the past, new HVAC system designs can avoid legionella prone cooling towers and domestic water systems can include water/purification treatment systems. If your building is sick, how can your patients get healthy?

It goes without saying that the opportunities to improve a facilities’ resiliency are significantly greater with new construction. You can configure a new Essential Electrical System (EES) to power as much of the building as your budget can support and you can locate all essential systems and equipment above the 500 Year Floodplain. It is also relatively cost effective to add remote connections for drive-up trailer based boiler and mechanical plants. Non-essential areas below the floodplain can be dry-flood proofed in conjunction with the use of resilient materials and finishes. In the PAC world, a “Bounce-Back” is a negative term. However, when it comes to resiliency, you want your building to “Bounce-Back” quickly from a severe weather event.

Interestingly enough almost all of these design approaches which make your building more “Post-Acute” and more resilient also position it to be more competitive (also more energy efficient). Your customers have choices. They want private rooms, private showers, access to technology, natural light, access to the outdoors and systems which promote their health. By giving your customers what they want, you give the insurance companies what they and what everyone wants.... Better Outcomes. Additionally, your more energy efficient building will have lower relative operating costs.

Of course, in building renovations, the design team does not have as much flexibility to implement PAC upgrades as in new construction. Our first approach is to look for an opportunity to building an addition. A new addition of private rooms is the most “bang for the buck”. In back-filling the new private rooms from existing semi-privates, you immediately double the amount of “new” private rooms in the building.

Adding daylight harvesting systems to existing buildings is in most cases, only marginally impactful since you are “stuck” with the building’s orientation towards the sun. However, installing new indirect diffuse LED light fixtures that can simulate daylight will be an improvement over existing direct fluorescent fixtures and will help to reduce your electric bill. If there is available land and zoning permits, a solarium winter-garden could also be added at a reasonable cost.



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It is possible to increase the volume of outside air in existing patient rooms. Headroom and vertical shaft space are always the issues. On the bright side, fresh air ductwork tends to be much smaller than ducts carrying conditioned (hot or cold) air. “Pure” fresh air ducts are delivering air at the same temperature as the rooms being served (room neutral air) and as such do not need to be insulated. In some cases you literally need to think “Outside the Box”. On one of our recent alterations we ran new ductwork on the outside of the building and created an architectural treatment that blended into a planned re-cladding of the building’s facade. Supplementary fresh air systems are

paired with variable refrigerant flow (VRF) systems to provide more heating & cooling. These systems involve the installation of electrical conduit and refrigerant piping and do not impact headroom. The VRF’s electrical loads may dictate a need to upgrade the main electrical service.

Other PAC upgrades in existing buildings are more modest, widening doorways, lowering staff stations to ADA height, replanning/consolidating overlapping functions to increase on-unit charting/office space and enlarging the central admissions and social services suites to handle a higher volume of admissions and discharges.

In summary, a well-designed new building or alteration/addition can make a significant contribution to the “Health” of your organization and its bottom line while helping to improve patient outcomes.



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