Create a blueprint for successful hospital construction

Smoothly transition your department, staff, and patients from old to new areas.

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Much like the baby-boomer generation, many U.S. healthcare facilities are getting older. In fact, a large number of these facilities are at an age where their design and structure make it difficult to remain in compliance with new regulatory guidelines, provide desired private rooms, accommodate patients' significant others comfortably, and meet the demands of the growing elderly population. In the next decade, an estimated $200 billion will be spent on new hospital construction across the United States. At the same time, a new analysis of more than 600 research studies by The Center for Health Design shows a direct link between patient health and quality of care and the way a hospital is designed.[1]

Due to deteriorating facility conditions, as a healthcare department manager, you should expect to be involved with designing, planning, and coordinating a renovation or construction project. However, the knowledge required to complete these tasks isn't easy to attain when you haven't previously participated in a facility renovation project. Below are some tips and strategies detailing how you can smoothly transition a department through a construction project and avoid the pitfall of inexperience.

The design process

Whether the hospital is building a new unit or renovating an existing area, the department manager responsible for that area should participate in the design process. Your involvement should include reviewing preliminary construction blueprints to ensure all of the required and desired areas are in the design. Also, discuss issues and concerns with the architect, allowing time for blueprint changes before the construction team gets them. It's usually helpful to visit comparable units early in the process to visualize and understand the concepts that the architects present. Construction can begin when you finalize the blueprints, along with other related department managers and regulatory agencies of the facility.

Provide direction

When you're ready to begin construction, establish an oversight committee to provide direction for the project. The core membership of this committee should include the architect, the construction project manager, the facility's physical plant manager, and the department managers.

The oversight committee usually meets weekly to ensure that construction is progressing on schedule and to identify and address any potential problems. The meetings typically include a construction update provided by the project manager. They also allow other team members to report their progress and identify issues that need to be addressed.

The weekly planning sessions can

Ancillary department checklist

Here's a sample list of departments to include when designing and constructing a new department. Suggestions for topics to cover when meeting with each department are also included. These items are fairly generic, so you may need to alter this list to meet the needs of your organization. For each agenda topic, note the date you discussed it, the person who is responsible for the item, and any follow-up comments.

Department	Agenda topics
Universal topics for all departments	Communicate unit name
	Target date of opening
	Review drawing design
	Cost center number
	Management staff
	Type of unit (monitored/nonmonitored)
	Hours of service
	Unit specifics:
	– pneumatic tube system location and number
	– elevators for patients and visitors
Admissions	Establish visiting hours
	Assign room numbers
Biomedical engineering	Review equipment lists
	Enlist help with equipment selections and purchases
	Determine equipment preventive maintenance schedule
	Determine location of monitors and CPU
	Determine broken equipment reporting process
Central supply/ processing	Discuss supply par level and method to inventory supplies
	Establish area for pickup of used equipment
	Discuss ordering of supply carts
Dietary	Establish tray delivery times
	Identify tray pickup and return locations
	Establish nourishment types and levels for unit
	Discuss ordering of nourishment carts
ECG	Determine delivery location for read ECGs
	Identify location of 12-lead ECG machine
Housekeeping	Determine trash pickup times
	Identify location and ordering for trash bins and waste containers (regular and biohazard)
	Determine number of housekeeping carts
	Identify janitor closet location
	Determine par levels for paper towels, hand soap, and toilet paper
	Discuss assignment of housekeeping staff
	Discuss coordination of floor waxing with unit stocking
	Plan new unit's final cleaning after construction completion
Information desk (hospital)	Communicate unit name, room numbers, waiting areas, visiting hours, and elevators that access the unit for visitors
Information systems	Identify locations of computer outlets, computers, printers, and fax machines
	Establish print times — diet list, laboratory reports, radiology reports, etc.
Laboratory	Determine specimen pickup location
	Establish par level for blood draw equipment
	Discuss timing of routine morning blood draws
Laundry	Identify linen cart location and ordering
	Establish delivery times and par levels
	Determine number of linen hampers
	Decide on location of soiled linen storage area
Mail room	Identify mail bin location for intrahospital mail delivery and pickup
Maintenance	Assign a fire code
	Determine location of fire bell, fire extinguishers, and emergency gas and oxygen shut-off valves
	Discuss developing, updating, and posting evacuation plans
	Determine signage and location
	Discuss updating pneumatic unit numbers and changing all hospital unit displays
	Coordinate unit preparation; assign a person to hang needle boxes, glove boxes, and bulletins
Materials management	Establish area for patient care supply storage
	Establish par levels for supplies and identify items that will be special orders for the unit
	Determine the charging procedure for new supplies
	Identify frequency of restocking
	Identify who will handle calls about delivery of needed supplies
Medical records	Identify location of bin delivery and procedure for returning patient medical records
	Establish location for old medical record storage on unit
	Discuss method of dictation and location
Operators (switchboard)	Assign phone numbers for patient rooms, nurses' station, hall phones, and portable phones
	Discuss updating hospital phone book to include unit
	Determine location of arrest code buttons and method for informing operation
	Determine location and number of power failure phones
Pastoral care	Discuss visiting hours
	Identify location of waiting areas
Pharmacy	Determine stock medication, dispensing method, and par levels
	Determine narcotic and I.V. fluid par levels
	Discuss drug delivery times and pharmacist assignment
Radiology	Determine delivery location for X-ray reports
	Determine type and location of radiology review stations and methods such as picture archival communication systems or X-ray boxes
Respiratory therapy	Identify storage location of O_2 supplies, nasal cannulas, masks, ventilator supplies, and O_2 tanks
	Identify procedure for restocking O_2 tanks and used gases
	Discuss patient care coverage for the unit
Security	Discuss security needs of the unit and process to close the unit in times of low census

allow communication with ancillary departments affected by the construction, such as information systems and housekeeping. Be sure to invite that department's managers to attend. (See "Ancillary department checklist.")

When construction is underway

Determine a date of occupancy for the new unit before construction starts or while it's underway. Completion of the construction is only one part of establishing the date for initiation of services, as the department will still need final regulatory inspections and approval, time to stock and set up each room, and a terminal cleaning before opening. To facilitate this, at the weekly planning sessions, inform ancillary departments of the new area's target date for opening so they can plan to participate in the final preparations. The construction timeline should include each of these tasks with a target date for completion that makes an on-time opening possible.

As construction progresses, arrange periodic walk-throughs with the construction project manager. These rounds should occur weekly as the project nears completion. Look in each patient and ancillary room to make sure they'll meet the needs of patients and staff members. To avoid construction change orders, which increase costs, use a checklist of what should be present in patient and ancillary rooms during walk-throughs. (See "Avoid construction change orders with a walk-through checklist.")

Final walk-through

When construction is complete, it's important to schedule a final walk-through with the construction project manager and the architect. This final review will confirm that the work has been completed as planned. You'll be asked to complete a detailed list, called a "punch list," which includes the work that still needs to be finished, including any defects that need to be repaired by the construction company.

During the walk-through, each room needs to be inspected by the department and facility managers to identify any defects in the flooring, wall coverings, functioning of lights, water faucets, toilets, and any installed equipment. Review the completed punch list for accura-

cy and then give it to the construction manager. Discussions about completing punch list tasks and scheduling a final walk-through should occur during the weekly oversight meetings.

Communication is important

Thorough communication throughout the project with staff members who'll work in the new area will ease the transition from the old area to the new one. You can give project updates at staff meetings, post blueprints, and arrange for staff to tour the new area during the construction phase. The tours will enable the staff to envision the workflow and daily operations of the renovated workplace, and help to smooth the transition process.

As construction of the area nears completion, post a written plan outlining the purpose of each room, how it will be set up, and the details of where supplies and equipment items will be stored. This plan supplements your verbal communications. Listen to the staff's ideas regarding the unit's functional design and be open to the possibility of implementing some of their suggestions.

Because change can create anxiety for some staff members, encourage discussion of the construction project and provide opportunities for staff to participate in unit arrangements to promote ownership of the new unit. To further ensure staff members' acceptance of the unit, ask them to help prepare the unit for occupancy by stocking patient and ancillary rooms with supplies. This activity gives them the chance to set up the unit to suit their needs in terms of equipment and supply locations.

Moving day

At least 2 months before the actual moving event, carefully plan and formally communicate the plan throughout the organization, including all hospital departments and physician offices. This step will help to ensure a seamless implementation of services and maintain patient safety. The moving plan should include:

- the name of the new department
- the date and time when the older unit will stop admitting patients and when the new unit will begin accepting patients
- the management staff members

for the department and their phone numbers
- the type of patients that may be admitted to the unit
- capabilities of the unit (monitoring or not)
- patient room and phone numbers
- nursing station phone numbers and fax numbers
- pneumatic tube number.

If the project requires a department to move, additional staffing will be needed on moving day to provide patient care in both the old and new units, and to prepare patients for transfer. Devise staffing plans for nursing and ancillary personnel well in advance of the moving day to authorize overtime and provide ample notice to staff.

In addition to staff members, inform patients and their families about the department's relocation 1 or 2 days before the move. They should receive information regarding the date and time of the move, what their new room number and phone number will be, and how they will be transported to the new area. Communicate this information verbally and in writing to reduce any anxiety and confusion that they may have about switching locations during their hospitalization.

Be prepared

Designing a new department, working through the project's process, and coordinating the new department's services require a collaborative effort from the entire organization. Being prepared for your role during a facility construction project will help things run smoother and make the process an exciting and rewarding experience for all involved. NM

REFERENCE
1. The Center for Health Design. The role of the physical environment in the hospital of the 21st century: a once-in-a-lifetime opportunity. Available at: http://www.healthdesign.org/research/reports/. Accessed May 16, 2006.

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Avoid construction change orders with a walk-through checklist

Avoid costly construction change orders by making sure you thoroughly check areas for necessary items during a walk-through. This list will help ensure you don't forget anything, but you may need to alter it to suit your specific project. Check and date each item as you walk through the new area and list any follow-up issues.

Patient rooms	**Check for**
Bathroom mirrors	Height
Beds	Location of bed with wall bumpers and electrical outlets
Computer ports	Location for nurses and visitors
Cubicle curtains	Location in room Unobstructed use with room contents
Electrical outlets	Location and number at head of bed and outside walls Various heights: some at waist height behind bed and some at regular height on outside walls
Emergency call system	Location in room with pull cord for bathroom
Emergency power outlets	Location in room
Light switches	Location in room
Needle and glove boxes	Confirm location with staff member Unobstructed access
Night light	Location: should be good for nurses to see but not obtrusive for patients
Soap and paper towel dispensers	Location and height
Television	Location and height (avoid bumping heads and I.V. poles)
Toilets	Height for patient capabilities

Nurses' station	**Check for**
Bulletin boards	Location for patient confidentiality
Computer(s) and printer(s)	Location to minimize walking distance for staff
Electrical outlets	Location and number
Emergency power phone	Location
Fax machine	Location and convenience
File cabinets (drawers)	Location and size to accommodate type of files
Nurse call system	Location for staff convenience
Light switches	Location
Patient charts	Location and size to accommodate binders
Size of station	Ability to accommodate expected number of staff, wide enough with chairs to walk through, adequate number of access openings
Telephones	Location and number

Ancillary rooms/ alcove areas	**Check for**
Bulletin boards	Location and height
Computer(s) and printer(s)	Location, type (stationary or portable), and number
Electrical outlets	Location with height at waist level for crash cart/defibrillator storage Waist level power strip in equipment storage areas
Hand rails	Placement on both sides of walls and that height is appropriate
Radiology review area	Determine method: picture archival communication system (PACS) or X-ray boxes
Sink(s)	Location
Stretcher alcove	Location and that size accommodates expected number
Telephone	Location and type (wall or desk)
Water fountain	Location and height (wheelchair accessible)