

Selecting a Casework Vendor to Design a New Pharmacy

By Sharlene Lau, PharmD

Remodeling a pharmacy, or building a new one, can be a daunting project, particularly when pharmacy design and construction is a novel experience. Partnering with an experienced vendor that brings regulatory expertise and creative solutions to the design process can ensure a positive outcome and avert costly mistakes.

To accommodate the needs of our community, which is experiencing rapid residential development, Bethesda Health, Inc. opted to add a new hospital to our system, and as a result, Bethesda Hospital West in Boynton Beach, Florida opened in January 2013. Phase one of the newly constructed facility is an 80-bed, acute care, community, not-for-profit medical center, with plans to expand to approximately 400 beds over time. ADCs have been implemented throughout the hospital, as well as eMAR, CPOE, a pneumatic tube system, and BCMA to ensure patient safety and efficient medication management.

The process began in 2009, with an initial meeting of the Bethesda Health hospital administration to discuss the steps required to build the new facility. Having undergone two prior pharmacy renovations at our 400-bed main hospital, Bethesda Hospital East, we came to this situation with a wealth of pharmacy design knowledge to draw from. To begin, the hospital administration vetted and chose an architectural firm and a general contractor to design and build the new hospital. However, based on pharmacy's experience with previous remodeling projects, we knew it was necessary to also employ the aid of a vendor with a specialization in pharmacy to help with the design and construction of the pharmacy itself.

Pharmacy Vendor Selection

We chose a pharmacy design firm we had successfully worked with on previous pharmacy renovations in Bethesda Hospital East. As a result, we were confident in their abilities and knew we could rely on their timelines. Many of the basic considerations for a pharmacy renovation mirror those of a new pharmacy construction project. For example, the floor plans must incorporate workflow considerations, automation needs to be included in the capital plan, and sufficient spaced must be allotted for the cleanroom's HVAC equipment.

However, there are some differences when constructing a new pharmacy; for example, the pharmacy vendor must be able to work well with the architect and the general contractor, in addition to collaborating with pharmacy, engineering, and other internal departments as necessary. Our timeline concerns for building the new pharmacy were not about moving the pharmacy to a new location while simultaneously managing operations; rather, we had to ensure

Workflow Considerations Influence Design

The pharmacy is expected to support future expansion in its current configuration, which prompted the implementation of a pass-through refrigerator to help avoid excessive traffic between the anteroom and pharmacy and support the establishment of an ideal workflow.



Photo courtesy of R.C. Smith Company

our pharmacy vendor was able to work within the timelines provided by the general contractor. Housekeeping was also part of the timeline process, as they needed to complete a terminal clean before we could move in.

For those facilities without the benefit of a long relationship working with a pharmacy vendor, it is imperative to identify a company that can provide excellent references and guarantees the use of quality materials. Be sure to contact each reference provided to evaluate the vendor's strengths and weaknesses; conducting a site visit to a nearby facility to evaluate the vendor's work first-hand also may be valuable. Ask about <797> compliance, inspection outcomes, and how the vendor responded to requests for last minute changes. Performing due diligence up front will ensure that the project is completed correctly the first time.

Workflow Drives Design

From the outset, we relied on workflow to dictate the design of the pharmacy. For example, the goal was to locate staff in concurrent

areas to avoid excessive walking. We determined the technician station would be by the cleanroom area, and the pharmacists would be adjacent to the cleanroom to allow for quick product checks. Having the pharmacy staff (including the technicians) give input simplified our workflow design process.

Establishing an ideal workflow was particularly important in designing the cleanroom complex. Despite limited space, we needed to accommodate the cleanroom, anteroom, and a separate negative-pressure chemotherapy room. In addition, while this is an 80-bed facility, the pharmacy is expected to support future expansion of up to 150 beds in its current configuration. Key to meeting this goal was the implementation of a pass-through refrigerator in the cleanroom to avoid excessive traffic between the anteroom and the pharmacy.

Because this was the second cleanroom we had installed in five years, we were confident undertaking this project. The key to ensuring the construction of a <797>-compliant cleanroom is a clear understanding of the requirements. We invested the time necessary to read the regulations and study how others had approached their cleanroom construction. An additional benefit to working with an experienced vendor is the confidence that the regulatory requirements are incorporated into their initial design even as they collaborate with us on workflow issues. One suggestion we are particularly happy we included was the placement of a hood in the ante area to meet our immediate-use compounding needs. The vendor's experience benefitted us in myriad ways, from the correct placement of task lighting to incorporating the appropriate amount of insulation in the design. They also worked with the architect to ensure the casework matched with the color scheme established for the facility overall.

Our vendor was proactive in ensuring that the final layout allocated space wisely so the design would be sufficiently flexible to accom-

modate the future growth of our facility. Furthermore, many aspects of the pharmacy and cleanroom were custom designed, including the pass-through refrigerator and pass-through shelving for IV solutions in order to accommodate our space restraints. Overall, everything was designed to optimize space and ensure a smooth workflow in the pharmacy.

Regulatory Compliance

Finally, it is imperative that your vendor is familiar with all state board of pharmacy and <797> regulations regarding design and construction requirements. Our vendor had previous experience and a clear understanding of these requirements. For example, we were initially unable to balance the HVAC air pressure levels within the cleanroom, causing the alarm to trigger. Our vendor worked closely with our mechanical engineer, HVAC, and general contractor to ensure that this issue was resolved so that all critical environments met and passed regulatory inspection and that we remained compliant.

Conclusion

The new Bethesda Hospital West opened in January 2013, and after only a few months in the new space we have already received positive feedback. Pharmacy employees are pleased with the setup of the pharmacy, the design of the cleanroom, and the efficiency of the workflow. Furthermore, we have passed all inspections and are confident in our regulatory compliance.

Partnering with our casework vendor has not only allowed Bethesda Health to provide an efficient, compliant, and attractive working environment for staff, but has also allowed pharmacy to provide safe clinical and medication services to our patients. ■

Sharlene Lau, PharmD, is the director of pharmacy at Bethesda Health. She received her PharmD from the University of Florida.



R. C. Smith

For more information, call Toll-Free at 1 (800) 747-7648 or visit www.rcsmith.com.