CASE STUDIES:

Pharmacy Casework and Storage Solutions

While it may not carry the same level of “sex appeal” as the topics of automation or USP Chapter <797> compliance, pharmacy casework and storage is no less important to the ultimate success of any pharmacy’s operations. The right products can ensure an efficient workflow, improved staff safety and comfort, and increased patient safety – all vital goals for any pharmacy.

On the following pages, three pharmacy leaders detail their experiences working with vendors to meet their facilities’ casework and storage needs, highlighting the solutions that have led to improved operations in both inpatient and outpatient settings.

Sources for pharmacy casework and storage solutions:

<table>
<thead>
<tr>
<th>VENDOR</th>
<th>READER SERVICE NUMBER</th>
<th>WEBSITE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Herman Miller for Healthcare</td>
<td>76</td>
<td><a href="http://www.hermanmiller.com/healthcare">www.hermanmiller.com/healthcare</a></td>
</tr>
<tr>
<td>InnerSpace Corporation</td>
<td>75</td>
<td><a href="http://www.innerspacecorp.com">www.innerspacecorp.com</a></td>
</tr>
<tr>
<td>InterMetro Industries Corpora</td>
<td>62</td>
<td><a href="http://www.metro.com">www.metro.com</a></td>
</tr>
<tr>
<td>Lionville Systems</td>
<td>67</td>
<td><a href="http://www.lionville.com">www.lionville.com</a></td>
</tr>
<tr>
<td>M M I, Inc.</td>
<td>65</td>
<td><a href="http://www.mmisystems.com">www.mmisystems.com</a></td>
</tr>
<tr>
<td>R.C. Smith Company</td>
<td>64</td>
<td><a href="http://www.rcsmith.com">www.rcsmith.com</a></td>
</tr>
<tr>
<td>SDS Shelving Design Systems</td>
<td>70</td>
<td><a href="http://www.shelvingdesignsystems.com">www.shelvingdesignsystems.com</a></td>
</tr>
<tr>
<td>Spacesaver Corporation</td>
<td>66</td>
<td><a href="http://www.spacesaver.com">www.spacesaver.com</a></td>
</tr>
</tbody>
</table>

Successfully Designing a New Pharmacy Facility

By Lloyd Smith, PharmD

With two years until St. Agnes Medical Center’s pharmacy was set to relocate to a new facility, we had the luxury of sufficient time to plan a pharmacy facility that would facilitate an efficient workflow, allow for improved clinical activities, meet regulatory requirements, and yet work within the new space we were assigned. We chose R.C. Smith Company to design the new pharmacy because their casework solutions offer the quality we were looking for: sturdy, well made, and ergonomically designed. In addition, the company’s employees were cooperative and responsive during our design process.

To help us plan for our move to the new pharmacy, they visited our existing department and measured all of the shelving we were using in that facility. When preparing their designs, R.C. Smith also took our growth plans into consideration, planning for our future automation equipment needs. Because we were going to install a robot and unit dose packaging equipment in our new pharmacy, they made sure to allot space for those devices in the plan.

We also needed to incorporate a more efficient area for picking medications. R.C. Smith’s design provides a more efficient workflow in our new pharmacy in a few ways. First, our assigned medication picking area has a small footprint, to save our technicians from walking any long distances while performing repetitive tasks. R.C. Smith also worked well with McKesson, our robot vendor, to make sure the machine’s output would be convenient for the technicians who gather the robot-packaged medications.

R.C. Smith suggested that we consider high-density or mobile shelving for line items that do not need to be accessed very frequently. Although I was skeptical that our technicians would find the mobile shelves to be a practical addition to their workflow, we have learned that the shelves are very easy to move. Our workflow has not been adversely affected, and the mobile shelves save much-needed space.

R.C. Smith also consulted with us about our needs for clinical office space. In our old pharmacy, the pharmacists had no space at all; they had to find a place to work in the hospital library or another location outside of the department. So we wanted to be sure to include sufficient space for our clinical pharmacists to work and for a conference room, as well. R.C. Smith helped us develop a pharmacy design that allowed the space for those new facilities.

In addition, USP Chapter <797> was published just after our initial pharmacy design had been completed. Peter Smith, president of R.C. Smith, called to inform me that we would need to make changes to our sterile preparation room design to comply with the regulation’s requirements. I was very pleased that they took the initiative to contact me, and we now have a fully compliant facility.

I recommend that my colleagues consult with a company like R.C. Smith when redesigning their pharmacies. Working with a vendor on the redesign can help you think outside of the box and develop a more efficient and successful pharmacy.

Lloyd Smith, PharmD, has served as the director of pharmacy at St. Agnes Medical Center in Fresno, California, since 2005. Prior to assuming his current post, he served as administrative coordinator for the pharmacy department.

Where to find it:

| R.C. Smith Company | Circle reader service number 64 or visit www.rcsmith.com |

www.rcsmith.com
HAVING BEEN WITH THE CAROLINAS HEALTHCARE SYSTEM (CHS) FOR 17 years, I have witnessed 10 renovation or construction projects for the system’s outpatient pharmacies, and we have installed Lionville Systems fixtures in all but one. My predecessor always insisted on Lionville’s pharmacy fixtures, and I have continued to use them in my seven years as director of outpatient pharmacy services. In particular, I appreciate the durability of Lionville’s products, as they are built on steel frames. In addition, the modularity of the fixtures allows us to make modifications to our workstations, such as the addition of a countertop, drawer, or shelf. That versatility gives us the option to redeploy our prescription-fulfillment stations and seated workstations for different uses as needed, and there is a good deal of value in that.

Because of the sheer weight and size of our prescription label printers, workstation durability and versatility has become particularly important to our outpatient pharmacies. Lionville was able to incorporate a sliding shelf into our workstations, so that we can tuck the printers under a counter and out of the way, and yet still easily access them to perform maintenance. In addition, the shelves are able to support the considerable weight of the printers without sagging or caving in. As previously noted, one CHS outpatient pharmacy does not have Lionville fixtures. Within a month of its installation, the millwork at that pharmacy caved under the weight of the label printer. We have never had such a problem with our Lionville fixtures; all of our Lionville fixtures – including those that were installed years ago – have retained their good-as-new appearance.

Another aspect of Lionville’s fixtures that we greatly appreciate is the flexibility of their wiring raceways. For our last two construction projects, we have installed the raceways under the countertop, removing the pharmacies’ computer, telephone, and other data wires from view. Now there is no mess on our counters, and that has been of great benefit to us. The Lionville fixtures will outlast our pharmacies. There is tremendous value in their versatility and durability. In addition, we have a very collaborative relationship with our Lionville representatives. With their broad experience, they know the tricks of the trade and how to implement fixtures that work for our pharmacies and make them more efficient. Their designs are very functional and stand the test of time, and their customer service is top-notch and responsive. When Lionville comes in, I know they are going to do it right.

Frank McCree, RPh, has served as the director of outpatient pharmacy services at Carolinas HealthCare System (CHS) for seven years. Prior to that, he was the pharmacy manager at CHS’ Meyer’s Park location. He earned his pharmacy degree at Duquesne University.
In 1998, Wake Forest University Baptist Medical Center in Winston-Salem, North Carolina, began planning for an ideal pediatric pharmacy to be built as part of the new 140-bed Brenner Children’s Hospital. As pharmacists worked with the architects on the design of the area, we also planned for case-work and storage solutions with specific goals in mind. We wanted to improve workflow efficiency as part of our continual goal of improving patient safety. We found that the storage solutions offered by InterMetro Industries Corporation (Metro) would help us do so. The new children’s hospital and pediatric pharmacy opened in May 2002.

Metro’s storage units are flexible and modular, allowing us the customized solutions we require. We use their wire-shelved Starsys WorkCenter units and storage bins to store our IV solutions, and we use a Starsys Mobile WorkCenter with locking casters to provide additional counter space where needed. Much to our satisfaction, Metro was more than willing to customize their products to our needs. For instance, we wanted solid surface countertops with cutaways for our undercounter waste containers. We can now dispose of our syringes and other waste directly from the countertops, improving safety, efficiency, and compliance with waste management guidelines. The counters are also deeper and higher than normal to maximize the work surface and our staff’s comfort.

Metro also worked with us to design a workstation specifically for the preparation of drugs in oral syringes. The workstation is 5 feet wide and 6.5 feet long with storage units and drawers below the counter. Overhead metal shelves face either side of the workstation. On one side, technicians can access bottles of oral liquids from the shelves or the refrigerator directly behind them. Once the patient-specific syringes are prepared and labeled, the technician slides the completed syringes and bottle across the countertop for verification by the pharmacist on the other side. This added safety and efficiency is important to our pediatric pharmacy, as we fill 150 to 200 oral syringes each morning. The Metro crew modified the “standard” installation process for the metal shelves to allow this workflow.

Metro’s wire shelving units allowed us to take full advantage of the floor space in our storage room. We chose the 24-inch depth shelves for one side of this rectangular room to give maximum storage capacity for boxes of fluids or syringes and to wrap around an under-counter freezer. On the opposite side of this room, 18-inch shelves provide storage for non-boxed items, while allowing sufficient floor space to park carts when not in use.

I would advise my colleagues to begin the planning process by carefully defining the various functions that your pharmacists and technicians routinely perform. Make sure that you have adequate counter space and storage for the items required for each function. Diagram your workflow to minimize movement. For instance, try using this thought process: When you lift your hand, will the item you need be within reach? If you do your dreaming and planning first, drawing the plans is much easier.

Thoughtful planning resulted in a pharmacy design that facilitates a very efficient workflow; in fact, after four years, we practically take those benefits for granted. Throughout the entire design and installation process, Metro was open to all of our suggestions. Representatives from other major pediatric hospitals who have toured our pharmacy have been impressed with the design and function.

Victoria W. Strandhoy, RPh, BCPS, is the pediatric pharmacy operational coordinator at Wake Forest University Baptist Medical Center. She earned her BS in pharmacy from the University of Illinois.