

Practice Spotlight



Children's Hospital Central California

Madera, California

<http://www.childrenscentralcal.org>

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IN YOUR VIEW, HOW WOULD YOU DEFINE THE IDEAL PHARMACY PRACTICE MODEL?

The ideal pharmacy practice model provides a framework for safe and effective pharmaceutical care. The goal is to provide pharmaceutical services to support the Five Patient Rights, collaboration with our health care colleagues. The ideal model creates a practice setting where pharmacists are an integral part of the decision making process in the care of the patient.

HOW DO PHARMACISTS IN YOUR RE-DESIGNED PHARMACY PRACTICE MODEL PROVIDE CARE TO PATIENTS AND ENSURE SAFE AND EFFECTIVE MEDICATION THERAPY?

All of our pharmacists, whether stationed on the patient care units or in the central pharmacy, provide clinical services. Our decentralized pharmacists are viewed as an essential component of the health care team, participating in patient rounds and providing their clinical expertise. Pharmacists assigned to the patient care units also provide order entry support and are responsible for ensuring delivery of the appropriate product to the patient.

Pharmacists working in the central pharmacy provide as many, if not more, clinical interventions than the decentralized pharmacists. The reason for this is that decentralized pharmacy services are only available from 8:00 a.m. until 6:30 p.m.; all calls after that time are forwarded to the central pharmacy. The end result is that we enjoy a team approach to provision of dispensing and clinical services, where each pharmacist is a valued team member. For recipients of our services, it is a seamless process.

WHAT SERVICES HAVE YOU DETERMINED TO BE ESSENTIAL TO SUPPORT YOUR PHARMACY PRACTICE MODEL?

A decentralized model for providing pharmacy service was an essential component in the success of our practice model. In a typical pharmacy satellite model, the pharmacist may never venture out of the satellite because he or she is so tied to product delivery. This is not an optimal use of pharmacist's time or expertise. A successful model must support pharmacist interaction with other members of the health care team through activities such as, but not limited to, rounding, consulting, implementing pharmacy-driven protocols, and participating in unit-based meetings. Medication management decisions should ideally have the support of all those who are affected by the decision and should not be made in isolation. The ultimate goal is to optimize patient care in the most fiscally prudent manner.

Because we practice in a pediatric setting, a unit-of-use drug distribution system was also essential for supporting our practice model. Use of standardized dosing for oral and injectable drugs, where the pharmacist is empowered to make dosage adjustments, is necessary to avoid non-standard doses like "amoxicillin 283 mg". Use of standardized intravenous drug concentrations that can be entered into programmable IV pumps also minimizes the chance of IV pump errors. Standardized concentrations of extemporaneous oral preparations should also be adopted. All these efforts required significant collaboration and communication with key staff members to ensure successful uptake.

Lastly, we cannot forget that well qualified pharmacy technicians are crucial to provide high-tech distributive services and support a complex pediatric unit-of-use philosophy for commercially available or extemporaneously compounded drugs. Our organization welcomes pharmacy technician externs during their didactic education so that we may prepare them for work, possibly in our own institution. All pharmacy technicians in California are required to be

trained and registered. A majority of the pharmacy technicians on our staff have earned certification via the Pharmacy Technician Certification Board. In our facility, pharmacy technicians have a career ladder with each level having greater skill level requirements and responsibilities.

WHAT TECHNOLOGIES HAVE YOU IMPLEMENTED WITHIN YOUR PRACTICE SITE TO FACILITATE YOUR PRACTICE MODEL?

To support our practice model, we use automation whenever possible to minimize the time pharmacists spend on compounding, packaging, dispensing, and record keeping. Over the past decade we have implemented or upgraded several facets of the drug delivery system. Below is a list of the technologies that had the greatest impact on our practice model:

- a. **Automated Dispensing Cabinets (ADC)** - The use of automated dispensing cabinets not only improved billing capture and documentation, it also improved patient safety through the use of warnings and override control. However, it did result in the need for additional staff, both from pharmacy and nursing, to monitor the use of medications removed from the ADCs.
- b. **Robotic Dispensing** - The implementation of a robotic system, where the robot pulls medications for the pharmacist to check and dispense, is an important component of our dispensing process. The use of the robot did improve our order process time; however, dedicated and skilled staff members are necessary to support the robot. Staff must be aware that the robot cannot detect errors in stocking, so practices to catch human error must be developed and sustained.
- c. **TPN Compounder** - A TPN compounder was critical for our pediatric hospital, which makes 40 to 50 TPNs a day. The compounder also allows for the manufacture of specialty solutions, minimizing the need for complex manual preparation. Again, dedicated skilled staff and USP 797 compliant IV rooms are a necessary expense to support this service.
- d. **Repackaging Machine** - The use of a repackaging machine was an absolute necessity in the pediatric setting at our hospital. Some products do not have bar coding or a bar code that is compatible with our bedside scanning system; and, some products are not available in a unit dose form. Repackaging medication becomes a necessity in automating pharmacy services.
- e. **Bedside Scanning** - A bedside medication scanning system was implemented to help ensure that the correct medication is being administered to the correct patient. In order to support this system, each medication must be bar coded.
- f. **Automated Record Keeping** - The use of a centralized automated system to collect and record data is a necessity because of the increasing use of technology, the rapidly growing availability of electronic data, and the challenges of maintaining compliance with ever-expanding regulatory requirements. The upfront work of

entering data into the database should not be taken lightly by administration. The back-end result is a system that clearly identifies the successes and shortcomings of the department and allows the rapid retrieval of information when needed.

- g. **Computerized Prescriber Order Entry (CPOE)** - Currently, only our emergency department has CPOE. Prescribers in that department now have the ability to utilize an electronic outpatient prescriber writer that transfer prescriptions electronically and provides hard copies to the patient upon discharge. In the coming year, CPOE will be expanded to our inpatient areas.

HOW WOULD YOU SHARE THE SUCCESSES OF YOUR PRACTICE MODEL WITH OTHER PHARMACY DIRECTORS AND ADMINISTRATORS?

We openly share our success with other pediatric hospitals, especially those within our hospital network. As our pharmacy students, interns, residents, and fellows migrate to new positions they take the knowledge learned at Children's into their new practice settings. Lastly, some vendors have used the example of our success and referred potential customers to us to learn from our experiences.

WHAT ARE SOME KEY CONSIDERATIONS TO GAIN EMPLOYEE ACCEPTANCE AND BUY-IN TO IMPLEMENT A NEW PRACTICE MODEL?

Convincing staff to welcome change can be challenging and rewarding. During the development and implementation process for any new project, staff members, both pharmacy and non-pharmacy, need to have opportunities to verbalize their concerns and make constructive suggestions. In an open forum, the vast majority of individuals will make the right decision for the organization or patient. A team consisting of staff pharmacists and technicians can be the project's greatest advocate, ensuring global support for the project. If support is not there, management should not be afraid to delay implementation, alter the course, or pull the plug if necessary. The latter is rare, if sufficient planning prior to implementation is performed. A delay in implementation or alteration of the course is not uncommon. Lastly, when a staff member is the "project lead", management must provide the resources, such as time and administrative support, to be successful.

HOW DID YOU GAIN SUPPORT OF HOSPITAL ADMINISTRATORS, PHYSICIANS, AND NURSING TO IMPLEMENT YOUR NEW PRACTICE MODEL?

There are several factors that contributed to success of our practice model.

- a. **An overall culture of safety that was embraced by the organization.** Our hospital administration and hospital-based physicians have collaborated with us throughout our efforts to improve the safe use of medications.

- b. **The support of key physicians and medical staff committees.** Gaining support from key members of the organization is essential for securing buy-in.
- c. **Communication with other hospitals who have implemented similar projects.** Those hospitals can provide insight into the risks and benefits of the proposed changes.
- d. **Decentralized pharmacists serving as a constant reminder that the department is committed to providing pharmacy service.** The constant presence of a pharmacist in the patient care unit creates a sense that “my pharmacist” will be there to help me.

WHAT ARE SOME LESSONS LEARNED WHILE IMPLEMENTING YOUR PRACTICE MODEL THAT YOU WOULD LIKE TO SHARE WITH OTHER PHARMACISTS?

- a. **Timing** - In part, success is about timing. When the opportunity is there, you must be ready to push your way through the door.
- b. **Capital** - Many of these projects require capital. With the current state of the economy capital is scarce and may be difficult to secure. However, the key is to be persistent in your attempts to secure capital.
- c. **Human Resources** - The most challenging aspect of change is finding and retaining the human resources, both pharmacists and technicians, with the best skill set and chemistry to provide pharmaceutical care. Identifying the needs of your staff and tailoring a training program to meet those needs becomes essential.
- d. **Maintaining the Changes** - Implementation is often most challenging, but ongoing maintenance should not be forgotten. Managers must budget resources in order to maintain departmental successes.
- e. **Original Ideas** - There are really very few original ideas and it is the ability to borrow someone else’s idea(s) and modify them to fit one’s own situation that is important. Most hospitals are more than willing to share their ideas.