

Children's Mercy Hospitals and Clinics, Kansas City, MO



Chip Bruce, R.Ph.



SP Central boosts pharmacy productivity

The Institute of Medicine's (IOM) Six Aims for healthcare organizations include providing care that is safe, effective, patient-centered, timely, efficient, and equitable. When Children's Mercy Hospitals and Clinics (CMH&C) in Kansas City, MO, teamed up with ScriptPro to address some of the growing demands of its Outpatient Pharmacy, these Six Aims were the guiding principles.

With ScriptPro technology, advanced features and processes were introduced to manage the pharmacy workflow, allowing staff to provide services more in line with a retail setting, and within the guidelines of the Six IOM Aims.

According to Wendy Robinson, R.Ph., Assistant Director of Pharmacy, "With ScriptPro, CMH&C

found a willing partner to develop innovative features specific to the unique needs of a children's pharmacy."

According to C.J. Hutto, Senior Director of Allied Health and Support Services, "CMH&C lacked

systems to support billing, workflow, and electronic prescription receipts. The pharmacy was in need of significant advances in our technology and processes. We made existing systems work for years, but we did not have an optimum environment

for providing care that was safe, effective, patient-centered, timely, efficient, and equitable."

The CMH&C Outpatient Pharmacy was established many years ago to operate in the hospital system, primarily as a service to patients that the system served. Historically, prescriptions were not electronically adjudicated because the technology and contracts had not been put in place.

For more detailed information on CMH&C, see page 4.

Children's Mercy Hospitals and Clinics *Customer Since 2005*

Senior Director of Allied Health and Support Services: C.J. Hutto, RN, MHA, CPON

Director of Pharmacy Services: Jack Lemanowicz, R.Ph., MS

Assistant Director of Pharmacy: Wendy Robinson, R.Ph.

Outpatient Pharmacy Manager: Chip Bruce, R.Ph.

Location: Kansas City, MO

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Pharmacy Automation

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CHILDREN'S MERCY HOSPITALS AND CLINICS

SP Central Pharmacy Management System – Services Designed for Children

The practice of pharmacy in a children's setting is very different from pharmacy for the adult population, and proper medication dosing is absolutely critical. ScriptPro worked with CMH&C to incorporate weight-based dosing logic, pediatric drug utilization review (DUR) modules, and unique prescription "SIG" features into the software. For every prescription, the patient's height and weight is factored in to calculate the appropriate dose for that patient, saving valuable pharmacist time and improving accuracy.

Since children are growing and change in size frequently, the system interfaces with the hospital systems to update the patient's information. Prompts are offered for pharmacists to check the current weight and height of the patient for each refill.

The following features of ScriptPro's SP Central Pharmacy Management System have been widely used at CMH&C and are geared specifically to the practice of pharmacy in a pediatric hospital setting:

- The maximum and minimum dose is checked for every drug, taking into consideration the number of doses per day.
- Automatic conversion of prescription dosing is available—converting milligrams to milliliters, because 30-50% of pediatric prescriptions are dispensed as liquids.
- Pharmacy staff is prompted to confirm patient weight for every prescription refill so the dose can be rechecked.
- Pharmacist can specify DUR Persists for all refill prescriptions.
- Complex dosing calculations, DUR, weight-based dosing check, and adjudication are supported for every ingredient used in compounded drugs.
- DUR checks for interactions with other medications, supplements, and over-the-counter products.

DUR Event Summary Report		
Script #	6194426	
Patient	MADISON, MOLLIE R	
Dispense	Prednisolone 15 mg/5 mL Sol Morton Grove (237)	Female
SIG	TAKE 9 ML 2 TIMES A DAY FOR 5 DAYS	23 mos
		10 kg
Event	HD High Dose	
Summary	Max Single Dose	
Report	Prescribed dose of 27 MG is above recommended max dosage for all common indications.	
Recommended	Max dose of 20 MG.	

For Mollie's height of 71.1 cm and weight of 10.0 kg, 20.0 mg is the max recommended dose instead of the prescribed 27 mg. The drug is a ratio of 15 mg per every 5 ml of solution, so 9 ml of the drug = 27 mg each dose. $[(15 \times 9)/5 = 27 \text{ mg}]$

“When I first came to the hospital, I calculated every single dose for every single prescription. After 1,000 prescriptions, I realized that ScriptPro was coming up with the same number automatically. The time saved from figuring every dose is measurable, not to mention improved accuracy ScriptPro delivers.”

*—Chip Bruce, R.Ph.,
Outpatient Pharmacy Manager*

- Label instructions can be converted to caregiver directions. For example, “Give Johnny 1 teaspoon every four hours.”
- Duplicate therapy checks by the system ensure the same medication is not filled twice for a patient.
- System easily bills medications to multiple insurance plans, making expensive prescriptions more affordable for patients.

CHILDREN'S MERCY HOSPITALS AND CLINICS

SP Central Workflow – Tracks, Organizes, Verifies

The success of the reorganization project at CMH&C Pharmacy hinged on a state-of-the-art workflow system to enforce the new processes and provide tools for tracking, organizing, and streamlining all work in the pharmacy. Additional features unique to the SP Central Workflow System are listed below:

- Pharmacist may enter alerts during prescription verification that prompt specific counseling as required for the patient.
- Notes can be added to the patient file so the doctor doesn't need to be called for every refill if a question persists.
- Electronic batching ensures that the patient leaves with the entire prescription order. This is crucial, for example, if a family has driven hundreds of miles to the hospital.
- Liquids can be marked for reconstituting at pick-up—less chance of a drug expiring.
- Compound prescriptions are automatically placed on hold until the day the patient arrives for pickup. This is especially important for drugs that have a limited shelf life.
- System tracks every operation completed by individual pharmacy staff, including a date/time stamp of when the action was completed.
- Reports available to support managerial decisions. For example, based on analysis of prescription traffic, CMH&C decided to close the pharmacy between 11:00 p.m. and 7:00 a.m., saving money on staffing.



Dispense process includes prompts for patient counseling and signature capture



Touchscreen and barcode controls provide added efficiencies

- Flexible label options support labeling of smaller items such as inhalers. For example, a full sized prescription label can be placed on the outer packaging and the smaller label placed directly on the inhaler.
- Drug auxiliary warning labels can be printed in Spanish, French, or other languages.
- Inventory is ordered based on usage reports. CMH&C estimates saving \$25,000 in extra inventory costs.

CHILDREN'S MERCY HOSPITALS AND CLINICS

Achieving the Goal – Institute of Medicine's Six Aims for Healthcare

ScriptPro's SP Central Pharmacy Management and Workflow Systems have helped the CMH&C Pharmacy comply with the Six Aims for healthcare in the following ways:

1. **Care must be safe.** SP Central Pharmacy Management System supports weight-based dosing, DUR on all ingredients in compounded drugs, and barcode technology to catch wrong drug/wrong strength errors prior to labels being printed.
2. **Services must be effective.** CMH&C utilizes technology that meets the requirements of the pharmacy to provide an overall benefit for the patient. It allows the staff to work with patients and families in identifying the best options for their medication needs.
3. **Care must be patient-centered.** The pharmacist has real-time access to patient clinical data and medication profile information.
4. **Services must be timely.** Pharmacists are relieved of computing correct dosing, manual look-up of most DUR, and manual adjudication. Barcode-driven batching features ensure that the patient leaves the pharmacy with their complete prescription order. The fully integrated system also supports notification to patients in the waiting area when prescriptions are ready for pickup.
5. **Services must be efficient.** Less time is spent with paperwork, searching for prescriptions, looking up pediatric dosing etc., and more time can be spent with the patient and family on counseling and collaborative care.
6. **Services must be equitable.** Adjudication occurs automatically in the background so the pharmacy can provide consistent services regardless of patient payment type. Pharmacy staff is not burdened with asking the family qualifying questions and filling out forms. Information is integrated with the patient's file for future reference.

Through the implementation of SP Central Pharmacy Management System, CMH&C was able to transition from providing medication to patients as a service to providing high quality pharmaceutical care that coincides with the excellent medical care and unique prescribing practices of a pediatric focused medical team.

About Children's Mercy Hospitals and Clinics

CMH&C is a comprehensive pediatric medical center and the only free-standing children's hospital between St. Louis and Denver. The organization includes a licensed inpatient bed capacity of 314, including a neonatal intensive care unit and a pediatric intensive care unit. In addition, outpatient clinics are located at the main campus and throughout the Kansas City area, with outreach clinics serving Topeka and Wichita, KS, and Omaha, NE, for pediatric specialty clinics. Children and families from coast to coast and around the world are served by the CMH&C pediatric center.

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