

# Collaborative Care – The Pharmacist’s Role

An evaluation of an innovative practice model on medication reconciliation accuracy and proactive clinical interventions

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**T**hedaCare™ is a community health system that includes four hospitals in northeastern Wisconsin: Appleton Medical Center (AMC), Theda Clark Medical Center (Neenah), New London Family Medical Center and Riverside Medical Center (Waupaca).

Appleton Medical Center is a leader in cardiac, cancer and orthopedic care. Theda Clark Medical Center focuses on trauma, neurology, psychiatry and is the host hospital for Children’s Hospital of Wisconsin-Fox Valley. Theda Clark is one of the largest acute care facilities in the area. It is the area’s only Level II trauma center verified by the American College of Surgeons. New London Family Medical Center and Riverside Medical Center are both critical access hospitals in the surrounding communities of the Fox Valley.

ThedaCare’s vision is “to always set and deliver the highest standard of health care performance in measurable and visible ways so our customers are confident they are making the right decision in choosing us.” ThedaCare has adopted the Toyota production system for lean manufacturing to identify and eliminate waste in our organization. We strive to continuously improve our system while focusing on the needs of the customer.

Pharmacists work as a team to provide 24-hour pharmacy services to our patients. We have decentralized pharmacists working in units such as intensive care, cardiology, neurology, pediatrics, neonatal ICU, oncology, orthopedics, medical/surgical and collaborative care the majority of each day. Specifically, this article will detail the role of the pharmacist in the collaborative care model.

Generally, all pharmacists, regardless of where they provide their clinical service, are responsible for providing safe and effective delivery of drug products and for

the monitoring activities that support safe and effective medication therapy use. Some of this responsibility includes completing order entry verification of medication orders entered by technicians.

The majority of the pharmacists’ responsibility is in a clinical role. Clinical activities include such functions as renal dose adjustments, IV to PO conversions, anticoagulation monitoring, warfarin dosing and pharmacokinetic dosing of vancomycin and aminoglycosides.

Our department utilizes a scoring tool in the electronic medical record to help guide monitoring and documentation of patient care plans. When a pharmacist makes a clinical intervention, it is documented in the electronic medical record as an I-Vent. I-Vents serve as both a communication and tracking tool.

Our department has scrutinized the role of the pharmacist using lean manufacturing principles. We have eliminated waste in our daily work to give our staff the capacity to participate in more clinical, proactive activities. To guide our improvement efforts, our department developed a value proposition.

## THEDACARE PHARMACIST VALUE PROPOSITION

ThedaCare system pharmacists lead the way by applying expert knowledge for safe and effective medication use. We achieve the best outcomes for our patients through proactive leadership of:

- Improving medication reconciliation
- Applying evidenced-based methods to improve medication therapy
- Patient assessment and care planning as a key member of the core team (physician, pharmacist, nurse)
- Improving the safety of medication use, reducing medication errors and adverse drug events

- Providing pharmacist clinical review of orders and final product checks in distribution

This value proposition was key in the development of the pharmacist’s role in the collaborative care model. Collaborative Care was introduced as a pilot, 14-bed unit at Appleton Medical Center in February, 2007. This unit is staffed by hospitalists and admits patients with general medical diagnoses.

Collaborative Care is ThedaCare’s proprietary innovation of inpatient hospital care in which a core team, or “Trio”—comprised of a nurse, physician and pharmacist, supported by therapists and other clinicians – works side-by-side to care for every patient from the moment of admission until discharge.

As a member of the Admission Trio and Bedside Care Conferences (daily rounding), the pharmacist provides admission medication reconciliation, contributes to the team-generated care plan and is able to make proactive medication-related interventions. In Collaborative Care, the physician-nurse-pharmacist trio outlines a plan of care in which everyone has equal input into the plan and any modifications. The patient-focused care plan and the patient’s ongoing medical information are continuously tracked in real time in the electronic medical record.

Standard work was developed to minimize waste and duplication of roles to deliver more repeatable, more consistent performance. We want to make sure we have the right people doing the right work. Each team member has standard work outlining his or her role in the admission and daily bedside care conference rounding.

There is also multidisciplinary standard work that governs the entire admission and rounding processes. The standard work helps to more efficiently utilize the skills and expertise of our healthcare team

members and keep them focused on the patients' needs. It is our expectation that all pharmacists rotate through this unit to participate in admissions and Bedside Care Conferences.

The collaborative care model has shown substantial improvement in patient satisfaction, decreased length of stay and reduced cost. Patient satisfaction has been measured by the number of patients rating their experience on the Collaborative Care unit. Patients rate their response to the following statement, "I felt comfortable and secure with the care I received."

Since the establishment of the Collaborative Care unit at AMC, the average patient satisfaction scores exceed 90%, the average patient length of stay has decreased by 21%, and the cost of care has dropped by 28%.

We hypothesized that the pharmacist would be a vital member of the Trio, particularly in obtaining accurate medication histories. Similarly, we wanted to study the impact on patient care related to types and number of interventions made during the Bedside Care Conferences. We conducted a study to gather these data for evaluation.

## OBJECTIVES

We designed this study to meet the following objectives:

- Compare errors in pharmacist and nurse collected home medication reconciliation at the time of the patient's admission
- Identify the number and types of interventions our clinical pharmacists make during Bedside Care Conferences on the Collaborative Care unit

## METHODS

Admission medication reconciliation data were collected during a 16-month period by paper pareto to look for incomplete orders on admission medication reconciliation forms. Incomplete orders were defined as orders that had missing information, such as a dose or frequency. Omitted medications were also collected in the data.

A lead pharmacist completed an evaluation of nurse-generated incomplete orders compared to pharmacist-generated incomplete orders monthly. Pharmacist intervention data were collected using a paper pareto form to track the number and type of interventions initiated by the pharmacist during a 4-day sample. Data were

later compiled in an EXCEL format and tabulated by a lead pharmacist.

## COLLABORATIVE CARE 16-MONTH QUALITY RESULTS

### Admission Medication Reconciliation

Medication reconciliation improved from 1.5 errors per nurse-generated patient medication reconciliation to zero errors per pharmacist-generated medication reconciliation.

### Pharmacist's Proactive Interventions During Bedside Care Conferences

We evaluated the documented I-Vents by pharmacists during a 4-day period. Pharmacists rounded with the care team on an average of 12 patients per day. Over a 4-day period, the pharmacist documented 60 proactive interventions during Bedside Care Conferences. The details of the types of interventions are listed in the table above.

The most common type of intervention was the pharmacists' recommendation to initiate therapy for an untreated indication. The most frequent types of untreated indications were deep vein thrombosis prophylaxis and antimicrobial therapy based on a patient's culture and sensitivity data.

## CONCLUSIONS

These data indicate that pharmacists are a vital part of the Trio, impacting patient care positively by helping to provide zero-error medication reconciliation and proactive "real time" interventions at the patient's bedside. Working as part of the team on the Collaborative Care unit has provided our pharmacists a unique opportunity to meet the value proposition of our department.

## EXPANSION

In June 2009, the second Collaborative Care model unit opened. This unit is the first Collaborative Care unit at Theda Clark Medical Center. The model will continue to expand into the eight-floor bed tower opening in the summer of 2010 at AMC

PHARMACIST BEDSIDE INTERVENTIONS		
Category	# of Interventions Documented	Percent
ADE/Allergy	2	3.3 %
Dose Too High or Too Low	9	15 %
Drug Information	4	6.7 %
Drug Dosing	5	8.3%
Kinetics Consult	1	1.7%
Duplicate Therapy	2	3.3 %
No Indication/Contraindication	9	15 %
Route Change (IV to PO)	8	13.3 %
Suboptimal Pharmacotherapy	5	8.3 %
Untreated Indication	11	18.3 %
Warfarin Teaching	1	1.7 %
Other	3	5 %
Total Interventions	60	

and throughout remodeled units at Theda Clark Medical Center. Now coined as the "Hospital of the Future," the collaborative care model will continue to impact patient care in all patient care departments of the hospitals. Continuous improvement has been key in the development and success of this model.

The pharmacy department continuously works on improving our clinical role in the Collaborative Care model. The pharmacists are eager to enhance their clinical role. During the implementation of the first Collaborative Care unit at AMC and now as we expand the model to other units, we continue to find ways to remove the waste, non-value added activities from our workflow to free us up for these new activities.

We continually ask: What is the role of a pharmacist now? What do you do now that is not value-added to the patient? Where is the right place for the pharmacist to be? How can we expand our clinical presence? It is an exciting time at ThedaCare as we develop our clinical pharmacy services in the "Hospital of the Future." ●

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