Increasing medication safety for patients admitted from the ER

Medication Reconciliation Nurses fill a critical role
Eliminating Inpatient Medication Errors

Trinity Medical Center
Rock Island, IL

This hospital added the role of Medication Reconciliation Nurse to ensure that patients admitted from the emergency department have complete and accurate medication histories.

Overview of organization

Trinity Medical Center is one of four full-service hospitals in Rock Island and Moline, IL and Bettendorf and Muscatine, IA under the UnityPoint Health-Trinity umbrella. The hospital recently opened a 90,000 square-foot expansion of its Emergency Department and heart center.

“Our Medication Reconciliation Nurses have significantly enhanced patient safety. Their work means that our providers have complete and accurate medication information for each patient—from the moment they’re admitted, through their stay and at discharge.”

Stacy Demarest, MSN, MHA, RN
Project summary

The leadership of Trinity Medical Center has placed a high priority on improving medication reconciliation, and wanted to establish a proven process for collecting medication lists from their patients and comparing those lists to patient records and medication orders.

Research shows that more than 40 percent of medication errors result from inadequate reconciliation during admission.1 Trinity Medical Center estimates that approximately one in 10 patients who have inaccurate medication lists are likely to suffer an adverse drug event (ADE), causing physical harm, mental harm or loss of function. ADEs are associated with lengthened hospital stays as well as higher costs of care. (According to the U.S. Department of Health and Human Services, ADEs can prolong hospital stays by 1.7 to 4.6 days.)

Because the emergency department accounts for about 55 percent of Trinity Medical Center’s admissions, the leadership team agreed that resolving medication reconciliation errors at this point of entry would have the greatest impact on overall patient safety.

Medication Reconciliation Nurses in the emergency department

As a Level II Trauma Center, Trinity Medical Center’s emergency department receives some of the most seriously injured or ill patients in the region; it is also the main entry point for behavioral health patients in crisis. Bedside nurses here are stretched to capacity and often cannot spare the required time to reconcile medication lists for patients as they’re admitted to the hospital. Hospital administration created a new position for an RN who would focus specifically on medication reconciliation for those patients admitted from the emergency room.

With the support of E3 Grant funding from the Cardinal Health Foundation, Trinity Medical Center hired its first Medication Reconciliation Nurse in 2014. That nurse’s role is to collect the patient’s complete medication history as soon as he or she is admitted to hospital from the emergency room.

The Medication Reconciliation Nurse begins by interviewing the patient about medication history, then calls all prescribing physicians and/or pharmacists who filled the prescriptions. For those patients who have multiple physicians and multiple prescriptions, this process can easily take an hour or more.

The work has shown that about 24 percent of patients typically have inaccurate medication histories when they enter the emergency department. Through interviews with patients and follow-up research and verification, the Medication Reconciliation Nurse significantly reduces the potential for adverse drug events, both while the patient is in the hospital and as the patient transitions to home.
### Project objectives

- Ensure that a Medication Reconciliation Nurse reviews and reconciles medication lists for patients admitted from the emergency department
- Significantly increase medication accuracy for patients admitted from the ED from a baseline of 40 percent
- Reduce adverse drug events associated with inaccurate medication lists

### Results (for all 5,833 patients admitted by a hospital physician)

<table>
<thead>
<tr>
<th>Description</th>
<th>Result</th>
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</thead>
<tbody>
<tr>
<td>Accurate medication lists were compiled and verified for all</td>
<td>5,833  patients</td>
</tr>
<tr>
<td>Medication accuracy for patients admitted from the ED was improved</td>
<td>from the baseline of 40% to 76%</td>
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<tr>
<td>Adverse drug events due to inaccurate medications was prevented</td>
<td>for an estimated 209 patients*</td>
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<tr>
<td>Estimated dollars saved by reducing adverse drug events:</td>
<td>$1,247,913*</td>
</tr>
</tbody>
</table>

The summary results are estimates that have been separately prepared and provided by each individual grantee and were based on one year periods unless otherwise noted.

*These figures are based on hospital data that shows that about 24 percent of patients have inaccurate medication histories that are reconciled, and that about 1 in 10 patients who are admitted with inaccurate medication lists are likely to have an ADE. Based on industry averages, the hospital estimates that the cost of an ADE is $3,986.¹

Project continuation

The introduction of a Medication Reconciliation Nurse quickly garnered support among Trinity Medical Center staff, and nurse managers of the inpatient units combined staffing resources to fund the continuation of the program. The resulting improved patient safety convinced leadership to fund additional FTE positions: Today, three Medication Reconciliation Nurses work full-time at the hospital, taking and reconciling medication histories for patients admitted from the emergency department during the busiest hours of 11 a.m. to 11 p.m., seven days a week.

The Medication Reconciliation Nurse’s key role is to collect the patient’s complete medication history as soon as the patient is admitted from the emergency room.

Trinity Medical Center leadership

Rick Seidler
President and CEO

Stacy Demarest, MSN, MHA, RN
Manager, Patient Care Supervisors and Clinical Resource Team

Hannah A. Rowell
Process Improvement Specialist
E3 GRANT CASE STUDY

About the E3 Grant Program

Since 2008, through its E3 Grant Program, the Cardinal Health Foundation has invested in hundreds of healthcare organizations across the country.

We support a wide array of patient safety work with a focus on accelerating the rate of change with two goals:
- Improved patient outcomes
- Reduced healthcare costs

Because of the complexities in healthcare and healthcare systems, it takes an average of 17 years for evidence-based practices to be fully implemented into healthcare practices, according to The National Institutes of Health. Within a year or two, some of our grantees are affecting change, eliminating errors and creating lasting improvement. They are reducing readmissions to hospitals, reducing lengths-of-stay and, most importantly, saving lives. For more information, visit cardinalhealth.com/patientsafetygrants.

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