Pittsburgh Regional Healthcare Initiative

LifeCare solves problems, real time

Heparin solution has wide implications

Reprinted from *PRHI Executive Summary*, July 2003
Naida Grunden, editor

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What does it take for a hospital to become entirely safety-centered? In its 2003 goals, LifeCare Hospital of Pittsburgh stated twin goals about medication errors:

- No patient should sustain one,
- No worker should go through the agony of being part of one.

LifeCare CEO, Clifton Orme, and senior leadership have made it clear that they will do whatever it takes to create an open and blame-free environment where problems can surface.

Every error, every day

Perhaps the most revolutionary part of LifeCare's transformation involves the implementation of real-time reporting of every medication error. Here's how it works. When a nurse or pharmacist notes an incipient error—the medication isn't on the cart, or the pharmacist can't read the order—that person first takes care of the immediate problem with a quick fix. But then, the staffer fills out a color-coded card and gives it to the Team Coordinator who enters it into the computerized MedMARx system. Most important, the Team Coordinator then begins to investigate the problem and find and fix its root cause, ideally (and often) within 24 hours.

While reporting the problem raises awareness, the greatest learning comes from discovering how to fix it, then telling others about it. On a daily, LifeCare's Risk Manager and Pharmacy Manager jointly review the prior day's MedMARx reports, ensuring that every data field on every report is complete—right down to "Action taken." Those daily reports are sent to all senior management, Team Coordinators and Nurse Managers. In this way, lessons learned become lessons shared.

Once a week, a cross-functional group of Team Coordinators and

1.

PER HEPARIN PROTOCOL

Date:_____ **Time:** _____
RN:_____
PTT: _____ **seconds at (date/time) :** _____ / _____.

The current rate is _____ **units / hr**
____**Bolus given of:** _____ **units**
____ **Increase by** _____ **units / hr**
____ **Decrease by** _____ **units / hr**
____ **No change in rate.**
____ **Hold for one hour**

The new rate is _____ **units / hr**

____ **Recheck PTT in 6 hours. Time**_____
____ **Recheck PTT in AM.**

2.

Pharmacy Today's Date _____ Patient Name _____

Hospital # _____ Date/Time of error _____

Did error reach patient? Yes No **ERROR CATEGORY:** _____

Description of Error: _____

_____

Type of Error: Prescribing Transcription Faxing Pharmacy order entry Pharmacy dispensing
Administration involving the patient the drug the dose the time the route
Omission (medication treatment) Monitoring Other

Meds involved: _____

Cause of error:

Communication Computer related Fax Inadequate training
Drug look or sound alike Illegible writing Documentation Human mistake
Use of dangerous abbreviation/symbol Other _____

Action(s) Taken:

_____

_____

You are a:
RN LPN RT RPh Pharm Tech M.D. Unit Secretary PA CRNP

MedMARx # _____ Ready for Release Not Ready for Release (date)

Two low-cost, low-tech, high-impact ideas

1. A sticker on the front of the chart of every patient receiving heparin: a that helps coordinate the efforts of lab, pharmacy and nursing.
2. A pocket card carried by pharmacists to flag every error immediately. The cards are quickly entered into the MedMARx system, and root cause analysis begins.

senior leaders hold a "MedMARx Flash" session to review the most recent reports and action plans. Because the errors are reported and reviewed so quickly, the Flash reviewers are never far in time and place from the occurrence. Decisions can be based on new data with fresh details.

The KCL problem

Recently the Flash group discussed an error that had occurred just hours earlier, during the prior night. An experienced agency nurse as well as the supervisor, working the night shift while the pharmacy was closed, misunderstood an order for a medication to be added to an intravenous solution that was not readily available.

The nurse withdrew KCL from a premixed mini bag with a syringe and added the medication to a 1000 ml bag. This is not an acceptable practice because nurses are prohibited from performing IV admixture. This error reached but fortunately did not harm the patient. Immediate analysis of the problem led to numerous improvements, including:

- A list of all pharmacy pre-mixed IV solutions is now prominently posted on all medication dispensing cabinets—a clear visual sign to nurses that these are the premixed IV solutions that are available for use.
- Nurse educators immediately reviewed the formal orientation program for all agency nurses to make sure that the training program which includes a skill competency evaluation is clear & concise & up-to-date.
    - Large orange stickers that state, "DO NOT ADMIX," on cabinets and IV mini-bags clearly delineate the hazard.

The heparin problem

Heparin, a blood thinning agent, is a crucial drug that requires vigilance in administration. Too little and a patient might develop life-threatening blood clots: too much and a patient might develop life-threatening bleeding.

People receiving heparin therapeutically must have their blood tested frequently to make sure the clotting times are appropriate. If they're off—as they often are, since each person's body responds a little differently to the drug—the heparin dose must be adjusted, and the blood re-tested. The cycle of lab tests and dosage adjustments opens the door for confusion.

In consultation with the Flash team, staffers introduced the "heparin protocol sticker," (left), which is now placed on the face of the chart for every patient receiving heparin. In the three months since the stickers' introduction, zero heparin errors have occurred.

Can you fix my problem?

Enthusiasm for the Flash meetings has grown as results and solutions have poured out of them. Nurses on one floor collared a Team Coordinator before one such meeting, delineating a problem with syringe caps. Syringes containing anti-anxiety drugs and anticoagulants had the same color of cap. The only distinction was a tag, which could come off. And although the tags rarely fall off, the nurses asked, why not have a failsafe?

When this problem was raised in the meeting that day, pharmacists seized upon the opportunity to color code syringe caps, and install posters on the medication cart and in the units delineating the new system.

Pulling in top leaders to fix a "simple" problem

It seems like a great system: the fax machines on all of the units all network with the one in the pharmacy. One vendor, Xerox, oversees the contract for all of LifeCare's machines nationally.

But it didn't take long for a meat-and-potatoes problem to surface on the Flash team. Sometimes faxes sent simultaneously from the units were "stored" in the pharmacy fax machine for hours—even days—delaying delivery of medications to patients and frustrating staff.

18% of sicker adults in the United States... reported that a [medication or medical] mistake or error had caused a serious problem in the past two years.

(From 'Common Concerns Amid Diverse Systems: Health Care Experiences in Five

Repeated efforts to fix the problem failed. The problem soon reached CEO Orme, who initially couldn't solve it, either. Orme reached as high on Xerox's corporate ladder as he needed to—to its National Executive Customer Relations Officer. The high-level conversation resulted in a series of service calls that determined that LifeCare did not have the right software on any of the fax machines. Now that it's understood, the problem is being fixed.

Meetings vs. problem-solving sessions

Meetings can be dreaded things. But productive sessions where real problems are solved are viewed quite differently. Recently, the Flash team requested to increase meeting frequency from one to three per week, with an eye toward having one every day.

Transformation: what might it look like?

One Error is One Error Too Many

From LifeCare Employee Bulletin, *Grapevine*, March 3, 2003

Last month I made two important declarations. First, our *employees should not be subjected to a work environment that tolerates med errors*. And, second, at LifeCare *using dangerous abbreviations is unacceptable*. Making these statements is the easy part. Making sure what I said is put into practice will be the challenge. LifeCare is committed to improve the way we care for people's health. The only way I know to live our mission statement is to fundamentally change the way we conduct business.

Traditionally, hospitals have tolerated systems that allow for errors to occur. Even at LifeCare, we are behind the times, compared to industry, in addressing breaches in quality. The public is outraged. Far too many people develop infections in hospitals or suffer adverse drug reactions because healthcare leaders fail to put in place systems to eliminate the causes of errors.

As CEO of LifeCare Hospitals of Pittsburgh, I am committed to implement a real-time med error reporting system. We will find and eliminate causes of errors until we get to zero. That is the goal. Sure, we can hide behind statistics that show our performance is better than national averages. But this is not right. If you or your loved one suffered the consequence of even a single mistake you would say, "One error is one error too many."

Representatives of the Pittsburgh Regional Healthcare Initiative (PRHI) tell us that even though we are reporting more med errors than we used to, we are still dramatically underreporting. They believe if we reported every error that we would have roughly 40 errors a day! Knowing this, if I don't act swiftly to address this problem, I am negligent in my responsibilities to our patients. The only reason I can sleep at night is now I know we have a tool to help us identify and eliminate the causes of these med errors. We have a program called MedMAR$_x$. Soon I will be able to see, on a daily basis, med errors as they occur. I will also be able to determine what has been done ***today*** to make sure we don't repeat the same mistake ***tomorrow***. This program will get us headed in the right direction.

Please, if you commit an error, report it so that we can implement systems to help you and your coworkers reduce the probability of making the same mistake twice. Then, hopefully, you can leave at the end of your shift knowing you have done everything in your power to protect your patients. We have a lot of work ahead of us.

—Clifton Orme, CEO

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