Bedside Change-of-Shift Reporting: A Strategy to Increase Patient Safety

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Patients who actively participate in their care have better outcomes.\(^1\) This, among other compelling arguments, led Northwestern Memorial Hospital (NMH)—a large academic medical center in Chicago—to adopt an innovative approach to care delivery that was more patient- and family-centered. The model’s guiding principles include:

- Anticipating patient needs and coordinating care
- Involving the patient and family in key activities such as hourly rounding, interdisciplinary care team discussions, and bedside change-of-shift reports

With the growing availability and popularity of health information on the Internet, patients have more knowledge and resources to actively participate in their care.\(^1\) The evolution of the care model from paternalistic to collaborative has engendered in patients a desire to engage in care planning and decision-making.\(^1\) Understanding that patients play an important role in their care, NMH set out to create an effective partnership between caregivers and patients.

Change-of-shift reporting: A vital communication link

The change-of-shift report is an important opportunity for outgoing and oncoming nursing shifts to exchange relevant information about a patient’s care and to review plans and goals of treatment. Nurses see the change-of-shift report as a valuable time to ensure team communication of critical information about the patient.\(^1\)

Historically, the change-of-shift report has included a review of the patient’s medical history, a description of the previous shift’s events, and an account of tasks that were completed during the previous shift. This approach often results in repetitive, retrospectively focused discussions—with patients left out of the conversation.

Involving patients in change-of-shift reporting

Many patients want to be involved in planning their care.\(^1,3\) The bedside change-of-shift report provides an opportunity to improve patients’ understanding of their diagnosis and care plan, as well as to jointly set care goals that encourage progress. Each report is tailored to the individual patient’s needs.

The report framework is consistent, using SBAR (situation, background, assessment, recommendation) format.\(^4\) Outgoing and oncoming nurses review this information together, as well as the treatment course and goals. Because the review is performed at the bedside, nurses can involve patients by asking them questions and having them share experiences. Patients’ comments are encouraged and are incorporated in decision making to develop an individualized care plan. Nurses encourage patients to invite family members to participate in the change-of-shift discussion as well.

Patients value bedside communication

Hearing the exchange between nurses assures patients that “the right hand knows what the left hand is doing.” An analysis of responses from an NMH in-house patient satisfaction survey shows that patient satisfaction scores—particularly in regards to communication, involvement in care and working together—have increased as much as 4% after the implementation of bedside change-of-shift report.

Patients can even correct details on their medical history or state of well-being—a crucial opportunity to improve safety in the complex hospital environment. Interactive time at the bedside also allows the nurse to monitor more effectively a patient’s surgical wound, pressure ulcer, or drainage characteristics. Including this observation in the report process has resulted in greater consistency in pressure ulcer staging.

This process of making observations and taking baseline notes enables nurses and patients to identify the smallest potential changes more quickly and to describe any specific deviations more clearly throughout the course of the shift.\(^5\) This can result in more efficient and effective care. Having
two nurses at the bedside to verify factors such as the IV solution and site, the infusing medications, and a patient’s alertness promotes a safer patient handoff.6

Keeping patients mindful of their care plan

NMH uses a wipe-off board in each room to help communicate with patients about their care plans. This simple coordination tool allows the team to work with the patient to:

- Jointly set goals discussed during the report as they are written on the board and updated throughout the shift as the patient progresses
- Give patients the opportunity to say “good-bye” to their outgoing nurse and be introduced to their oncoming nurse
- Actively involve patients in bedside change-of-shift reports, which is believed to help increase patient satisfaction

Implementing bedside reports

Despite the anticipated benefits of bedside change-of-shift reports, adopting such a cultural change is challenging. Research has shown that staff members tend to follow longstanding practices, even when these practices are less effective or more frustrating than alternatives.3 It has been documented that nurses are also apt to focus on what they have done for the patient, rather than on the patient’s needs.3 NMH found these tendencies in some of its teams as well.

Identifying nurses who would adopt change early helped in preparing to guide those who would need the greatest assistance. Effectively explaining the “why” behind the change had the greatest impact.

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NMH staff found that to get nurses to the bedside it was important to highlight the new reporting approach’s benefits for the patient and for the nurse. The first few times in the room, staff found that some nurses were awkward and struggled with engaging the patient in the discussion. However, after targeted guidance and coaching, there was a dramatic change in nurses’ ability to effectively lead the bedside change-of-shift report.

Role playing helps prepare nurses

Assisting the nurses with key phrasing in bedside reports helped staff manage the timing of the report while providing an inviting atmosphere for patient participation. Role playing also helped nurses:

- Develop skills to communicate sensitive information appropriately
- Focus on creating an objective report
- Gain confidence in the bedside change-of-shift report process

Staff reviewed likely scenarios and provided input and suggestions on how each could be best handled. Tactics reviewed in this manner included engaging the patient in the report process, addressing family members or visitors who are in the room, and patient-centered goal setting.

Session leaders talked about the importance of setting the stage prior to the change-of-shift report, and shared strategies for engaging patients in the process.

A crucial role for leaders is highlighting best practices among colleagues and sharing bedside change-of-shift success stories. For patients who have never experienced a change-of-shift report at the bedside, it’s important to discuss it as part of their hospital orientation and throughout their stay.
While it is often said that “children are not little adults,” this is particularly true when it comes to pediatric patient safety. Children’s uniqueness can be captured in the “4 Ds”:

1. Developmental change
2. Dependency on adults
3. Different disease epidemiology
4. Demographic characteristics

These vulnerabilities are particularly amplified with respect to diagnostic safety. For example, children do not all develop at a uniform pace. Clinicians who expect a disease to be restricted to a particular age group may be inclined to dismiss a diagnosis not classically ascribed to the patient’s age.

Similarly, children depend on adults for many aspects of their care; usually a parent or other caregiver interprets and presents the history to the healthcare worker. A misdiagnosis can occur when the parent or caregiver does not appreciate the full extent of the child’s symptoms (for example, thinks a dry diaper for a day in a newborn is no cause for concern) or struggles to relay the symptoms to the attending healthcare worker effectively (eg, the degree of pain the child is experiencing is not communicated).

Children assessed by physicians unfamiliar with rare presentations of pediatric disease are also vulnerable to diagnostic error. This may be unavoidable if there is no timely access to pediatric expertise.

A survey published in 2010 studied pediatricians’ perceptions of the epidemiology of diagnostic errors and potential system- and provider-based solutions. Most survey respondents, particularly trainees, admitted to making a diagnostic error at least once or twice a month—sometimes resulting in patient harm. Diagnostic adverse events have been shown to have higher mortality and preventability rates than most other adverse events in children. An increased understanding of diagnostic error should help to prevent these events, reduce the associated harm, and improve the quality of pediatric care.

Diagnostic errors affect pediatric patient safety

Diagnostic error is an important but, until recently, relatively overlooked cause of adverse events. Although most interest in diagnostic error has focused on adults, pediatric patients warrant special attention. Children were part of landmark studies in patient safety, including the Institute of Medicine’s report that estimated 44,000–98,000 patient deaths occur annually due to adverse events.

The Harvard Medical Practice Study of 3,055 adverse events in children under age 15 attributed 1.7 cases per 1,000 discharges to “diagnostic mishap.” Two other population-based studies reported that 13.6%–21.3% of adverse events in children were due to diagnostic error.

Recent literature details pediatric diagnostic problems related to conditions such as Kawasaki disease and stroke, and there are aggregate reports on the diagnoses associated with malpractice litigation. These aggregate reports identify diagnostic errors as the most common cause of medical mishaps leading to litigation. However, there are no population-based reports characterizing the types, burden, and outcomes of diagnostic adverse events in children.

Canadian Pediatric Trigger Tool detects diagnostic adverse events

Many statistics on adverse events in children and adults are based on retrospective chart review studies using “trigger tools” or screening criteria to identify charts requiring detailed review. In 2005, the Patient Safety Collaborative of the Canadian Association of Paediatric Health Centres (CAPHC) established a working group to develop a comprehensive Canadian Paediatric Trigger Tool (CPTT) to detect adverse events in children hospitalized in Canada.

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A description of the development and validation of the Canadian Paediatric Trigger Tool has been published. This article describes the diagnostic adverse events identified in this validation study.

**Methods of validating the CPTT**

Biostatisticians determined that 600 charts from 6 pediatric healthcare centers across Canada would establish the reliability and validity of the tool with a high degree of confidence (α=0.05; β=0.10). The statisticians applied a standardized chart selection algorithm to the discharge abstract database for all pediatric discharges in fiscal 2006. At each site, they selected 100 charts—50 medical and 50 surgical—for physician review from each of 4 age groups: 0–28 days, 29 days–1 year, 366 days–5 years, and over 5 years.

An adverse event was defined as an unintended injury or complication caused by healthcare management and resulting in disability at the time of discharge, death, prolonged hospital stay, or subsequent hospitalization. The adverse event had to occur within a 3-month period before or during the index admission, and be detected during or within the 3-month period before or after it.

“Healthcare management” included the actions of individual hospital staff and broader systems and care process issues and encompassed omissions and acts of commission. To qualify as an adverse event, the event had to have more than a 50% likelihood of being caused by healthcare management.

Physician reviewers classified the adverse events in one or more of 9 contributory categories, including diagnostic error. The in-house reviewers defined diagnostic error as an “incorrect or delayed diagnosis... often [involving] failure to use a recommended test or a delay in taking action following a diagnosis.” The harm resulting from diagnostic error was called a diagnostic adverse event.

**Diagnostic adverse events result in higher mortality rates**

The charts of 591 patients were reviewed. Eighty-nine patients (15%) experienced at least one adverse event—a total of 123 adverse events for a mean of 1.4 per patient.

Diagnostic adverse events occurred in 14 of 89 patients with adverse events (15.7%), and 11.4% (14/123) of all adverse events were associated with diagnostic problems.

Diagnostic adverse events were more common in patients <1 year of age (8/298=2.7%) than in those 1 to 18 years (6/293=2.0%). However, as a percentage of the total number of adverse events in each age group, diagnostic adverse events were more frequent in children over 5 years vs <5 (3/16=18.8% vs 11/107=10.3%). Unfortunately, the small numbers preclude robust statistical analysis.

Half of all 14 diagnostic adverse events were infection-related (see Table). As reported in other studies, the mortality rate in patients with diagnostic adverse events was higher than in patients with other types of adverse events.

The 3 deaths were in neonates.

<table>
<thead>
<tr>
<th>Diagnostic Adverse Events by Age Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>0–28 days</td>
</tr>
<tr>
<td>seizures</td>
</tr>
<tr>
<td>newborn jaundice</td>
</tr>
<tr>
<td>tension pneumothorax</td>
</tr>
<tr>
<td>meningitis</td>
</tr>
</tbody>
</table>

Shading indicates infection-related.

**What causes diagnostic errors?**

The factors contributing to diagnostic errors are generally considered cognitive, systems-based, or a combination of both. In the study involving pediatric staff and trainees, the major cognitive factors seen to contribute to diagnostic errors were:

- Inadequate data-gathering or work-up
- Insufficient data assessment

The major contributing systems factors were:

- Inadequate care coordination or teamwork
- Insufficient communication across different sites or providers
- System-related errors
- Organizational issues
- Communication problems

In this survey-based general pediatrics study, the 3 most commonly misdiagnosed pediatric conditions were:

1. Viral illness diagnosed as bacterial illness
2. Medication side-effects
3. Psychiatric disorders
In contrast, the diagnostic adverse events identified in hospitalized children, such as pneumonia and meningitis, were more consistent with the diagnostic mishaps reported in studies of malpractice suits in children. This distinction underscores the fact that not all diagnostic errors result in diagnostic adverse events. Efforts to reduce harm should focus on ways to improve the timeliness and accuracy of detecting common diagnostic adverse events.

Strategies targeting clinical reasoning include education, feedback, and the use of clinical guidelines and diagnostic checklists. Those targeting systems constraints include electronic decision support and more reliable and timely communication of information. Heightening awareness of pediatric diagnostic errors as a significant patient safety concern is necessary to understand, identify, and prevent them in the future. NPSF

**References**


**Bedside Change-of-Shift Reporting**

Helping patients understand their role in bedside change-of-shift report ensures a more effective experience for all who are involved. Discussing the process of change-of-shift report with NMH patients helps to align expectations so patients and family members can anticipate and prepare for this activity.

Conducting bedside reporting is a promise nurses have made to patients and to themselves. As a result of their hard work, NMH has seen a transformation in its teams and achieved a safer, more effective experience for patients. NPSF

**References**

Putting a hundred healthcare leaders in a room and ask, “Who here is accountable for patient safety?” and most hands will go up. Get a hundred frontline practitioners together and ask if they feel accountable for the safety of their patients and the answer will be, “Of course.” Do the same with middle managers and you’ll get the identical response.

So if everyone is so accountable for patient safety, why are we still struggling so much with ensuring it?

Is fostering a blame-free culture enough?
Perhaps we got off on the wrong foot. The early patient safety movement embraced the notion of “blame-free” in an effort to increase reporting and decrease fear. We wanted to demonstrate that we understood what Lucian Leape taught us when he introduced us to the concept of systems failures as the cause of errors.1 Lucian Leape himself, James Reason, David Marx, and others then helped us move to a more productive approach through the framework of “just culture.”2,3

More than a decade after publication of the Institute of Medicine’s report To Err Is Human,4 it seems our industry is better able to reconcile individual culpability with the notion of systems failures. To that end, we’ve become more accountable. But a lot is still missing.

Doing the right thing isn’t always easy
When we knowingly caused harm, perhaps our early fear of litigation and damage to personal and organizational reputation got in the way of doing the right thing:

- Apologizing empathetically
- Describing what went wrong
- Outlining what we were going to do to minimize the risk of recurrence of problems

But the writings of physicians like Albert Wu5 and the actions of organizations like the Veterans Affairs Medical Center, Lexington, Kentucky,6 and the University of Michigan Health System7 have made it easier to engage in such difficult conversations; they have done it themselves and have taught us to do it. Yet if we were truly accountable for the changes we pledged in the aftermath of adverse outcomes, wouldn’t our industry be markedly safer today after more than 10 years of such experiences?

There are many reasons why we are still struggling with ensuring patient safety at the same time we feel so accountable for it. And while answers to such difficult questions are not routinely found in fairy tales, perhaps they are in this case. Let’s consider concepts borrowed from The Oz Principle.8

Is there a yellow brick road to patient safety?
In The Wizard of Oz, the yellow brick road symbolized the characters’ path to change. To achieve their goals, Dorothy, the Scarecrow, the Tin Man, and the Cowardly Lion had to approach their problems and challenges in a different way. Their journey led not only to personal insight about what was needed to change, but also to a collective insight about how the team needed to think and act to get where they were going.

“"If everyone is so accountable for patient safety, why are we still struggling so much with ensuring it?"”

While our destination of “no needless harm” or “freedom from accidental injury” is clear, there is obviously no yellow brick road to get there. The Wizard of Oz wasn’t really about the road. It was about accountability—not the type that Webster’s Dictionary defines as “subject to having to report, explain, or justify,” but individual accountability and collective responsibility for each other and for the journey itself.

So what might a new perspective on accountability in health care include? It might be helpful to view this question through the eyes of the people who entrust us to “do no harm”—our patients.
The Yellow Brick Road to Accountability

What do patients expect from healthcare managers?
As a patient in the US healthcare system, I don’t want you, as a healthcare manager, to define accountability as having your staff explain, justify, or be answerable to you. I’m also not that interested in your disciplining people after they’ve harmed me unless what they were doing was clearly reckless.

I want you to be accountable for providing the information and resources your staff needs to provide safe care to me. And I want your staff members to feel they need to explain, justify, and be answerable to each other.

I want you, as a healthcare leader, to:
1. Articulate clear and consistent messages regarding your patient safety vision and expectations. Make them public so I know what to expect the next time I visit your organization.
2. Establish measurable and meaningful performance indicators, monitor progress, and hold subordinates accountable for meeting targets. Post time-trended performance on the Web so I can see the connection between your words and your organization's deeds.
3. Meet with patients and families who have been disappointed by your care to apologize where appropriate, help communicate what went wrong, and explain what you are doing to minimize the risk of recurrence of problems. When you’re finished with the change and satisfied with the results, let the patient and family know what you’ve done.

What do patients expect from frontline practitioners?
I don’t want you, as a healthcare manager, to define your accountability for patient safety as one largely limited to being the arbiter of discipline in the aftermath of an adverse outcome.

I want you, as a manager, to:
1. Engage your staff in building safe, reliable workflows
2. Maintain a climate of psychological safety to make it easy for staff to speak up
3. Shape objective, measurable safety practices in your staff by instituting timely, consistent, and significant consequences for unsafe behavior

References
NPSF Annual Congress Focuses on Cultivating Patient Safety: Sharing Accountability and Responsibility

The full preliminary program of the 13th Annual NPSF Patient Safety Congress is now available at npsfcongress.org.

The NPSF Annual Congress offers an opportunity to learn from and exchange ideas with patient safety experts and practitioners from around the globe. Join us for full-day Pre-Congress programs, three innovative plenaries, and educational breakout sessions led by patient safety experts.

The Congress features the Learning & Simulation Center, providing attendees with interactive learning experiences in a variety of simulated healthcare settings.

Pre-Congress programs:
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- Measurement Boot Camp: Focused on measurement techniques and methods used to evaluate the effectiveness of patient safety efforts
- Patient Safety 101: Presenting core patient safety concepts and real-world applications
- Community Engagement Day: Provides perspective and ideas to support engaging communities in patient safety work

Plenary sessions:
- Lucian Leape Institute Town Hall Meeting
- Roger Nierenberg Presents The Music Paradigm Featuring the National Symphony Orchestra
- Healthcare Simulation – Live on Stage!

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