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# Auditing to support quality improvement:

## Recommendations for nurse leaders

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Nurse leaders face numerous challenges including emerging from the COVID-19 pandemic, rising demands for healthcare, recruitment, staffing, patient safety, ongoing practice changes, and ensuring quality outcomes. Additionally, healthcare reform has placed a heightened focus on clinical performance and outcomes to increase the value of healthcare in the US. This is driven by the Centers for Medicare and Medicaid Services' endorsement of value-based purchasing, bundled programs, and accountable care organizations.<sup>1</sup> In achieving organizational goals, senior leaders must be role models because frontline staff determine the importance of specific quality measures based on where and how leaders dedicate their time. To foster a culture of continuous quality improvement (QI), nurse leaders must engage their frontline staff to develop, successfully implement, and sustain evidence-based guidelines in an inclusive, bottom-up culture.<sup>2</sup>

### Background

In 2010, Atul Gawande published *The Checklist Manifesto*, discussing how humans are fallible in terms of memory and attention. Successful use of complex and advanced technology requires too many simple tasks to remember, and key steps can be missed. Thus, a simple solution is to use a checklist to summarize key components.<sup>3</sup> In healthcare, clinical audits are a systematic process to review patient care

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against defined criteria to identify gaps.<sup>4</sup> Auditing and the associated feedback are vital to QI initiatives, because they reduce variation in practice and can lead to better patient outcomes.<sup>5</sup>

In reviewing the recent literature, numerous articles have demonstrated that auditing promotes positive change in a behavior, increases accountability, improves quality of care, and enhances patient safety.<sup>4-9</sup> Researchers have used auditing to increase compliance with pain reassessments and documentation following the administration of pain medication, with some organizations observing up to 91% improvement.<sup>10</sup> A longitudinal observation study demonstrated an increase in overall hand hygiene among nurses (17.8%) and physicians (65.8%) through direct observations and feedback over an 8-year period, resulting in decreased health-care-associated infections.<sup>11</sup> Researchers used auditing and feedback to improve compliance with antimicrobial stewardship guidelines from 55% to 71%; documentation of an indication for an antimicrobial agent increased from 75% to 98%.<sup>12</sup>

However, other sources have demonstrated that auditing and feedback has variable effects on patient care and QI, despite the dedication of significant resources including nurses' time.<sup>13,14</sup> In a systematic review, researchers found the use of electronic audits produced highly variable results despite the more frequent and automatic feedback, ease of tracking measurable practice goals, and adherence to action plans in real time.<sup>6</sup> Furthermore, a qualitative

study asserted that the auditing process was perceived as fragmented; variable in effectiveness; and lacking in transparency with feedback that was untimely, incomplete, and not actionable.<sup>5</sup> This all suggests that implementing audits and associated findings isn't a straightforward process.<sup>7</sup>

### Using audits to support QI

The goal of this project was to evaluate the successes and challenges of auditing as an intervention to drive QI changes. The auditing tool, implementation processes, and outcomes of three QI initiatives to address central line-associated blood stream infections (CLABSI), falls and falls with injury, and hand hygiene were examined (see *Table 1*). Each initiative occurred at two adult inpatient, acute care facilities in the southeastern US: an 874-bed tertiary research and academic medical center and a 196-bed community hospital. Both facilities are Magnet® recognized and routinely partner to collaboratively address quality opportunities. Similar support resources are available in each facility through the clinical nurse specialists (CNSs), clinical nurse leaders (CNLs), master's prepared educators, and infection preventionists as well as available technology.

### CLABSI rounding team

To address rising CLABSI rates, a team of CNSs partnered with infection preventionists to develop a comprehensive, standardized auditing tool that addressed potentially problematic areas of opportunity: antimicrobial disk compliance, cleanli-

ness of needleless connectors, presence of alcohol caps, compliance with labeling of tubing, presence of sluggish or clotted lines, completion of chlorhexidine bathing, and appropriate assessment of central line necessity. A team of master's-prepared nurses was recruited to ensure the audits were completed in a consistent manner with coaching and just-in-time education provided to direct care nurses. However, the frequency and number of audits performed varied according to auditor availability and the number of patients with central lines. Additional challenges with engagement were related to COVID-19 surges and associated staffing shortages.

Audits were completed in an electronic Microsoft Forms survey; however, the rounding team performed audits using a printed copy with results entered later. Performing audits in this manner allowed the auditor to review the electronic health record (EHR) components of the audit at a different time. In addition, the results of the completed audits flowed into a PowerBI dashboard, a business intelligence platform that transforms data from various sources into interactive reports for easy review by nurse leaders to identify trends. Trends were addressed with the support of master's-prepared educators via targeted, unit-based, education interventions with opportunities stressed. Facility leaders, including infectious disease providers, anecdotally noted positive changes in the appearance of central line dressings. However, once these changes were noted, leader focus shifted, and the

rounding team was pulled to other projects, leading to inconsistent auditing. Accordingly, outcomes were inconsistent, with periods of reduced CLABSI rates correlating with an increase in the number of audits being performed. This initiative is currently being revised to address the opportunities identified and support sustainment.

### **Falls prevention**

To address patient falls and falls with injury, the healthcare system selected a comprehensive, individualized falls management program. Successful implementation and sustainment were monitored through scoring audits to evaluate the accurate completion of a fall assessment tool as well as intervention audits to ensure that key strategies for fall prevention were in place. Each patient-

care area had a nurse manager and a CNS who provided structure and support as well as identified high performers to assist with auditing. Although success was demonstrated on units with an engaged unit-based champion who provided real-time feedback to their peers, concerns did arise regarding the accuracy of audits on units with less experienced nurses completing the audits.

All units started with completing 10 scoring and intervention audits per week. The volume of audits was reevaluated and reduced based on positive performance, with each unit eventually moving to 10 audits per month. Audits were completed in a PowerBI platform outside of the healthcare system, which required frequent provision of directions on platform access and how to manip-

ulate the database to ensure consistent completion. This also caused a lack of data transparency among all facility leaders because only select individuals were granted access. An additional challenge was that the healthcare system facilities were going live with a new EHR and the many associated process changes while this falls audit program was implemented. Because of conflicting priorities, some units couldn't start their audits as quickly as others. Both facilities were performing at the National Database of Nursing Quality Indicators® mean for falls; however, the quarterly rates for falls and falls with injury improved for the 6-month period following implementation. The collected data are now being used to support targeted interventions to

**Table 1: Description of QI initiatives**

|                                | CLABSI prevention  | Fall prevention  | Hand hygiene   |
|--------------------------------|--|--|--|
| <b>Description</b>             | CNSs partnered with Infection Prevention to standardize the evaluation of central line maintenance. Trends were identified and addressed with just-in-time education and targeted interventions. | A CNS and nurse manager from each service line partnered to implement a comprehensive falls prevention program.  | Direct care nurses selected by nurse managers as unit-based observers on all shifts collected hand hygiene observations. Infection preventionists validated observations using the "secret shopping" method. |
| <b>Outcome</b>                 | Declines in CLABSI rates correlated with fewer patients hospitalized with COVID-19 as well as with increased audits. However, declines weren't consistently sustained.                           | Overall, the quarterly rate of falls and falls with injury improved for the 6-month period following implementation.   | Leapfrog targets have been met in terms of volume of observations, but overall compliance remains below the organization's target of 90%.  |
| <b>Auditing structure</b>      | A target number of audits wasn't requested of auditors. Audits were performed when patients with central lines were present and as time allowed in the auditor's standard workday.               | 10 audits assessing appropriate scoring and corresponding interventions were completed weekly. As units reached 90% compliance, this decreased to 10 audits monthly. | Following the Leapfrog hand hygiene requirements, each unit collects at least 100 observations each quarter.   |
| <b>Roles performing audits</b> | CNSs, CNLs, and infection preventionists   | CNSs, CNLs, nurse managers, and leader-identified direct care nurses   | Direct care nurses, nurse managers, and infection preventionists   |

*(continues)*

**Table 1: Description of QI initiatives (*continued*)**

|                         | CLABSI prevention  | Fall prevention  | Hand hygiene   |
|-------------------------|--|--|--|
| <b>Auditor training</b> | One-on-one training with the project leads   | Completion of an asynchronous didactic module in the learning management system; routine sessions with a sustainability coach associated with the vendor   | Unit-based observers complete an annual asynchronous didactic module in the learning management system; infection preventionists are trained one-on-one with their director  |
| <b>Audit platform</b>   | An internal Microsoft Form and PowerBI dashboard   | An external PowerBI platform   | Verge, an external platform; later transitioned to an internal Microsoft Form and PowerBI dashboard  |
| <b>Strengths</b>        | <ul style="list-style-type: none"> <li>• Selection of master's-prepared nurses to perform audits ensured consistency</li> <li>• Use of master's-prepared educators to develop targeted education as needed</li> <li>• Audit platform allowed for data to be exported into PowerBI for ease of viewing and sharing</li> </ul>   | <ul style="list-style-type: none"> <li>• Identifying unit-level champions to perform audits and provide just-in-time education</li> <li>• Consistent vision and support among the leaders who're key stakeholders in fall prevention</li> <li>• Long-term reductions in the number of audits to support time to focus on targeted interventions</li> </ul>   | <ul style="list-style-type: none"> <li>• Leapfrog requirements support organizations having a structure around hand hygiene audits</li> <li>• Infection prevention validation studies keep a pulse on true compliance as assessed by experts</li> <li>• Units with high levels of buy-in from nurse managers showed the greatest improvements</li> </ul>   |
| <b>Opportunities</b>    | <ul style="list-style-type: none"> <li>• Inconsistency in the volume of audits performed</li> <li>• COVID-19 surge created competing priorities including support of staffing shortages</li> <li>• Lack of a consistent vision and support among leaders who are key stakeholders in CLABSI prevention as new initiatives arose</li> <li>• Inconsistent data sharing with nurse managers and senior leaders who could use the trends to counsel and ensure accountability</li> </ul> | <ul style="list-style-type: none"> <li>• Timing of implementation conflicted with numerous initiatives including go-live of a new electronic health record</li> <li>• Inconsistency in volume of audits in specific service lines led to slower adoption and initial struggles with performance</li> <li>• Questions arose regarding the accuracy of audits completed due to variable auditor experience</li> <li>• The external auditing platform caused inconsistencies in data use and sharing</li> </ul> | <ul style="list-style-type: none"> <li>• Inconsistency in unit-based observers providing real-time feedback and in holding peers accountable due to perceived lack of support, fear of tension or retaliation, and inconsistent role modeling by leaders</li> <li>• Observers reported a lack of dedicated time to perform audits and provide meaningful feedback due to competing priorities</li> <li>• Infection prevention staffing limited observations, creating a lag between validation audits and providing compliance data to leaders</li> <li>• Initial inconsistencies with use of an external data platform</li> </ul> |

improve overall compliance with the falls audit program.

### *Hand hygiene*

The Leapfrog Group, a nonprofit organization, publicly reports hospitals' quality and safety data outcomes to healthcare consumers.<sup>15</sup> Current Leapfrog requirements have challenged healthcare organizations to structure hand hygiene observations. Nurse managers on all shifts

selected unit-based observers with the goal of collecting 100 hand hygiene observations per quarter and providing real-time feedback to their peers. Observers are mostly frontline staff without dedicated time allotted for audits, creating challenges in ensuring meaningful audit completion and feedback due to competing priorities such as patient care. Additionally, frontline staff reported that providing

constructive feedback to colleagues isn't a popular concept, as staff feel a lack of support to do so, fear tension or retaliation, and don't see leaders role modeling the behavior.

To validate that the peer audits reflect true unit performance, infection preventionists perform additional observations using the mystery shopping method with trained individuals who round on units at unannounced times



without teammate awareness. In one facility, these audits demonstrated a year-to-date compliance of 74%, whereas unit-based observers reported 89% compliance. In contrast, the second facility demonstrated an infection prevention compliance audit of 65% and a unit-based observer compliance of 83%. However, validation audits have been limited due to staffing shortages in the Infection Prevention department.

Audits were initially collected and stored in Verge, an external platform; however, the platform was changed to the Microsoft Forms for ease of completion due to reports of the system freezing when entering large amounts of data, delays in displaying new entries, and challenges correcting entries. Although the volume of observations has met the Leapfrog targets, overall compliance remains below the target goal of 90%, with ongoing support from nursing leaders to promote further improvements.

### **Recommendations for nurse leaders**

From these experiences, the overall aims of the audit, specific objectives, and methodology must be clearly defined and measurable, and this is consistent with literature-based recommendations.<sup>4</sup> It's imperative to have a consistent process and clear expectations. This includes identifying who performs the audits, the number of audits to be performed, and where data will be accumulated. Nurse leaders must consider the frequency of audits and time required to complete this work because it may interfere with staff assignments and

workload as well as create delays in identifying strategies to address the opportunities noted.<sup>4</sup> Compared with paper forms, entering audits into a digital form allowed for data to be exported into a PowerBI dashboard that was easy to share with direct care nurses and senior leaders. Further, the data could be easily filtered to identify unit-, service line-, and facility-level trends. When data are easily accessible through local databases and trusted as a true reflection of performance, healthcare facilities are more likely to encounter proactive, consistent use of feedback, which provides opportunities to stimulate QI initiatives.<sup>14</sup>

The value of the information collected is strongly dependent on the individual completing the audit. Experienced auditors are imperative because they understand the process being audited and can determine the root cause of identified issues and make recommendations for improvement.<sup>1</sup> For example, the participation of facility leaders such as CNSs and CNLs ensures a high level of audit completion integrity as well as coaching and accountability when opportunities arise. In contrast, a unit-based champion can also be beneficial. Champions serve as role models dedicated to implementing and encouraging change, using the audit data as a tool to provide feedback to their teams.<sup>7</sup> Leaders must select high-performing candidates because less experienced direct care nurses may feel pressured for time and simply check the boxes, which can lead to concern about audit data accuracy.

Further, the ability to provide feedback is a critical skill for an auditor. Less experienced nurses may not feel comfortable sharing constructive feedback to a more experienced peer. That said, audits may be more relevant if a peer is the driving force, as this fosters trust.<sup>7</sup> Feedback must not only be timely, actionable, and provide the data required for behavior change, it must also be tailored to the needs of the team to improve performance.<sup>5</sup> If feedback is perceived as negative or overly critical instead of constructive, the value may be lost. Direct care nurses must feel the audit journey is a collective process, with everyone having their own share of accountability, instead of feeling isolated.<sup>8</sup>

Regardless of experience level, training is needed to ensure auditors understand the audit tool and associated healthcare facility protocols.<sup>14</sup> This ensures the process is standardized and results are consistent. Audit teams should demonstrate achievement of specific competencies to ensure audits are conducted in a professional manner.<sup>4</sup> Each QI initiative shared in this article required either formal training of auditors via a learning module or informal training via a one-on-one discussion with a leader in the respective initiative. Because of the newness of the comprehensive falls program, even nurse leaders accustomed to performing audits required routine meetings and access to a vendor-associated sustainability coach to clarify key concepts and support the success of the audit team.

Timing is pivotal to the success of any QI initiative. It can be

challenging to maintain consistent support when nurse auditors are being pulled in numerous directions, which occurred with the CLABSI rounding team during COVID-19 surges, staffing challenges, and implementation of a new EHR. Success requires the nurse auditor to have sufficient time to review the audit results, follow up with direct care nurses about positive and negative findings, ensure professional accountability, and engage senior leaders for support and buy-in.

Success has also been linked to the ability to integrate auditing into daily clinical activities.<sup>5</sup> For example, one CNS completed CLABSI audits while simultaneously performing falls prevention audits. In contrast, additional options include nonlicensed teammates assisting with falls prevention audits as well as incorporating audits into purposeful hourly rounding and bedside report. More creative options include incorporating new technology. For example, some healthcare facilities have opted to implement electronic hand hygiene monitoring systems that eliminate the burden of staff collecting audits and increase the amount of data available.

An additional key element to consider is what happens with the information that's collected in audits. The individuals who collect the data must see the value that their work creates. Leaders must review the data and use them to drive the change at hand. Any feedback provided must be timely, specific, and actionable.<sup>5</sup> Informal leaders including CNSs can coach for success, but direct

leader support is necessary when accountability issues are encountered. Consistency is pivotal, with leaders always demonstrating follow-through. In addition, as opportunities are identified, action plans must be built by the leaders of QI initiatives to address opportunities that arise and include specific steps and key deliverables to improve patient outcomes.<sup>1</sup>

For example, when the CLABSI team identified an opportunity with timely discontinuation of central lines, the infection preventionists built an action plan including the implementation of a line stewardship program. CNSs were recruited as partners to routinely evaluate the need for a line, facilitate communication with the providers, and provide recommendations for prompt line removal.

An additional opportunity is determining a method for sustainability. As time passes, improvement plateaus, and staff may no longer see audits as a driver of change.<sup>7</sup> Nurse leaders must determine how the outcomes achieved will be maintained once the auditing wanes or ceases. Although audits increase awareness around the topic of measure and address the contributing factors, it's imperative to monitor for auditing fatigue and how many audits are being completed over time. Leaders must also balance the competing forces inclusive of staffing and other initiatives that arise. Further, in larger facilities, there's the added conundrum of siloed and competing initiatives in the system. A combination of a strong senior leader, engaged direct care clinicians, and robust

shared governance structure to empower direct care nurses are keys to addressing this concern.

### **Maintaining focus on success**

Overall, each quality initiative demonstrated a measure of success despite noted variations in strengths and weaknesses. To ensure positive outcomes with clinical audits, it's imperative for nurse leaders to be actively involved in quality initiatives that use an auditing tool. Data are power, and nurse leaders can use this information for coaching and accountability to drive quality outcomes. However, it's critical to monitor the process to ensure that the common pitfalls identified in this article are avoided. Negative outcomes are perpetuated by the combination of a lack of leadership focus, not involving team members with high integrity and appropriate training, deficiencies in project structure, and absence of situational awareness of leaders for auditing fatigue and competing forces. In addition, nurse leaders are responsible for being role models who can help direct care nurses to see the value of the goal, the work being done to support this goal, and the progress made. Conflicting messages and pulling auditors in multiple directions with too many strategies and initiatives can sabotage a project.

A limitation of this article is that it only provides the perspective of two healthcare facilities. Future work may focus on using a more formal quantitative or qualitative methodology to validate local experiences against those of other healthcare facilities. **NM**

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