

**Trends in Clinical
Informatics:
Poster Presentations
22nd Annual Symposium**



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Member Highlights 

From Risk to Readiness: Improving Staff Preparedness for Cybersecurity-Related Downtime

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Keywords: Nursing Informatics; Emergency Management strategies, Cybersecurity Preparedness Readiness; Patient Safety; Operational Resilience

Introduction/Background

The increasing reliance on digital health systems and sensitive patient data places healthcare organizations at heightened risk for cybersecurity incidents, underscoring the need for proactive preparedness. Cyberattacks can disrupt workflows, compromise confidentiality, increase safety risks, and expose organizations to regulatory and financial consequences.¹ To maintain continuity of care during downtime, organizations must assess system vulnerabilities and implement standardized mitigation strategies, as gaps in staff knowledge and workflow inconsistency heighten the risk of error during EHR disruptions.² A multidisciplinary approach helps align technology, workflows, and education to support safe care delivery during such events.

Methods

A multidisciplinary team consisting of Nursing Informatics and Emergency Management, in collaboration with Information Technology and clinical operations stakeholders conducted a downtime readiness assessment across inpatient and ambulatory units, reviewing existing policies, downtime kits, and staff knowledge. Key interventions included: (1) development of standardized downtime workflows aligned with clinical and operational practice, (2) creation and refresh of unit-based downtime kits, (3) inventory of resources and tools (4) targeted education using department-based scenario training, and (5) integration of downtime readiness into onboarding, annual competencies, and leadership rounding. Simulation and tabletop exercises were used to reinforce roles, escalation pathways, and document clinical practices. These strategies focused on essential resources and workflow integration improved staff confidence, patient safety, and overall organizational resilience during cybersecurity-related disruptions.

Results

Post-implementation evaluations demonstrated improved staff confidence in managing downtime events, increased awareness of downtime roles and resources, and improved compliance with downtime documentation standards. A survey was administered after drills and tabletop exercises. It identified opportunities for improvement in the downtime resources available and where gaps needed to be corrected. Units reported faster transition to downtime workflows, reduced confusion during planned and unplanned outages, and stronger interdisciplinary communication. Leadership engagement and consistent reinforcement were key drivers of success.

Discussion/Conclusion

A standardized approach to downtime readiness improved staff confidence, workflow consistency, and interdisciplinary communication during cybersecurity-related EHR simulated disruption. Embedding essential downtime tools, standardized workflows, and simulation-based education into routine operations will strengthen the organizational resilience and support safe, continuous patient care during both planned and unplanned downtime.

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Equitable Care Demonstrated by Improved Interpreter Documentation

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Keywords: Documentation, Interpreter Services, Equitable Care, Education Strategies, Shared Governance

Introduction/Background

Research shows poorer health outcomes for patients with limited English Proficiency (LEP) as compared to English-proficient population.¹ State and Federal regulations require healthcare professionals to provide appropriate interpreter services.² Brigham and Women's Hospital, an academic medical center in Boston, has a diverse patient population representing over 70 different languages and dialects. In 2024 the interpreter services department provided close to 258,000 interpretations. Per policy, clinicians are required to document the use or refusal of an interpreter in the Medical Record.

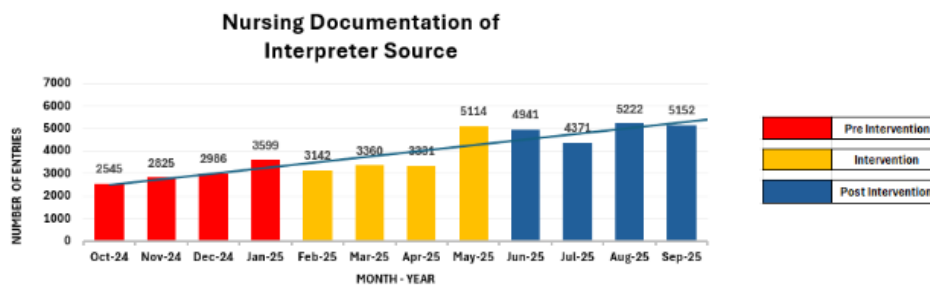
Methods

As part of the Magnet Shared Governance framework, the Nursing Informatics Council focused their efforts on the quality and patient safety goal to improve nursing documentation of the use of interpreters by 10% over baseline. Leaders from the Interpreter Services Department provided the council education to increase the members' understanding of the role of Interpreter Services in providing safe and equitable care. Council members created and updated resources outlining the documentation of an interpreter. They disseminated information on documenting the use or refusal of an interpreter using a variety of methods, including but not limited to peer-to-peer education, our Shared Governance Council structure and electronic communications. Interpreter Source documentation rates for nursing were gathered throughout the project.

Results

The nursing documentation of Interpreter Source by nursing increased more than 50% over baseline.

Figure 1: Nursing Documentation of Interpreter Source



Discussion/Conclusion

The Nursing Informatics Council led this effort throughout the Department of Nursing using the Shared Governance model. Their targeted education and communication strategies improved documentation practices. This strategy could be utilized for other educational efforts in the future.

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From Bedside to Build: Nursing Lessons Learned when Adding New Affiliates to the System

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Keywords: EMR Implementation, System, Change Management

Introduction/Background

Implementation of an electronic medical record system (EMR) requires an all hands-on deck approach.¹ When planning for an EMR transition, strong education and go-live support is essential for success.² In October of 2024, two acute care hospitals and several ambulatory practices in another state were acquired by the Brown University Health (BUH) system. Initially, the new affiliates used their legacy EMRs. The goal was to transition to the BUH EMR within 12 months, but go-live was accelerated to only 10 months for EMR review, modification, and go-live.

Methods

Information Services managed the EMR conversion project with assistance from a contracted company. Multiple subgroups formed for rapid review of the existing EMR to identify elements to be created or modified, and determine staff education needs. Acute care nursing subgroups covered decision support, nursing orders, protocols, and policies. Leadership identified key policies to align with state regulations and standardize across all sites. Super users were recruited from the new affiliates to assist with cutover and go-live. Educators and informatics nurses from affiliates using the BUH EMR were onsite for the week of go-live. A third party EMR support vendor provided shoulder-to-shoulder support during go-live. The nursing subgroups met often before go-live. Twenty-four key policies and workflows were reviewed. Nurse informaticists and educators created/rolled out a comprehensive education plan for workflow and practice changes.

Results

Success metrics were quantitative (timeline, number of incidents of broken workflows, patient safety events), and qualitative (direct feedback from staff to on-site nurse informaticists and educators indicating willingness to ask questions/report issues, opinions about third-party on-site support and overall transition). Go-live occurred when planned after a cutover. Broken workflow incidents were fewer than expected. There were no significant patient safety events. Staff were engaged, as indicated by questions, reported issues, and praise for transition speed. They identified the key role of educators and informatics nurses who explained EMR workflows and their relation to policies. Some staff were surprised by selected workflows during go-live, despite prior education. The transition in ambulatory areas was more difficult than in inpatient areas, particularly because of EMR patient scheduling functions.

Discussion/Conclusion

The transition was successful. Future EMR optimization planning was enhanced by the identification of non-urgent issues that arose. Future transitions would benefit from more detailed pre-go-live education, including reviews and demonstrations of documentation workflow, and from a revised plan for transitioning ambulatory areas.

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Is it Too Much to Ask? Assessing Social Drivers of Health

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Keywords: Social Drivers of Health, Nursing Informatics, Screening, Workflow Optimization, Patient Resources

Introduction/Background

Social Drivers of Health (SDOH) screening is required during admission to identify non-medical factors that affect patient outcomes. This screening mandated by regulatory bodies and payors went live with the implementation of a new electronic health record. Nurses reported discomfort asking SDOH questions, noting they could feel intrusive, and many were unsure how to respond when patients identified needs. Supplied resources only addressed patient concerns. Studies show that scripts, role-play, culturally appropriate tools, workflow integration, and clear referral pathways can improve nurse confidence, but screening without resources creates barriers.^{1,2,3}

This project aimed to improve nurses' comfort and understanding of SDOH screening by providing clearer language, supportive tools, and alternative screening options to strengthen communication, guide next steps when needs are identified, and enhance the screening experience for both nurses and patients.

Methods

The project followed a phased life cycle, using pre- and post-intervention surveys to measure nurses' comfort level with the screening. Key questions examined whether education and scripting improved nurses' knowledge and comfort levels and whether alternative data-collection methods increased patient willingness to respond.

We developed a script and training on SDOH and available resources to address barriers. The initial interventions focused on education and introduction of an electronic search tool for resources. The second phase introduced an electronic questionnaire for patient self screening. Nurses were trained to review alerts, verify responses, and initiate referrals or provide resources.

Results

Post-intervention results showed improved comfort with SDOH screening, with fewer nurses reporting discomfort and more feeling comfortable. Nurses who used the script and tip sheet found them helpful, and confidence in responding to identified needs increased (detail will be provided on poster). A small subset did not show improvement, possibly reflecting disagreement with asking SDOH questions in the Emergency Department or during admission. Electronic SDOH questionnaire completion was significantly higher in the Emergency Department than on inpatient units.

Discussion/Conclusion

The burden of screening inpatient and emergency room patients falls squarely on the nurse. This project demonstrates the value of education, supportive tools, and informatics-driven workflows in supporting SDOH screening and highlights opportunities for ongoing refinement and broader implementation.

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Improving Pain Reassessment Documentation Compliance in the Post Anesthesia Care Unit: An Informatics Driven Multifaceted Quality Improvement Initiative

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Keywords: Informatics, Electronic Health Record; Documentation Compliance, Quality Improvement (QI).

Introduction/Background

Postoperative pain affects 20–80% of surgical patients, making pain management essential to patient-centered care.^{1,2} Timely pain reassessment evaluates effectiveness and monitors for adverse effects; however, inadequate documentation compromises regulatory compliance and may contribute to prolonged patient discomfort, decreased patient safety and satisfaction, and increased length of stay.³ Despite its importance, documentation remains suboptimal, often due to workflow inefficiencies, high clinician workload, and electronic health record (EHR) inconsistencies.⁴ In a large academic medical center Post-Anesthesia Care Unit (PACU), baseline Monthly Compliance Report data from January to July 2025 demonstrated a pain reassessment documentation compliance rate of 60%, highlighting an urgent need for improvement.

Methods

This QI initiative used a pre–post design involving 248 PACU nurses across six units. Guided by the literature and Kotter’s 8-Step change theory, interventions included a workflow-integrated electronic icon, education on the Epic “Brain” tool, unit-based visual cues, daily leadership rounds and huddles, and monthly performance feedback emails highlighting unit level compliance, and nurses achieving 100% monthly compliance. Compliance was measured using our EHR reassessment report data and analyzed with Statistical Process Control p-charts.

Results

Pain reassessment documentation compliance increased from 60% to 78% across all PACU units over an 8-week intervention period (August 20–October 15, 2025). All six units demonstrated upward trends in compliance, with four achieving special cause variation consistent with statistically significant improvement. Qualitative feedback revealed three themes, accountability, adaptation, and motivation through recognition. Additional graphs and tables will be included in the poster.

Discussion/Conclusion

Guided by Kotter’s 8-Step Change Theory, this informatics-driven, multifaceted intervention improved pain reassessment documentation compliance by embedding workflow-aligned electronic reminders, visual cues, and recognition strategies that supported staff engagement and behavior change. Sustaining these interventions may support continued compliance and regulatory alignment in a large academic medical center PACU. Limitations include our EHR reporting misalignment with PACU workflow; need for a PACU-specific report, aligned with electronic reminders; and the need for further refinement of the electronic worklist to further enhance data accuracy and validity.

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Enhancing Inpatient Health-Related Social Needs Screening Compliance Through Optimized EHR Workflows and Targeted Staff Education

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Keywords: Health-Related Social Needs, Health Equity Initiative, Health Equity Screening

Background/Introduction

Healthcare organizations increasingly recognize the critical role of identifying health-related social needs (HRSN) to provide care that is informed by social risks and aimed at addressing these needs. Efforts to address HRSN initiatives gained prominence in January 2023, when The Joint Commission (TJC) introduced healthcare equity as a National Patient Safety Goal. In parallel, MassHealth launched the Hospital Quality and Equity Incentive Program (HQEIP), which promotes health equity by providing financial incentives to health systems to improve demographic data completeness, strengthen organizational capacity for equity efforts, adopt more equitable practices, and ultimately reduce health disparities.¹ Initial reports of our HRSN screening implementation in 2024 showed a low compliance rate of 10.7%, falling short of the HQEIP performance benchmark of 30% by 2025. In response, we developed strategies to improve screening completion rates in alignment with the health equity goals and quality standards of the HQEIP. Recognizing and responding to individual patients' requests for help with HRSN may serve as a cornerstone for pediatric healthcare systems to advance health equity for all.²

Methods

In May 2025, HRSN screening was integrated into the required 24-hour nursing admission assessment documentation. A 90-day lookback logic was incorporated to check whether screening had already been completed, helping to avoid duplicate documentation. The workflow following a positive screen has been improved through automated educational points and recommended information sheets, with an option to attach these materials to the discharge summary. Staff education and training on the new workflow were delivered through Refresh and Reframe sessions, SBAR/newsletters, tip sheets, Clinical Informatics Council, and Nursing Informatics rounding.

Results

Through EHR reports, we observed a significant increase in completion rates following the implementation of improvement strategies—from 10.7% to 83.7%. Patient portal self-reporting stays consistently around 5% of all HRSN screening completions, and accounts for about 60% of all completed patient portal questionnaires. As screening rates improved, the education and distribution of community resource sheets also increased. In September 2025, an EHR update was introduced that records information sheets given and improved the ability to track actions within the HRSN History activity.

Next Steps

Ongoing optimization efforts are focused on strengthening screening workflows and enhancing reporting capabilities. A new dashboard provides clear visualization of compliance rates and trends in positive screenings. Electronic screening tools are being translated into additional languages to improve accessibility. We continue to assess our patients' needs beyond the screening process to better align resources and support services accordingly.

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Hyperglycemia: Nurse Triage Interventions in the Endocrine Department

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Keywords: Hyperglycemia, Phone Triage, Diabetes Care, Standardized Note Template, Documentation

Introduction/Background

At Brigham and Women's Hospital Endocrine Specialty Practices, documentation for nurse telephone triage for patients experiencing hyperglycemia, issues with continuous glucose monitors and insulin pumps were absent or inconsistent. This resulted in delays in care and patient dissatisfaction. Providers and nurses were also dissatisfied with the associated workflows that required frequent provider pages and messages.

Diabetes management requires an organized approach and a team of health care professionals working in an environment where person-centered, high-quality care is prioritized.¹ To support this approach a task force comprised of licensed independent providers (LIPs), nurses, and nursing leadership was formed to address challenges in providing clinical advice over the phone, clarify the scope of nursing practice, and develop evidence-based recommendations for managing hyperglycemia in patients with Type 1 and Type 2 diabetes.

Methods

We conducted a review of nurse documentation, which included reason for call, medication review, assessment documentation, and patient education provided. We completed a literature review examining best practices in standardized documentation and outcomes. Findings supported that patient education regarding hyperglycemia management is within the scope of nursing practice. The nurse educator, nurse informaticists, and an endocrine provider collaborated on a note template containing evidence-based interventions tailored to patients' reported blood glucose levels and/or insulin pump use. We provided one-hour educational sessions to nurses covering hyperglycemia management, device troubleshooting, and proper use of the note template. Prior to implementation, we distributed physician and nurse-focused surveys to obtain baseline satisfaction data regarding current documentation practices for these calls. Following implementation, the surveys were administered to the same cohort to compare satisfaction with the standardized documentation and workflow. Post-implementation utilization of the note template was measured using an EHR-generated report.

Results

The implementation of a tailored note template outlining evidence-based interventions and teaching points for managing hyperglycemia and device-related issues increased nurse and provider satisfaction, decreased delays in care, and anecdotally reduced the number of provider pages, messages, and direct provider interventions.

Discussion/Conclusion

Technology use continues to expand in health care settings alongside the growing complexity of patient needs. Tools within the electronic health record (EHR) can significantly enhance clinical practice, and standardized documentation can support multiple aspects of the nursing role while maximizing the nurse's scope of practice.² Interdisciplinary collaboration is essential when developing and implementing new tools into existing workflows.

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Sunsetting Legacy Chemotherapy Order Entry: A Nursing Informatics–Led Oncology Repository Transformation

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Keywords: EHR Transition, Legacy, Oncology, Chemotherapy Standard Treatment Plans, Cybersecurity, Risk

Introduction / Background

Enterprise electronic health record (EHR) transitions aim to improve interoperability, streamline workflows, and reduce organizational risk; however, incomplete retirement of legacy systems may introduce clinical and cybersecurity vulnerabilities. During implementation of a new enterprise EHR at Boston Children’s Hospital (BCH), the internally developed Chemotherapy Order Entry (COE) system was slated for decommissioning. Although chemotherapy ordering transitioned successfully, a critical dependency required the legacy system to remain active. Beyond order entry, COE housed approximately 150 oncology Standard Treatment Plan (STP) source documents and associated consents. These documents serve as authoritative treatment roadmaps. The new EHR lacked functionality to manage this repository, requiring continued access through embedded hyperlinks and separate authentication, creating cybersecurity and HIPAA compliance risks. Pediatric oncology at BCH operates through a joint program with the Jimmy Fund Clinic at Dana-Farber Cancer Institute (JFC/DFCI). Although the institutions share BCH’s EHR, they operate on separately owned devices, independent IT infrastructures, and firewalled networks, requiring secure Single Sign-On (SSO) across both environments.

Methods

The initiative initially aimed to eliminate reliance on COE through a third-party repository solution. Oncology nursing informaticists and IT engineers led system design, document migration, and integration planning. During this process, a cybersecurity event affecting a clinical mobility vendor required immediate response and reassessment of system risk. Given continued COE dependency and unresolved SSO limitations, the team pivoted to identify an alternative solution that could be implemented rapidly. In collaboration with an EHR analyst, the team developed a web server–based solution within the EHR to replicate the COE document library. This eliminated the need for SSO while maintaining direct access to STP documents. Nursing informaticists and IT partners conducted document import, testing, validation, training development, and communication planning, and established governance workflows for ongoing management.

Results

The cybersecurity event accelerated the need to decommission COE due to heightened risk. The EHR-integrated web server solution successfully replicated the STP repository and enabled direct clinician access without external authentication. At submission, the solution is expected to provide seamless access to STP documents within the EHR, supporting safe retirement of COE. The rapid pivot required close collaboration between nursing informatics and IT and resulted in a streamlined, internally managed solution with shared administrative responsibilities and reduced reliance on technical build.

Discussion / Conclusion

This project highlights the role of nursing informatics in responding to cybersecurity threats while maintaining clinical workflow integrity. The rapid pivot from a planned to an expedited, internally developed solution underscores the importance of flexibility and interdisciplinary collaboration. Prioritizing immediate risk mitigation enabled timely decommissioning of a vulnerable legacy system. Embedding the repository within the EHR eliminated external dependencies and simplified access across institutions with differing infrastructures. Key lessons include early identification of risks, adaptable project planning, and strong informatics–IT partnerships. This experience offers a practical model for legacy system retirement.

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Informatics in Action: Redesigning Restraint Documentation to Improve Safety and Compliance

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Keywords: Restraint, medication restraint, patient safety, workflow redesign

Introduction/Background

The increasing reliance on digital health systems and sensitive patient data places healthcare organizations at heightened risk for cybersecurity incidents, underscoring the need for proactive preparedness. Cyberattacks can disrupt workflows, compromise confidentiality, increase safety risks, and expose organizations to regulatory and financial consequences.¹ To maintain continuity of care during downtime, organizations must assess system vulnerabilities and implement standardized mitigation strategies, as gaps in staff knowledge and workflow inconsistency heighten the risk of error during EHR disruptions.² A multidisciplinary approach helps align technology, workflows, and education to support safe care delivery during such events.

Methods

A small subgroup led by the chief nursing officer of Behavioral Health composed of representatives from regulatory readiness and nursing informatics spent more than six months identifying best practices. The team added mandatory vital signs every 15 minutes into the violent restraint workflow and formally introduced medication restraints to the system. The subgroup partnered with Information Services to integrate these best practices into the EHR. A medication restraint order panel was created to guide providers. Commonly used medications required an indication to complete the order, and “medication restraint” was added as an indication. Our practice advisories (OPAs) were developed to trigger when a medication is ordered with the indication of medication restraint, but no corresponding violent restraint order exists. Another OPA was created to alert the registered nurse (RN) when there was a documented end to restraints, but an active order for restraints still exists. Worklist tasks were optimized to prompt RNs to complete required documentation. Informatic nurses and nurse educators collaborated to develop a comprehensive education plan to review practice changes with all stakeholders. A virtual town hall was held prior to go live. The implemented changes went live on August 21, 2025, alongside a new systemwide restraint policy.

Results

Documentation compliance was monitored on the pre-existing restraint dashboards, but data is incomplete because dashboard optimization has not been finalized. Unfortunately, the dashboards did not show improvement in documentation compliance. Learning management system education completion was 82% overall with better compliance in the nursing discipline compared to providers. Documentation compliance increased with support.

Discussion/Conclusion

The restraint changes went into production without major issues, though opportunities for improvement remain. With the introduction of medication restraints, targeted education was required, as this required a change in practice particularly in defining medication restraint and ensuring accurate documentation. Staff also reported that the EHR optimizations were helpful in providing safe and accurate documentation. Nurses appreciated the worklist tasks but found the addition of required vital signs every 15 minutes increased their perceived workload.

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Nurse Informaticists' Competence and Utilization of a Self-Service Reporting Tool

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Keywords: Informatics Competency, Nursing Education, Informatics, Electronic Health Record Reporting.

Introduction/Background

Data related competencies in nursing practice are important to transform data into information, knowledge and wisdom¹. Many nurses lack the skills to retrieve, analyze, aggregate, and interpret data,^{2,3} which is essential to inform decisions and progress the discipline. An Electronic Health Record (EHR) embedded self-service reporting tool, SlicerDicer, facilitates exploration of large quantities of data, but nursing usage is low. Informatics specialists, experts within the discipline, should hold deep expertise.⁴ The purpose of this quality improvement project is to increase nurse informaticists' competency and usage of the tool through training.

Methods

We used purposive sampling to recruit volunteer nurse informaticists at a large health system in the northeast to participate in a virtual, 1.5-hour case-based, hands-on training session on the tool. We assessed reaction to the training using both qualitative and quantitative data. We evaluated change in competency by comparing pre-to-post training self-assessment of data-related competencies using Mann Whitney U test. We measured participant use of the reporting tool pre-and-post training with Wilcoxon signed rank tests.

Results

Twenty-two participants participated in the training intervention. Participants had a favorable reaction to the training and showed a statistically significant increase in self-perceived competency ($p < .001$). Of the 16 data models assessed, only two demonstrated a statistically significant increase in usage. Detailed tables of self-reported competency pre- and post-intervention will be included on the poster, as well as detailed information on participants' learning reaction.

Discussion/Conclusion

Targeted training of nurse informaticists can improve self-perceived competencies around data aggregation, analysis, and interpretation. The significant increase in self-reported competencies validated the rationale for training. The participants felt the training was relevant to their jobs and plan to use the tool, potentially increasing usage of data and information. Evaluation of the impact on behavior changes only showed a slight increase in usage. More work is needed to understand how learning influences the behavior of nurses informaticists utilizing self-service reporting tool. Measuring the impact of the training intervention on patient outcomes, the organization and the nursing discipline is difficult. Different training methodologies may have benefits, especially as other nursing roles are considered. Limitations include a focus on a specific subset of data models. As Artificial Intelligence evolves, it will be critical that competencies related to self-service reporting tools are re-evaluated.

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