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Medical Error and Harm

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Nurse-Driven Initiatives Impact Patient Safety

This article highlights the effects of the COVID-19 pandemic on patient quality and safety and discusses an academy designed to support nurses to design and implement innovative solutions.

Introduction

The COVID-19 pandemic has heightened the crisis of patient safety with an increase in hospital-acquired conditions (HACs) after more than five years of declining incidence (Weinter-Lastinger et al. 2022). Hospital patient satisfaction scores rose at the beginning of the pandemic, but are now plummeting (Press Ganey 2021). In December 2020, the American Nurses Foundation shared the findings of the Pulse of the Nation's Nurses Survey, reporting increased levels of nurse stress, exhaustion and burnout with 21% of nurses stating they intend to leave their position and 29% stating they may leave (Hanley 2021). Also, in a recent American Association of Critical-Care Nurses (AACN) survey, 92% of 6,000 nurses responded that they believe their careers will be shorter because of their COVID-19 experience, with 66% reporting they were considering leaving the profession as a result (American Association of Critical-Care Nurses 2021). This "perfect storm" begs for change leadership strategies to address the issues, and direct care nurses (DCNs) have a history of being innovators at the bedside. This article will highlight the effects of the COVID-19 pandemic on patient quality and safety and discuss a hospital-based direct care nurse academy designed to support nurses to design and implement innovative solutions addressing medical errors, HACs and patient safety led by DCNs through the AACN Clinical Scene Investigator (CSI) Academy.

Background

The push to ensure quality of care and safe passage for patients began in earnest in 2000 with the Institute of Medicine's (now National Academy of Medicine) "To Error is Human" report breaking the silence about medical errors. Patient harm during healthcare is a leading cause of morbidity and mortality internationally (Elder and Dovey 2002). The World Health Organization defines patient harm as "an incident that results in harm to a patient such as impairment of structure or function of the body and/or any deleterious effect arising there from or associated with plans or actions taken during the provision of healthcare, rather than an underlying disease or injury, and may be physical, social or psychological (disease, injury, suffering, disability and death)" (World Health Organization 2009). Patient harm that occurs as a result of a modifiable cause can be avoided by adapting processes, and implementing and adhering to guidelines. Prior to the pandemic, hospitals implemented evidence-based practices that reduced hospital acquired infections as well as other quality improvement (QI) activities to address HACs. DCNs are instrumental in leading these improvement efforts, as they intricately understand the complexities of patient care and they can identify problems and solutions to address patient safety and prevent medical errors (Schatz 2021).

COVID-19 Impact

The COVID-19 pandemic has greatly impacted healthcare systems. The pandemic has caused surges in hospital admissions of patients with high acuity and a greater length of stay. Hospitals scrambled to react with increases in bed capacity, particularly intensive care unit (ICU) beds. They increased staff-to-patient ratios, reorganised care delivery and implemented crisis standards of care. The pandemic also caused significant supply chain shortages in a wide variety of materials and products, but especially those related to personal protection equipment. These factors may have contributed to the significant increases observed for central line-associated bloodstream infections (CLABSIs), catheter-associated urinary tract infections (CAUTIs), ventilator adverse events (VAEs), methicillin resistant staphylococcus aureus (MRSA) bacteraemia, and device utilisation of central line, urinary catheter and ventilators compared to 2019 (Centers for Disease Control and Prevention 2020). In addition, hospitals are realising the pandemic's impact on the quality of nursing care.

Although the pandemic has illustrated the importance of acute and critical care nursing, the visibility of pre-pandemic workforce challenges has been heightened, and it has also adversely affected healthcare workers. Staff shortages that were present prior to the pandemic have been exacerbated by it, with high turnover rates, high vacancy rates, retirements, increased reliance on travel nurses and changed employee expectations (Avant Healthcare Professionals 2021; NSI Nursing Solutions 2021; O'Boyle 2021). Many organisations implemented the use of alternative nurse-to-patient ratios, as well as

the deployment of nonacute care nurses in the acute care setting (Grimely et al. 2021). Healthcare workers are exhausted as a result of continued surges, higher patient acuity, increased mortality and continuous staffing shortages. These factors have resulted in the "great resignation" with healthcare workers leaving their current position or even the profession and have contributed to the increase of HACs.

Strategy: Nurses Leading Change

The 2010 and the "2020-2030 Future of Nursing: Leading Change, Advancing Health" reports recommended expanding opportunities for nurses to lead improvement efforts and, specifically, prepare and enable nurses to lead the change needed to advance health. All nurses are in an exclusive position as the healthcare provider closest to the patient 24/7. Nurses, the largest segment of the healthcare workforce, are vital to keeping patients safe from harm. This, along with nurses' education and leadership abilities, suggests that nurses should be the drivers of change to improve the healthcare system. In addition, the literature supports that engaging DCNs in improvement projects has resulted in positive patient, nurse and organisational outcomes, including decreased nurse stress and increased communication and collaboration (Moore and Stichler 2015; American Organization of Nurse Executives). Similarly, nurses are in a unique position to advance the Quadruple Aim by: 1) improving the patient experience of care (including quality); 2) improving the health of populations, 3) reducing the per capita cost of healthcare and; 4) improving the culture and health of the unit impacting DCNs' work lives and satisfaction with their jobs.

Traditionally, QI projects are generated and diffused in a top-down approach and may or may not include DCNs in their design, yet these nurses are held accountable for the implementation and outcomes. It is essential that nurses, now more than ever, be at the forefront of creating practical and positive change (Schatz 2021). DCNs are leaders uniquely positioned to identify patient care and QI problems and develop innovative solutions. DCNs are ideally suited to also drive change to improve healthcare workplaces, leading to healthier collaborative work teams while improving the culture (Bowers 2021).

> **"nurses, the largest segment of the healthcare workforce, are vital to keeping patients safe from harm"**

Clinical Scene Investigator (CSI) Academy

Recognising the untapped power of DCNs to drive meaningful change, AACN created a nationwide DCN change leadership programme in 2012, called AACN Clinical Scene Investigator (CSI) Academy. The programme aims to help nurses influence positive change in patient care and their work environment. The AACN CSI Academy is a 12-month, hospital-based, project-driven nursing innovation and leadership education programme designed to empower DCNs as clinician leaders and change agents whose initiatives improve both patient and fiscal outcomes. At its core, AACN CSI Academy leverages the staff nurse's expertise to enhance patient care, supporting that expertise with additional leadership skills gained through team education, coaching and mentoring.

AACN believes that DCNs are critical players in creating lasting change and, ultimately, transforming healthcare. The goal of AACN CSI Academy is to provide staff nurses with the knowledge and support necessary to become leaders guiding their peers to create unit-based sustainable change, easily scaled hospital-wide for the most significant impact.

Curriculum

Hospitals engage unit-based teams of two to four DCNs to work with AACN CSI Academy faculty and an internal mentor to identify current patient-care challenges in their unit that fall within the nursing sphere of influence, then develop, implement and evaluate solutions intended to achieve measurable and sustainable clinical and financial improvements. Participants meet monthly with faculty who provide content in an iterative manner. The programme curriculum consists of content delivered in an experiential learning environment, including on-site workshops, interactive online learning and regular consultation in-person, by phone and via email. Key curricular concepts include leadership, QI processes, project management, business case for quality, change strategies such as social entrepreneurship, data collection and analysis, QI processes, and stakeholder engagement with an emphasis on strategic communication. Participants are given dedicated nonproductive or indirect care time to work on the projects each month and apply the content provided in the previous month's meeting. This dedicated project time is essential to enable nurses to lead change, to keep the projects moving forward and it leads to undeniable positive patient and clinical outcomes contributing to the primary mission of patient care and advancing nursing practice (Altman and Rosa 2016). The amount of monthly time needed varies from eight to 12 hours per month per team member. The DCNs demonstrate the components of innovative project management while creating the change needed for improvement in the quality of care and better outcomes.

Programme Outcomes

To date, 469 DCNs from 127 units representing 82 hospitals across the United States have participated in the programme. DCN teams report decreases in hospital acquired infections such as CAUTIs and CLABSIs, falls, hospital-acquired pressure injuries (HAPIs), sepsis, delirium and medical errors. A North Carolina team reduced length of stay 14%. A team in Alaska decreased HAPIs 56%. A Washington team reduced CAUTIs 92%. A team located in California decreased patient falls 50% and decreased positive scores for delirium by more than 25%. Communication projects have improved team collaboration and patient satisfaction. See **Table 1** for additional team outcomes.

Some have reported decreases in RN turnover and overtime.

The CSI Academy curriculum included content to help teams sustain their results. In a one-year post-programme evaluation, more than half of the respondents reported sustaining project results. An additional 28% of respondents reported somewhat sustaining project results (Lacey et al. 2017). DCNs also report translating these to other units and initiating new projects. Nurse participants report significant personal and professional growth, especially in their leadership skillset. Total fiscal impact for the whole programme is $84.2 million and a 660% median return on investment per project. Overall satisfaction with the programme is very high. A majority of the CSI nurses agreed that they learned new skills to influence change, gained new tools and now feel more empowered to lead change. In addition, a large majority agreed that patient outcomes, nurse engagement, healthy workplaces and unit culture were improved. Hospital leaders had similar responses. CSIs noted improvement in leadership competencies in over 50% of 21 indicators measured.

Chief nursing officers (CNOs) involved with CSI Academy noted professional growth, increased confidence, improved collaboration skills and better ability to influence other team members in CSI participant.17 Implications of this programme are conveyed with the following CNO quotes: "I've never heard nurses talk about 'fiscal impact' before. This MUST continue!" "… provided the nurses with a personal experience, positive excitement and increased nurses' roles in research/quality – actually changed outcomes!" "Staff nurses are the key to building systems of quality. This programme proves just that."

Project Name	Topic	Outcomes	ROI*
Taking the Burn Out of Nursing	Nurse burnout	Decreased perceived stress of nurses; 14% decrease in sick calls and late clock-outs	290%
Stop, Communicate and Listen	Communication with staff	Decreased falls 4%; decreased incidence of CAUTI 50%; decreased HAPI 33%; decreased falls 25%	421%
Staying Alive	Rapid response teams	Increased rapid response team calls 23%; decreased code blue calls 75%; increased patients remaining on unit after RRT 10%	215%
Brain Matters	Early stroke detection	Initiated a stroke code; reduced ICU length of stay for stroke through early stroke identification	502%
Urinary Tract Infection (UTI) Prevention with CAUTION	Preventing catheter-associated urinary tract infection (CAUTI) and symptomatic urinary tract infection (SUTI)	Decreased UTIs 49%	720%
Do Five, Save a Life	Medication administration	Improved transcription medication errors 85%	1,972%

Table 1. Sample of CSI Projects

*All Return on Investment (ROI) numbers are estimated and may not represent the true cost. The amount invested for each team includes hospital investment for the AACN CSI Academy programme cost divided by the number of teams, CSI nurses' and coaches' hours, food, incentives and staff time to attend education and work on the project. It doesn't include back-fill hours for staffing, point of contact time or other staff such as data analysis personnel.

This table represents a portion of completed projects. For more information about all CSI Academy projects, see the Innovation Database at www.aacn.org/csi.

Conclusion

We must continue to leverage the knowledge and power of of registered nurses (RNs). With improving quality and transparency, organisations will need to seek ways to engage and leverage the knowledge, power and leadership of the nursing workforce. As leaders seek to stabilise workforce fluctuations related to the pandemic, identifying specific strategies to address patient safety and medical error prevention will also positively impact the empowered DCNs and their team. AACN CSI Academy provides nurses with the skills needed to change practice through QI efforts impacting outcomes and the fiscal health of their organisation. The 10-year history of AACN CSI Academy has demonstrated that when DCNs are provided the leadership skills and tools, protected project time and organisational support, optimal patient outcomes and fiscal outcomes are the result. Optimising patient care also positively impacts nurses and the care team. Growing and supporting DCNs' innovation and leadership is a return on investment – a win-win for patients, nurses and organisations.

Conflict of Interest

None. ■

References

Altman M, Rosa W (2016) Redefining time to meet nursing's evolving demands. Nurs Manage. 46(3):46-50.

American Association of Critical-Care Nurses. (2021) Hear us out campaign reports nurses' COVID-19 reality. https://www.aacn.org/newsroom/hear-us-out-campaign-reports-nurses-covid-19-reality

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