ORIGINAL RESEARCH

Frailty Focused Enhancements to Seniors' Hospital Care (FrESH): a Mixed Methods Study Reporting the Efficacy of Specialized Education for Front-line Staff

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ABSTRACT

Background

Acute care hospital stays often lead to increased frailty and functional decline in older adults. Interventions such as specialized education for nurses can improve health outcomes and decrease lengths of stay for these patients. This study aimed to identify the facilitators and barriers to providing care to older adults in acute care, and the efficacy of specialized education for front-line staff.

Methods

A specialized education program for front-line staff, Frailty Focused Enhancements to Seniors' Hospital Care (FrESH), was developed and delivered across five family medicine units in New Brunswick (NB). A mixed methods approach was used to assess the knowledge, attitudes, and experiences of staff caring for hospitalized older adults, and evaluate the impact of providing specialized education. Patient-level data on delirium, mobility, and medications pre- and post-specialized education intervention were collected and analyzed.

Results

Sixty-three front-line staff participated. Analysis of questionnaires demonstrated that staff had positive attitudes and beliefs about caring for older adults; however, knowledge of geriatric care principles was limited and remained unchanged. There was no significant change in patient-level measures post-intervention. Environmental constraints hindered staff from implementing best practices, leading to practical challenges to care delivery. While respondents expressed satisfaction with the education, their capacity to deliver the type of care presented in the education sessions was not achievable.

Conclusion

Staff identified the need for specialized education; however, there was no impact on care after participation. Results will inform changes to the specialized education programs targeting care for hospitalized older adults in acute care.

Key words: specialized education, front-line staff education, frailty, Geriatric 5Ms, older adults, acute care, mixed methods

INTRODUCTION

Frailty is a state of health in which a person's overall well-being and ability to function independently are reduced, and vulnerability to deterioration is increased.(1) Some people become frail as they age; however, frailty is not normal. Frailty affects one's ability to function in daily life and places individuals at higher rates of adverse health outcomes.(2) Being in the hospital can increase frailty, causing further deterioration.(3,4) Those who are already frail are at greater risk of requiring an extended hospital stay.(5,6)

Research suggests that targeted interventions may improve older adults' health outcomes and quality of life. Promising interventions include mobilization and deprescribing non-therapeutic medications.(7,8) Research exploring interventions targeting frailty, including adoption of frailty assessment tools, completion of comprehensive geriatric assessments, and walking or other exercise programs for hospitalized older adults, holds potential benefits.(2,6,9,10) Applying the Geriatric 5Ms Framework(11) (Mind, Mobility, Medications, Multi-complexity, and Matters Most; see Figure 1) to examine the impact of best evidence on older adults' health outcomes and frailty prevention offers a unique research approach.

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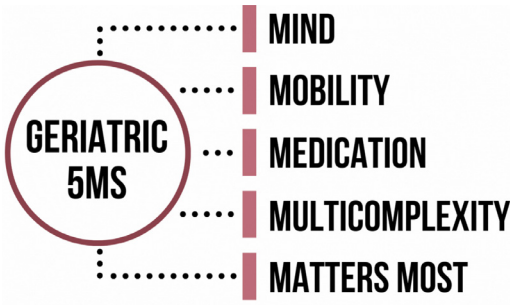

FIGURE 1. 5Ms of geriatric care (adapted from Molnar and Frank[11])

This mixed-methods study delivered a specialized education program, Frailty Focused Enhancements to Seniors' Hospital Care (FrESH), for front-line staff, and evaluated the impact on staff knowledge of frailty prevention, the Geriatric 5Ms, and patient outcomes.

METHODS

A mixed-method quasi-experimental design was used. The project occurred at five Horizon Health Network (Horizon) acute-care family medicine units in different cities/towns in New Brunswick, Canada. Patient participants underwent chart reviews and observational audits for mobility. Shift handover audits and questionnaires were used to gather data from front-line staff. Data collection was divided into three six-week phases: pre-education, education, and post-education.

Recruitment and Data Collection

Patient Participants

In-patient participants were identified by clinical staff and consented by a research team member. To fulfill inclusion criteria, participants needed to be 60 years of age and older, capable of providing informed consent, able to read and understand English or French and medically stable. Proxy consents were not possible due COVID-19 visitor restrictions. Once enrolled, data were collected through chart review. Information collected included age, biological sex, pre-existing chronic conditions, number and type of prescribed medications, mobility status, and any documented episodes of delirium. Focus notes were examined for any nursing interventions completed when a patient had delirium.

Observational audits of patients' mobilization were conducted three times per day, two days per week, and were rated by the Independent Mobility Validation Examination (I-MOVE) scale.[12,13]

Shift handovers were observed three times per week to determine whether patients' mobility was reported.

Frailty was assessed using the Clinical Frailty Scale[14] completed at enrollment, by the Research Assistant (RA) in collaboration with the patients' care team.

It was not possible to determine whether enrolled patients received care from staff participants enrolled in FrESH.

Staff Participants

Staff participants included regular and casual staff working on participating study units. Front-line staff, consisting of Registered Nurses (RNs), Licensed Practical Nurses (LPNs) and Personal Care Attendants (PCAs), were recruited to participate through emails and posted flyers. Participants provided informed consent and completed pre-implementation questionnaires (demographics, GerINCQ, and knowledge assessment). During the education phase, participants attended a four-hour specialized education session on the Geriatric 5Ms, frailty identification, risk factors and prevention, and the needs of hospitalized older adults. Materials focused on: the differentiation between dementia, depression, and delirium; the assessment and management of delirium; and the importance of mobility and implications of polypharmacy. A post-implementation knowledge assessment was completed.

Assessment Tools Patient Participants

Frailty

The Clinical Frailty Scale[14] was administered by the RA in consultation with a member of the patients' care team (charge nurse, physiotherapist) on enrollment. This is a 9-point scale ranging from 1 (very fit) to 9 (terminally ill).

Mobility

Observational audits of patient mobility were conducted using the I-MOVE scale.[12,13] This 12-point scale ranges from 1 (patient needs assistance to turn in bed) to 12 (patient walks independently in hallway). Patients' mobility status was summarized as to how they mobilized (I-MOVE > 5) during their first and last week hospitalized.

Medication

Chart reviews were conducted to monitor for newly prescribed medications. Of interest were potentially inappropriate medications (PIMs) for which the risk may outweigh the potential benefit for older adults. These medications included: anticholinergics (e.g., Dimenhydrinate, Diphenhydramine), sedatives (e.g., Benzodiazepines, "Z-drugs" e.g., Zopiclone) and antipsychotics (e.g., Haloperidol, Risperidone).

Assessment Tools Staff Participants

A demographics questionnaire was developed with seven questions: age, gender, hospital, department, role, and years of experience.

The Geriatric In-Hospital Nursing Questionnaire (GerINCQ)[15] was administered pre-intervention to measure the care older adults receive in hospitals, and nurses' attitudes and perceptions about caring for older adults. The scale consists of five subscales: interventions performed, aging-sensitive care delivery, professional responsibility, attitudes towards caring for older adults, and perceptions about caring for older adults, measured with 67 items on a 5-point scale. Two open-ended questions were added to gather participants' perspectives on caring for older adults in acute-care settings, and to ask what would help provide quality care to these patients.

A study-specific questionnaire was created concurrently with the content of the educational sessions. Administered pre- and post-intervention, these questions evaluated participants' knowledge about the principles of geriatric care, including the Geriatric 5Ms.

Data Analysis

Descriptive statistics were used to summarize demographic characteristics and survey responses, and chi-square tests of independence were used to compare patient outcome measures across phases. Open-ended survey questions were analyzed for themes related to participants' experience providing care and what would help provide quality care. Five research team members conducted an iterative-inductive thematic analysis,[16] and themes were generated through consensus.

RESULTS

Staff Participants

Sixty-three acute care staff provided informed consent to participate in the study (Table 1). The mean age was 36.9 years (SD = 10.8), and the majority were female (86.8%). Participants had an average of almost ten years of nursing experience, including nearly five in their respective units. The sample included RNs, LPNs and PCAs with most being employed full-time.

Patient Participants

Ninety-nine acute care in-patients consented to participate in the study (Table 2). The mean age was 76.2 (SD=9.0), and there were slightly more females (54.5%) than males. The most reported chronic conditions were high blood pressure (49.5%), heart disease (39.4%), chronic lung disease (35.4%), and diabetes (33.3%). Most participants (41.1%) were Fit to Mildly Frail (CFS 1-5), with 25.3% having a CFS score of 6 indicative of Moderate Frailty and 8.4% were Severely Frail (CFS 7-9).

Horizon Health Network's Research Ethics Board reviewed and approved the research with approval number 2021-3042.

Quantitative Analysis

Staff Participant Outcomes

The GER-INCQ was administered at baseline; the sub-scale reliability coefficients were low ($\alpha < 0.60$). Therefore, reporting sub-scale scores is not appropriate; only individual items are reported. Only noteworthy findings are reported here relating to three of the Geriatric 5M topics: Mind, Mobility and Medications.

Under the topic of Mind, participants reported that nursing interventions for delirium were performed an adequate amount (31.2%) or less frequently (53.1%). Responses related to their level of perceived responsibility for behavioural problems among people with dementia, feelings of anxiety or dejection, and the development of delirium were highly variable among the staff. Most staff reported that they often (37.5%) or always (51.6%) keep a close eye on confused older adults.

For Mobility, most participants (53.1%) indicated that interventions to prevent falls were offered an adequate amount. However, only about a third (35.9%) felt active mobilization policies were used adequately, with many staff indicating these interventions were used less frequently than required (46.9%). When asked whether they felt responsible for fall incidents, the most common response was neutral (42.2%), but many participants (45.3%) also reported a greater amount of perceived responsibility. Regarding their responsibility for mobility retention, most staff reported a neutral (25.0%) amount of responsibility or more (50.0%).

For Medications, participants mainly indicated that medicinal interventions, including pain medication (57.8%), sleep medication (48.4%), and medicinal restrictive measures (45.3%), were used adequately.

Participants completed the study-specific geriatric knowledge questionnaire pre- and post-education (Table 3). Before the training, most participants answered six items correctly (≥ 60%). Seven items posed challenges for the staff, including questions about each of the 5Ms. Following the training, six of these questions were still answered largely incorrectly, although three improved somewhat. Questions that were answered correctly pre-training displayed little change post-training.

Patient Participant Outcomes

A series of chi-square tests of independence were used to examine differences in Mind (incidents of delirium), Mobility (mobilization and reports at shift handover), and Medications (PIM prescriptions) across the three study phases. Given the number of comparisons, a stringent alpha ($p > .01$) was used to evaluate the significance of the results and protect against type I error.

TABLE 1.
Front-line staff demographic characteristics

	Overall
No. of subjects (*N*)	63
Age in years [mean (*SD)*]	37.0 (10.8)
Gender F:M: N/A [(%F)]	58:4:1(86.8%)
Total Experience [mean year (SD)]	9.3 (8.5)
Unit Experience [mean year (SD)]	4.6 (4.6)
Profession [n (%)]	
Patient Care Attendant (PCA)	10 (15.9%)
Licensed Practical Nurse (LPN)	24 (38.1%)
Registered Nurse (RN)	29 (46.0%)
Employment Statue [n (%)]	
Full Time	41 (65.1%)
Part Time	8 (12.7%)
Casual	14 (21.9%)

With outcomes related to the Mind, chart abstraction revealed that only five participants had noted instances of delirium while in hospital, precluding further comparisons due to the small sample size. No nursing interventions pertaining to reported delirium were documented.

For Mobility across the three study phases, patient mobilization ranged from 46.2–71.4% during their first week hospitalized, and 61.9–72.7% during their last week in hospital. The proportion of patients mobilized during their first week (χ^2 (2, N = 99) = 4.34, p = .114) and last week (χ^2 (2, N = 86) = 0.76, p = .684) hospitalized did not differ significantly across the three phases.

Reports of patient mobility during shift handover were also examined. Mobility was discussed consistently during patients' first (78.1–96.9%) and last week (81.2–88.5%) hospitalized throughout the duration of the study. The proportion

TABLE 2.
Patient participant data

Patient Characteristics		*Overall*	*Pre-Education*	*Education*	*Post-Education*
Patient Participants (n)		99	35	38	26
Age [mean year (SD)]		76.2 (9.0)	76.6 (8.4)	78.0 (9.8)	73.2 (8.1)
Gender [F:M (F%)]		54:45 (54.6%)	15:20 (42.9%)	22:16 (57.9%)	17:9 (65.4%)
Most Frequent Chronic Conditions [n (%)]	High Blood Pressure	49 (49.5%)	16 (45.7%)	24 (63.2%)	13 (50.0%)
	Heart Disease	39 (39.4%)	12 (34.3%)	16 (42.1%)	7 (26.9%)
	Chronic Lung Disease	35 (35.4%)	10 (28.6%)	13 (34.2%)	12 (46.2%)
	Diabetes	33 (33.3%)	7 (20.0%)	16 (42.1%)	10 (38.5%)
Clinical Frailty Scale (CFS) Scores [n (%)]		*Overall N=95*	*Pre-Education n=46*	*Education n=24*	*Post-Education n=25*
Fit/Mild Frailty CFS 1-5		63 (41.1%)	31 (67.4%)	15 (62.5%)	17 (65.4%)
Moderate Frailty CFS 6		24 (25.3%)	12 (26.1%)	6 (25.0%)	6 (24.0%)
Severe Frailty CFS 7-9		8 (8.4%)	3 (6.5%)	3(1.3%)	2 (8.0%)
Patients with Prescribed PIMs[a] at Enrollment [n (%)]		*Overall N=97*	*Pre-Education n=46*	*Education n=25*	*Post-Education n=26*
Anticholinergics		43 (44.3%)	20 (43.5%)	7 (28.0%)	16 (61.5%)
Sedatives		34 (35.1%)	18 (39.1%)	4 (16.0%)	12 (46.2%)
Antipsychotics		6 (6.2%)	2 (4.3%)	1 (4.0%)	3 (11.5%)
Patients with Newly Prescribed PIMS During Their Stay		*Overall N=90*	*Pre-Education n=33*	*Education n=37*	*Post-Education n=20*
[n (%)]		19 (21.1%)	3 (9.1%)	9 (24.3%)	7 (35.0%)
Length of Stay		*Overall N=94*	*Pre-Education n=47*	*Education n=26*	*Post-Education n=21*
[mean days (SD)]		17.3 (16.6)	20.6 (20.2)	14.7 (12.2)	13.3 (10.2)
Discharge Destination [n (%)]		*Overall N=93*	*Pre-Education n=47*	*Education n=26*	*Post-Education n=20*
Another Hospital or In-Patient Unit		27 (29.0%)	15 (31.9%)	8 (30.7%)	4 (20.0%)
Long-Term Care Facility		2 (2.2%)	2 (4.3%)	0 (0%)	0 (0%)
Assisted Living Facility		5 (5.4%)	5 (10.6%)	0 (0%)	0 (0%)
Home		56 (60.2%)	23 (48.9%)	17 (65.4%)	16 (80%)
Deceased		<4%	<4%	<4%	0 (0%)
Other (Palliative Care, Mental Health)		<4%	<4%	0 (0%)	0 (0%)
Mobility [n (%)]			*Pre-Education*	*Education*	*Post-Education*
Frequency of Patients Mobilized	First Week in Hospital		25/35 (71.4%)	25/38 (65.8%)	10/20 (50.0%)
	Last Week in Hospital		24/33 (72.7%)	21/32 (65.6%)	13/19/(68.4%)
Frequency of Mobility Mention at Shift Change	First Week in Hospital		25/32 (78.1%)	31/32 (96.9%)	16/19 (84.2%)
	Last Week in Hospital		26/32 (81.2%)	25/30 (83.3%)	16/19 (84.2%)

[A]Potentially inappropriate medications.

TABLE 3.
Front-line staff pre- and post-intervention knowledge assessment

Question[a]	*Pre-Intervention*		*Post-Intervention*		*Difference*
	n	*correct*	*n*	*correct*	
Multi-complexity describes an older adult living with multiple chronic conditions, advanced illness, and/or with complicated psychosocial needs.	57	100.00%	38	97.36%	-2.64%
While performing mobility assessments in older adults, aspects of mobility that can be measured are balance, change in position, walking, running, jumping, and strength/flexibility.	57	21.05%	38	13.16%	-7.89%
An older adult's mobility takes longer to recover from physical stress.	57	92.98%	38	86.84%	-6.14%
Memory loss is a normal part of aging.	57	28.07%	37	10.81%	-17.26%
Clinical depression occurs more frequently in older than younger people.	57	15.79%	38	44.73%	29.94%
When deprescribing a patient's medication, there may be adverse side-effects.	57	96.49%	38	97.37%	0.88%
As people live longer, they face fewer acute conditions and more chronic health conditions.	57	43.86%	38	50.00%	6.14%
Polypharmacy is defined as three or more prescribed medications within older adults	56	23.21%	38	5.26%	-17.95%
Matters most is defined by the 5M's of Geriatric Care through healthcare staff's own meaningful outcome goals and care for patient's preferences.	56	25.00%	38	15.78%	-9.22%
Research has shown that old age truly begins at 65.	57	47.38%	38	63.16%	15.78%
Patient slowly becomes more confused over a few months, is forgetful, has trouble paying attention, and later in the day sees things that are not there.	41	87.80%	38	89.46%	1.66%
Patients suddenly becomes confused over a few days or hours floats in and out of confusion during the day has trouble paying attention, sees things that are no there, and sleeps more during the day.	41	87.80%	38	92.11%	4.31%
Patient suddenly has difficulties concentrating, remembering, and troubles sleeping over a few weeks, has decreased energy, and moves and talks more slowly.	41	85.36%	38	89.47%	4.11%

[a]Questions 1–10: True/False; Questions 11–13: Matching sentences to Depression, Delirium, Dementia.

of patients whose mobility was mentioned during their first (χ^2 (2, N = 90) = 5.26, p = .072) and last week (χ^2 (2, N = 95) = 0.577, p = .749) in the hospital did not vary across the study phases.

With Medication reviews, the rate of new PIM prescriptions across the study phases ranged from 5.9–34.6% during the first week of hospitalization and 6.1–20.0% during the last week of hospitalization. Further analyses revealed there were no statistically significant differences among the phases during either first week hospitalized (χ^2 (2, N = 97) = 8.49, p = .014) or last week hospitalized (χ^2 (2, N = 95) = 3.31, p = .191).

Qualitative Analysis

Thirty-nine participants responded to the open-ended questions. Four themes (Figure 2) derived from the survey questions are outlined below: too many patients—not enough time, more training needed, activities, and mobility and exercise. Exemplar quotations are included in Table 4.

Too Many Patients…Not Enough Time

In questions related to their perception of care for older adults, most participants expressed the care required for these patients as "demanding", primarily because "… not enough time to care for them [patients] as we should". This lack of time was attributed to staffing shortages. They noted that patients were dependent for mobilization and most activities of daily living (ADLs). Additionally, they found the care delivery physically and emotionally draining because of the challenges in managing patient behaviours such as "confusion, aggression, and paranoia".

FIGURE 2. Qualitative themes derived from front-line staff open-ended questions

TABLE 4.
Qualitative themes derived from front-line staff open-ended questions

Theme	*Quotes*
Too Many Patients…Not Enough Time	"It depends on who the sicker patient is for who will get the most attention. If the elderly patient is stable and the younger patient is critical, I prioritize tasks accordingly. Sometimes the elderly stable patient won't get the attention I think they deserve."
	"I feel like we do not have the time or staff to provide consistent care. Shortage of staff and these patients being mixed with medically acute patients often get left or pushed aside."
	"Most shifts I feel as if I have not given my patients all the attention that they deserve. This is a result of being short-staffed CONSTANTLY!! Any shift that we have 75% or more of our staff, they float us out to another unit, thus making us short-staffed again."
	"Sometimes the unit is not fully staffed and may have patients who need extra time. This situation doesn't allow for the extra time you would need to spend with an older patient who may need a few extra minutes of attention. This causes anxiety for patients and nurses!"
More Training Needed	"We are a stroke unit first and foremost; training is focused on acute stroke training and resources are needed for dementia care."
	"…training specific to care for older patients…training on managing patients with delirium vs. dementia…"
	"I feel some people need reminders on how to speak with confused elderly…not all nurses or staff know how to care for the elderly!!"
	"A lot!!! [training]. Mostly on behaviours."
Activities	"…difficult in acute setting…not able at times to provide adequate activity. No activities to provide for older patients. A lot of times TV/Quiet Room are taken by other admissions [patients]."
	"Shifts are very busy with acute care patients often enough we do not have the time to spend with our patients and provide the emotional support most of them need."
	"We need a proper facility for our elderly patients, not in this unit setting." "Games, group sessions, something fun! Encouraging mobility (while not all patients are physically capable, moving from bed-chair, wheelchair; encouraging patients to take a tour around the unit or outside on the porch when the weather is nice. I've had patients who never left their rooms for weeks except for CT scan, X-ray, etc."
Mobility and Exercise	"Our elderly [patients] are not getting the care they need. The care is suffering due to lack of time due to staff shortage. [The] elderly come in sick with one thing and then they fall, get a hospital-acquired infection or deteriorate due to immobility (ulcers, decreased mobility)."
	"Lack of staff makes it hard to give the care I want to give - no time to properly mobilize. Bed alarms only help prevent falls if someone is able to answer!"
	"I often feel I have not adequately provided basic care due to increasing acuity and staff shortages. Improved nurse/patient ratios and a cultural shift within healthcare to promote better care of older adults is needed."
	"I always feel like I have not done enough. We are so short-staffed it is hard to provide satisfactory care to older patients especially when we have 6-8 patients assigned and some really acutely ill patients as well.

Challenges with monitoring wandering patients were expressed. Comments about witnessing the loneliness in patients who rang the bell for company evidenced the emotional drain on participants.

More Training Needed

In response to the question related to what would help provide quality care, most participants requested training for the care of persons with dementia and how to cope with patient behaviours.

Some participants stated that, as their unit is not a geriatric unit, more training was needed in the general care of older adults. In contrast, several participants noted that more training was unnecessary, and that addressing staff shortages is required.

Activities

Respondents indicated that their patients lacked emotional and mental stimulation, with only some patients having visitors. The lack of recreational activities left a gap in mental stimulation and limited opportunities for patient interaction. Some participants stated that they did not have time to sit and have meaningful conversations with patients, which led to feelings of disconnection.

Mobility and Exercise

While respondents highlighted the importance of more mobility for their patients, their ability to implement this was not achieved primarily due to insufficient staff. Mobility was perceived as one of the "extra things", rather than a standard of practice.

DISCUSSION

While caring for older adults in acute care requires a specific skill set and competencies, offering specialized education to front-line staff does not always improve patient outcomes. This study's three central patient-focused areas were Mind, Mobility, and Medication from the Geriatric 5Ms model.

Mind

Delirium is a common and potentially serious condition in hospitalized older adults, which may lead to falls, extended hospitalizations, and functional decline. Data collection related to delirium was low, with only five documented instances among participants. Standardized assessment tools, such as the Confusion Assessment Method,[17] were available to staff. While quantitative data analysis suggests that participants perceived nursing interventions for delirium were performed at an adequate amount, no interventions were documented. Furthermore, the level of perceived responsibility for the development of delirium was highly variable, with staff reporting that they were mostly unaware of available delirium assessment tools and clinical order sets. Low reported numbers of delirium may also have been impacted by the recruitment process and the need for consent without proxy.

Literature suggests that nursing assessment is essential to detect delirium, but nurses often fail to do so.[18,19] Reasons for this have been linked to faulty clinical reasoning, including a lack of knowledge about cognitive disorders and assessment methods.[20,21] A study by El Hussein and Hirst[22] proposed that nurses do not have the flexibility to assess for delirium effectively due to a task-driven care delivery system and an overwhelming workload. Our study findings are congruent with this and other studies[23,24] that highlight how nursing staff constantly juggle and prioritize care between patients, which might impact their ability to detect delirium.

Mobility

Quantitative results suggest that participants perceived nursing staff offered fall prevention interventions to an adequate extent, while many indicated that active mobilization interventions were used less frequently. Qualitative findings support these results, as staff indicated they understood the importance of encouraging patient mobilization; however, there was "… no time to mobilize". Instead, the perspective was that patients deteriorated "…due to immobility". In the qualitative findings, participants repeatedly reported that older adults were not getting the care they needed because of staff shortages.

Decreased mobility during hospitalization may result in a patient's inability to reach pre-admission performance with ADLs. A study by O'Brien and colleagues[10] showed that older and frailer patients were generally less likely to recover to pre-admission ADL levels.

Quantitative results indicated that participants reported greater perceived responsibility for fall prevention and that keeping the patients in bed was a way to keep them safe. In the grounded theory of "Exerting Capacity", Leger and Phillips[24] suggest that nurses strategically balance the demands of keeping their patients safe.

Medications

The negative effects of PIMs in older adults are well-cited in the literature.[25–30] In our study, quantitative results showed that the perceived use of medications for pain, sleep, and sedatives/antipsychotics was adequate. Only newly prescribed PIMs were included in the data collection and not which PIMs were administered.

Education

The positive feedback on the education sessions and the expressed desire for training are also at odds with this study's quantitative findings, as there was no change in patient-related outcomes. The quantitative data indicate that staff did not retain and apply the newly acquired knowledge. Qualitative findings suggest that staff are saturated with day-to-day changes to workload, competing priorities from organization initiatives, and mixed patient acuity. Education strategies to support professional development—including mentorship and coaching opportunities, case-based learning, and interdisciplinary team learning—may better facilitate the implementation of evidence-based practice education.[31]

An unanticipated result of the education intervention was that staff recognized that optimal care could not be provided, leaving them questioning the quality of care being offered.

Limitations

High patient turnover and low staff participation in the educational intervention meant that patients were not necessarily cared for by staff who received the specialized education, thus obscuring potential effects on patient outcomes. A larger proportion of staff attending the sessions may have led to detectable impacts to patient level outcomes. Furthermore, low patient recruitment across phases prevented more nuanced inferential analysis of these effects, while low reliability of the GER-INCQ precluded sub-scale score computation and, as such, a high-level understanding of staff's attitudes and perceptions. Data collection for PIMS occurred for those newly prescribed; collection related to administration may have provided better data of the usage of PIMs.

The data collection and education intervention for this research were conducted amidst the pandemic (2021–2022) when COVID-19 restrictions were in place. Research implementation was fraught with challenges, such as pausing data collection due to unit closures, or rescheduling education delivery due to staffing shortages.

CONCLUSION

This study aimed to examine the impact of offering specialized geriatric education to nursing staff who care for hospitalized older adults. While no significant findings were recorded pre- and post-implementation of education, there were several lessons learned.

Despite study implementation at the height of the pandemic, the research team was welcomed in the study units even through challenging conditions. Ongoing interest and curiosity by front-line staff was encouraging, and high levels of staff engagement may be seen as a facilitator which may be leveraged to support similar future research activities.

Staff desire to learn and do what is best for their patients, but system issues present barriers to application of new knowledge. Certain types of training/education may negatively impact front-line staff.

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None to declare.

CONFLICT OF INTEREST DISCLOSURES

We have read and understood the *Canadian Geriatrics Journal*'s policy on conflicts of interest disclosure and declare we have none.

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