

## A System-Wide Analysis Using a Senior-Friendly Hospital Framework Identifies Current Practices and Opportunities for Improvement in the Care of Hospitalized Older Adults

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Older adults are vulnerable to hospital-associated complications such as falls, pressure ulcers, functional decline, and delirium, which can contribute to prolonged hospital stay, readmission, and nursing home placement. These vulnerabilities are exacerbated when the hospital's practices, services, and physical environment are not sufficiently mindful of the complex, multidimensional needs of frail individuals. Several frameworks have emerged to help hospitals examine how organization-wide processes can be customized to avoid these complications. This article describes the application of one such framework—the Senior-Friendly Hospital (SFH) framework adopted in Ontario, Canada—which comprises five interrelated domains: organizational support, processes of care, emotional and behavioral environment, ethics in clinical care and research, and physical environment. This framework provided the blueprint for a self-assessment of all 155 adult hospitals across the province of Ontario. The system-wide analysis identified practice gaps and promising practices within each domain of the SFH framework. Taken together, these results informed 12 recommendations to support hospitals at all stages of development in becoming friendly to older adults. Priorities for system-wide action were identified, encouraging hospitals to implement or further develop their processes to better address hospital-acquired delirium and functional decline. These recommendations led to collaborative action across the province, including the development of an online toolkit and the identification of accountability indicators to support hospitals in quality improvement focusing on senior-friendly care. *J Am Geriatr Soc* 62:2163–2170, 2014.

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Population aging is a demographic phenomenon across the developed world. In Ontario, Canada, for example, the proportion of older adults in its population of more than 13 million will grow from 14.6% to 24% between 2009 and 2036, with the greatest rate of growth being among the oldest and most frail.<sup>1</sup> With only 136 geriatricians registered in Ontario, there is significant need to create a healthcare system that is more friendly to older adults when already older adults use 43% to 73% of inpatient days across the province's 14 health regions.<sup>2</sup>

Hospitals are ill prepared to care for older adults. Historically, hospitals were designed to optimize care for a younger population requiring rapid diagnosis and medical or surgical responses to single episodes of acute illness. This paradigm is less than optimal for older adults, who have complex comorbidities and frailty. In frail older adults, small challenges can prompt significant declines in health and independence,<sup>3</sup> and they experience adverse events at more than twice the rate of younger adults,<sup>4</sup> including hospital-acquired delirium,<sup>5</sup> functional decline,<sup>6</sup> fall-related injuries,<sup>7,8</sup> pressure ulcers,<sup>9</sup> and undernutrition.<sup>10</sup> These adverse events can prolong hospital length of stay and compromise return to independent or supported living in the community.

Quality initiatives designed to improve the care that older adults receive in hospital<sup>11–13</sup> are demonstrating lower rates of delirium, better physical function, lower rates of long-term care admission, and greater satisfaction.<sup>14–16</sup> Research is increasingly converging on the recognition that adaptations in processes across the entire organization are required to achieve these benefits consistently. These necessary adaptations have been described in British Columbia, Canada, using an organization-wide framework for Elder

Friendly Hospitals comprising four domains: policies and procedures, care systems, social behavioral climate, and physical design.<sup>17,18</sup> An Age-Friendly Hospitals framework in Taiwan uses similar domains: management policy, care processes, communication and services, and physical environment.<sup>19</sup> Leadership, guiding principles, organizational structures, staff competence in geriatrics, interdisciplinary resources and processes, patient- and family-centered practices, and an adapted physical environment have been identified as elements of a framework for geriatric acute care in the United States.<sup>20</sup> Zero organizational tolerance toward ageism, an integrated process of geriatric care across the organization, transitions management across acute care and the community, clinical decision-making assistance, and optimized physical environments have been identified in an adapted approach for Age-friendly Hospitals in Quebec, Canada.<sup>21</sup>

Contributing to these foundations, the Regional Geriatric Programs (RGPs) of Ontario—organizations providing leadership to support service delivery, education, and advocacy for frail older adults—have articulated a five-domain framework for Senior-Friendly Hospital (SFH) care.

- **Organizational Support.** There is leadership and support in place to make senior-friendly care an organizational priority. Hospital leadership committed to care that is friendly to older adults empowers the development of human resources, policies and procedures, caregiving processes, and physical spaces that are sensitive to the needs of frail individuals.
- **Processes of Care.** The provision of hospital care is founded on evidence and best practices that acknowledge the physiology, pathology, and social science of aging and frailty. Care is delivered in a manner that encourages continuity within the healthcare system and in the community, so that the independence of older adults is preserved.
- **Emotional and Behavioral Environment.** The hospital delivers care and service in a manner that is free of ageism and respects the unique needs of individuals and their caregivers, maximizing satisfaction and the quality of the hospital experience.
- **Ethics in Clinical Care and Research.** Care provision and research are conducted in a hospital environment that possesses the resources and capacity to address unique ethical situations as they arise, protecting the autonomy of individuals and the interests of the most vulnerable.
- **Physical Environment.** The hospital's structures, spaces, equipment, and facilities provide an environment that minimizes the vulnerabilities of frail individuals, promoting safety, independence, and functional well-being.

This article describes a system-wide analysis of hospital-based care using the SFH framework, which began in summer 2010. It was at this time that the Toronto Central Local Health Integration Network (LHIN)—one of 14 regional health authorities in Ontario providing coordination of hospital- and community-based health services—prioritized functional decline in hospitalized older adults as a system-wide target for improvement. The SFH framework was adopted to guide an examination of the region's

15 adult hospitals, and an SFH self-assessment survey was developed and deployed. The subsequent summary report<sup>22</sup> was highly valued, and in winter 2011, the SFH self-assessment was redeployed across all 155 adult hospitals in the province through a collaboration of the 14 provincial LHINs and the RGPs of Ontario. SFH summary reports were generated for each of the 14 LHINs and together informed a provincial report of SFH care across the province.<sup>2</sup> The current article describes the results of this self-assessment, whose purpose was to determine the state of SFH care in Ontario, identify existing promising practices, and provide a baseline upon which to build quality improvement initiatives across the system.

## METHODS

### Participating Organizations

Every hospital in Ontario that serves adults participated in the SFH self-assessment (155 completed submissions). The following Ontario Hospital Association categories describe the hospitals participating in this study: teaching hospitals affiliated with an academic institution (11.0% of study cohort), large community hospitals (38.7% of cohort), and small hospitals serving a single community (32.3% of cohort). Specialty hospitals providing complex continuing care—whose case mix is similar to that of skilled nursing facilities in the United States—and rehabilitation (11.6% of cohort), mental health and addictions services (5.8% of cohort), and federal services (0.6% of cohort) were also included.

### The SFH Self-Assessment

The SFH self-assessment survey comprised 38 questions within the five domains of the SFH framework (Table 1). Initially piloted in the Toronto Central LHIN, it was refined in collaboration with all provincial LHINs and RGPs and distributed by the LHINs to the chief executive officers of all adult hospitals with instructions to return the completed survey within 2 months. It was accompanied by a background document describing the SFH framework<sup>23</sup> and a frequently asked questions document providing the context for this strategy. Three province-wide instructional teleconferences, attended by 48 sites, and individual coaching by telephone or e-mail that their local RGPs provided supported hospitals during this process.

### Data Analysis and Generation of LHIN-Level SFH Summary Reports

The quantitative and qualitative responses to the self-assessment survey questions from each LHIN's hospitals were aggregated in 14 LHIN-level summary reports. Quantitative results were sorted and analyzed using electronic spreadsheets. Qualitative responses were aggregated for each question, manually reviewed, and sorted into meaningful themes. Two to three clinicians familiar with their local health system and its services focused on older adults independently reviewed quantitative and qualitative results. Reviewers then met to discuss their independent

**Table 1. Examples of Senior-Friendly Hospital (SFH) Self-Assessment Questions**

<b>Organizational Support</b>
Has the Board of Directors made an explicit commitment to become a Senior-Friendly Hospital organization? (Yes/No, with comments)
Has a senior executive been designated as the organizational lead for geriatric/care of the elderly initiatives? (Yes/No, with comments)
<b>Processes of Care</b>
Does your organization have protocols and monitoring metrics for care to address the following issues? (Checklist format for the following clinical areas: high-risk screening, delirium, falls, continence, pressure ulcers, restraint use, functional decline, adverse drug events, hydration/nutrition, pain, sleep management, responsive behaviors, and elder abuse)
<b>Emotional and Behavioural Environment</b>
Do your staff orientation and education programs have defined learning objectives for seniors' care? (Yes/No, with comments)
Are age-sensitive patient satisfaction measures incorporated into hospital quality management strategies? (Yes/No, with comments)
<b>Ethics in Clinical Care and Research</b>
Does your staff have access to an ethicist to advise on ethical issues related to care of older patients? (Yes/No, with comments)
How does your organization address challenging situations in capacity assessment and decision-making? (Narrative response)
<b>Physical Environment</b>
Has your hospital conducted any senior-friendly environmental audits of physical space using peer-reviewed guidelines? (Yes/No, with comments)

The SFH self-assessment template consists of 38 questions structured around the five domains of the SFH framework. This table provides sample questions from each of the domains.

findings and reach a LHIN-specific consensus for each set of questions. These consensus findings populated the LHIN-level summary reports, organized under the SFH framework domains.

**Generation of the Provincial SFH Summary Report and Recommendations**

Data from the 14 LHIN-level summary reports were further aggregated into a provincial data set. Three clinical reviewers (KW, DR, BL) used the procedures described above to analyze the aggregated quantitative and qualitative data and reach consensus over the findings. These consensus findings were drafted into a provincial summary

report, and each LHIN and RGP reviewed them to ensure agreement with its findings and recommendations.

**RESULTS**

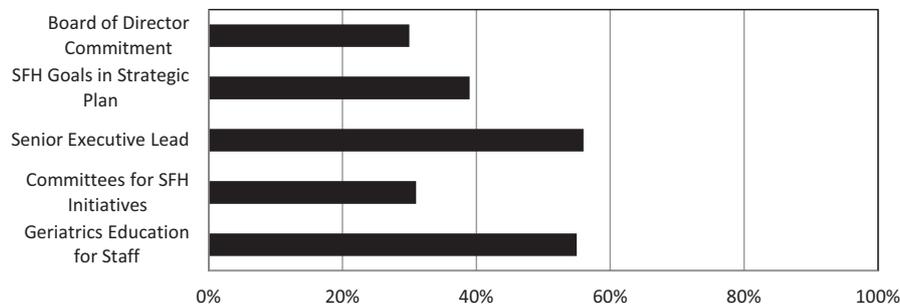
**Organizational Support**

To examine the degree of formal commitment to becoming a SFH, organizations were asked whether they had made SFH-related obligations at the board of director level or within their written strategic plans. Thirty percent of Ontario hospitals have made commitments at the board of director level, and 39% have explicit SFH goals in their strategic plans. The assessment also identified the leadership and support structures in place to coordinate action toward SFH commitments; 56% of hospitals have assigned a senior executive to lead geriatrics activities, and 31% have convened hospital committees to work on geriatrics-focused initiatives (Figure 1).

Hospitals in all regions of the province, especially in rural and small communities, expressed ongoing challenges in recruiting personnel with sufficient preparation in the care of older adults. The self-assessment examined the extent to which hospitals provide in-house continuing education to develop frailty-focused skills of clinical and support staff. Fifty-five percent of hospitals provide geriatrics training to staff (Figure 1). There was variation in the scope of these initiatives, and in the majority of cases, training was focused on specialized departments or linked to specific clinical projects. Eight hospitals across the province described organization-wide training initiatives that include some or all of the following components: training in sensitivity to older adults for all hospital staff (clinical, nonclinical, leadership), clinical geriatrics skills development for front-line clinicians, and formal mentorship to develop and empower in-house geriatrics champions.

**Processes of Care**

There are many areas of clinical practice in which frail older adults are especially vulnerable. To explore the awareness and attention paid to important clinical areas, hospitals were asked whether they had implemented a protocol or policy and a monitoring process for high-risk screening, delirium, falls, continence, pressure ulcers, restraint use, functional decline, adverse drug events,



**Figure 1.** Organizational support for a senior-friendly hospital (SFH). Hospitals were asked whether they had formal board of director commitment for SFH, written goals pertaining to SFH in their strategic plan, senior executive leadership for SFH, committees to implement SFH initiatives, and geriatrics education for their staff (n = 155).

hydration and nutrition, pain, sleep management, responsive behaviors, and elder abuse. Falls, adverse drug reactions, pressure ulcers, restraint use, and pain were clinical areas with more-frequent implementation of protocols and policies—present in more than 80% of the province's hospitals (Figure 2). Protocols for delirium were reported in 62% of hospitals, and monitoring of delirium in 34%. Protocols or monitoring for the remaining clinical areas were less frequently reported (Figure 2).

### Emotional and Behavioral Environment

This domain of the SFH framework focuses on the ability to provide a relationship-centered environment sensitive to the needs of older adults and family members, creating an atmosphere of respectful engagement. Sixty-one percent of hospitals offered programs or processes to help older adults feel informed and involved in their care. Virtually all hospitals had procedures to solicit and review patient satisfaction, and 28% described age-sensitive considerations within these procedures—such as age-stratified analysis of survey data—to capture the needs and preferences of older adults (Figure 3).

### Ethics in Clinical Care and Research

Ethical challenges frequently arise in the care of frail hospitalized older adults, such as the determination of capacity and consent to treatment and advance care planning. Eighty-three percent of hospitals had an in-house clinical ethicist or an interprofessional ethics team to support staff, patients, and families during complex situations and clinical decisions (Figure 3). Seventy-eight percent of hospitals had policies guiding advance care directives (Figure 3). Many of these policies were limited to an individual's resuscitation decisions. Promising practices in the area of advance directives took a more-comprehensive approach that encouraged individualized care planning for a full range of issues.

### Physical Environment

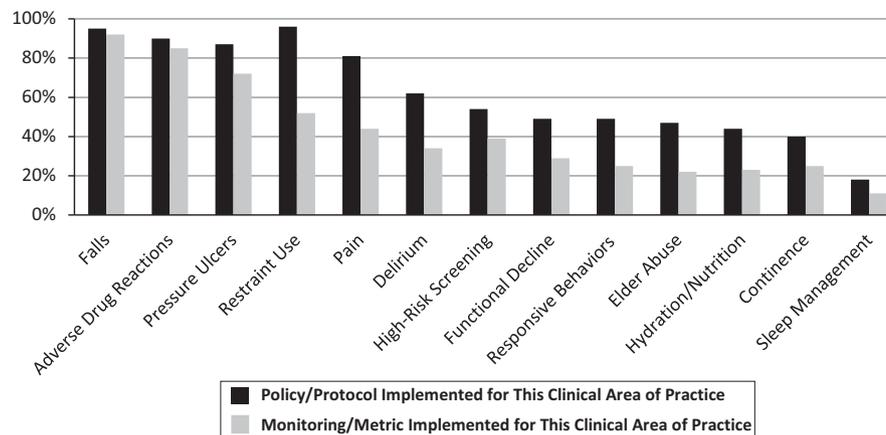
Hospitals across the province frequently described their outdated physical environments as a significant barrier to providing care that is friendly to older adults. The majority continue to use generalized guidelines such as building code and accessibility legislation when planning their physical spaces and furnishings. Thirty-four percent of hospitals used evidence-informed literature providing tools and resources for design that is friendly to older adults<sup>24-26</sup> in environmental audits and physical space planning (Figure 3).

### Promising Practices and Recommendations for SFH Care in Ontario

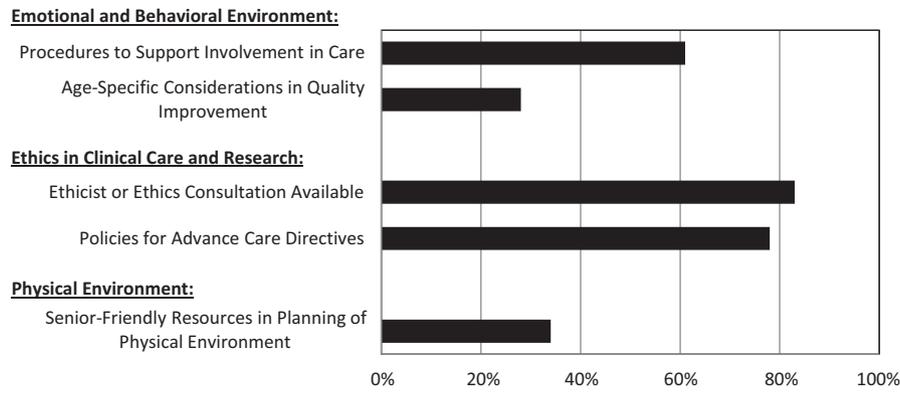
The summary report identified many promising practices implemented in hospitals across the province, from small community hospitals in rural locales to academically affiliated organizations in large urban centers. Identifying these practices, services, and organizational structures—already put in place by one or more hospitals—informed the development of 12 recommendations supporting hospitals in their commitments to being friendly to older adults. These recommendations and examples of related practices are listed according to SFH framework domain in Table 2.

## DISCUSSION

The summary report on SFH care provided a snapshot of hospital care for older adults across a large area. The SFH framework has been used previously to describe geriatric care in specialized care environments such as emergency departments.<sup>27</sup> To the knowledge of the authors of the current article, this article describes the first large-scale application of a conceptual framework to describe hospital practices across a provincial system. This led to the identification of promising practices and recommendations to support the development of hospitals that are friendlier to older adults. The fact that they are based on existing or



**Figure 2.** Processes of care: degree of implementation of protocols and monitoring for clinical risk areas. Hospitals were asked whether they had implemented a policy or protocol and a monitoring procedure or metric for 13 clinical areas of particular relevance to older adults ( $n = 114$ , results from three of the 14 local summary reports were excluded because of format inconsistencies that prevented their inclusion in aggregated data).



**Figure 3.** Emotional and behavioral environment, ethics in clinical care and research, and physical environment characteristics. In the emotional and behavioral environment domain, hospitals were asked whether they had formal procedures to support individual and family involvement in care and whether they incorporated age-specific considerations in their satisfaction or quality improvement initiatives. In the ethics in clinical care and research domain, hospitals were asked whether they had a clinical ethicist or an ethics consultation team available and whether they had formal policies to address advance care directives. In the physical environment domain, hospitals were asked whether they used design resources for physical design that is friendly to older adults in the planning of their physical environment (n = 155).

planned practices across the hospital system supports the feasibility of the recommendations.

The organizational support domain emphasizes the important role of senior leadership and strategic alignment. This study found that executive support for hospitals that are friendly to older adults, although emerging, remains an opportunity for improvement in Ontario. In related research focused on hospital-wide delirium management,<sup>28</sup> support from senior management, nursing, and physician leaders was the most important factor determining successful hospital-wide implementation. Similarly, a recent review examining iatrogenic disability in older hospitalized adults suggests that providing optimal care for frail individuals requires specialized interventions and a focus on organization-wide structures and procedures concerning elderly persons.<sup>29</sup>

Caring for older adults is complex and multidimensional, requiring expertise typically acquired after formal schooling in health and service disciplines.<sup>30</sup> In all areas of the province, hospitals found it difficult to recruit employees with experience in geriatrics, highlighting the need for continuing education to build skills required for the care of older adults. In this study, 55% of hospitals offered training in geriatric care. In the majority of cases, the described education was provided to a small group of staff linked to specific clinical projects occurring in one or more departments. Eight hospitals described organization-wide education with specifically tiered content customized to clinical and nonclinical staff. Perhaps not surprisingly, these organizations also reported high levels of commitment in the organizational support domain. With insufficient numbers of geriatrics-prepared healthcare workers, continuing education and peer-based leadership are important ways for hospitals to develop the necessary expertise from within to provide high-quality care to frail older adults.

All hospitals confirmed existing procedures to solicit and review patient satisfaction, but only 28% described aging-sensitive considerations in their patient satisfaction activities, such as bedside assistance with unit-based questionnaires or age-stratified analysis of hospital satisfaction

results. Traditional approaches to patient satisfaction, such as postadmission questionnaires, may not capture the experience of older adults in acute care. Older inpatients tend to answer satisfaction surveys differently than younger people, in ways that often fail to capture their actual hospital experience.<sup>31</sup> In qualitative studies examining the experience of older adults in the hospital and their family members, such focused issues as the extent to which self-identity is maintained, personal connections are created, and involvement in decision-making and care is encouraged determine positive perceptions.<sup>31,32</sup> Adjustments to patient satisfaction procedures that reflect these focused determinants should be examined.

In the ethics domain, the majority of hospitals reported formal approaches to observe advance care directives. A more-detailed analysis of these procedures revealed that the vast majority addressed the single question of resuscitation during an arrest event. The lack of policies and procedures to inform more-comprehensive advance care planning is an example on which many hospitals in the system fall short of meeting the diverse needs and values of patients. When considered with the described shortcomings in patient satisfaction, it may be that relationship-centered and ethical processes—so important in maintaining a sense of well-being and engagement with older adults—are being paid insufficient attention.

Hospitals across the province reported that outdated physical environments were a significant barrier to the delivery of care that is friendly to older adults. Aging structures are not ideal for older adults; many were constructed when patients were typically younger, and existing building codes placed little emphasis on function, accessibility, and sensory needs. Despite this broad acknowledgment, generalized building codes and accessibility guidelines remain the primary resource for the design and planning of physical spaces. Physical design resources that emphasize principles that are friendly to older adults can guide planning of physical spaces that maximize physical and cognitive functioning of the most at-risk individuals. In Victoria, Canada,

**Table 2. Promising Senior-Friendly Hospital (SFH) Practices Reported by Hospitals and Associated SFH Recommendations**

SFH Domain	Specific Activities Reported by Hospitals and Identified as Promising Practices	Recommendations to Support SFH Care
Organizational Support	Hospital leadership supports SFH care (e.g., strategic plan commitments, board of director endorsement, formal SFH committees, and designated leadership) Human resources development, including older adult sensitivity training for all staff, clinical geriatrics skills development for clinicians, training and empowerment of geriatrics champions Engaging older adults and community healthcare partners in strategic planning and development processes (e.g., durable committee structures, focus groups, interviews)	Establish board and strategic plan commitments for a SFH Designate a senior executive or medical leader in the hospital to lead and be responsible for initiatives that are friendly to older adults across the organization Train and empower clinical geriatrics champion(s) to act as a peer resource and to support practice and policy change across the organization Commit to the training and development of human resources through development of clinical skills focused on older adults
Processes of Care	Prevention of delirium and functional decline (e.g., implementation of Hospital Elder Life Program, <sup>13</sup> early mobilization initiatives) Models of care that encourage teamwork and interprofessional practice (e.g., Acute Care for Elders <sup>11</sup> units, geriatric assessment teams in the emergency department, specialized geriatric services offering consultation within hospital and in the community) Care transition enablers (e.g., early discharge planning, partnerships with community services for assessment or respite in the community, nurse-led outreach programs that visit and support long-term care facilities)	Implement interprofessional protocols across hospital departments to optimize the physical, cognitive, and psychosocial function of older adults; these processes should include high-risk screening, prevention measures, management strategies, and monitoring and evaluation processes Support transitions in care by implementing practices and developing partnerships that promote interorganizational collaboration with community and post-acute services
Emotional and Behavioral Environment	Formal mechanisms to better engage individuals and families in care planning and delivery (e.g., shift change reports conducted at the bedside, patient and family participation in team rounds and goal-setting) Quality improvement strategies designed with consideration of the needs of older adults and other frail populations (e.g., volunteers who provide bedside assistance for daily menu selections and for satisfaction surveys, written materials produced with large print, hot soup available at all hours in the emergency department)	Provide all staff, clinical and nonclinical, with sensitivity training for older adults to promote a culture that is friendly to older adults throughout the hospital's operations Incorporate a perspective that is friendly to older adults into patient-centered care and diversity practices, so that the hospital promotes maximal involvement of older adults and their families and caregivers in their care, consistent with their personal values (e.g., cultural, linguistic, spiritual)
Ethics in Clinical Care and Research	Clinical ethicists or an ethics consultation service is available for staff, individuals, and families Refresher training offered to keep hospital staff mindful of ethical challenges and their complexities (e.g., case study presentations, in-services) Formal policies and procedures for capacity and consent, and advance directives (encompassing more than resuscitation orders)	Provide access to a clinical ethicist or ethics consultation service to support staff, individuals, and families in challenging ethical situations Develop formal practices and policies to ensure that the autonomy and capacity of older adults are observed
Physical Environment	Audits of the physical environment using SFH design resources to identify priority improvements to physical spaces and surroundings Involving community older adults and clinical staff in physical environment planning and purchasing decisions	Use resources for physical design that is friendly to older adults, in addition to accessibility and building code guidelines, to inform physical environment planning, supply chain and procurement activities, and ongoing maintenance Conduct regular audits of the physical environment and implement improvements informed by design principles that are friendly to older adults and by personnel trained on the clinical needs of frail populations

Hospitals described practices, policies, and organizational structures that they had implemented to provide care and service to older adults. Leading practices were identified and helped inform a set of recommendations to support hospitals in their work of becoming friendly to older adults. The critical practices are listed in this table, along with the SFH recommendations listed in the provincial summary report.

recent construction at the Royal Jubilee Hospital was purposefully designed and built to incorporate design principles that are friendly to older adults. This did not increase costs of design and construction, and among other successes, the hospital reported lower fall rates, fewer infectious outbreaks, and less-frequent use of anti-psychotic medication that were attributed to the facility's design features,<sup>33</sup> although these changes have not been monetized.

An important finding of this analysis was identified within the processes-of-care domain. Although hospitals recognized the importance of interventions to prevent delirium and functional decline, these had less seldom been implemented. These are especially important care gaps, because hospitalization-related delirium and functional decline are linked to other adverse clinical outcomes and impact length of stay and hospital discharge. Growing evidence demonstrates that clinical interventions targeting

delirium and functional decline can lead to cost-effective improvements in individual and system outcomes—namely, better physical function, greater satisfaction, and lower rates of long-term care admission.<sup>14–16</sup> For these reasons, SFH quality improvement initiatives to better address hospital-acquired delirium and functional decline were identified as priorities for action in Ontario hospitals.

The SFH strategy—a collaboration of the LHINs and the RGP of Ontario—demonstrates how the different strengths of government and healthcare support agencies can cooperate to increase system-wide awareness and lead to action toward quality improvement. This synergy has helped to prompt positive action across the system. For instance, several of the LHINs recruited SFH coordinators and continued to collaborate with their local RGP to promote SFH action in their regions' hospitals. Organizations who had not previously prioritized senior-friendly care reported that the process of completing the SFH self-assessment itself enhanced their awareness of frailty-focused practice, and a number of hospitals subsequently designated executive leadership to champion care portfolios that were friendly to older adults, whereas other organizations launched corporate-wide SFH strategies. Models of hospital care that are friendly to older adults have demonstrated better clinical outcomes, and the economic analyses of these programs have not demonstrated increased costs.<sup>34</sup> The ongoing development of SFH care may bring benefits to individuals and the health system alike.

After the identification of delirium and functional decline as clinical priorities, the LHINs convened two provincial working groups. The SFH Promising Practices Toolkit working group used a Delphi voting process to appraise and select a menu of clinical tools supporting hospital practice in delirium and functional decline. A web-based SFH toolkit was constructed from the results of these deliberations (available at [www.seniorfriendlyhospitals.ca](http://www.seniorfriendlyhospitals.ca)). The SFH toolkit also includes a knowledge-sharing workspace to encourage collaboration and mutual learning across the system. A second interprofessional collaborative, the SFH indicators working group, was tasked with identifying accountability indicators for organization- and system-level monitoring of hospital-acquired delirium and functional decline. A protocol involving a Delphi panel and consensus meetings was executed to identify the indicators and draft preliminary technical considerations. These indicators are being tested in 44 hospitals representing diverse practice settings across the province. Health Quality Ontario—a government agency tasked with measurement and public reporting of healthcare quality through provincial legislation—mandates hospital reporting of quality indicators for infections, hand hygiene, surgical safety, and mortality, but there are no standardized quality indicators specifically addressing hospital care of vulnerable older adults. The results of the SFH Indicators testing will inform the potential use of these metrics within quality improvement mechanisms and may help establish future system-wide standards for SFH care.

This analysis yielded important findings, and the process of collecting information has already stimulated some system change, although there are limitations worth mentioning. Hospital organizations were typically engaged in

multiple initiatives, and these competing demands on the individuals performing the self-assessment affected their ability to complete the self-assessment in detail. There were technical variations in existing clinical data reporting (e.g., for falls and pressure ulcer rates), making it difficult to compare results across the system. Different subjective interpretations of the self-assessment survey's qualitative inquiries occasionally limited direct thematic comparisons. To minimize the potential for these variations, teleconference training sessions and individual consultation were provided to the hospital staff completing the surveys. RGP reviewers also contacted hospital staff directly when their submitted responses required clarification or checks for accuracy. To minimize the effect of contextual variations in the generation of summary data, two or three clinically trained reviewers, all knowledgeable in their local health system and its older adult-focused services, read the completed SFH self-assessments from each LHIN. Reviewers worked independently to develop their analyses before meeting to identify consensus findings. The provincial summary was built from the 14 LHIN-wide reports, generated by different RGP teams across the province. To promote consistent interpretation of the data, the RGP teams convened by teleconference before and throughout data analysis and report writing. Finally, all RGP teams reviewed the report and recommendations were made to reach consensus and minimize minor differences in context and interpretation. The final report was a product of numerous rounds of consensus and represented a collaborative provincial effort.

The work described in this article illustrates the benefits of large-scale collaboration, helping an entire healthcare system learn and work together toward better health outcomes for the growing population of older adults. Throughout this work, the SFH framework promoted an organization-wide quality improvement perspective. The testing of a self-assessment scale guiding the progression of hospital-wide geriatric acute care practice through four progressive stages was recently described.<sup>35</sup> Future work developing and evaluating the SFH self-assessment survey may lead to the evolution of a Senior-Friendly designation program in Ontario, adaptable to other jurisdictions, that encourages a holistic, multidimensional approach to the management of frailty and complex clinical challenges.

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**Author Contributions:** Wong: study concept and design, acquisition, analysis, and interpretation of data, preparation and review of final manuscript. Ryan: analysis and interpretation of data, preparation and review of final manuscript. Liu: study concept and design, analysis and interpretation of data, preparation and review of final manuscript.

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