Developing an Integrated System of Care for Frail Seniors in Waterloo-Wellington

Results of a Consultation Process to Identify System Strengths and Gaps

Submitted to the

Waterloo Wellington Local Health Integration Network

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October 20 2011

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EXECUTIVE SUMMARY

Introduction

Frailty is a state of inherent vulnerability that predisposes to poor health outcomes when an affected person is challenged by a health stressor. Frailty is most often seen in older individuals and results from the accumulation over time of multiple health deficits across multiple physiologic systems. As a chronic condition, frailty requires an approach to care that includes not only the identification and management of these multiple deficits, but also the anticipation, management and prevention of the health stressors that can precipitate poor health outcomes. The current health care system is fragmented and not senior friendly, and therefore constitutes a significant health stressor for frail seniors. Integrated systems of care for frail seniors have been developed to improve quality, coordination, and continuity of care for the elderly as well as to increase efficiency and cost-effectiveness of health and social services. Optimal management of frailty is best organized using the Chronic Disease Prevention and Management (CDPM) (model), in which all health services are well integrated.

Successful models of care integration share a number of characteristics which can be grouped under three headings:

Administrative Best Practices: These include commitments by health care funders and providers, which are best enshrined as policy, to provide a full-range of client-centered services (medical and psychosocial) that are determined according to a standardized comprehensive assessment of need. Inherent to these best practices are electronic health systems to facilitate information sharing and support ongoing data analysis for evidence-based quality improvement. Financing of health care should be sufficiently flexible to ensure the delivery of the most appropriate services, as determined by client needs.

Clinical Best Practices: These include single and/or coordinated mechanisms to access services, standardized comprehensive assessment, consistency in case-management over time, seamless transitions between community support services, and primary, secondary, and tertiary care providers, and greater integration of primary and specialty care in order to build capacity within primary care for proactive frailty management and provide timelier specialist consultation.

Coordination Best Practices: These include greater administrative and financial integration, embedding spanning mechanisms within health care and community services to promote greater communication and coordination, and support for client centered system navigation.

The Waterloo Wellington Local Health Integration Network (WWLHIN) is interested in developing and implementing an integrated clinical services plan for frail seniors. To assist with this objective, a consultation process was conducted with interested key stakeholders across disciplines and health care sectors, to identify current system strengths and ascertain gaps and barriers to address in order to develop a truly integrated system of care to meet the needs and

optimize outcomes of frail seniors. This report describes the methods and results of this consultation, and discusses how these results could be used to inform the development of an integrated system of care for frail seniors in the WWLHIN.

Methods

The objectives of this consultation process were to identify: 1) unmet needs and challenges faced by frail seniors in this region; 2) changes that are needed to existing health services for frail seniors; and 3) new services that are needed to meet the health needs of frail seniors in this region.

The consultation process consisted of focus group interviews with a purposeful sample of 186 health professionals and service providers across disciplines and sectors, representatives from organizations representing and serving frail seniors, and consumer groups. These interviews were conducted between February 2 and July 6, 2010 in various locations across the region.

Results

System Strengths

Throughout the consultation process a number of existing system strengths were identified. While not an exhaustive list of WWLHIN services, focus group participants identified key programs including Geriatric Emergency Management Nurses, Geriatric Clinical Nurse Specialists/ Nurse Practitioners, a Geriatric Assessment Unit, geriatric consultation teams supported by geriatricians and geriatric psychiatrists, Intensive Geriatric Services Workers, Family Health Teams/ Community Health Centres, capacity building in primary care for dementia care (new Memory Clinics, Psychogeriatric Resource Consultants, Complex Continuing Care, Alzheimer Society/ First Link programs, Adult Day Programs and overnight respite, Home First and plans for increasing options for supported housing.

Challenges Faced by Frail Seniors

Focus group participants identified a number of unmet needs and challenges faced by frail seniors in the WWLHIN, including: 1) characteristics inherent to an aging population, such as multiple comorbidities, difficulties adhering to management and therapeutic recommendations, and language and cultural barriers; 2) difficulties accessing care and services due to limited transportation options, long wait times and inability to navigate a complex and disjointed system of care; 3) challenges related to living in rural areas such as isolation, limited transportation and access to community services; and 4) restrictions that result in a system of care that is not senior friendly, lacking in affordable and appropriate housing, with limited human resources capable of providing appropriate geriatric care, and poor communication across and within sectors.

Current Gaps in Services for Frail Seniors

Focus group participants identified areas in which more or better services were required, including the need for more assistance with instrumental activities of daily living through support from Personal Support Workers, more Adult Day Programs, and respite for caregivers. System gaps included difficulties in accessing isolated frail seniors or other underserved populations and providing appropriate or culturally sensitive care, delayed access to services leading to a crisis-orientated system rather than a proactive approach to care, and a lack of a shared-care approach between specialty services and primary care.

System Improvements Needed to Create an Integrated System of Care for Frail Seniors

Focus group participants suggested several initiatives that would contribute towards further system integration, including:

- supporting system navigation for frail seniors and health care providers, with improved
    - communication and linkages between providers, health sectors, and with empowered seniors;
    - continuity of care and coordination;
    - improved access to services and care;
- providing adequate human resources including:
    - multidisciplinary team approaches to care in all care sectors;
    - enhanced and timelier preventive measures, consultation, and follow-up; and
    - enhanced capacity building in primary and specialty care sectors.

Discussion

The main messages stemming from the focus group interviews were as follows:

- Despite current strengths and expertise in geriatric care and services for the frail seniors in Waterloo Wellington, the current system of care for frail seniors has significant gaps and is not prepared for the aging of the population.
- There is general consensus that further system integration is needed in this region in order to provide better care for frail seniors. Aging in place is viewed as a foundational principle of care of frail seniors, and the primary care sector is ideally viewed as a cornerstone of an integrated system of care for frail seniors.
- There is a need to improve linkages and ensure optimal communication between family practices, family health teams and community health and support services, and secondary and tertiary care providers, facilitating a more proactive and preventative approach to the management of frailty.

Focus group participants specifically identified a need across the WWLHIN for interventions whose effectiveness has been demonstrated in the literature and that are consistent with CDPM and care integration. These models include: the Hospital Elder Life Program, transitional care programs, primary care based programs, comprehensive geriatric assessment and intervention, and system navigation support. Hospitalized Elder Life Programs prevent hospital-acquired

delirium and functional decline, and ensure that frail seniors are in a strong and good position to return to the community. Transitional Care programs and system navigation support can ensure that frail seniors are supported as they transition across sectors, reducing the risk of hospital readmission and helping preserve function. Transitional care programs can be further supported by enhanced primary care programs providing comprehensive assessment and integrating specialist support. Targeted comprehensive geriatric consultation can improve patient outcomes and reduce the need for acute care services and institutionalization. If properly implemented and integrated, these programs have the capacity to reduce health care costs.

Conclusions

The results of this priority setting consultation process lend support for several strategic directions related to the development of an integrated system of care for frail seniors. Remarkably, the gaps in current services identified by focus group participants, as well as the solutions they propose, are highly aligned with the CDPM as well as with the literature on best-practices for system integration, lending substantial credibility and validity to these findings.

Improving the care of frail seniors in the WWLHIN will require greater integration of all existing services in order to facilitate a more proactive and preventative approach to the management of frailty. Enhancing the capacity of the primary care sector to manage frail seniors is an essential prerequisite, as are improved linkages with community health and support services, and support from specialists for capacity building and complex cases. Fundamental to the success of system integration are the promotion of self-care and greater support for system navigation to augment case management and care coordination. Common standardized comprehensive assessment systems and shared access to information systems (e.g., electronic medical records) are essential. Focus group participants specifically proposed a number of service enhancements that would facilitate integration and that are well described in the literature and have been shown to improve outcomes in frail seniors in a cost-effective manner. A common theme arising from this consultation process was the need to ensure that an optimal administrative and financial infrastructure be in place to support integration, evaluation and quality improvement.

This report proposes a number of recommendations to the WWLHIN in order to successfully embark on the path to full system integration, building on current system strengths. Achieving the goal of integration will require time, but will ultimately lead to a more sustainable system of care that manages frailty proactively and prevents emergency department (ED) visits and alternate level of care (ALC) designation in the first place.

INTRODUCTION

Population aging is a well documented fact. In Ontario, the number of seniors aged 65 and over will increase to 4.2 million by 2036. By 2017, seniors aged 65 years and older will take up a larger share of the population than children aged 0–14 years, a share that will continue to grow faster than that of all other age groups [1]. Population aging will slow after 2031, by which time all baby boomers will be older than 65 years of age and the number of deaths will increase from 89,000 per year in 2009 to 137,000 in 2036. By 2036, almost 2.2 million Ontarians will be over 75 years of age, 261,000 of whom will be over 90 years of age. Population growth in Waterloo region is expected to be significantly higher than the provincial average (51.8% vs. 34.3%). The combined population of Waterloo and Wellington regions is expected to increase from 732,600 in 2009 to 878,400 in 2021 and 1,079,500 in 2036. The number of seniors over 65 years of age in Waterloo and Wellington regions will more than double from 89,270 in 2009 to 205,170 in 2036 [1]. In Waterloo region, the prevalence of dementia is expected to increase over 28% (to 10,942) by 2016 compared to 2008 [2]. Seniors are important users of the health care system, particularly of acute care. In 2009 in Waterloo Wellington, 18.8% (45,098) of all Emergency Department (ED) visits were by seniors over 65 years of age and seniors over 65 years of age assumed 81.7% of Alternative Level of Care (ALC) stays (33,807 days) and 48.4% of hospital lengths of stay (210,702 days)[3]. Most of these seniors can best be characterized as frail.

Frailty

Frailty is most often seen in older individuals and results from the accumulation over time of multiple health deficits across multiple physiologic systems [4,5]. Frailty is an inherent state of vulnerability that predisposes to poor health outcomes when an affected person is challenged by a health stressor. These outcomes include progressive functional decline, deconditioning, disability, dependence, institutionalization, and death [4,6-9]. Health stressors can include acute medical or surgical conditions, adverse drug reactions, economic deprivation, inadequate social support, as well as communities and health care systems that are not senior-friendly.

Frailty does not equal disability [4]. While most disabled persons are frail, not all frail persons are disabled. Some seemingly independent seniors may tolerate an acute illness relatively unscathed, while others may be more frail and at greater risk of complications. Frailty management should aim to prevent adverse health outcomes in all frail seniors, including those who have not yet suffered from its complications. Furthermore, frailty is usually associated with chronic disease [4]. Though not all persons with chronic disease are frail, most frail persons have at least one chronic disease, usually clinically manifest but at times also subclinical. The risk of frailty increases with the number of chronic diseases. Optimal management of frailty requires that chronic diseases be optimally managed as well.

Frailty is a chronic condition that can be successfully managed with an approach to care that includes prevention of health stressors and the early identification and management of contributing and accumulating deficits [10,11]. While some of these deficits are most amenable to “medical” management, this approach alone is not sufficient. For example, enhancing physical

activity is a key component of frailty management, and has been shown to be beneficial at almost any stage of frailty. It should be available to those who wish or need to participate. Furthermore, the promotion of healthy aging requires a healthy senior friendly environment, proper nutrition, and attention to community supports and connections. Socially connected and active seniors are healthier. Poor social support is a health stressor, and in a frail individual may tip the balance from relative independence to institutionalization [12]. The optimal management of frailty therefore requires the integration of the "medical" and of the "psychosocial" approaches to care.

Such integration can be achieved by managing frailty under the Chronic Disease Prevention and Management model (CDPM). CDPM refers to a system of care that supports the adoption by individuals with chronic illness of behaviours intended to maintain their health and reduce the need to access health care [13,14]. This approach focuses on the processes that span the continuum of care from prevention to long-term maintenance, with the goal of improving outcomes for persons with chronic disease [15]. Within this model, care is multidisciplinary, patient-centred and builds on six evidence-based core elements designed to work together to strengthen the patient-provider relationship and improve health outcomes (Table 1). These elements are designed to cut across health care sectors and encourage a collaborative relationship between the patient and a multidisciplinary care team. The intensity of the care provided to patients is tailored to their risk of an adverse outcome. Care coordination among providers as well as standardized and shared clinical information and decision support systems are essential. CDPM has been shown effective at improving health outcomes and reducing resource utilization for a number of conditions, including diabetes, cardiac disease, COPD and mental health [14,16].

A number of implications arise from adopting the CDPM as the preferred approach to senior care. Firstly, most seniors with at most mild frailty do well with low-intensity CDPM delivered either by a primary care physician or nurse practitioner [14]. In other words, the bulk of senior care can and should be delivered at the primary care level, which is considered to not only include family physicians, but also other front-line providers, including nurse practitioners, hospitalists, ED, long-term care facilities, or any other service or care provider, inpatient or otherwise. Seniors with mild to moderate frailty will require targeted, more intensive interventions [14]. A substantial body of literature exists demonstrating that comprehensive geriatric assessment and care is effective at improving health and reducing health service utilization [17-20]. However, there is general consensus supported by evidence that care for such seniors can be successfully provided in a primary care setting with specialist support [14,21-23]. Direct specialist input has been shown to be most effective when targeting moderately to severely frail seniors at highest risk of poor outcomes [23,24]. Therefore, most frail seniors will require multidisciplinary care delivered in a primary care setting that has access to specialists that either providing capacity building support, or direct clinical support for selected individuals [13,14,21]. Finally, 5-10% of seniors with advanced frailty will require high-intensity CDPM, with case-coordination and management and close coordination of primary care and specialists providing direct clinical services [13,14].

Integrated Systems of Care

CDPM can only truly succeed in improving outcomes for frail seniors if the different providers and services that make up the health care system are well integrated. Integration is defined as a system-wide process of combining social and health services in order to meet the needs of the frail elderly through alignment across care settings of financial and administrative incentives and

Table 1: Elements of the Chronic Disease Prevention and Management model.

Essential element	Description
Community Resources and Policies	• Community programs, linkages to community care patient services, hospital outpatient services • Ensure care integration and care coordination across the health system, services and programs as well as multiple health conditions;
Health Care Organization	• Support improved access to care and services • Provide equitable funding across community-based and multidisciplinary resources and to ensure infrastructure support for integration; • Structure, goals values of an organization • Reimbursement environment
Self-Management Support	• Collaborative practice with patient/family to acquire skills and confidence with self-care, recognize changes in symptoms early to prevent disease exacerbations and avoid acute care use • Provide self-care tools, routine assessments, planned visits
Delivery System Design	• Multidisciplinary practice teams with division of labour to promote comprehensive and holistic care • Non-physician health care providers trained in chronic disease management • Physician focus on acute illness
Decision Support	• Provide patients, caregivers and health care providers through provision of evidence-based information and tools. • Integrate evidence-based clinical practice guidelines into daily practice
Clinical Information Systems	• Facilitate patient education, monitoring and follow-up, information sharing, accountability and quality assurance Reminder systems to help teams comply with practice guidelines • Feedback to health care providers about individual performance on targeted clinical outcomes • Registries for planning individual patient care and conducting population-based care

modalities, with the clinical practices of multidisciplinary teams in charge of providing health and social care [25-27]. In its current state, the Canadian health care system is poorly integrated and ill-suited to address the needs of the growing population of seniors [28]. Health care for Canadian seniors has been described as fragmented and uncoordinated, with negative incentives, lack of accountability, inappropriate and costly use of acute and long-term care resources, and with significant gaps in services [29]. Challenges include multiple entry points, service delivery influenced less by patient need and more by available contracted services, piecemeal care planning, redundant assessments and limited use of standardized tools, inappropriate use of costly services, long wait times for services and inadequate transmission of information [30].

Various models or systems of integrated care have been developed to improve continuity of care for frail seniors and to increase the efficiency and cost-effectiveness of health care and social services. Some programs attempt to improve coordination between services such as hospitals and home care. Others provide fully integrated services within one organizational structure, and still others are designed specifically around home care services. The most commonly described models for integrated care in the literature are: SIPA (Système de services intégrés pour personnes âgées en perte d'autonomie, Quebec, Canada [28]); PRISMA (Program of Research to Integrate Services for the Maintenance of Autonomy, Quebec, Canada [30]); PACE (Program of All-inclusive Care for the Elderly, USA [31,32]) and adapted versions (Wisconsin Partnership Program [33]) and CHOICE (Comprehensive Home Option of Integrated Care for the Elderly, Alberta, Canada [34]); S/HMO (USA [35,36]); Darlington (UK [37,38]); and the Silver Network Home Care Program (Italy [39]). These programs are well described in detail elsewhere [40,41].

Various levels of research evidence exist to support the effectiveness of integrated systems of care ranging from randomized controlled trials [28] to quasi-experimental non-randomized designs [30] and quasi-experimental pre-post designs [34]. Regardless of design, various evaluative studies of integrated systems have shown beneficial outcomes such as reduced functional decline, reduced caregiver burden, reduced hospital admissions and ED visits, either without increasing costs or actually reducing them [28,30,32-34,41,42]. The implementation of fully integrated models of care is considered feasible and provides a significant opportunity to improve health care delivery to frail seniors [41,43,44]. Despite some significant structural and philosophical difference among various models of care, common features of effective integrated systems of care have been identified and are summarized below using a classification proposed by Hollander and Price [27,28,45-48].

Administrative best practices

Service delivery in bureaucratic silos often results in duplication and prevents the identification of broader system efficiencies. Administrative support for system integration is essential, including commitments to:

1. sustainable funding and provision of a full-range of services, both medical and psychosocial, and that are delivered based on client and caregiver needs;
2. aligning funding to ensure equitable distribution of services;
3. strong and focused governance represented by all stakeholder groups, including frail seniors;
4. electronic information systems and shared clinical and administrative records;

5. ongoing data analysis and support for evidence-based decision-making and quality improvement, with an emphasis on client-specific clinical outcomes; and
6. provide sufficient tools and financial levers to promote coordination across settings and levels of care, provide health care providers with sufficient flexibility to develop the most appropriate and cost-effective care plans for clients, and promote interprofessional teamwork and health promotion (e.g. physician remuneration models that promote care provision to complex frail seniors, or that enable case managers to arrange for appropriate community supports and avert more costly institutionalization).

These commitments are best enshrined as policy, and are ideally facilitated by a single or highly coordinated administration and a single funding envelope.

Clinical best practices

Recruitment, retention and training strategies are required to ensure adequate and sustainable human resources knowledgeable in the care of frail seniors. In addition, clinical best practices required for system integration include:

1. a single or coordinated-entry system to enhance the user-friendliness and navigability of the health care system and maximize the likelihood that client and caregiver needs are identified and the most appropriate care offered. Single access points ensure that services are targeted on the basis of medical need and promote appropriate client volume and financial efficiency;
2. seamless connections and transitions between primary, secondary, and tertiary health care providers, and system navigation support for patients, family members/ caregivers, and health professionals;
3. a standardized, validated and reliable comprehensive system-level assessment to determine client needs and the development of care plans specifically tailored to meet those needs;
4. a single system-level classification system to facilitate the assessment of client levels of care, and permit the identification of lower risk clients who might be effectively and most appropriately cared for in a less costly setting, as well as service planning on a broader level;
5. ongoing case-management by a single case-manager to ensure optimal care and matching of needs to care services over time. While intensive case-management is most beneficial to the most vulnerable and high risk seniors, lower-risk clients and their caregivers benefit more from interventions for enhancing self-care and access to case-managers on an as-needed basis. Case managers are most effective when embedded into an interdisciplinary team, which then becomes responsible for both managing clients and dispensing services, thus promoting coordination and continuity of services as well as clinical and financial responsibility, rather than just as acting as service brokers;
6. greater emphasis on building capacity into primary care in order to identify and manage frailty earlier and prevent its complications, including indirect and direct clinical support from specialists. Integrated health systems provide enhanced community primary care, prevention and health promotion as a substitute for acute and long-term care. Active involvement of primary care physicians in the multidisciplinary team is a key mechanism promoting integration.
7. timely access to non-physician health providers to foster interdisciplinary care. Integrated programs are most effective when operating with a multidisciplinary care team; and

8. ongoing communication and involvement of clients and their caregivers, centered on their needs and increasing their engagement in self-care and system navigation skills.

Coordination best practices

Not only should components of the health care system be better coordinated with each other, they should also be coordinated with other health, social and human services.

1. Consider, where possible, administrative integration, particularly for defined jurisdictions or when targeting population groups with similar care needs;
2. Build into each component of the health system boundary spanning linkage mechanisms, such as specific staff positions acting as contact points to coordinate with similar counterparts in other sectors, and thus promote care coordination for clients with complex needs;
3. Consider, where possible, co-location of staff from different sectors involved in the care of complex seniors in order to facilitate the development of informal networks;
4. Create and maintain high-level cross-sectoral committees to develop policy and resource allocation frameworks;
5. Other considerations:
    a. Funding resources such as inpatient geriatric units as community resources;
    b. Integrate physician-consultants within home care providers;
    c. Integrate physical and mental health services more closely; and
    d. Fund community services to finance other services such as transportation.

Consultation on Integrated Clinical Services Plan (ICSP) for Frail Seniors

The Waterloo Wellington Local Health Integration Network (WWLHIN) is interested in developing and implementing an integrated clinical services plan for frail seniors. To assist with this objective, a priority-setting consultation process was conducted with interested key stakeholders across disciplines and health care sectors, to identify and set relevant priorities for an integrated system of care for frail seniors. This report describes the methods and results of the consultation to identify priorities for an integrated system of care for frail seniors, including the identification of:

- challenges / barriers to care for frail seniors;
- unmet needs and gaps in service delivery;
- improvements needed to linkages among health services;
- outcomes to measure effectiveness of care; and
- needs for education and capacity building.

METHODS

Dr. George Heckman and Ms. Jane McKinnon-Wilson (Geriatric Services Systems Coordinator, Trellis Mental Health Developmental Services) provided the focus for this consultation process, identified and recruited key stakeholders to particulate in the consultation process, developed the interview guide and conducted the interviews, and contributed to the analysis, interpretation of results and preparation of this report. Data analysis and interpretation was led by Loretta Hillier and Brooke Manderson. Assistance with planning and development of the interview questions was provided by Carrie McAiney and Sheri Burns from McMaster University, the Geriatric Access and Integration Network (GAIN) Council, and the Hamilton Niagara Haldimand Brant Local Health Integration Network (HNHB LHIN), Sandra Hanmer, prior CEO of the WWLHIN, and Drs. Nicole Didyk, John Yang, Sadhana Prasad and Linda Lee. Dr. Heckman was supported in this work by the WWLHIN and the Schlegel Research Chair in Geriatric Medicine of the University of Waterloo Research Institute on Aging.

Objectives

The objectives of this consultation process were to:

i) Identify unmet needs and challenges faced by frail seniors in this region;
ii) Identify changes that are needed to existing health services for frail seniors; and
iii) Identify key geriatric services that are needed to meet the health needs of frail seniors in this region and to identify priorities for an integrated clinical services plan for frail seniors.

Design

The consultation process consisted of focus group interviews with a purposeful sample of health professionals and service providers across disciplines and sectors, representatives from organizations representing and serving frail seniors, and consumer groups. Clearance for this study was provided by Office of Research Ethics at the University of Waterloo.

Participants

The Waterloo Wellington Geriatric Services Network represents various organizations, agencies, and professional groups who provide services to frail seniors across sectors, including acute care, long-term care, primary care, community support services, senior's housing services, Specialized Geriatric Services, the Regional Geriatric Program, mental health services, the Community Care Access Centre, and Public Health. The mandate of this group is to provide leadership in the identification, development, implementation and evaluation of strategies to improve the system of care for older persons with complex needs and their families across the WWLHIN. This network took on the responsibility of disseminating information about this initiative and recruiting interested parties to participate in the focus group interviews. Attempts were made to ensure representation across all communities of interest. Between February 2 and July 6, 2010,

20 focus groups were conducted in various locations across the region including, Kitchener, Waterloo, Cambridge, St. Jacobs, Woolwich, Mount Forest, and Fergus (see appendices).

Data collection

Interviews were conducted in-person by Dr. Heckman, Ms. McKinnon-Wilson, Brooke Manderson (MSc Student, University of Waterloo), and Susan Gregg (Trellis Developmental Services). All interview participants were provided in advance with the interview guide and questions (see appendices), and were asked to consider these questions and reflect on needs and priorities related to health services for frail seniors, as well as reflect on their own experiences or those of other frail seniors with the health care system. Interviews were conducted following focus group methods as defined by Krueger and Casey [49]. Moderators made efforts to elicit feedback from each member of the focus groups, and to guide discussions following the interview guide. Participation was voluntary and considered implied consent. Participants were informed that all data would be anonymized and presented as group data. Three interviews were recorded and transcribed. For the remaining interviews detailed notes of the discussions were recorded by two independent note takers. Notes were merged, generating approximately 200 pages of data across the 20 interviews. Participants were asked to verify that the summary reflected the discussion and were invited to make corrections or additional comments; this member check feedback was incorporated into the data analysis. Data saturation, whereby successive focus groups would confirm ideas identified by previous ones, was considered to have been achieved after the 20 focus groups, a notion supported by the initial data analysis [50].

Data Analysis

All of the interview and member check data were systematically analyzed by the research team using NVivo8 software (QSR International Pty. Ltd., Doncaster, Victoria Australia, 2008). Using line-by-line coding, common threads (codes) were generated; these codes were reorganized into categories which were then used to identify emerging themes. The analysis was a dynamic process involving the manual review of the transcribed interviews by research team members to verify the identified themes and overarching constructs represented in the data. There is support in the literature of using combined manual and computer assisted methods to ensure reliability and validity of qualitative data analysis [51]. Following each of the interviews the transcriptions and notes taken by recorders were summarized. Detailed summaries were sent to each of the focus group participants as a member check to ensure accuracy and credibility of reporting and to ensure internal validity [52,53]. Participants were asked to affirm that the data summary reflected the views discussed in the focus groups and were invited to make corrections or additional comments; very few requests for changes to the summaries were made, and most responses to the member check were the provision of additional information to support key results and themes. Member check results were incorporated into the analysis of the data and confirmed the authenticity of the interpretation of the data.

RESULTS

In total 186 individuals participated, with the number of participants per focus group ranging from 4 to 19 (average = 9). Interviews ranged from 1 to 1.5 hours. Participants represented community, primary care, acute care and long-term care sectors and included representation for all health disciplines including physicians (primary and specialty care), nurses (Registered, Registered Practical, and Advance Practice), social workers, physiotherapists, occupational therapists, pharmacists, dietitians, laboratory technicians, and CCAC case managers. Health administrators were represented from CCAC, local hospitals, and community health centres and family health teams. Also represented in these focus groups were 29 consumers and / or informal caregivers, including representatives from the Canadian Osteoporosis Patient Network, the Alzheimer Society and the various organizations and agencies making up the Waterloo Wellington Seniors Network and the Waterloo Wellington Dementia Network (see appendices).

System Strengths

Focus group participants identified a number of existing system strengths (Table 2).

Table 2: System strengths identified by focus group participants

Specialized Geriatric Services

- Geriatric Emergency Management Nurses
- Geriatric Clinical Nurse Specialists and Nurse Practitioners
- Psychogeriatric Resource Consultants
- Geriatric Assessment Unit and consultation support from geriatric specialists (medicine and psychiatry)
- Complex Continuing Care
- Intensive Geriatric Service Workers

Primary care services

- Family Health Teams and Community Health Centres
- Capacity building in primary care for dementia care (new Memory Clinics)

Community supports

- Alzheimer Society and First Link program
- Adult Day Programs and overnight respite
- Home First
- Plans for increasing options for supported housing

Specialized Geriatric Services: Care of frail seniors within ED and inpatient units was felt to have improved with the introduction of Geriatric Emergency Management (GEM) Nurses and clinics. Improved comprehensive assessment, care planning, system navigation support, follow-

up and communication with primary care were attributed to the GEM nurse role. Geriatric Clinical Nurse Specialists and Nurse Practitioners were seen as providing an additional source of expertise in the care of the elderly and facilitating access to care and care coordination. The Psychogeriatric Resource Consultants (PRCs) role was perceived as valuable to increasing care provider capacity, particularly in LTC, to manage complex behavioral problems and to facilitate access to specialized services. Assessment and management support from the Geriatric Assessment Unit at Freeport Hospital, and in particular consultation support from geriatric specialists was identified as critical, particularly for extremely complex cases or for frail seniors in crisis. The management of complex health issues for frail seniors in Complex Continuing Care was described as a WWLHIN strength.

Intensive Geriatric Service Workers (IGSWs): IGSWs were viewed as serving an important role in facilitating a smooth and seamless transition from the acute care to the community and for ensuring that clients follow treatment recommendations. The IGSWs are in a position to provide services and resources that are currently beyond the scope of the CCAC, particularly as related to their role in supporting system navigation, connecting clients with needed services, coaching clients on self-management and accompanying clients to services such as Adult Day Programs and congregate dining programs to facilitate interest and transition into these programs. The IGSW was viewed as reducing social isolation, increasing adherence to treatment recommendations, providing support in the absence of caregivers and family members and increasing communication among care providers and services regarding client progress.

Primary care services: The multidisciplinary care provided in Family Health Teams (FHTs) and Community Health Centres (CHCs) has increased frail seniors' access to interprofessional care and has the potential to play a much more significant role in increasing timely access to care, system navigation and transition between sectors. Recently established primary care Memory Clinics have increased the capacity to diagnose and manage cognitive impairment within primary care, thereby alleviating reliance on specialist care for less complex seniors and reducing wait times for specialist consultation for more complex seniors.

Community supports: The Alzheimer Society, via its First Link project, has played a significant role in increasing early access to information and support for caregivers and persons with dementia. Adult Day Programs (ADPs) and overnight respite play a significant role in providing social and recreational stimulation for socially isolated frail seniors at risk of institutionalization. Assistance with medication management, provision of nutritious meals and health monitoring within ADPs can serve to facilitate prevention and early identification of potential risks. Plans to increase the number of supportive housing options in the region was viewed as a significant step to supporting frail seniors in the community and reducing early or premature long-term care admissions. Home First provides a significant opportunity for supporting the transition of high needs frail seniors' from acute care back to their homes with the provision of services and supports upon discharge. When hospitalization is required, Home First aims to support frail seniors to return home on discharge prior to assessment for and/or admission to a Long Term Care (LTC) home or other appropriate care setting. Under Home First, transferring patients from hospital to a LTC home is considered only after all other community options are considered.

Reductions in Alternative of Level of Care (ALC) lengths of stays have been attributed to this program.

Challenges Faced by Frail Seniors

Focus group participants identified a number of challenges faced by frail seniors in the WWLHIN which are summarized in Table 3.

Table 3: Summary of challenges faced by frail seniors in the WWLHIN.

Characteristics inherent to an aging population

- Multiple comorbidities often require multiple appointments to address
- Tendency by some to resist care or decline services
- Family involvement impacts adherence to treatment recommendations
- Long-distance caregiving makes it difficult to facilitate care
- Language / cultural barriers

Accessing care and services

- Limited transportation
- Long wait times
- Difficult to navigate the system of care
- Limited care coordination and fractured transitions between sectors
- Financial considerations

Challenges compounded in rural areas

- Isolation and transportation issues
- Fewer services felt to be available or accessible

Shortage of affordable, appropriate housing

- Limited capacity for clients with complex behavioral problems
- Limited options for residents falling between independent living and LTC

System restrictions with respect to senior-focused care

- Limited capacity in primary care to manage frailty
- Limited home care services and restrictive criteria for home care support
- Limited respite for caregivers of persons with dementia
- Limited focus on 'patient-centered care'
- Limited input from all stakeholders in system design
- Overburdened care providers
- Inconsistent identification of patient needs among providers
- Limited access to geriatricians in LTC homes

Shortage of human resources

- Shortages in personnel across all disciplines
- Staffing ratios often fail to meet needs of people with behaviour problems

Limited capacity to provide geriatric care

- Limited expertise in care of the elderly
- Limited delirium prevention and management in hospitals
- Limited educational opportunities in care of the elderly
- Limited training on team/ interprofessional approaches to care

Limited communication across and within sectors

- Limited exchange of information
- Limited communication with caregivers
- Limited communication with frail seniors

Characteristics inherent to an aging population: Seniors, particular those aged 75 years and over, are often frail and burdened by multiple and complex comorbidities. Focus group participants identified that managing these comorbidities presents a significant challenge to care providers. Addressing one issue in isolation of another is inadequate: the application of the "one issue per visit" rule is still widespread among many primary care providers, even though this was widely recognized by focus group participants as counterproductive. The multiplicity of interrelated health issues experienced by frail seniors requires much time and effort to address, and multiple appointments, or preferably more lengthy ones, are needed. Complicating this challenge are wait lists and time constraints for services within the region, as well as the tendency of some frail seniors, particularly those with cognitive impairment, to resist or decline recommended services. Adherence with treatment recommendations can be further impeded by limited family support, particularly from family members who often live at a distance, language and cultural barriers, and frail seniors' limited understanding of the relationship between treatment recommendations, their health, and their ability to remain independent.

Accessing care and services: Focus group participants reported that accessing care and services is often challenging for frail seniors due to limited transportation options, long wait times for appointments and services, and financial concerns related to out-of-pocket costs associated with accessing care and services. Transportation barriers can include cost, restrictive eligibility criteria, limited wheelchair accessible transportation services, fewer volunteer drivers due to rising fuel costs, restrictive scheduling (e.g. limited short-notice transportation) and wait times that impose a major barrier for many frail seniors who struggle with incontinence. Frail caregivers also face transportation problems that impede their ability to visit spouses placed in LTC homes at a distance from their home. Frail seniors are often reluctant to use public taxis because of the cost and lack of comfort with unfamiliar or inconsistent drivers. Public transportation, particularly if a transfer from one route to another is required, is problematic for those with mobility issues and who are at risk for falls. Programs that offer transportation with

private vehicles report challenges related to ageing vehicles and limited funding for maintenance or replacement. LTC residents have difficulty accessing specialists because they often require accompaniment by a Personal Support Worker, the cost of which they are required to assume in addition to transportation costs. Financial issues also arise in relation to accessing some programs and services (e.g. foot care), costs of eyeglasses, hearing aids, dental care, good nutrition, medications, and special home and safety equipment (purchase and installation). Many frail seniors report being forced to make financial trade-offs to meet their expenses (e.g. forgoing good nutrition to pay for heating and electricity).

Many frail seniors and their caregivers report difficulty navigating the system of care, including contacting services for information, or even finding out about what services are available. Many get "bounced around" from provider to provider as they attempt to access services to address increasingly pressing care needs, and many are ultimately forced to rely on a visit to an ED to access services. System navigation is a particular challenge for frail seniors who do not have a family physician and those for whom English is a second language. Limited care coordination impedes linkages with the most appropriate service at the most appropriate time. This is particularly true when frail seniors transition between sectors: transitions are described as fractured. Community Care Access Centres (CCAC) often have different case managers in each, introducing further seams between sectors. Moving across sectors and services, frail seniors are subjected to multiple health reassessments, requiring them to repeat their histories, undergo repeated and stressful cognitive tests, sometimes resulting in important details being omitted under the erroneous assumption that information is shared between care providers. Moreover when multiple providers are involved, frail seniors have difficulty understanding the differences in each provider's role. In addition to being extremely stressful and frustrating for frail seniors and their caregivers, the delays associated with the lack of system integration and navigability further add to the length of wait lists that currently exist for almost all services, including access to many specialists, Adult Day Programs (ADP), admissions to mental health facilities and community-based services such as physiotherapy, occupational therapy, and speech and language therapies. As a result, it was considered by many focus group participants that the lack of system navigability results in missed opportunities to improve health, and thus contributes directly to further decline (particularly for frail seniors requiring rehabilitative therapies) and adverse health outcomes.

Challenges compounded in rural areas: Access challenges are compounded in rural areas where frail seniors are often socially isolated, have limited access to public transportation and where fewer services are generally available or accessible, particularly related to wellness, exercise, and services targeted to dementia support. Many participants reported having to travel to urban areas to access support from the Alzheimer Society. While it was acknowledged that some programs were available in rural areas of the WWLHIN, accessibility was limited by lack of transportation options, which were at times self-imposed during the winter. Some townships do not offer taxi services. It was noted that the ability of some ADPs to accommodate clients with behavioral problems related to dementia was also limited. Options for frail seniors wishing to downsize their home were limited and often costly. It was noted that admission to LTC homes outside of seniors' geographic area tends to cause quicker deterioration, in large part from increased isolation from family and spouses, who often face their own transportation challenges.

Shortage of affordable, appropriate housing: Frail seniors are further challenged by limited opportunities for affordable housing suited to their care needs. Many frail seniors continue to live at home in high risk situations because of the lack of availability of affordable alternative housing opportunities, their lack of awareness of what housing opportunities exist, as well as limited capacity in existing housing alternatives to manage complex behavioral problems. Generally, there are few housing options that bridge independent living and long-term care.

System restrictions with respect to senior-focused care: The system of care was neither described as senior-friendly or senior-centred. There is a tendency to focus primarily on acute problems rather than providing comprehensive and preventative care. Care providers are often unable to completely identify or resolve the issues that affect seniors' health, and yet the "one issue per family doctor visit" rule is still frequently applied. Continuity of care between sectors is limited when family physicians do not have hospital privileges. Direct communication between family physicians and acute care hospitals is infrequent. Barriers related to physician compensation often prevent family physicians and geriatric specialists from working in closer collaboration to develop and implement effective care plans for the most complex frail seniors living in the community or in LTC homes.

Many challenges to the ability of frail seniors to "age in place" were identified, including limited CCAC services particularly for long-stay clients, restrictive criteria for home care support that limit early intervention, and limited respite support for caregivers, particularly caregivers of persons with dementia, often because of a perceived risk for Personal Support Workers (PSW) caring for these frail seniors. The CCAC was noted as being limited in its ability to provide or organize services that contribute to health and wellness such as housekeeping, grocery shopping, meal preparation, as well as home maintenance, snow shoveling, and banking assistance. It was noted that there was occasional inconsistency between CCAC case managers in the interpretation of eligibility criteria for home care services with, for example, some frail seniors living in retirement homes deemed ineligible for needed services. While CCAC case managers were described as ideally placed to connect frail seniors with needed services, they were often limited in their ability to do so by a system lacking flexibility to provide services tailored to specific client needs. Furthermore, the CCAC was noted to be limited in its ability to meaningfully enhance the self-care skills of clients and family caregivers. As a result of such limitations, examples were given of some frail seniors who prematurely moved to LTC homes even though they only required assistance with activities such as medication management or meal preparation. Moreover, frail seniors' potential for improvement is often negated when placed on a LTC waiting list, given a pervading yet misguided attitude that functional improvement is not realistic for LTC residents.

Shortage of human resources: It was noted that care for frail seniors in the WWLHIN is complicated by limited human resources. There is a perceived shortage of geriatric specialists (medicine and psychiatry), Psychogeriatric Resource Consultants, social workers, PSWs (for whom there is a high turnover due to poor remuneration and under valuing of the role), physiotherapists, Intensive Geriatric Service Workers, Nurse Practitioners working in LTC and with the CCAC, and specialized nurses to provide education, programming, initiative launching, research and evaluation related to the care of frail seniors. Staffing ratios in ADP were often felt

to be inadequate to be able to meet the needs of seniors with behaviour problems and complex medical issues. LTC is particularly under-resourced in physicians, particularly those with training in care of the elderly. Concerns were expressed that nutritional intake in hospitals and LTC could be improved both in terms of diet quality as well as assistance with feeding; this was identified as particularly problematic in hospitals where human resources for feeding patients are limited, and those with no or limited family support are at risk of malnutrition. Generally, it was noted that clinicians and service providers are challenged to follow established best practice guidelines due to high caseloads and resulting restrictions on their time with frail seniors.

Limited capacity to provide geriatric care: It was noted that there are deficits in all health care sectors with respect to basic knowledge in the care of frail seniors. This was felt to reflect limited geriatric training in professional schools and colleges, a problem exacerbated by limited opportunities for ongoing educational interventions to address these deficits. Specific educational needs include greater capacity in LTC to manage behavioural problems in residents with dementia and prevent ED visits. Recent cuts to wound care teaching in LTC were described as a "huge loss". In community settings it was noted that PSWs lack training in the management of frail seniors, dementia, and the identification of at-risk situations. While it was noted that some family physicians are increasingly confident in their ability to diagnose Alzheimer's disease and other dementias, they are less confident in their ability to manage these conditions over the longer term, relying on referrals to specialists and specialized services and thus contributing to the length of waiting lists. Medication management, reviews and reconciliations are often limited in primary care settings, despite polypharmacy being a significant health issue for frail seniors. Waitlists are felt to contribute to a health care system with a crisis orientation rather than to proactive, preventive care. Specific to acute care, it was noted that there is limited attention to the prevention and management of delirium, and specifically no established Hospitalized Elder Life programs to prevent delirium and functional decline of hospitalized frail seniors.

Limited communication across and within sectors: It was noted that a significant challenge to caring for frail seniors is the limited information exchange between health professionals and between health sectors, reflecting a lack of common technologies and standardized documentation tools. Health workers across all sectors have limited awareness of what other services, resources and programs are available to frail seniors. Restrictive access to the CCAC's Client Health and Related Information System (CHRIS) precludes information sharing and often results in delays in accessing services, for example in situations when it is erroneously assumed that the CCAC is providing a particular service, or when duplication occurs when clients are referred for service they are already accessing. Limited information sharing requires frail seniors to frequently repeat their medical history, a system inefficiency that is both unnecessary and burdensome. The perception by frail seniors and family caregivers that health workers are not familiar with their case contributes to a lack of faith in the health system.

Limited communication of health providers with family caregivers, particularly those living at a distance, was also noted, and consequently hindered the ability of family caregivers to provide support and facilitate care earlier in the frailty "disease" process. There is a lack of information available for frail seniors and their family caregiver about resources and services available to support them in the community. Paradoxically, it was also noted that sometimes caregivers are

overwhelmed with too much information, leading to what one interviewee called "information paralysis": the inability to sort through the excessive information provided and use it effectively. Of particular concern, many frail seniors in the early stages of dementia but who are otherwise still functioning well in the community are not informed of the need to engage in advance care planning, including addressing financial issues, before they lose the ability to do so. Cultural and language barriers further challenge communication.

Current Gaps in Services for Frail Seniors

Focus group participants identified existing gaps in the current system of care for frail seniors that are summarized in Table 4.

Table 4: Current gaps in the system of care for frail seniors

Service gaps

- Assistance with basic and instrumental activities of daily living (ADLs and IADLs)
- Adult Day Programs and respite
- Services for developmentally disabled persons who are ageing
- Early diagnosis and management frailty
- Better management of depression, pain, wounds
- Medication management and adherence
- Prevention and management of delirium in hospitals
- Spiritual care
- Palliative care
- Leisure, recreation, activation for frail seniors (physical, social, mental)
- Specialized physiotherapy and occupational therapy

System gaps

- Ability to identify underserved populations
- Culturally sensitive care
- Senior friendly and appropriate financial guidance
- Crisis orientation rather than proactive approach to care
- Lack integration between specialty services and primary care
- Lack of senior-friendly communities
- Not enough local / appropriate LTC beds
- Limited interest and expertise in geriatrics among health care providers
- Limited capacity to diagnose and manage dementia

Service gaps: Multiple gaps were noted in services for frail seniors, including inadequate assistance with instrumental activities of living (IADLs - housekeeping and home maintenance, managing finances, grocery and necessity shopping, medication management, and

transportation), insufficient assistance with basic activities of living (ADLs - personal hygiene, grooming, dressing, bowel and bladder management, feeding, and transfers), and limited access to respite, and to social and cognitive stimulation (e.g. ADP). Other important gaps were noted in services for the aging developmentally disabled for whom LTC is currently the primary option for care. Gaps were noted in symptom management across a spectrum of conditions, including depression and pain, spiritual care when facing a life-threatening illness, palliative care tailored to needs of individuals with non-malignant chronic diseases, wound care, medication management, and more comprehensive and proactive care planning early in the chronic disease process. There is an important lack of appropriate guidance about financial management for aging seniors, particularly for those diagnosed with dementia.

It was noted that the importance of leisure and recreation for frail seniors in terms of promoting health and wellness is generally undervalued throughout the entire health care system. There is a lack of appropriate social and recreation programs for frail seniors in community that are tailored to their various comorbidities, fitness, and functional ability. There are also limited opportunities for frail seniors to participate in community-based physical exercise programs which would serve to prevent falls and maintain gains made in day hospital, inpatient rehabilitation and geriatric assessment settings. Similarly, there is limited physiotherapy and exercise in inpatient settings to prevent deconditioning when patients are in hospital.

System gaps: It was noted that there are groups of frail seniors who are "falling through the cracks" because their needs have either not been identified, or who are simply not receiving any services at all. These include "invisible" housebound community-living frail seniors who rarely access primary care and thus cannot be connected with community services, those with complex needs who are discharged from one sector to another without ensuring a proper and formal transition, those with chronic behavioral and psychiatric problems who lurch from one crisis to another, and those without a health card. There is a lack of culturally sensitive care for frail seniors of different ethnic origins, including the Mennonite population in Waterloo Wellington region. Care coordination and continuity of care is seen as being compromised by the lack of a shared-care approach between primary care and specialty services. It was also noted that communities are designed without frail seniors in mind, leading to social isolation due to difficulties accessing shops, medical centres and banks. A lack of LTC beds was also noted, particularly with respect to the availability of beds providing specific services preferred or required by clients and families, as well as homes that provide these services closer to where spouses and other family members reside. This gap is exacerbated by the limited services available to support people in their own homes.

Proposed System Improvements towards Care Integration

Focus group participants identified several system improvements that would promote the development of an integrated system of care for frail seniors (table 5).

Empowered seniors: Focus group participants emphasized the need to empower and assist frail seniors to develop self-care skills to assume a greater role in the management of their own

health. Frail seniors need support to advocate for themselves and to know that their efforts are recognized and acknowledged. Training of health professionals should include skills to effectively communicate with frail seniors regarding chronic conditions and developing care plans. Frail seniors and caregivers need education on how to recognize and assess the overall health of a senior (i.e. early frailty) and to access needed services when they can most optimally benefit from them.

Table 5: Proposed system improvements towards care integration

Empowered seniors

Clinical best practices

- Adequate human resources to facilitate greater interprofessional approaches to care
- Capacity building to improve competence in geriatric care among all providers
- More proactive and preventative access to specialist consultation and follow-up

Coordination best practices

- Improved communication, continuity of care and coordination between providers, health care sectors and clients
- Improved access to services and care, particular during care transitions
- Improved system navigation for seniors (clients and caregivers) and health care providers

Transition from hospital back to the community is a crucial period for frail seniors, often characterized by changes in function and a bewildering amount of new health information. Enhancing self-care skills of frail seniors and their caregivers during the transitional period, including understanding early warning signs of illness, knowing how to self-manage early illness to avert further deterioration, understanding the use of prescribed therapies, and knowing how to access health care in a timely away, were recognized as critically important. Initiatives such as the IGSW program provide some elements of such “transitional care”, including follow-up support to seniors with a recent ED visit or hospital admission to ensure compliance and adherence with treatment recommendations and facilitate timely access to community services.

Goals for care planning should be defined from a seniors’ perspective. Service provision should focus on identifying and capitalizing on frail seniors’ strengths and being more responsive to progressive changes in function, rather than focusing on deficits and waiting for crisis situations to occur before intervening. Frail seniors should be able to identify and receive support services that they need rather than being limited to a restricted set offered by the providing agency. For example, a client with early dementia may be able to safely complete basic ADLs and thus may not be eligible for CCAC services, but still require assistance with meal preparation and homemaking that would avert premature institutionalization. Gender differences in needs and interests for services should be recognized. Moreover, it was noted that greater efforts are

required to more actively engage all seniors in policy and planning initiatives related to their care. It was noted that health professionals are *"good at **telling** seniors what they need but are not so good at **getting** people what they need"*.

Human resources and capacity building: Focus group participants noted that there is a lack of basic knowledge about geriatric care among all health care providers and across all health services. Strategies are required to develop expertise in geriatric care among all clinicians, and to model and promote the practice of good geriatric care as a rewarding and worthwhile endeavour. In particular, it was identified that there is a significant need for better education about all aspects of dementia, including greater capacity for diagnosis and management in primary care, and teaching family caregivers how to effectively communicate changes in disease progression to health care providers. Enhancing the ability of the LTC sector to manage residents with advanced dementia and with difficult behaviours was identified as a priority. Increased access to allied health professionals in primary care, particularly occupational therapy and physiotherapy, was identified as an important need. The potential to harness local resources to increase geriatric education were noted, such as involving clinician champions and developing partnerships with local academic and vocational institutions to implement education programs for established professionals and new learners. In addition to educating health professionals, the importance of educating administrators, managers and other decision-makers was emphasized.

Expanding capacity for geriatric care was also felt to be required in other sectors. There was agreement that acute care hospitals need to implement strategies to mitigate the impact of the hospital environment on frail seniors and consequently prevent complications such as delirium and functional decline. Other capacity enhancements might include interprofessional teams in LTC, enhanced GEM teams to expand the provision of comprehensive geriatric care to more acutely ill seniors in the community, either in clinic settings or through an outreach model, or rapid response teams to provide urgent consultation in response to crisis situations and that would be immediately able to put adequate supports in place, and avert ED visits and subsequent hospital admissions.

Focus group participants identified missed public health opportunities for measures to prevent the progression of frailty and its complications. Partnerships with Public Health Units were suggested to support efforts for both primary and secondary prevention, including educational campaigns to educate frail seniors and caregivers about health issues such as falls or dementia, and promote preventive strategies such as physical activity or vitamin D.

Proactive specialist consultation and follow-up: The role of expert consultation (geriatricians, geriatric psychiatrists, others) in managing the complex health issues of some frail seniors was broadly recognized. It was also recognized that a shift towards earlier comprehensive assessment of frail seniors in primary care could pre-empt the progression of relatively simple problems into more complex ones. Acute care should be the last line of defense. In order to enhance the capacity of primary care for early diagnosis and intervention, specialist support was felt to be desirable to mentor front-line clinicians in geriatric care, provide direct clinical services, and be available for indirect clinical support (e.g. via telephone), particularly in crisis situations to avoid ED visits. Interprofessional team approaches could further augment primary care capacity for

timely case finding of frail seniors with geriatric syndromes. It was noted that such a primary care case finding strategy would help maintain waiting lists for specialists relatively short and allow more timely referrals for frail seniors with urgent and complex health issues, particularly as the population ages. Many interviewees noted that direct specialist consultations should be reserved for seniors at moderate to high risk, with the capacity of primary care being augmented into an effective first line of intervention for low to moderate risk seniors. Specific case finding strategies should be developed to provide similar services to orphaned seniors with complex needs, but who do not have access to regular primary care.

Improved communication, continuity of care and coordination: A well integrated system of care is characterized by good linkages between health care providers. Focus group participants identified a need to improve communication among providers and across sectors regarding health information, including which services and providers are involved with a senior. Lack of information contributes to delays and disruptions in care. Optimal communication would be facilitated by increased access to technology and electronic information systems in acute, primary, and long-term care sectors, and by the use of standardized assessment tools. These would facilitate sharing of and access to health information and reduce duplication of assessments and services.

Good communication and care coordination were noted as particularly critical during transitions between care providers and health sectors (e.g. admission to LTC, discharge from acute care). The partnership between GEM Nurses and IGSWs was noted as a good example of how enhanced cross-sector collaboration can facilitate transitions from hospital to the community and ensure that treatment recommendations are followed. Further improvements could be facilitated through more formal linkages between Specialized Geriatric Services, LTC, and acute care, including ED, GEM Nurses, and CCAC Case Managers.

Mechanisms to improve transitions could also include the deployment of Advance Practice Nurses (APN) to provide self-care support, particularly for the more complex seniors being discharged from hospital back to primary care. “Transitional care” describes a series of time-limited services to complement primary care and prevent adverse outcomes in high-risk and complex seniors during transitions between care settings and providers. Features include:

- standardized comprehensive assessment, including client and caregiver goals, and in a manner that facilitates information sharing;
- implementation of an evidence-based care plan, medication reviews and reconciliation, and engagement of clients and caregivers in its planning and execution;
- care initiated in hospital and extending one to three months beyond discharge; and
- care usually delivered by an APN.

However, coordination of care and optimal communication are required beyond just care transitions. Focus group participants recognized the need to enhance the ability of frail seniors to access and navigate the health system and community support services. System navigation is a concept most fully-developed in the area of cancer care, but which is increasingly being applied in other areas of health [54]. System navigation focuses on helping individual clients overcome barriers to having their health needs addressed, not only during periods of care transition, but at

any point from the onset of a condition onward. Seniors, as well as health professionals, require assistance with system navigation to ensure that clients can access needed services in a timely manner. While their role overlaps to a certain extent with that of a case manager, such as care planning and coordinating access to services, system navigators also provide more intensive client advocacy and self-care support and education, with close follow-up including home visits [55]. Focus group participants also expressed a need for help navigating not only the health care system, but also how to access advice on matters such as assuming the role of power of attorney for finances for relatives no longer capable due to dementia, accessing transportation services after a driving cessation, or how to access age- and illness-appropriate exercise programs.

It was acknowledged that the primary care sector is potentially well-positioned to facilitate system navigation, though improved mechanisms are required to access comprehensive and up-to-date information about available services, including who qualifies and how to refer. System navigation aids could be technology-based for lower-risk, web-savvy individuals. Clients with moderately complex needs, or who are at moderate risk of adverse outcomes, could benefit from designated system navigators, usually health workers with training and / or experience in geriatric care. More complex seniors would likely require system navigation provided by APNs.

Focus group participants suggested that system navigation could be further enhanced by limiting the number of care providers involved in frail seniors' care to promote care continuity, such as consistent CCAC case managers who would follow frail seniors both in the community and in hospital rather than separate case managers by sector. Similarly, participants noted the importance of providing longer term support to frail seniors receiving and benefiting from support services at home, as their withdrawal almost invariably leads to deterioration and either a re-referral to home care, an acute care episode, or institutionalization. For example, some participants described occasions when CCAC services were withdrawn from clients whose situations had improved and stabilized, resulting in clinical deterioration and a burdensome reassessment in order to resume services. The prospect of being discharged from services leads to fear among clients of being left with inadequate supports, and consequently increased health service utilization [49].

Suggestions for improving system navigation for frail seniors and health care providers: With respect to obtaining information about the health system, system integration requires that the number of access points into the system be limited and, with respect to remaining access points, that *"every door be the right door"*. Frail seniors and their caregivers require appropriate information when frailty is still in early stages, such as the model implemented by the Alzheimer Society First Link program. Access is required for information on all systems impacting seniors' care, such as community and social services, public health, and Ministry of Transportation driving licensing. Similarly, measures are also required to increase health professionals' awareness of available services. Focus group participants proposed several mechanisms to increase integration such as:

- Senior friendly access mechanisms such as:
    - direct telephone access to a system navigator, with limited use of automated attendants, multi-layer phone menus, and complicated instructions;

  - other mechanisms to disseminate information including internet access to system navigation services for web-savvy seniors, a *Yellow Pages* section for seniors with larger print, and senior-friendly written documentation about services for seniors;
  - training for health service providers and navigators on the use of simple language and terminology, and cued education and coaching techniques aimed at frail seniors and caregivers to avoid "information paralysis";
- Simplified access
  - single access point for all services;
  - centralized intake system for specialized geriatric medicine and psychiatry;
  - standardized assessments to assess client needs and appropriately target the care;
- Enhancements to the IGSW program
  - enhanced IGSW assistance to assist with frail seniors who are resistive to care;
  - expanding referral sources for IGSWs and provide greater access for health professionals and frail seniors;
- Enhancements to care for clients with more advanced frailty:
  - access to ongoing nursing care to supplement what families are taught to provide, as some focus group participants reported increasing expectations that family members provide nursing care that they are uncomfortable, unprepared, or unqualified to provide, in order to make up for reduction in formal services;
  - continuing to increase the ability of frail seniors to truly age at home, including access to information and the services needed to achieve this goal;
  - working towards more equitable access across the WWLHIN to community support services regardless of geographic area; and
  - ensuring affordable services and access to subsidies for seniors with limited financial resources and who require certain services or transportation.

DISCUSSION

The results of the focus group interviews have identified that, despite certain strengths and expertise in geriatric care and services for the frail seniors in Waterloo Wellington, the current system of care is not well integrated, contains significant gaps, and is not well prepared for the aging of the population. These gaps represent significant potential health stressors to frail seniors passing through the health care system and likely contribute significantly to poor health outcomes and the system utilization pressures currently challenging the health care system in the WWLIHN.

There was general consensus that an integrated system of care for frail seniors is needed in this region. In such a system, aging at home is viewed as a foundational principle, and a primary care sector that is well prepared for frail seniors an essential prerequisite. Infrastructure improvements are needed to enhance linkages and ensure optimal communication between primary care providers, community health and support services, and secondary and tertiary care providers, facilitating a more proactive and preventative approach to the management of frailty.

The optimal management of frailty, as a chronic condition, is best organized under the Chronic Disease Prevention and Management (CDPM) model, a model which also provides a framework for system integration. The CDPM addresses the major issues identified by focus group participants, namely around needs for standardized comprehensive assessment to identify client and caregiver needs, improved structures (eligibility criteria, financial levers, reimbursement issues) to support better and ongoing access to care for meeting these needs, enhanced capacity for primary care to proactively manage frailty (with multidisciplinary teams and specialist support), and improved administrative structures and information systems to support system integration.

Focus group participants specifically identified a need across the WWLHIN for interventions whose effectiveness has been demonstrated in the literature and that are consistent with CDPM and care integration. These models include: the Hospital Elder Life Program, transitional care programs, primary care based programs, comprehensive geriatric assessment and intervention, and system navigation support. These programs are described in detail below.

Hospital Elder Life Program

Hospitalized frail seniors are at high risk of potentially preventable iatrogenic complications such as delirium, functional decline, adverse drug events, infections, and falls [56-58]. The Hospital Elder Life Program (HELP) was developed to prevent delirium and functional decline among hospitalized older patients [59,60]. Within this program, practical interventions that target six risk factors for incident delirium in hospital: an orientation protocol targeting cognitive impairment, a sleep protocol to prevent sleep deprivation, early mobilization and least restraints to avert deconditioning, adaptive equipment and aids for the visually impaired, wax disimpaction and aids for the hearing impaired, and attention to nutrition and hydration. Other common components of these programs often include geriatric nursing assessment and interventions,

geriatric consultation, interdisciplinary rounds, and linkages with community services and follow-up. This program, which targets patients using a simple algorithm to identify those at risk of delirium and who would benefit from the program, can be implemented hospital-wide and does not require the presence of a dedicated geriatric unit. Reliance on volunteers [61] and family members [62] to implement the program has not compromised the effectiveness of the program and is a cost-effective way of improving quality of care for frail seniors.

A number of studies have shown the effectiveness of the HELP in preventing delirium, sleep deprivation, building capacity for elder care, enhancing patient and family satisfaction with care, improving quality of care, reduced hospital lengths of stay, and raising the visibility of geriatrics [59,60,63-65]. A recent study based in a community hospital of approximately 500 beds showed that the implementation of HELP resulted in annual savings of more than $7 million and shorter lengths of stay for frail seniors with and without delirium [65].

Focus group participants noted the absence of HELP in WWLHIN hospitals. Such programs would address many of the challenges and gaps in services that were identified in the focus groups and embody several elements of the CDPM, including senior-centered and targeted provision of multidisciplinary, evidence-based care. By mitigating the impact of the hospital environment on frail seniors, HELP represent an important component of an integrated system aimed at keeping frail seniors healthy and active within the community.

Transitional Care Programs

It is well documented that seniors discharged from hospital are at risk for poor health outcomes and preventable hospital readmission. Risk factors for readmission include multiple comorbidities (function and cognitive impairment, psychological issues and poor health behaviors), ineffective self-management of their health, limited knowledge of their health conditions and what symptoms mean, and poor communication among health providers and between seniors and their care providers [66-68]. When discharges are executed with clear and effective plans for transitioning patients to community care with adequate supports, patient outcomes are improved and subsequent acute care use is reduced [69].

Transitional care programs are time-limited interventions designed to promote continuity care and facilitate safe and timely transfer of high-risk and frail seniors from one level of care to another [70-75]. Key components of such programs include:

- standardized comprehensive assessment, including client and caregiver goals, and in a manner that facilitates information sharing;
- formulation and implementation of an evidence-based care plan, including engagement of clients and caregivers in its planning and execution, as well as medication reviews and reconciliation;
- promotion of client and caregiver self-care and system navigation capacity;
- care initiated in hospital and extending up to three months beyond discharge, with frequent home visits and telephone contact; and
- care usually delivered by an APN working with the primary care provider.

Transitional care programs consider the interconnectedness of problems and the need for a collaborative and individualized approach to care that capitalizes and strengthens client and caregiver capabilities and support systems. Patients, families and caregivers are coached to improve effectiveness in managing chronic illness, strengthen patient-physician relationships, manage comorbid conditions and promote adherence to treatment plans. These programs share some features of the roles currently assumed by IGSWs and case managers in Waterloo Wellington, but go further by providing additional clinical assessment and care planning, as well as client and caregiver self-care support [55].

Transitional care programs have been shown to reduce length of stay and readmissions, increase length of time between hospital discharge and readmission, improve patient access to available community resources and services, reduce healthcare costs, reduce complications and errors, improve communication between patients and physicians, and improve quality of life, functional status, overall health status, and satisfaction with care for seniors [70-75]. Reductions in readmission rates in clinical trials of transitional care programs have ranged from 30% - 48% [71,76]. Early hospital discharge can be facilitated with the use of a transitional care team that addresses the problems that typically delay discharge and contribute to readmission, including functional and mobility problems that can be remedied with intensive home-based therapy [72].

Home First in the WWLHIN aims to provide frail seniors transitioning from acute care back home with services and supports upon discharge, and thus addresses some of the acquired deficits that contribute to the seniors' frail state and readmission risk. However, usage of acute care services remains high among seniors in the WWLHIN, and there was much support among focus group participants for greater emphasis on intensive transitional care programs, particularly because of their focus on helping clients and caregivers develop increased self-care skills, as a mechanism for supporting aging in place. It was noted that over time home care services have increasingly targeted post-acute clients, to the detriment of those with chronic diseases [77], and that transitional care programs provide an opportunity to fill this gap and improve access to required community care services, in order to maintain quality of life and function and reduce the burden on acute care. Transitional care programs are an important component of an integrated system of care.

Building geriatric capacity in primary care

Enhancing the capacity of primary care to manage frailty is an essential component of health care system integration. The Guided Care program is a primary care approach to manage frail seniors based on the CDPM [78,79]. This program consists of registered nurses trained to conduct comprehensive assessments of seniors at high risk for heavy use of health services. These nurses maintain a caseload of 50 to 60 seniors, and work with primary care physicians within a single practice. Eight clinical processes make up this program:

1. home-based comprehensive assessments;
2. development of evidence-based care plans to address key geriatric syndromes and chronic comorbidities;
3. promotion of self-care skills
4. proactive monitoring of health conditions;

5. coaching to practice healthy behaviors;
6. coordination of transitions between sectors and care providers;
7. linkages with community resources and services; and
8. education and support for caregivers.

Preliminary evaluation of the Guided Care Program, involving 14 primary care teams in the U.S. serving 904 chronically ill seniors, revealed trends for fewer hospital days, ED visits, and skilled nursing facility days, resulting in an annual net savings of $75,000 per nurse or $1364 per senior [78]. Other studies have shown that Guided Care reduces caregiver burden and depression, home health care episodes and nursing home admissions, improves physician satisfaction with patient and family communication and knowledge of their patients' clinical characteristics, and improves patient satisfaction with the quality of chronic care [79-82]. However, recent results of the randomized controlled trial of Guided Care failed to show an overall reduction in health service utilization after 20 months of follow-up [80]. A preplanned subgroup analysis of the trial suggests that primary care patients enrolled in one particular HMO (Kaiser Permanente) did experience a reduction in health service utilization. These data suggest that primary care physicians working under the Kaiser model may have better baseline training in the management of older patients with complex comorbidities, as the focus of the Guided Care model is primarily on enhancing geriatric knowledge for a nurse, and not necessarily that of the primary care physician. Furthermore, the Guided Care model does not specifically consider a more proactive role for specialists in supporting primary care.

These data reinforce the need for increasing capacity to provide geriatric care among all care providers. A recently developed primary care memory clinic model, in which the entire health care team receives enhanced geriatric education, and receives additional support from a geriatric specialist, has shown promising results with respect to improving patient outcomes, care coordination, and health service utilization [22]. This approach to care for complex and frail seniors has been further developed in the Geriatric Resources for Assessment and Care of Elders (GRACE) primary care model [21]. In the GRACE model, a support team consisting of an advanced practice nurse and social worker, and backed up by a geriatrician-led multidisciplinary team, collaborates with primary care physicians to optimize the care of at-risk seniors. The support team conducts a comprehensive geriatric assessment in the client's home and then meets with the multidisciplinary team to develop a care plan that includes interventions to manage common geriatric issues. The plan is finalized with input from the primary care physician and the client and family caregivers, and the support team helps ensure that this plan is carried out. Follow-up assessments take place regularly, as well as after health events, and the comprehensive assessment is repeated annually. The GRACE model was evaluated in a 2-year randomized controlled trial involving 164 family practices and over 950 seniors, and compared to usual care. Overall, the GRACE group experienced better general health, vitality, social functioning and mental health, based on the SF-36 health assessment [21]. There were no differences in functional decline or mortality. There were fewer ED visits at 2 years but no difference in hospital admission rates. In a preplanned subgroup analysis of seniors at highest risk of hospitalization, there were fewer ED visits (35%) and hospitalizations (44%) which became most apparent in the second year of the intervention.

These data yield important insights, consistent with the CDPM and the principles of care integration, into how to increase capacity for geriatric care in the primary care setting. First, comprehensive senior care requires a multidisciplinary approach. Second, clinical knowledge about the principles of good geriatric care must be enhanced in all disciplines. Third, assessments must be comprehensive and standardized. Fourth, specialist support in the form of direct and indirect clinical services is important. Fifth, successful care integration requires time in order for care partners to understand how to collaborate effectively, and the benefits, particularly with respect to health service utilization, may not become apparent for some time, often measured in years. Sixth, successful care integration is predicated on engaging clients and their caregivers in care planning and self-care. These approaches to care, when thoughtfully implemented, have the potential to significantly improve integration of care within the system and facilitate more appropriate use of existing system resources. Moreover, these integrated models are grounded in primary care, which facilitates consistent, comprehensive and timely follow up, and reduces the likelihood that frail seniors will "*fall through cracks*".

Specialized Geriatric Consultation: Comprehensive Geriatric Assessment

Comprehensive Geriatric Assessment (CGA) consists of a multi-dimensional, interdisciplinary assessment process to develop an integrated intervention and long-term follow-up plan for frail seniors. CGA focuses on the identification of the medical and psychosocial deficits that contribute to frailty in an individual, and aims to improve or maintain functional capacity and quality of life. CGA can be conducted in variety of settings including in specialized hospital units, as part of inpatient consultation services, or in outpatient settings (clinic based or using home visits) [83-85]. Key features of successful CGA include:

1. targeting of frail seniors based on potential to benefit from complex interventions in order to maintain their functional status and support their ability to live in the community;
2. interdisciplinary teams including at a minimum geriatricians and nurses with geriatric training, as well as geriatric psychiatrists social workers, physiotherapists, occupational therapists, and nutritionists;
3. multidimensional standardized and comprehensive assessment;
4. treatment plans that are patient-centered and goal-oriented; and
5. mechanisms to ensure the implementation of recommendations from the CGA, with follow-up being essential to ensuring good patient outcomes [83,86].

Numerous studies have examined the effectiveness of CGA on a variety of outcomes using randomized controlled trials and meta-analyses. CGA has been associated with reduced mortality, improved functional status, fewer falls, reduced risk of adverse drug events, improved medication prescribing practices, reduced risk of institutionalization and nursing home admission, and reduced ED visits, hospital readmissions and length of hospital stay [17,20,84-92]. A systematic review concluded that CGA can be effective without raising health care costs [86].

There was general consensus among focus group participants that there needs to be more equitable access to care and services for frail seniors in the WWLHIN, as well as more appropriate use of existing resources. Timely access to CGA can be an effective strategy to

ensure that the complex needs of frail seniors are addressed early to promote health and wellness and avoid preventable decline. As demand for CGA will inevitably grow with population aging, wait times can be reduced by increasing capacity for CGA in primary care, thereby focusing the use of specialized services for those at greatest risk. Embedding CGA within primary care and promoting closer collaboration among geriatric specialists and primary care providers is an essential component of an integrated system of care for frail seniors.

System Navigation

System navigation support is a strategy to ensure that at-risk seniors can access the most appropriate medical and community services at the most appropriate time (*"right person, right treatment, right time, right setting"*) [93]. The "system navigator" role is most often assumed by health care workers who, in contrast to case-managers, specifically emphasize the development of self-care skills among frail seniors and their caregivers as a means to reduce barriers to accessing appropriate care [94,95]. System navigation initiatives have been aimed at improving transitions across health sectors and settings, and are essential features of Transitional Care and Guided Care programs. Generally, system navigators target medically complex seniors at high risk for functional decline and hospital use, with some focusing on specific settings and diseases, such as cancer and stroke [95,96]. Common features of system navigator roles include [55]:

1. discharge and care planning;
2. medication reconciliation and management;
3. service or care provider access and coordination;
4. skilled home visits and/or phone support/availability;
5. liaison with medical and community services;
6. assessment and management of health status;
7. patient and caregiver education on self-management;
8. patient advocacy; and
9. collaboration with other health care providers.

Physician mentorship, multidisciplinary team support and access to electronic medical records are significant resources that support the system navigator role [55]. A recent systematic review of the literature on system navigation found somewhat mixed results on the effectiveness of system navigators [55]. Of the ten studies identified in the review, two showed no benefits from the system navigator role, and one showed increased ED usage. However, the unsuccessful studies utilized passive educational interventions, with little emphasis on fully developing patient and caregiver capacity for self-care, and were initiated upon or after discharge from hospital. More recent interventions had an explicit focus on actively increasing patient and caregiver self-care capacity, had extensive follow-up starting early during hospitalization and lasting up to three months after discharge, and demonstrated significant improvement in patient health, and reduced health service utilization and related costs, including fewer ED visits, hospitalizations, and referrals to long-term care [55, 97]. System navigator roles directly promote system integration and thus have significant potential for improving outcomes for frail seniors.

Strengths and Limitations

A number of system strengths were identified by focus group participants, though the exclusion of other programs from the list of those identified should not be interpreted as implying that these services are not beneficial. Since the focus group interviews were conducted, Easy Coordinated Access, a single referral process for professional referrers to access community supports services for frail seniors has been implemented across the WWLHIN. While the focus groups highlighted some specific service strengths in our system, the list is not exhaustive and it is important to note that other services exist that support frail seniors in their homes and provide some transition and system navigation support. Much more work remains to be done to integrate services across the continuum of care. Although the sample size for this consultation was very large and many key stakeholders across disciplines and sectors were included, some groups were under-represented, such as long-term care, particularly nurses and administrators and a cross section of consumers (seniors and their family caregivers) at higher levels of frailty. These groups are difficult to access; long-term care homes are typically under-resourced so that staff coverage is a significant issue when attending non-clinical activities. Similarly, health, cognitive and behavioral issues often preclude the involvement of some seniors. However despite these limitations and the use of purposeful sampling, it was apparent that data saturation was achieved (no or minimal new information was generated from the last interviews conducted and consistent themes were identified across all interviews [50]). In order to protect confidentiality within the focus groups, they were not all audio-recorded. However, detailed notes were gathered by two individuals, who cross referenced their findings, and a member check was conducted to verify the results. Three focus groups were audio-recorded, and were analyzed first. Themes identified from the detailed notes taken for other interviews were consisted with the themes first identified in the audio-recorded interviews. Though the findings from this consultation process are specific to the WWLHIN and not necessarily generalizable to other regions, the themes identified in this report do echo those identified in the literature, strengthening their validity. Remarkably, the gaps in current services identified by focus group participants, as well as the solutions they propose, are highly aligned with the CDPM as well as with the literature on best-practices for system integration, and with sector specific best-practices (e.g. HELP), lending substantial credibility and validity to these findings.

CONCLUSIONS AND RECOMMENDATIONS

Improving the care of frail seniors in the WWLHIN will require greater integration of all existing services in order to facilitate a more proactive and preventative approach to the management of frailty. Enhancing the capacity of the primary care sector to manage frail seniors is an essential prerequisite, as are improved linkages with community health and support services, and support from specialists for capacity building and complex cases. Fundamental to the success of system integration are the promotion of self-care and greater support for system navigation to augment case management and care coordination. Common standardized comprehensive assessment systems such as those developed by interRAI [98] and shared access to information systems (e.g., electronic medical records) are essential for care integration [99].

Focus group participants specifically proposed a number of service enhancements that would facilitate integration and that are well described in the literature and have been shown to improve outcomes in frail seniors in a cost-effective manner. These include Hospitalized Elder Life Programs, Transitional Care programs, enhancements to primary care, specialized geriatric assessment and system navigation support. All of these programs focus on enhancing self-care capacity among seniors and their caregivers, and employ strategies to risk-stratify seniors in order to appropriately target care based on need and risk.

A common theme arising from this consultation process was the need to ensure that an optimal administrative and financial infrastructure be in place to support integration. This includes human resources knowledgeable about geriatric care, the appropriate use of community services, technology, efficient communication vehicles, and shared information systems. Implicit in this theme is the ongoing need for continuing education across sectors and disciplines and evaluation of new initiatives to identify impacts on patient and system outcomes and to inform quality and performance improvements.

Recommendations

1. The administrative best practices outlined in the introduction to this document should be formally enshrined as policy at all levels of health care services and administration in the WWLHIN. Furthermore, the evaluation of any new Health Service Proposals should consider the extent to which these proposals commit to and adhere to these administrative best practices.

2. The need for standardized comprehensive assessment across all sectors of the health care system can be effectively met by the widespread adoption of interRAI instruments as the standard baseline assessment for any frail senior. interRAI instruments are already mandated across Ontario for home care, community support services, long term care and complex continuing care, and are fully compatible with Electronic Medical Records. The full use of the clinical functionality provided by these tools must be realized and measures taken to ensure that all clinicians and care providers be trained in how to use this information.

3. Support for system navigation should build upon existing services in the WWLHIN, such as IGSWs, CCAC, and Easy Coordinated Access. APN-led Transitional Care services should be implemented to assist more complex seniors. Integration and connectivity of existing services could be enhanced by embedding spanning linkages (see section on Coordination Best Practices). Such service developments could potentially be achieved in part by realigning current WWLHIN-funded geriatric resources.

4. Multidisciplinary capacity for providing comprehensive geriatric care in both the primary and specialty care sectors should be further developed. This includes establishing multidisciplinary teams, as well as specific programs such as HELP.

5. Opportunities for greater integration of specialty care with primary care should be pursued, building on existing evidence in the literature and local practice, in order to more proactively manage frailty and prevent further decline leading to ED visits, hospitalization, and ultimately premature institutionalization.

6. The Waterloo Wellington Geriatric Services Network is well-positioned to assume a leadership role in implementing the integration of health services for seniors in the WWLHIN.

7. The management of mild frailty should be further integrated through closer collaboration of the primary care sector with other sectors, including Public Health Units, pharmacists, and providers of exercise and physical activity programs in the community, in order to promote and facilitate greater physical activity, greater knowledge about the importance of and access to good nutrition (including vitamin D), and promote the appropriate and safe use of medications.

8. The World Health Organization (WHO) defines a healthy city as “one that is continually creating and improving those physical and social environments and expanding those community resources which enable people to mutually support each other in performing all the functions of life and developing to their maximum potential” [100]. Healthy cities are important components of an integrated system of care to manage frail seniors, particularly with respect to alleviating the significant barriers related to transportation. Communities in the WWLHIN should consider espousing the principles of healthy cities as outlined by the WHO.

9. Waterloo Wellington has access to world-class health care researchers and educational institutions, which will soon include an interdisciplinary research centre on the north campus of the University of Waterloo sponsored by the Schlegel-UW Research Institute on Aging, in partnership with Conestoga College and the Ministry of Health and Long Term Care. This partnership will facilitate the promotion of interprofessional geriatric education, and the further development and evaluation of truly integrated models of care for frail seniors. Closer collaboration between existing and future health service providers and these academic institutions is strongly recommended.

Final thoughts

Rome was not built in a day. The recent experience in Ontario with short term measures to reduce ED and Alternate Level of Care (ALC) pressures highlights the important issue of understanding how to manage frailty more proactively and prevent ED visits, hospitalizations, and ALC in the first place. Achieving greater system integration is of critical importance towards realizing this objective. Experience from other jurisdictions has shown that successful system integration requires time to accomplish and that the full benefits may only become apparent after a number of years [21, 101]. This experience also underlines the importance of building upon existing regional strengths and focusing on achieving sustainable improvements in health outcomes over the longer term. This report is consistent with the general aims of the David Walker report [23] but provides further guidance upon which successful care integration can be based.

Acknowledgements

The authors would like to thank all of the individuals and organizations who contributed their time, knowledge, and insight to this consultation process. The assistance of Susie Gregg with data collection, and of Karen Guse and Nisreen Murad in coordinating the interview process, is gratefully acknowledged. The support and input from the Senior Team at the WWLHIN was essential in the completion of this report. Dr. Heckman wishes to especially thank Dr. Ronald Schlegel whose vision and philanthropic spirit made this project possible.

Appendix 1: Focus Group Interview Guide and Questions

1. Based on your experience what are the health needs of seniors and their caregivers in this area?

2. What are some unmet needs and/or challenges that seniors in our LHIN face?

3. What should be the role of primary care in the support and provision of care to seniors? Please consider the broader concept of primary care to include any of the following practice types or settings, including family practice, Family Health Teams, Community Health Centres, home care, hospitalists, emergency services, retirement homes, supportive living and long-term care.
   a. What is working well?
   b. What could be improved? How?

4. In thinking about the existing seniors health services, are there things that should be:
   a. started?
   b. stopped?
   c. done more often?
   d. considered?
   e. modified to better meet the needs of seniors? How?

5. Linkages among different health services are important if care for seniors is to be effective.
   a. Can you identify linkages that are working well?
   b. If not, where/how could these linkages be improved?

6. The overall goals of the Aging At Home strategy are to ensure that seniors' homes support them, that seniors have supportive social environments, that senior-centered care is easy to access, and that innovative solutions are found to keep seniors healthy. A number of key principles that underlie optimal care programs for seniors:
   - Provision of person-centered care
   - Commitment to enhancing quality of life and caregiver support
   - Provision of services to promote older persons' health and independence
   - Provision of evidence-based best-practice care
   - Equal and timely access to services
   - Early identification and intervention
   - Flexibility in responsiveness to community and population needs
   - Care and service coordination
   - Respect for Diversity and Inclusiveness
   - Ethical Principle of "Do No Harm"
   - Accountability
   - Aging in Place.

   b. How are the current seniors' services demonstrating these principles?
   c. How could an ICSP for frail seniors embody these principles better?

7. The aim of this exercise is to develop a plan to integrate and enhanced seniors' health services for the entire WW LHIN. We will need to know whether what we will be doing works or not.
   a. What types of outcomes should be measured to ascertain the effectiveness of this exercise?
   b. How should these outcomes be recorded and measured? By who?

8. Education of care providers and administrators, practicing now and in the years to come, is crucial for ensuring the ongoing success of an ICSP for frail seniors.
   a. Who should receive this education?
   b. How should it be delivered? In what settings?

9. What advice would you give to the WWLHIN regarding the priorities for an ICSP for frail seniors?

Appendix 2: Summary of Focus Group Participants across Health Sectors

Sector/ Participants	Number of Participants
COMMUNITY	
Intensive Geriatric Services Workers	9
Service/ Care Coordinators	2
Geriatric Emergency Management Nurses	9
CCAC Case Managers	16
CCAC Senior Management	2
Community Services Provider Agency representatives	4
Sunnyside Seniors Services representative	1
Adult Day Program representatives	10
Community/ Public Health Physician	1
Director of a Public Health Program	1
Other	2
Community Total	**57**
PRIMARY CARE (FHT/CHC)	
Physicians	7
Nurse Practitioners	3
Registered Nurses	9
Registered Practical Nurses	1
Pharmacists/ student	2
Physiotherapist	1
Social Workers	3
Counselor	1
Dietitian	3
FHT Executive Director	3
Laboratory Technician	1
Administrative Assistant	4
Health/ Community Services Manager	2
Hospice Coordinator	1
Director of Programs/ Program Coordinator	2
Director of Clinical Services	1
Community Worker	1
Mental Health Worker	1
Volunteer / Senior[1]	1
Board Member / Senior	1
Ontario Telemedicine Network representative	1

[1] Participants indicated in bolded italics represent seniors who are either consumers or caregivers.

Sector/ Participants	Number of Participants
Senior Networking Group representative	1
Primary Care Total	**50**
ACUTE CARE	
Geriatrician	4
Geriatric Psychiatrist	2
Family Physician	2
Nurse Practitioner	2
Geriatric Assessment Unit Resource Nurse	1
Seniors Mental Health Nurse	1
Seniors Mental Health Social Worker	1
Chief Financial Officer	1
ED Charge Nurse	1
Utilization Specialist	1
Director of Patient Services	1
Informatics	1
Quality Improvement Coordinator	1
Acute Care Total[2]	**19**
LONG-TERM CARE	
LTC home representative	1
Physicians	9
Long-Term Care Total	**10**
GROUP REPRESENTATION	
Waterloo Wellington Seniors Network; Representatives from 12 organizations/ agencies: • Seniors at Risk • Specialized Geriatric Services • Long-Term Care • Family Health Teams • Community Support Services • Geriatric Education • Immigration Services • Central Regional Geriatric Program • Evergreen Seniors Centre • Homewood Health Centre • St. Joseph's Healthcare Outreach Services • Guelph-Wellington Housing	12

[2] Two individuals participated in two focus group interviews; however, they were only counted once.

Sector/ Participants	**Number of Participants**
Waterloo Wellington Dementia Network; Representatives from: • Alzheimer Society • CCAC • Homewood Health Centre	8
Canadian Osteoporosis Patient Network (COPN); Consumers representatives ***Seniors*** Osteoporosis Canada representative	 11 1
Alzheimer Society (Guelph and KW) ***Partners in Care***[3] Alzheimer Society representative	 15 3
Total number of Group Participants	**50**
Total number of participants across sectors/ groups	**186**

[3] These were mostly the spouses and children of persons with dementia.

Reference List

1. Ontario Ministry of Finance. Ontario Population Projections Update 2009-2036. 2010. Toronto, ON, Ontario Ministry of Finance.
2. Alzheimer Society of Ontario. Projected prevalence of dementia: Ontario Local Health Integration Networks. 2007. Toronto, ON, Alzheimer Society of Ontario.
3. https://www.intellihealth.moh.gov.on.ca/frontpage (access verified September 28 2011).
4. Bergman H, Ferrucci L, Guralnikm J, Hogan DB, Karunananthan S, Wolfson C. Frailty: An emerging research and clinical paradigm - issues and controversies. Journals of Gerontology Series A, Biological Sciences and Medical Sciences 2007; 62:731-737.
5. Rockwood K, Mitnitski A. Frailty defined by deficit accumulation and geriatric medicine defined by frailty. Clinics in Geriatric Medicine 2011; 27(1):17-26.
6. Espinoza S, Walston JD. Frailty in older adults: Insights and interventions. Cleveland Clinic Journal of Medicine 2005; 72(12):1105-1112.
7. Fried LP, Tangen C, Walston J, Newman AB, Hirsch C, Gottdiener J et al. Frailty in older adults: evidence for a phenotype. Journal of Gerontology 2001; 56A:M1-M11.
8. Rockwood K, Stadnyk K, MacKnight C, McDowell I, Hebert R, Hogan DB. A brief clinical instrument to classify frailty in elderly people. Lancet 1999; 353:205-206.
9. Rockwood K, Song X, MacKnight C, Bergman H, Hogan DB, McDowell I et al. A global clinical measure of fitness and frailty in elderly people. Canadian Medical Association Journal 2005; 173(5):489-495.
10. Eklund K, Wilhelmson K. Outcomes of coordinated and integrated interventions targeting frail elderly people: a systematic review of randomised controlled trials. Health and Social Care in the Community 2009;17(5):447-458.
11. Heckman GA. Integrated Care for the Frail Elderly. Healthcare Papers 2011; 11(1):8-18.
12. Mittelman MS, Ferris SH, Shulman E, Steinberg G, Levin B. A family intervention to delay nursing home placement of patients with Alzheimer disease. A randomized controlled trial.JAMA. 1996 Dec 4;276(21):1725-31.
13. Brand C, Scott I, Greenberg P, Sargious P. Chronic disease management: Time for consultant physicians to take more leadership in system redesign. Internal Medicine Journal 2007; 37(9):653-659.
14. Scott IA. Chronic disease management: A primer for physicians. Internal Medicine Journal 2008; 38:427-437.
15. Wagner EH, Austin BT, Von Korff M. Organizing care for patients with chronic illness. Millbank Quarterly 1996; 74:511-544.
16. Singh D, Ham C. Improving care for people with long-term conditions, a review of UK and international frameworks. Birmingham: Health Services Management Centre, University of Birmingham, 2006.

17. Beswick AD, Rees K, Dieppe P, Ayis S, Gooberman-Hill R, Horwood J et al. Complex interventions to improve physical function and maintain independent living in elderly people: a systematic review and meta-analysis. The Lancet 2008; 371:725-735.
18. Day P, Rasmussen P. What is the evidence for the effectiveness of specialist geriatric services in acute, post-acute and sub-acute settings? New Zealand Health Technology (NZHTA) Report 2004; 7(3):1-169.
19. Schmader KE, Hanlon JT, Pieper CF, Sloane R, Ruby CM, Twersky J et al. Effects of geriatric evaluation and management on adverse drug reactions and suboptimal prescribing on the frail elderly. American Journal of Medicine 2004; 116:394-401.
20. Stuck AE, Siu AL, Wieland GD, Adams J, Rubenstein LZ. Comprehensive Geriatric Assessement: A meta-analysis of controlled trials. Lancet 1993; 342:1032-1036.
21. Counsell SR, Callahan CM, Clark DO, Tu W, Buttar AB, Stump TE, Ricketts GD. Geriatric care management for low-income seniors: A randomized controlled trial. JAMA 2007;298(22):2623-2633.
22. Lee L, Hillier LM, Stolee P, Heckman G, Gagnon M, McAiney CA et al. Enhancing dementia care: A primary care-based Memory Clinic. Journal of the American Geriatrics Society 2010; 58:2197-2204.
23. http://www.health.gov.on.ca/en/public/publications/ministry_reports/walker_2011/walker_2011.aspx (access verified September 28 2011).
24. Challis D, Clarkson P, Williamson J, Hughes J, Venables D, Burns A, Weinberg A. The value of specialist clinical assessment of older people prior to entry to care homes. Age Ageing. 2004 Jan;33(1):25-34.
25. Hofmarcher M, Oxley H, Rusticelli E. Improved health system performance through better care coordination. OECD Working Paper no 30, 2007.
26. Gröne O, Garcia-Barbero M. Integrated care: a position paper of the WHO European Office for Integrated Health Care Services. Int J Integr Care. 2001;1:e21.
27. Vedel I, Monette M, Beland F, Monette J, Bergman H. Ten years of integrated care: backwards and forwards. The case of the province of Québec, Canada. International Journal of Integrated Care 2011;11(7):1-11.
28. Johri M, Beland F, Bergman H. International experiments in integrated care for the elderly. International Journal of Geriatric Psychiatry 2003; 18:222-235.
29. Bergman H, Beland F, Lebel P, Contandriopoulos P, Tousignant P, Burnell Y et al. Care for Canada's frail elderly population: Fragmentation or integration? Canadian Medical Association Journal 1997; 157:1116-1121.
30. Hebert R, Durand P, Tourigny A. Frail elderly patients: New model for integrated service delivery. Canadian Family Physician 2003; 49:992-997.
31. Eng C, Pedulla J, Eleazer P, McCann R, Fox N. Program for all inclusive care for the elderly (PACE): an innovative model of integrated geriatric care and financing. Journal of the American Geriatrics Society 1997; 45:223-232.

32. Shannon K, Van Reenen C. PACE: Innovative care for the frail elderly. Health Progress 1998; 79(41):46.

33. Kane R, Homyak P, Bershadsky B. Consumer reactions to the Wisconsin Partnership Program and its parent, the Program for All-Inclusive Care of the Elderly (PACE). The Gerontologist 2002; 42:314-321.

34. McAdam M. Home care: It's time for a Canadian Model. Home Care Papers 2000; 1(9):36.

35. Manton KG, Newcomer R, Lowrimore GR, Vertrees JC, Harrington C. Social/ health maintenance organization and fee-for service health outcomes over time. Health Care Financial Review 1993; 15:173-202.

36. Newcomer R, Harrington C, Kane R. Challenges and accomplishments of the second-generation Social Health Maintenance Organization. The Gerontologist 2002; 42:843-852.

37. Challis D, Darton R, Johnson L, Stone M, Traske K. An evaluation of an alternative to long-stay hospital care for frail elderly patients: I. The model of care. Age and Ageing 1991; 20:236-244.

38. Challis D, Darton R, Johnson L, Stone M, Traske K. An evaluation of an alternative to long-stay hospital care for frail elderly patients: II. Costs and effectiveness. Age and Ageing 1991; 20:245-254.

39. Bernabei R, Landi R, Gambassi G, Sgadari A, Zuccala G, Mor V et al. Randomised trial of impact of model of integrated care and case management for older people living in community. British Medical Journal 1998; 316:1348-1351.

40. Kodner DL. Whole-system approaches to health and social care partnerships for the frail elderly: an exploration of North American models and lessons. Health and Social Care in the Community 2006; 14(5):384-390.

41. McAdam M. Frameworks of Integrated Care for the Elderly: A Systematic Review. Canadian Policy Research Networks Inc. 2008.

42. Landi F, Onder G, Russo A, Tabaccanti S, Rollo R, Federici S et al. A new model of integrated home care for the elderly: Impact on hospital use. Journal of Clinical Epidemiology 2002; 54:968-970.

43. Kodner DL, Kyriacou CK. Fully integrated care for frail elderly: two American models. Int J Integr Care. 2000 Nov 1;1:e08.

44. Llyod J, Wait S. Integrated care: A guide for policy makers. 2005. UK, Alliance for Health and the Future. Ref Type: Report

45. Eggert GM, Zimmer JG, Hall WJ, Friedman B. Case management: A randomized controlled study comparing a neighbourhood team and a centralized individual model. Health Services Research 1991; 26:471-507.

46. Hollander MJ, Price MJ. Organizing healthcare delivery systems for persons with ongoing care needs and their families: a best practices framework. Healthcare Quarterly 2008;11(1):44-54.

47. Suter E, Oelke ND, Adair CE, Armitage GD. Ten key principles for successful health systems integration. Healthcare Quarterly 2009; 13 Special Issues:16-23.

48. Williams AP, Lum JM, Deber R, Montgomery R, Kuluski K, Peckham A, Watkins J, Williams A, Ying A, Zhu L. Aging at home: Integrating community-based care for older persons. HealthcarePapers 2009;10(1):8-21.

49. Krueger RA, Casey MA. Focus groups. 3rd Ed. Thousand Oaks, CA: Sage Publications, 2000.

50. Charmaz K. Constructing grounded theory. Thousand Oaks, CA: Sage Publications, 2006.

51. Welsh E. Dealing with data: Using NVivo in the qualitative data analysis process. Forum: Qualitative Social Research 2002; 3(2).

52. Creswell J. Research design: Qualitative, quantitative and mixed method approaches. 3rd Ed. ed. Thousand Oaks, CA: Sage Publications, 2009.

53. Pope C, Mays N. Qualitative Research in Health Care. Malden CA: Wiley-Blackwell, 2006.

54. Paskett ED, Harrop JP, Wells KJ. Patient navigation: an update on the state of the science.CA Cancer J Clin. 2011 Jul-Aug;61(4):237-49. doi: 10.3322/caac.20111. Epub 2011 Jun 9.

55. Manderson B, McMurray J, Piraino E, Stolee P. System navigation roles to support chronically ill older adults through health care transitions: A review of the literature. Health and Social Care in the Community. In press.

56. Brennan TA, Leape LL, Laird NM, Hebert L, Localio R, Lawthers AG et al. Incidence of adverse events and neglligence in hospitalized patients. New England Journal of Medicine 1991; 324(6):370-376.

57. Bates DW, Miller EB, Cullen DJ, Burdick L, Williams L, Laird N et al. Patient risk factors for adverse drug events in hospitalized patients ADE Prevention Study Group. Archives of Internal Medicine 1999; 159(21):2553-2560.

58. Baker GR, Norton PG, Flintoft V, Blais R, Brown A, Cox J et al. The Canadian Adverse Events Study: the incidence of adverse events among hospital patients in Canada. Journal of the Canadian Medical Association 2004; 170(11):1678-1686.

59. Inouye SK, Bogardus ST, Charpentier L, Leo-Summers D, Acampora TR, Holford TR et al. A multicomponent intervention to prevent delirium in hospitalized older patients. New England Journal of Medicine 1999; 340:669-676.

60. Inouye SK, Bogardus ST, Baker DI, Leo-Summers D, Cooney LM. The Hospital Elder Life Program: a model of care to prevent cognitive and functional decline in older hospitalized patients. Journal of the American Geriatrics Society 2000; 48(12):1697-1706.

61. Sandhous S, Zalon ML, Valenti D, Dzielak E, Smego RA, Arzamosova U. A volunteer-based Hospital Elder Life Program to reduce delirium. Health Care Manager 2010; 29(2):150-156.

62. Rosenbloom-Brunton DA, Henneman EA, Inouye SK. Feasiblity of family participation in a delirium prevention program for hospitalized older adults. Journal of Gerontological Nursing 2010; 36(9):22-33.

63. Inouye SK, Baker DI, Fugal P, Bradley EH. Dissemination of the Hospital Elder Life Program: Implementation, Adaptation, and Successes. Journal of the American Geriatrics Society 2006; 54:1492-1499.

64. Mouchoux C, Rippert P, Ducios A, Fassier T, Bonnerfoy M, Comte B et al. Impact of a multi-faceted program to prevent postoperative delirum in the elderly: the CONFUCIUS stepped wedge protocol. BMC Geriatrics 2011; 11(25).

65. Rubin FH, Neal K, Fenlon K, Hassan S, Inouye SK. Sustainability and scalability of the hospital elder life program at a community hospital. J Am Geriatr Soc. 2011 Feb;59(2):359-65. doi: 10.1111/j.1532-5415.2010.03243.x.

66. Naylor MD. Transitional care of older adults. Annual Review of Nursing Research 2003; 20:127-147.

67. Happ MB, Naylor MD, Roe-Prior P. Factors contributing to rehospitalization of elderly patients with heart failure. Journal of Cardiovascular Nursing 1997; 11:75-84.

68. Oddone EZ, Weinberger M, Horner M, Mengel C, Goldstein F, Ginier P et al. Classifying general medical readmissions: are they preventable? Journal of General Internal Medicine 1996; 11:597-607.

69. Katz MH. Interventions to decrease hospital readmissions rates: Who saves? Who Pays? Archives of Internal Medicine 2011; 171(14):1230-1231.

70. Naylor MD, Brooten DA, Campbell RL, Maislin G, McCauley KM, Schwartz JS. Transitional care of older adults hospitalized with heart failure: A randomized controlled trial. Journal of the American Geriatrics Society 2004; 52:675-684.

71. Coleman EA, Parry C, Chalmers S, Min SS. The care transitions intervention. Results of a randomized controlled trial. Archives of Internal Medicine 2006; 166:1822-1828.

72. Cunliffe AL, Gladman JR, Husbands SL, Miller P, Dewey ME, Harwood RH. Sooner and healthier: a randomized controlled trial and interview study of an early discharge rehabilitation service for older people. Age and Ageing 2004; 33(246):252.

73. Voss R, Gardner R, Baier R, Butterfield K, Lehrman S, Gravenstein S. The Care Transitions Intervention: translating from efficacy to effectiveness. Archives of Internal Medicine 2011; 171(14):1232-1237.

74. Naylor MD, Aiken LH, Kurtzman ET, Olds DM, Hirschman KB. The importance of transitional care in achieving health reform. Health Affairs 2011; 30(4):746-754.

75. McCauley KM, Bixby MB, Naylor MD. Advanced practice nurse strategies to improve outcomes and reduce cost in elders with heart failure. Dis Manag. 2006 Oct;9(5):302-10.

76. Stauffer BD, Fullerton C, Fleming N, Ogola G, Herrin J, Stafford PM et al. Effectiveness and cost of a transitional care program for heart failure: a prospective study with concurrent controls. Archives of Internal Medicine 2011; 171(14):1238-1243.

77. Forbes DA, Edge DS. Canadian home care policy and practice in rural and remote settings: challenges and solutions. Journal of Agromedicine 2009; 14(2):119-124.

78. Leff BL, Reider L, Frick KD, Scharfstein DO, Boyd CM, Frey K et al. Guided care and the cost of complex healthcare: A preliminary report. American Journal of Managed Care 2009; 15:555-59.

79. Wolff J, Rand-Giovannetti E, Palmer S, Wegener S, Reider L, Frey K et al. Caregiving and chronic care: the Guided Care Program for families and friends. Journal of Gerontology: MEDICAL SCIENCES 2009; 64A(7):785-791.

80. Boult C, Reider L, Leff BL, Frick KD, Boyd CM, Wolff J et al. The effect of Guided Care teams on the sue of health servcies: results from a cluster-randomized controlled trial. Archives of Internal Medicine 2011; 171(5):460-466.

81. Marsteller JA, Hsu YJ, Reider L, Boyd CM, Leff BL, Karm L et al. Physician satisfaction with chronic care processes: a cluster-randomized trial of Guided Care. Annals of Family Medicine 2010; 8(4):308-315.

82. Boyd CM, Reider L, Frey K, Scharfstein D, Leff BL, Wolff J et al. The effects of guided care on the perceived quality of health care for multi-morbid older persons: 18-month outcomes from a cluster-randomized controlled trial. Journal of General Internal Medicine 2009; 25(3):235-242.

83. Lewis D. Organization design for geriatrics: an evidence based approach. David Lewis, editor. Regional Geriatrics Programs of Ontario, 2008.

84. Van Creaen K, Braes T, Wellens N, Denhaerynck K, Flamaing J, Moons P et al. The effectiveness of inpatient geriatric evaluation and management units: a systematic review and meta-analysis. Journal of the American Geriatrics Society 2010; 58:83-92.

85. Stuck AE, Minder C, Peter-Wüest I, Gillmann G, Egli C, Kesselring A et al. A randomized tiral of in-home visits for disability prevention in community-dwelling older people at low and high risk for nursing home admission. Archives of Internal Medicine 2000; 160:977-986.

86. Wieland D. The effectiveness and costs of comprehensive geriatric evaluation and management. Critical Reviews in Oncology/ Hematology 2003; 48:227-237.

87. Rubenstein LZ, Aronow HU, Schloe M, Steiner A, Alessi CA, Yuhas KE, Gold M, Kemp M, Raube K, Nisenbaum R, et al. A home-based geriatric assessment, follow-up and health promotion program: design, methods, and baseline findings from a 3-year randomized clinical trial. Aging (Milano). 1994 Apr;6(2):105-20.

88. Cohen HJ, Feussner JR, Weinberger M, Carnes M, Hamdy RC, Hsieh F et al. A controlled trial of inpatient and outpatient geriatric evaluation and management. New England Journal of Medicine 2002; 346:902-912.

89. Rubin CG, Sizemore MT, Loftis PA, Adams-Huet B, Anderson RJ. The effect of geriatric evaluation and management on Medicare reimbursement in a large public hospital: a randomized clinical trial. Journal of the American Geriatrics Society 1992; 40:989-995.

90. Schmader KE, Hanlon CF, Pieper R, Sloane CM, Ruby J, Twersky A et al. Effects of geriatric evaluation and management on adverse drug reactions and suboptimal prescribing in the frail elderly. American Journal of Medicine 2004; 116:394-401.

91. McCusker J, Verdon J. Do geriatric interventions reduce emergency department visits? A systematic review. Journals of Gerontology Series A, Biological Sciences and Medical Sciences 2006; 61(1):53-62.

92. Ellis G, Langhorne P. Comprehensive geriatric assessment for older hospital patients. British Medical Bulletin 2005; 71:45-59.

93. Metcalfe J. The management of patients with long-term conditions. Nursing Standard 2005; 19(45):53-60.

94. Wells KJ, Battaglia TA, Dudley DJ. Patient navigation: state of the art or is it science? Cancer 2008; 113(8):1999-2010.

95. Freeman H. Patient navigation: A community based strategy to reduce cancer disparities. Journal of Urban Health: Bulletin of the New York Academy of Medicine 2006; 83(2):139-141.

96. Egan M, Anderson S, McTaggart J. Community navigation for stroke survivors and their care partners: Description and evaluation. Topics in Stroke Rehabilitation 2010; 17(3):183-190.

97. Vedel I, Stampa MD, Bergman H. A novel model of integrated care for the elderly: COPA, Coordination of Professional Care for the Elderly. Aging 2008; 21(6):414-42.

98. Hirdes JP. Addressing the health needs of frail elderly people: Ontario's experience with an Integrated Health Information System. Age and Ageing 2006; 35:329-331.

99. Protti D. Integrated care needs integrated information management and technology. Healthcare Quarterly 2009; 13 Special Issue:24-29.

100. http://www.who.int/healthy_settings/types/cities/en/index.html (Access verified October 20 2011).

101. Hébert R, Raîche M, Dubois MF, Gueye NR, Dubuc N, Tousignant M, and PRISMA group. Impact of PRISMA, a coordination-type integrated service delivery system for frail older people in Quebec (Canada): A quasi-experimental study. J Gerontol Soc Sci 2010; 65B:107-118.