Rehabilitative Care Alliance

# Pathways to rehabilitative care for frail older adults in the community presenting to Primary Care or ED post-fall

Pilot Report

**July 2020**

# Post-Fall Pathways Pilot Report

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## EXECUTIVE SUMMARY

The individual and systemic effects of a fall or recurrent falls among frail older adults are both significant and detrimental. Standardized care for older adults with frailty who present to the Emergency Department (ED) or Primary Care with a fall through the integration of rehabilitative care services into secondary fall prevention pathways is essential to mitigate functional decline and improve patient outcomes. In response, the Rehabilitative Care Alliance (RCA), in collaboration with stakeholders across Ontario, developed secondary fall prevention pathways (Emergency Department Pathway & Primary Care Pathway). To understand the operational requirements needed to embed the pathways into clinical practice and to establish the effectiveness of the pathways to guide healthcare providers in facilitating the navigation for older adults who have fallen to the appropriate rehabilitative care program/service, in 2019 the RCA solicited interest in launching a provincial pilot of the pathways. Three regions volunteered to participate in the pilot: Hamilton, Sudbury and Thunder Bay.

In preparation for the launch of the pilot, the Post-Fall Pathways Pilot Task Group was convened with representation from each of the three participating regions. This task group allowed for cross-regional discussion and problem solving during the implementation of the pilot. The group was also responsible to create a quality improvement plan at the close of each PDSA (Plan Do Study Act) cycle based on data analysis and experiential learnings. Tools and resources were shared across regions via a Google Drive link. Regions adapted the provincial pathways to their local context to ensure that each arm of the pathway would be actionable by frontline clinicians. Participating sites also conducted clinician orientation to the pathways utilizing strategies that would be most effective in their clinical environment, including 1-2 hour education sessions, brief learning moments during staff huddles or meetings, and written education materials or cheat sheets.

### Baseline Data Analysis

Prior to implementation of the pilot, baseline data was collected via chart reviews and a baseline clinician survey to understand the current assessment, treatment and referral processes for older adults who presented to the ED/primary care with a fall. The majority of clinicians participating in the pilot (60% in Emergency Departments and 75% in Primary Care) indicated that they did not have a secondary fall prevention protocol in place. When assessing a frail older adult who had fallen, the majority of clinicians indicated that they conduct a general assessment without using validated tools or outcome measures. On chart review, most fall risk factors were not evaluated during this general assessment. Subsequent follow up referrals were dependent on the complexity of the case or situation and the availability of the service on site.

### PDSA Cycle #1 Data Analysis

A review of demographic information demonstrated similarities between the patient population at the point of baseline and those in PDSA Cycle #1. Demographics included age, gender, home situation, healthcare services already in place, and whether this was a first or subsequent fall. It was evident from an analysis of the data submitted for PDSA Cycle #1 that there was a marked improvement on all aspects of the preliminary evaluation. However, there remains room for improvement in the assessment of fall risk factors, namely, the assessment of vision, vestibular conditions, orthostatic hypotension, nutrition & hydration, home hazards, feet and footwear, alcohol intake, and fracture risk level. In comparison to baseline, assessments were also shared more consistently during PDSA Cycle #1 within the patient's circle of care (26% did not share assessments at baseline compared with 10% during PDSA Cycle #1). Similarly, an increase in follow up referrals to geriatric and rehabilitative care services was noted across all services.

### Learnings from PDSA Cycle #1

- In some regions, the most appropriate services were not available due to long wait lists, in particular, ambulatory rehabilitative care services. Long wait lists often prevented patients from receiving care from certain services, such as community-based physiotherapy. Alternate community interventions were therefore accessed, although not the ideal level of care based on the preliminary evaluation. For example, in some instances, patients were referred to a volunteer-based community fall prevention program while awaiting services from a registered rehabilitative care professional.
- In some regions, the pathways were implemented during regular working hours only. As a result, those patients seen during off hours would not receive the same level of care. Possible solutions include extending Geriatric Emergency Management (GEM) nurse hours to include evenings and weekends utilizing other funding sources or follow up phone calls.
- Patients and family members were often overwhelmed during their initial ED or primary care visit and would therefore refuse rehabilitative care services. A change to the healthcare providers' script was proposed to simplify the message to patients and their families. Posters are in development for posting in waiting areas with the hope of generating patient and family interest in follow up rehabilitative care services following a fall.
- Baseline data showed that general assessments were often conducted without the use of assessment tools or outcome measures. This is problematic as it indicates a lack of organizational and systemic standardization. Clinician education in PDSA Cycle #2 will focus on available assessment tools and preliminary evaluation of those fall risk factors that were not consistently assessed in PDSA Cycle #1. Assessment tools will be embedded within the pathway.

## Next Steps

Given the competing priorities of the current COVID-19 pandemic, the Post-Fall Pathways Pilot has been put on hold for the foreseeable future. The RCA will continue to consult with participating sites to determine if and when the emergency department and primary care pilot may resume with PDSA Cycle #2. This report was therefore drafted to document the pilot's progress and learnings to date with consideration for the uncertainty of participating sites' ability to continue in the pilot.

In light of the continuing and potentially increasing needs of older adults with frailty through this pandemic, the RCA is also working in collaboration with the Ontario Community Paramedicine Secretariat to determine the feasibility of adapting the Post-Fall Pathway for use by community paramedics and supporting a pilot in interested regions. Community paramedics are in a potentially opportune place to provide in-home screening and navigation assistance for frail seniors who fall. Without follow up, these patients remain at risk for further functional decline and potential secondary falls requiring medical attention and possible hospitalization.

## INTRODUCTION

As per the World Health Organization definition, a fall is "an event that results in a person coming to rest inadvertently on the ground or floor or other lower level, with or without injury".[1] Unfortunately, more than one third of older adults 65 years of age and older will experience a fall.[2] CIHI recently reported that falls account for 60% of all reported ER visits among older adults, with an estimated 20% admitted to the hospital and 4 out of 5 injury hospitalizations involving this population are because of a fall.[3] For those who are admitted to hospital, the average acute length of stay resulting from a fall is 10 days longer than if an older adult was admitted for any cause.[4] There are also significant financial costs associated with falling; estimated at $2 billion annually.[5]

Primary prevention aims to prevent disease or injury before it ever occurs. This is done by preventing exposures to hazards that cause disease or injury, altering unhealthy or unsafe behaviours that can lead to disease or injury, and increasing resistance to disease or injury should exposure occur. Secondary prevention aims to reduce the impact of a disease or injury that has already occurred. This is done by detecting and treating disease or injury as soon as possible to halt or slow its progress, encouraging personal strategies to prevent re-injury or recurrence, and implementing programs to return people to their original health and function to prevent long-term problems. Finally, tertiary prevention aims to soften the impact of an ongoing illness or injury that has lasting effects. This is done by helping people manage long-term, often-complex health problems and injuries (e.g. chronic diseases, permanent impairments) in order to improve as much as possible their ability to function, their quality of life, and their active life expectancy.[6]

According to the Rehabilitative Care Alliance System Evaluation 2018/19 Performance Report, repeat Emergency Department visits for falls represented 18% of the total Emergency Department visits for falls across Ontario.[7] This population-based indicator demonstrated the need to address secondary fall prevention within Ontario. Therefore, in the year 2018, pathways to rehabilitative care for frail older adults in the community, who present to primary care or the ED post-fall, were drafted through the Rehabilitative Care Alliance Frail Senior Initiative. The overarching objective was to standardize care for frail older adults who present to the ED/Primary Care with a fall through the integration of rehabilitative care services into secondary fall prevention pathways, thereby mitigating functional decline and improving patient outcomes.

## DEVELOPMENT OF THE PATHWAYS

A comprehensive literature review informed the initial development of care pathways for the prevention of functional decline among older adults who experience a fall. Based on the results of this literature review, the RCA Frail Senior Task Group, with consultation from the RCA Patient and Caregiver Advisory Group, completed the development of a single pathway to rehabilitative care for frail older adults in the community presenting to primary care or the emergency department post-fall. Once developed, the pathway underwent extensive stakeholder review, including external feedback gathered via five meetings with more than 20 national and international stakeholders. Emergency Department and primary care physicians, GEM nurses, physiotherapists, occupational therapists, social workers and dietitians were among these stakeholders. Based on feedback received, the pathway was further revised to separate the pathway into two pathways specific to ED and primary care. Stakeholders also recommended a pilot of the pathways prior to their finalization and broader roll out. The final draft of the Emergency Department Provincial Pathway and the Primary Care Provincial Pathway are available on the Rehabilitative Care Alliance website.

## PILOT PLANNING AND PREPARATION

### Deliverables

A pilot of the pathways to rehabilitative care for frail older adults in the community who present to primary care or the ED post-fall is part of the RCA Frail Seniors Initiative Work Plan for 2019-2022. The purpose of the pilot was to finalize the draft pathways and develop a clinical and operational toolkit as well as a broader communication and implementation strategy. The following deliverables for the pilot were established:

1. Determine the operational requirements to embed the pathways into ED/primary care clinical practice;
2. Ensure that all components of the pathways are actionable;
3. Understand the ease of use for clinicians; and,
4. Establish the effectiveness of the pathways to guide healthcare providers in navigating older adults who have fallen to the appropriate rehabilitative care program/service.

### Recruitment

The opportunity to pilot the pathways was made available to the membership of the Frail Seniors Advisory Group and more broadly through the Rehabilitative Care Alliance Newsletter. Widespread interest across Ontario was noted and nine regions moved forward. Information sessions regarding the details of the pilot, meetings with senior administration and team discussions regarding potential implementation in emergency departments and primary care were held with several organizations and regions across the province. Although high interest was noted, competing priorities including the initiation and development of Ontario Health Teams, made participation difficult for several regions. Three regions committed to participate in the pilot: Hamilton, Sudbury and Thunder Bay.

## Communication Strategies

The Post-Fall Pathways Pilot Task Group was convened with representation from each of the three participating regions. This task group allowed for cross-regional discussion and problem solving during the implementation of the pilot. The group shared ideas, strategies, and tools developed in their region to facilitate effective implementation provincially. A Google Drive link was utilized to share these documents and tools. The group was also responsible to create a quality improvement plan at the close of each PDSA (Plan Do Study Act) cycle based on data analysis and experiential learnings.

Regionally, rehabilitative care organizations received information packages regarding the pilot. Both acute and rehabilitative care organizations communicated in Hamilton and Sudbury via monthly regional meetings facilitated by the Rehabilitative Care Alliance. The Regional Rehabilitation and Seniors' Care Leads facilitated communication between organizations in Thunder Bay.

## Adapting Pathways to the Regional Context

The original post-fall pathways were developed at a provincial level allowing for standardization of the preliminary evaluation and each referral arm. While standardization is important, it was made clear through stakeholder consultations that each part of the pathway must be actionable. Each of the referral arms in the provincial pathways were not specific to the regional context and as such, not actionable by a frontline clinician.

*Figure 1: ED Post-Fall Pathway Arms:*

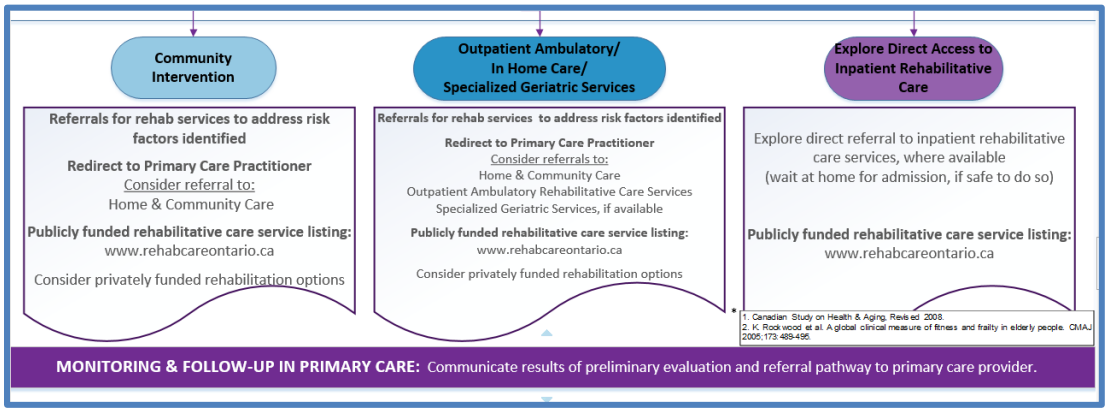
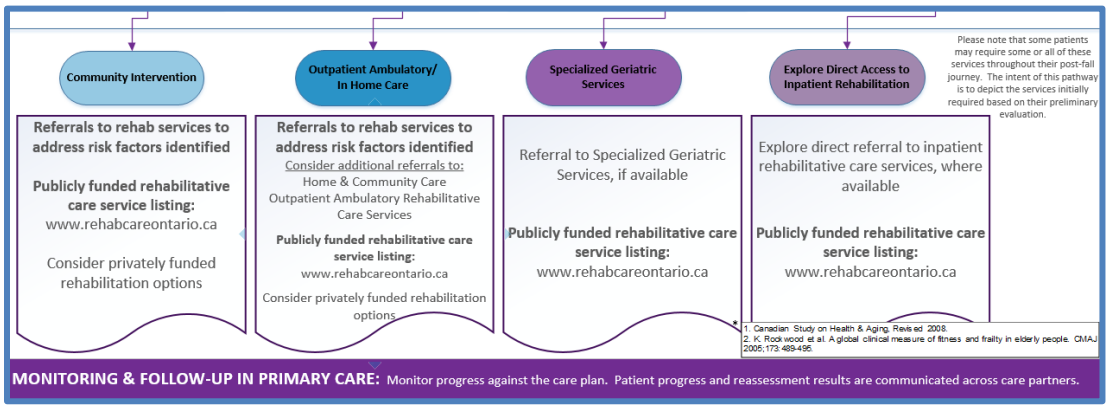


*Figure 2: Primary Care Post-Fall Pathway Arms*




To ensure that each arm of the pathway was actionable, the pathways were adapted to the local context (see Appendix A). Meetings were held with acute and rehabilitative care partners in each region to discuss the adaptation of the pathways and which local services fit the descriptions of each referral arm. These partners included the emergency department(s), primary care, inpatient rehabilitation, outpatient rehabilitation, home and community care, community-based exercise programs, and specialized geriatric services. Smaller regional working groups finalized the referral arms and these were validated by the regional partners. In the North West, the referral form and pathway was formalized for community-based exercise programs. In Hamilton, it was noted that there were several services to which patients could be referred in each arm. A secondary document: *Hamilton Rehabilitative Care Services Listing* was therefore developed. Services were divided based on each of the referral arms and details were provided regarding location, cost, and referral process.

## Baseline Data Collection

*Chart Reviews*

To understand the current state (processes for an older adult who presented to the ED/primary care with a fall), participating sites completed a minimum of 10 chart reviews. A chart review tracking tool was designed in collaboration with Osteoporosis Canada, research experts, and clinician experts, including those who would be utilizing the tool. Inclusion criteria for completion of the reviews were as follows:

- 65+ years of age;
- Recently experienced a fall or reporting 2 or more falls in the last year;
- Lives in the community *(Not a resident of Long-Term Care)*; and,
- Did not require acute care services. *(May have been directly admitted to inpatient rehabilitation or to acute care for rehabilitative care only)*

The chart review tracking tool was designed with Survey Monkey® using simple to use check boxes and dialogue boxes to allow for explanation, if needed. Chart reviews included demographic information, assessment and treatment interventions, referral and information sharing processes. No personal health information was part of the tracking tool. See Table 1 for categories of questions in the tool.

*Table 1: Chart Review Tracking Tool Questions*

| Questions | |
|---|---|
| Reviewer Information & Pilot Site | Presence of cognitive impairment? |
| Date, Time & Day of Week of initial visit | Level of physical function? |
| Patient Age & Gender | Level of frailty? |
| Home Situation, example: lives alone | Level of fracture risk? |
| Services previously in place? | Identified fall risks? |
| Number of falls in the last year? | Referrals made during this episode of care? |
| Injury from current fall? | With whom were assessments shared? |
| Difficulty with gait and/or balance? | |

*Baseline Clinician Survey*

A pre-pilot survey via Survey Monkey® was completed by all clinicians who participated in the pilot. The purpose of the baseline survey was to understand the current assessment, treatment, and referral practices. A follow up clinician survey is planned for the end of the pilot (after PDSA Cycle #3) to understand the facilitators and barriers to the pathway implementation and the effectiveness of the pathway to guide healthcare providers assisting older adults who have fallen with navigating the appropriate rehabilitative care program/service(s).

### Clinician Orientation

Each site conducted their clinician orientation utilizing strategies that would be most effective in their clinical environment. These strategies included 1-2 hour education sessions, brief learning moments during staff huddles or meetings, and written education materials or cheat sheets. The example of the Clinician Orientation Agenda utilized in Sudbury is below. Other regions used similar formats. See Appendix B for clinician handouts, which were printed on the back of the pathways in some regions.

*Table 2: Sudbury Clinician Orientation Agenda*

| Presenter | Topic | Time |
|---|---|---|
| RCA | Introduction<br>Overview of pilot objectives<br>Review of the pathways | 20 min |
| Osteoporosis Canada | Fracture Risk Assessment | 20 min |
| Geriatric Clinical Expert | Assessment of the frail older adult as per post-fall pathway:<br>• Fall Risk Factors Assessment<br>• Frailty Assessment: Clinical Frailty Scale<br>• Functional Geriatric Assessment | 50 min |
| Rehabilitative Care Lead | Referral decision-making based on the RCA Definitions Framework | 15 min |
| Questions and closing remarks | | 15 min |
| Site Leads | Site specific processes for implementation of the pathways:<br>• Triage<br>• Multifactorial Evaluation<br>• Referrals and follow up<br>• EQ-5D-5L and Patient Experience questions administration | To be communicated by site leads to their respective teams |

## PILOT LAUNCH

### PDSA Cycle Process

A PDSA approach is defined as Plan Do Study Act. The PDSA cycle is a quality circle and, as it rolls forward, it produces more and more knowledge about how service excellence can be achieved.[8]

**Plan:** The future process state is designed and documented. A plan with expected outcomes is created. An appropriate team is organized to test the improvement ideas.

**Do:** The Improvement is piloted and tested on a small scale.

**Study:** The outcomes are studied and evaluated. A determination is made regarding whether the expectations of the change are realized.

**Act:** The improvement is formally adopted or the cycle is run again.

The Post-Fall Pathways Pilot was designed using a PDSA Cycle Process. During each cycle, sites tracked a minimum of 10 randomly identified patients from their initial visit with the Emergency Department (ED) or Primary Care, through to discharge from rehabilitative care. Sites launched PDSA Cycle #1 in a rolling start between October 2019 and January 2020. At the time of this report, most sites had completed PDSA Cycle #1. Unfortunately, due to the unforeseen competing priorities of the COVID-19 pandemic, the pilot was put on hold in March 2020. PDSA Cycle #2 will be launched when it is deemed feasible by each site's team and administration.

*Table 3: PDSA Cycle Process*

| Launch Pilot |
|---|
| First 3 Month Cycle |
| Track Data on a minimum of 10 randomly identified patients through their patient journey |
| Data is submitted to RCA, collated and analyzed |
| Results presented to Post-Fall Pathway Task Group Meeting |
| Utilize Quality Improvement Approach to determine potential adjustments required |
| Next 3 month PDSA Cycle |
| Run 3 cycles. May require further time to gather remaining data from final cycle. |

## Site Implementation

Teams and site leads determined the most effective way to implement the post-fall pathways based on each organization's processes and staff resources. Most sites implemented the pathways with a dedicated team of professionals who addressed the needs of all frail seniors who presented with a fall. The drawback of this approach was that this team was not available during "off hours", i.e., during the evenings, nights, and weekends. To offset this concern, some sites implemented a follow up phone call to patients identified by the ED team "during off hours" from the dedicated team, such as the GEM nurse or nurse practitioner. The dedicated team completed the preliminary evaluation and followed through with subsequent referrals, as per the pathways. Patients and their families were informed of the process at the initial ED visit. Please see Appendix C for the Patient Information Card and Appendix D for a Script to assist health care providers to explain the pilot implementation process.

## Data Collection

### *Patient Tracking Process*

To ensure that a patient could be tracked throughout their journey of care, a process was required to track the patient across organizations. Therefore, a Patient Registration Log was created, assigning a patient tracking number to each patient in the pilot. A label with the tracking number was affixed to all data collection forms and any referrals to rehabilitative care services. The tracking number on the referral was also a means of communicating to the rehabilitative care service that a patient was a part of the pilot.

*Figure 3: Patient Tracking Number Label Example*

Healthcare providers in the ED and primary care recorded information (no personal health information or identifying data) regarding patients via an online data tracker. Rehabilitative care services also recorded information via a separate online data tracker. Please see Table #4 for data collected via the online data trackers.

*Table 4: Data Collection*

| Demographics: Age, Gender, Home Situation, Lives alone? | |
|---|---|
| Time of day<br>Day of the week | Fracture risk assessed?<br>Tool/Measure utilized<br>Fracture risk |
| First or multiple falls? | Services already in place |
| Gait & Balance Assessment?<br>Method?<br>Difficult noted? | Referral to which services? |
| Injury from fall? | Fall risks assessed?<br>List of identified risks. Examples: Nutrition<br>Alcohol Consumption |
| Cognitive Impairment? | *Wait for rehabilitative care services? |
| Functional level? | *Meet rehabilitative care services eligibility criteria? |
| Frailty assessed?<br>Tool/Measure utilized?<br>Level of Frailty | *Discharge Destination? Home? |
| Previously received rehabilitation services for falls? | ***Data to be tracked by rehabilitative care services** |

### *Patient Reported Outcome Measure (PROM) & Patient Reported Experience Question*

PROMs are measurement instruments that patients complete to provide information on aspects of their health status that are relevant to their quality of life, including: symptoms, functionality, and physical, mental and social health. Patient-reported outcomes are fundamental to understanding whether healthcare services and procedures make a difference to patients' health status and quality of life. PROMs provide insight on the effectiveness of care from the patient's perspective. In consultation with the Post-Fall Pathways Pilot Task Group and the RCA Patient and Caregiver Advisory Group, the EQ-5D-5L™ was chosen as an appropriate PROM to inform this pilot. The EQ-5D™ is a standardized measure of health status developed by the EuroQol Group in order to provide a simple, generic measure of health for clinical and economic appraisal. It has been tested for use in the general population. Each of the five dimensions are divided into five levels of perceived problems. A unique health state is defined by combining one level from each of the five dimensions: Mobility, Self-care, Usual Activities, Pain/Discomfort, Anxiety/Depression. As the EQ-5D-5L™ (Appendix E) is copyrighted, permission was received from the EuroQol Group to utilize this measure.

Patients were also asked to rate whether they would recommend the service to friends and family (Appendix F) to have a clearer understanding of the patient's experiences. The EQ-5D-5L™ and the patient-reported experience question were completed by patients and their families during their initial visit to the ED or with primary care, and when they were discharged from the rehabilitative care service to which they were referred.

## BASELINE AND PDSA CYCLE #1 DATA ANALYSIS

### *Baseline Clinician Survey*

A baseline clinician survey was completed by those who would directly utilize the pathways. RCA received 33 surveys across all sites. Interestingly, the teams who completed the surveys varied between the ED and primary care, where mostly primary care physicians and nurse practitioners, and one physiotherapist and occupational therapist, completed the survey. In the ED, surveys were completed by a multidisciplinary team of professionals including: physicians, GEM nurses, primary nurse, physiotherapists, occupational therapists, and social workers. The figures below illustrate the team members involved in fall assessment in both the ED and primary care during regular hours and off hours. "Off Hours" are defined as outside of Monday to Friday normal business hours, that is, evenings and weekends.

*Figure 4: Team Members Involved in Fall Assessment: Emergency Department*

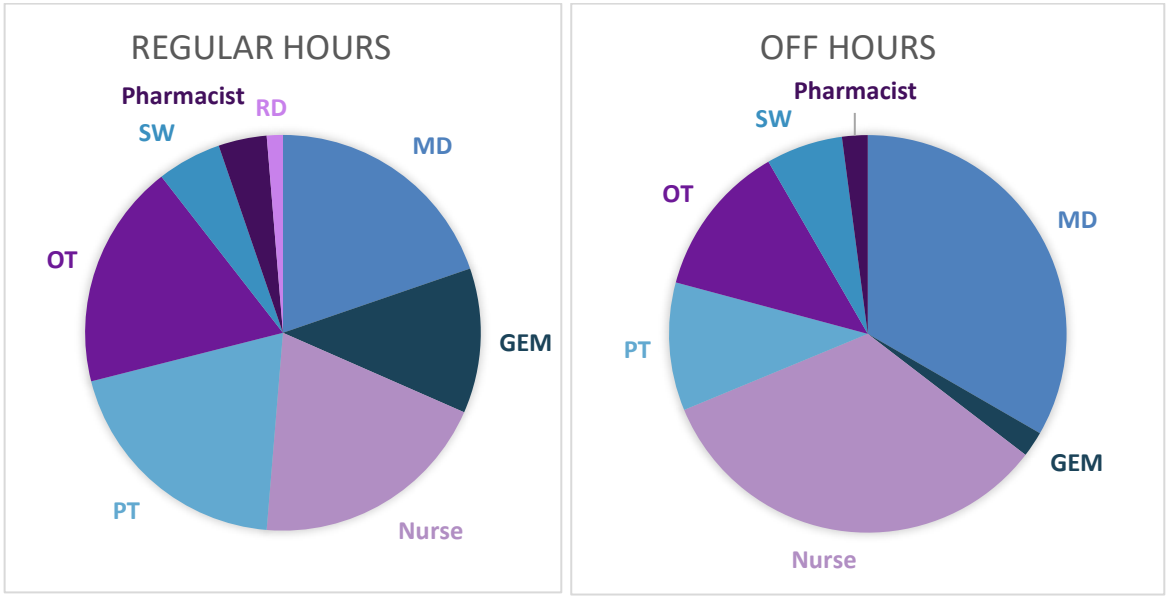
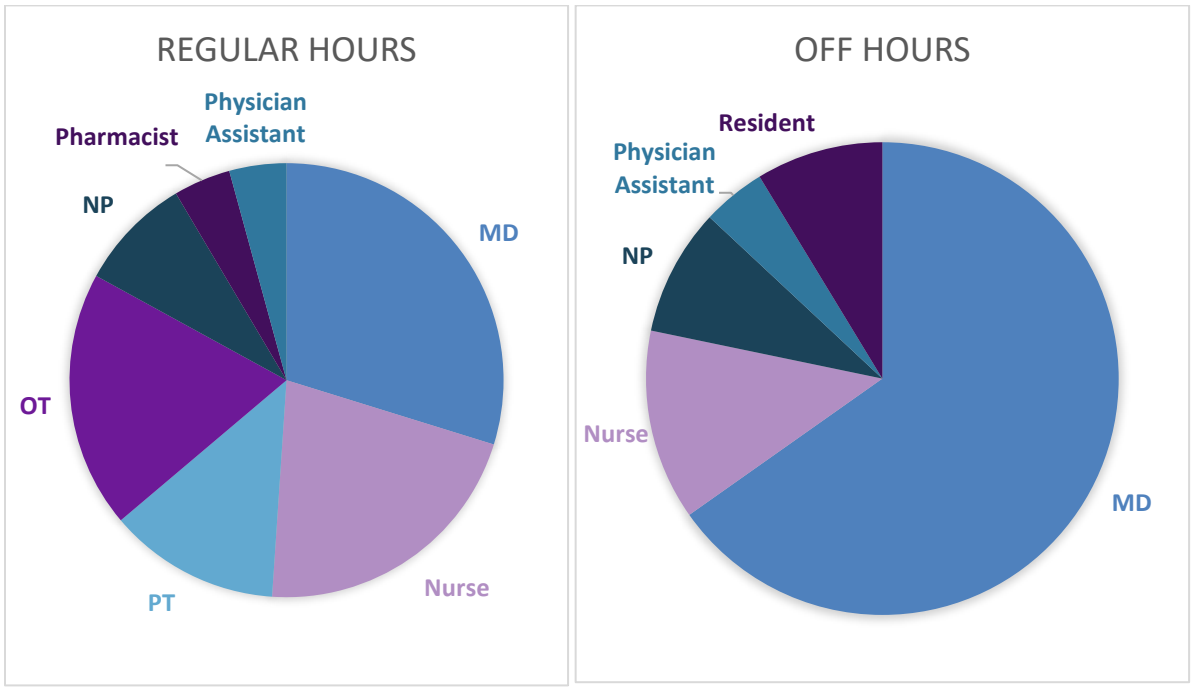
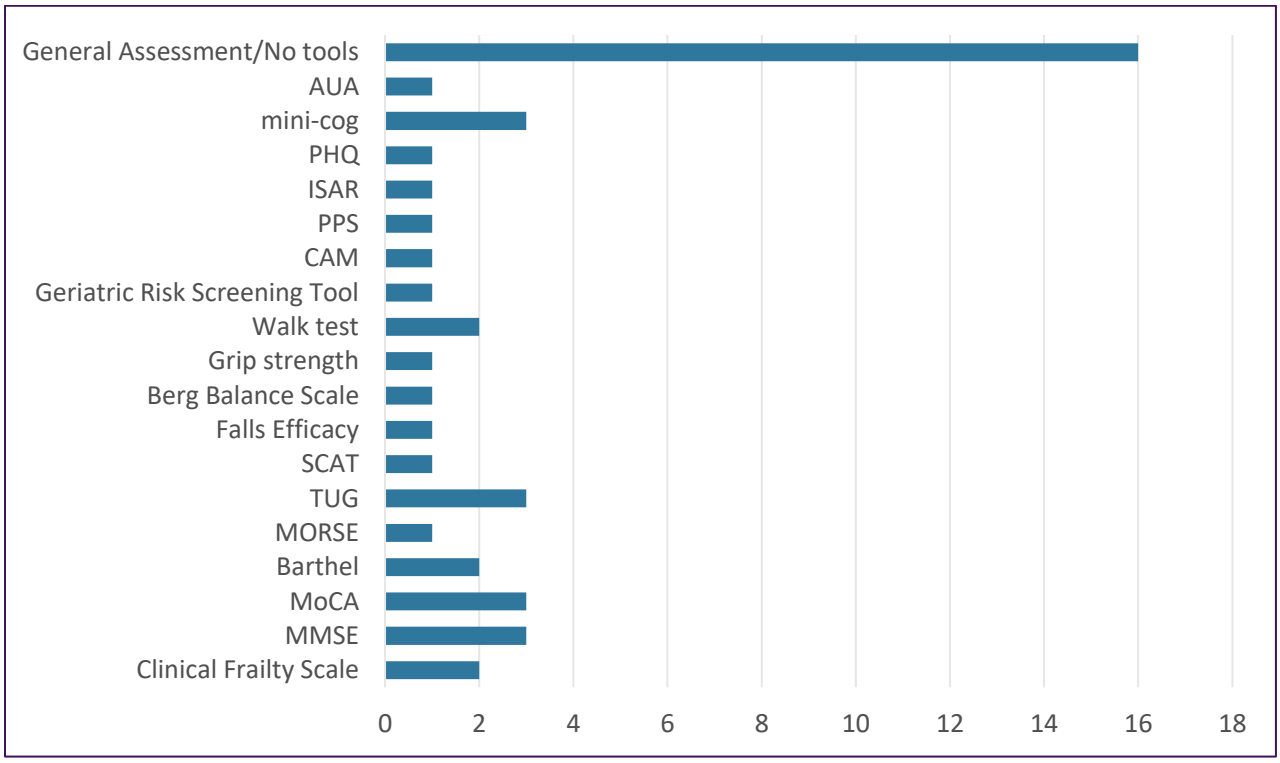



*Figure 5: Team Members Involved in Fall Assessment: Primary Care*



Respondents were also asked whether they currently have in place an assessment and treatment protocol or pathway for older adults who present with a fall. The majority of respondents (60% in EDs and 75% in Primary Care) indicated that they do not have a secondary fall prevention protocol in place. Answers to this question were inconsistent within organizations indicating that some team members may have a protocol in place within their practice, but this protocol was not shared across the interdisciplinary team. Similarly, there were several assessment tools used across disciplines and organizations. However, the large majority of respondents indicated that they used a general assessment without using a validated tool or outcome measure.

*Figure 6: Assessment Tools Utilized*




Assessment results were shared most often with primary care (74.2% of respondents indicated that they shared assessments with primary care). Many hospitals have protocols or automated systems that share ED visits and/or hospital discharge summaries with primary care. While this is certainly promising, there were other services within the circle of care with whom assessments were shared much less often (38.7% with Home & Community Care, 19.4% with Specialized Geriatric Services and 9.7% with Outpatient Ambulatory Services).

The majority of respondents generally refer to Home and Community Care for follow up care (61.3% referred to Home and Community PSW/Nursing Care and 51.6% referred to Home and Community Rehabilitative Care). Other services to which respondents referred included: Fall Prevention Programs (41.9%), Geriatric Rapid Assessment & Treatment Programs (38.7%), Specialized Geriatric Services (20%), Fracture Screening & Prevention Programs (19.4%), and Inpatient (Bedded) Rehabilitation (16.1%). Respondents indicated that their referrals were dependent on the complexity of the case or situation and the availability of the service on site. For example, Home and Community Care Coordinators are onsite in EDs to coordinate follow up care.

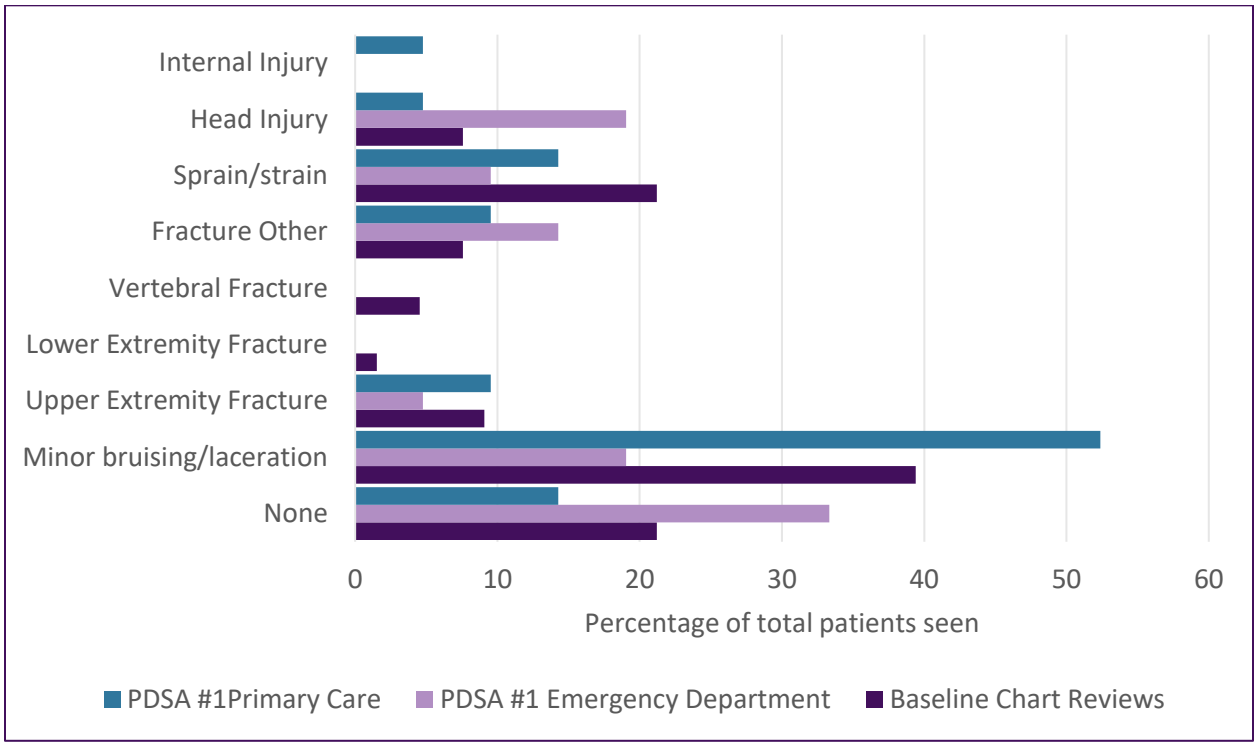
### *Baseline & PDSA Cycle #1 Data Analysis*

Data collected from the ED and primary care data trackers during PDSA Cycle #1 were compared to the baseline chart review data. The demographic information seen in Table 5 below shows the similarities between the frail older adult population from the baseline chart reviews and those followed via PDSA Cycle #1. Similar to the referral patterns noted in the baseline clinician survey, many patients had Home and Community Care services in place at the time of the visit (24% of baseline chart reviews, 43% PDSA Cycle #1 patients who visited the ED and 19% PDSA Cycle #1 patients who visited primary care). Very few patients had other services already in place such as specialized geriatric services, or fall prevention programs. None of the patients were followed by outpatient ambulatory rehabilitative care services. Types of injuries sustained by patients ranged from none, minor bruising or laceration – to – fractures or head/internal injuries. See Figure 7 below for more detail on the breakdown of injuries sustained by frail older adults included in the pilot due to a fall.

*Table 5: Demographics*

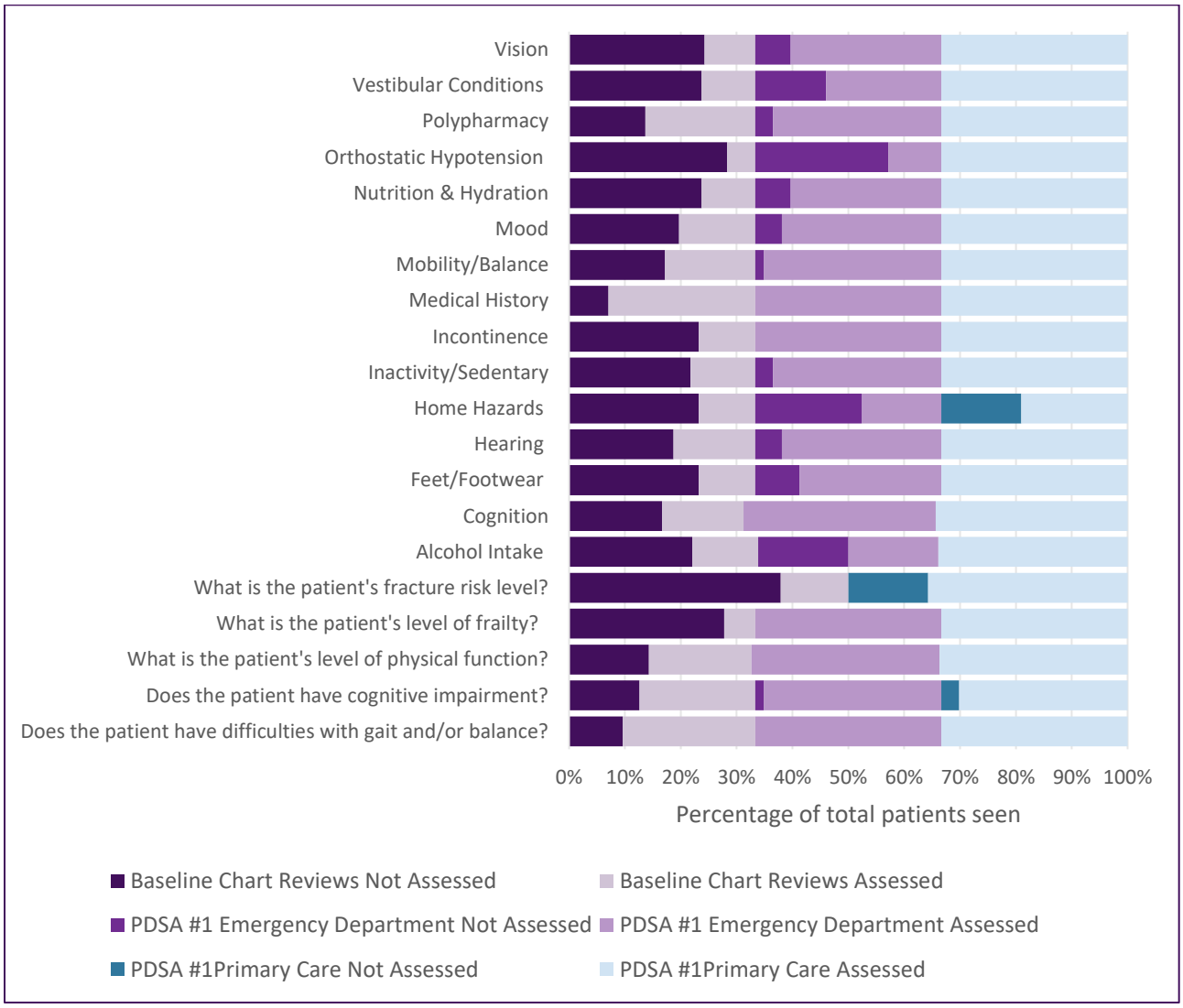
| | Baseline Chart Reviews | PDSA Cycle # 1 |
|---|---|---|
| Number of Patients | 66 | 49 |
| Average Age | 80.6 years | 81.6 years |
| Age Range | 66-95 years | 65-98 years |
| Gender | 73.8% Female<br>26.2% Male | 65.1% Female<br>34.9% Male |
| Home Situation | 29.2% lived alone in house/apt<br>20% lived with caregiver in house/apt<br>15% lived in retirement home | 14% lived alone in house/apt<br>16.3% lived with caregiver in house/apt<br>9.3% lived in retirement home<br>34.9% had access to transportation |
| Services in place | 33.8% | 41.9% |
| First or subsequent fall | 30.8% First fall<br>41.5% Second or subsequent fall<br>27.7% unknown | 27.9% First Fall<br>58.1% Second or subsequent fall<br>14% unknown |

*Figure 7: Injuries sustained due to a fall*



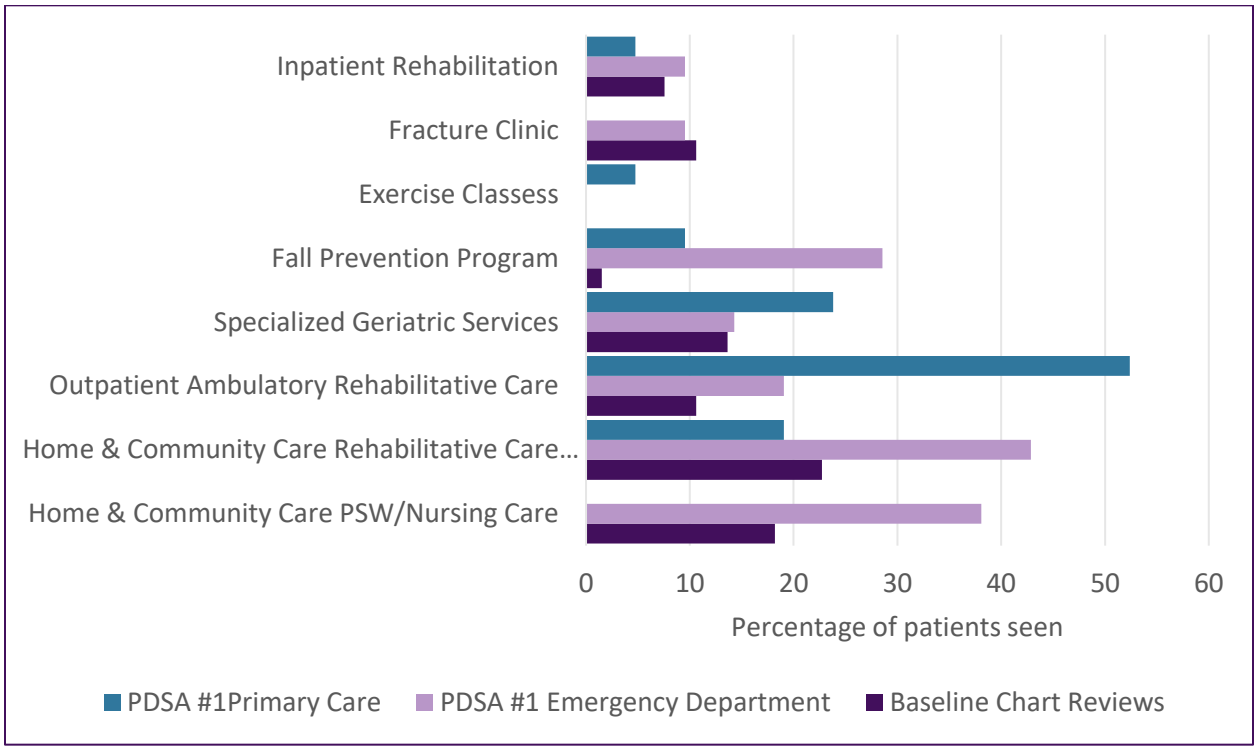

Notably at baseline, the recommended preliminary evaluation of a frail older adult who had fallen was not consistently conducted. This evaluation includes assessment of fall risk factors, fracture risk level, frailty, physical function, cognitive impairments and difficulties with gait and/or balance. Based on an analysis of the data submitted for PDSA Cycle #1, a marked improvement on all aspects of the preliminary evaluation was observed. Figure 8 below depicts a comparison of assessed factors as per the baseline chart reviews, and ED and primary care data reporting. There remains room for improvement in the assessment of some fall risk factors. Within EDs, these include: assessment of vision (19% NA - Not Assessed), vestibular conditions (38.1% NA), orthostatic hypotension (71.4% NA), nutrition & hydration (19% NA), home hazards (57.1% NA), feet and footwear (23.8% NA), and alcohol intake (47.6% NA). Primary care had lower assessment rates of home hazards (42.9% NA) and fracture risk level (28.6% NA). It is notable that fracture risk level is only assessed in primary care and not in EDs on the pathway.

*Figure 8: Comparison of assessed versus not assessed fall risk factors on the preliminary evaluation*




In comparison to baseline, assessments were shared more consistently during PDSA Cycle #1 within the patient's circle of care (25.8% did not share assessments at baseline compared with 9.5% during PDSA Cycle #1). Similarly, an increase in follow up referrals to geriatric and rehabilitative care services was noted across all services as illustrated in Figure 9 below.

*Figure 9: Follow up Referrals Post-Fall*




## PATIENT JOURNEYS

Although there were many key learnings from the data analysis, understanding the lived experience of patients and their caregivers was enlightening for the teams and guided the Post-Fall Pathways Pilot Task Group in the development of the action plan. A few of these patient journeys are described below.

*Patient 1*

An 83-year old female presented to primary care following a fall. She suffered a non-specified fracture and was referred to inpatient rehabilitation. At the time of her visit to primary care, she rated her health on the EQ-5D-5L™ as having moderate problems with mobility, self-care, usual activities and pain, and had slight anxiety/depression. Overall, she rated her health status as 60/100. She waited at her apartment for 15 days prior to admission. During her inpatient stay, her rehabilitative care team noted improved ADLs, iADLs, mobility, and balance. Her assessments were shared with her primary care provider and with specialized geriatric services from where she was referred. At discharge, she rated herself again on the EQ-5D-5L™. She now had slight problems with mobility and moderate problems with her usual activities. She rated her overall health as 90/100. On a 7-point Likert Scale, she indicated that she would highly recommend both the service that she received in primary care and inpatient rehabilitation.

*Patient 2*

An 82-year old male presented to the ED with a dislocated thumb and laceration following a fall. He was referred to a falls assessment clinic, which he declined because he was already attending a cardiac rehab program.

*Patient 3*

A 90-year old male presented to the ED after experiencing a fall. No injuries were noted. On the EQ-5D-5L™ the patient rated himself as having severe problems with mobility, self-care and pain; however, his overall health was rated as a 90/100. He was admitted that same day to inpatient rehabilitation. The rehabilitative care team noted improved ADLs, iADLs, mobility, and balance, and these assessments were shared with Home and Community Care and specialized geriatric services. He was discharged home to supportive housing. At discharge, he and his daughter completed the EQ-5D-5L™, rating him as having moderate problems with mobility, self-care and usual activities, and slight pain and anxiety/depression. Interestingly, he rated his overall health as 50/100, which the team explained was likely influenced by his daughter who was not there when he rated himself in the ED. He indicated that he would highly recommend both the ED and inpatient rehabilitation services.

*Patient 4*

An 83-year old female presented to the ED having experienced a fall and suffered minor bruising, laceration, and head injury. She was referred to a fall prevention program. On the EQ-5D-5L™, she rated her health as having slight problems with mobility and moderate pain. Her overall health was rated as 80/100. She waited at home for 35 days before she was seen and attended the fall assessment clinic only. These assessments were shared with primary care and specialized geriatric services, where she was referred. She completed the EQ-5D-5L™ at her clinic visit and rated herself as having slight problems with usual activities and moderate pain, but rated her overall health as 85/100. She highly recommended both the ED and the fall prevention program.

## KEY LEARNINGS: PDSA CYCLE #1 ACTION PLAN

The Post-Fall Pathways Pilot Task Group developed an action plan based on the data analysis findings, patient journeys and clinical learnings (See Appendix G). The action plan addresses several of the learnings, including the following:

- In some regions, the most appropriate services were not available due to long wait lists, in particular, ambulatory rehabilitative care services. This is noted in the patient journeys above; however, some regions found the lengthy wait list prevented patients from receiving care from certain services such as community-based physiotherapy. Alternate community interventions were therefore accessed, although not the ideal level of care based on the preliminary evaluation. For example, in some instances, patients were referred to a volunteer-based community fall prevention program while awaiting services from a registered rehabilitative care professional.

- In some regions, the pathways were implemented during regular working hours only. Those patients who were seen during off hours did not receive the same level of care. Extension of GEM nurse hours to include evenings and weekends utilizing other funding sources or follow up phone calls may be possible solutions.

- Patients and family members were often overwhelmed during their initial visit and would therefore refuse rehabilitative care services. Consultation with the RCA Patient & Caregiver Advisory Group confirmed that too much information was presented at the initial visit and they suggested that a follow up phone call be made to complete the referral process. Unfortunately, although the participating sites agreed with the principle, they were unable to practically apply the suggestion due to workload. A change to the healthcare providers' script was proposed to simplify the message to patients and their families. Posters are also in development to be posted in waiting areas with the hope of generating patient and family interest in follow up rehabilitative care services following a fall.

- Baseline data showed that general assessments were often conducted without the use of assessment tools or outcome measures. Clinician education will be launched in PDSA Cycle #2 with a focus on assessment tools available and the preliminary evaluation of those fall risk factors that were not consistently assessed in PDSA Cycle #1. Assessment tools will be made accessible with the pathway.

## NEXT STEPS

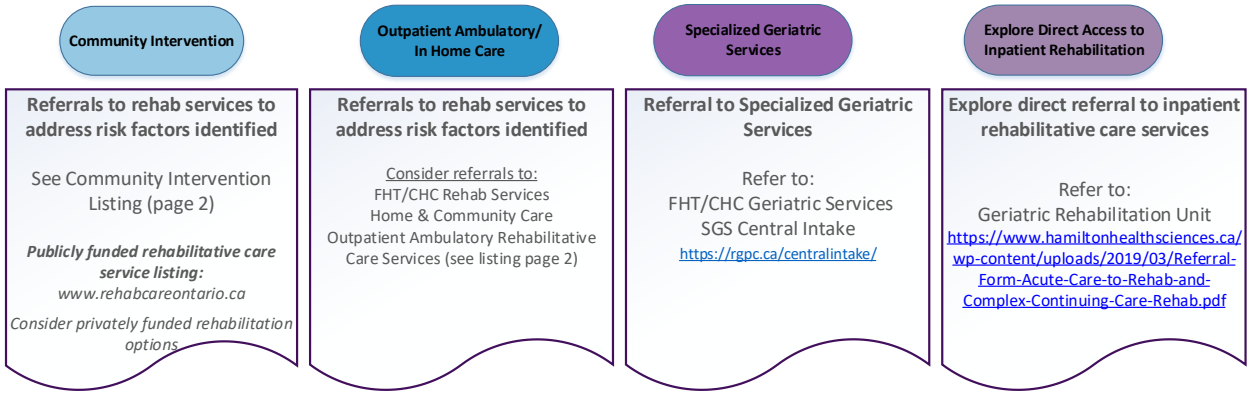
Given the competing priorities of the current COVID-19 pandemic, the Post-Fall Pathways Pilot has been put on hold for the foreseeable future. The RCA will continue to consult with participating sites to determine if and when the ED and primary care pilot may resume and PDSA Cycle #2 may be launched. Potential expansion of the pilot to a smaller community hospital and Family Health Team in the North West region during PDSA Cycle #2 is also being explored. A follow up clinician survey will be completed at the close of the pilot to understand the facilitators and barriers to the pathway implementation and the effectiveness of the pathway to guide healthcare providers assisting older adults who have fallen to navigate the appropriate rehabilitative care program/service. The deliverables of the pilot will be a clinical and operational tool kit and provincial implementation strategy.

Despite the current pandemic, and perhaps more evidently critical as a result of Covid-19, frail older adults must stay connected to the healthcare system and prevention of falls in frail older adults continues to be a priority. Therefore, the RCA is exploring other opportunities to standardize care for frail older adults who present to the ED/Primary Care with a fall, mitigating functional decline and improving patient outcomes. Community paramedics are in a potentially opportune place to provide in-home screening and navigation assistance for frail seniors who fall, in particular for those who require a lift assist.[i] Without follow up, these patients remain at risk for further functional decline and potential secondary falls requiring medical attention and possible hospitalization. Thus, the RCA is working in collaboration with the Ontario Community Paramedicine Secretariat to determine the feasibility of adapting the Post-Fall Pathway for use by community paramedics and supporting a pilot in interested regions.

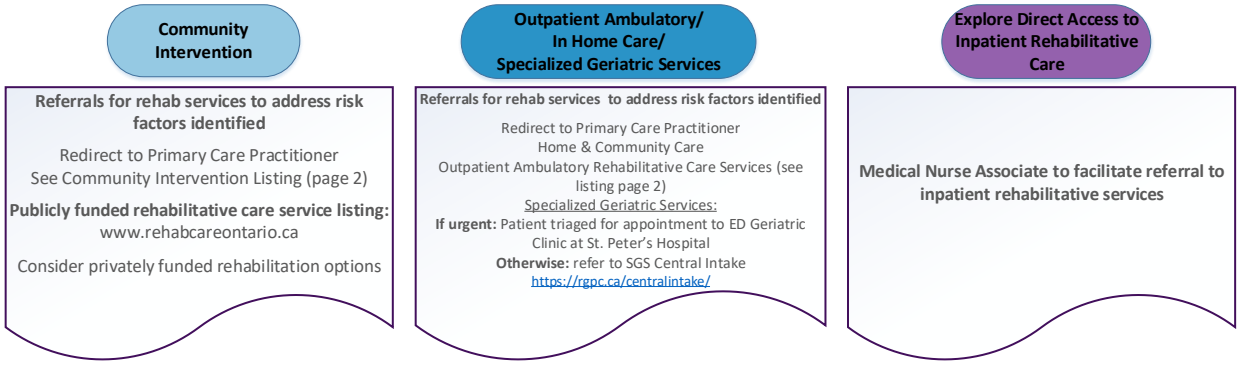
[i] A “lift-assist” is defined as a non-urgent 9-1-1 call to paramedics to assist a patient who has fallen and cannot right themselves independently. The patient subsequently refuses transport to the hospital for further medical attention.

## APPENDIX A

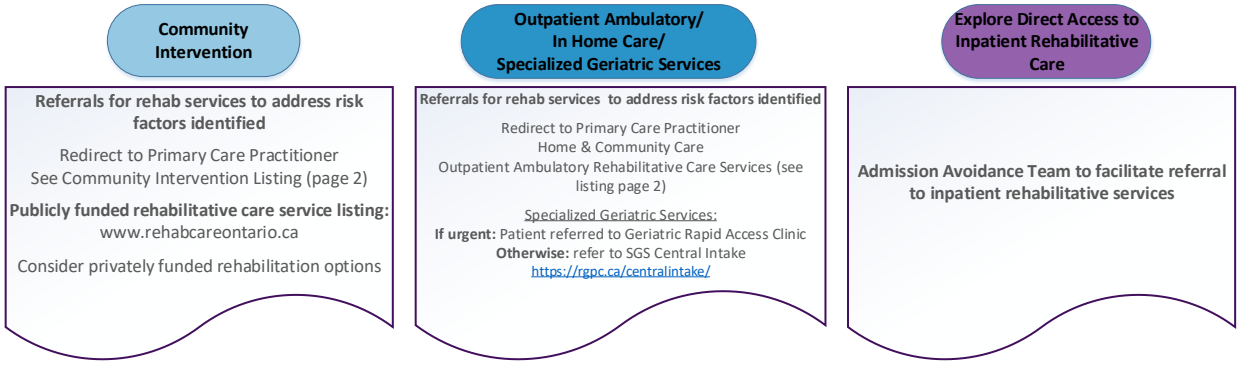
*Hamilton Primary Care Pathway Arms draft*



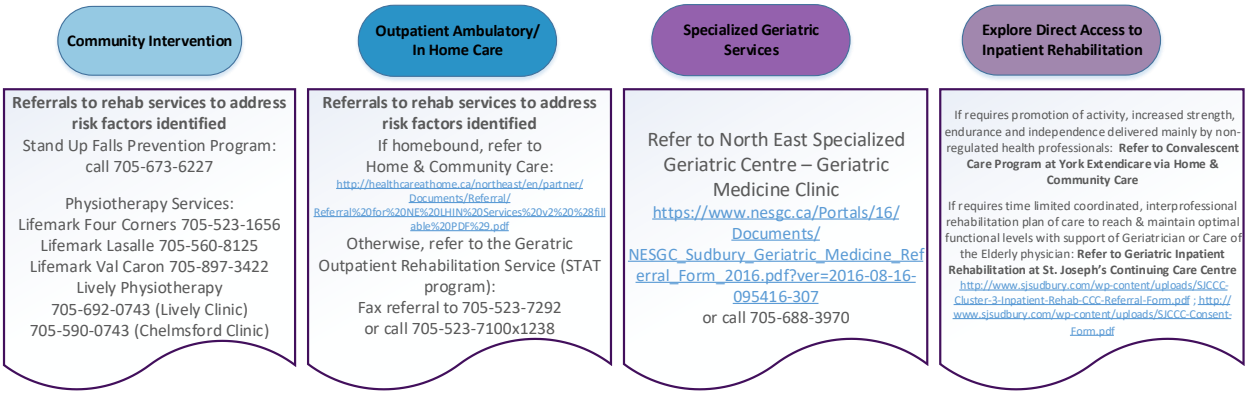

*Hamilton Health Sciences – Juravinski Hospital Emergency Department Referral Arms draft*



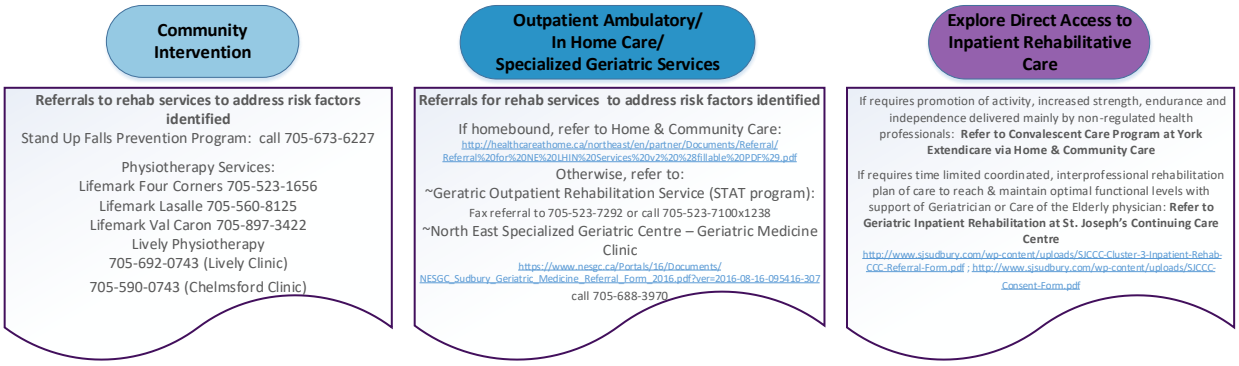

*St. Joseph's Healthcare Hamilton Emergency Department Referral Arms draft*



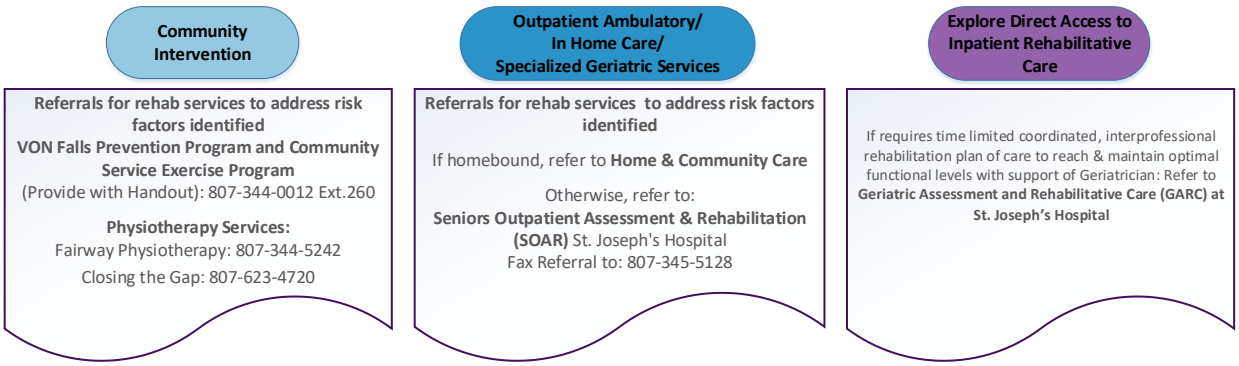
*Sudbury Primary Care Referral Arms draft*




*Sudbury Emergency Department Referral Arms draft*

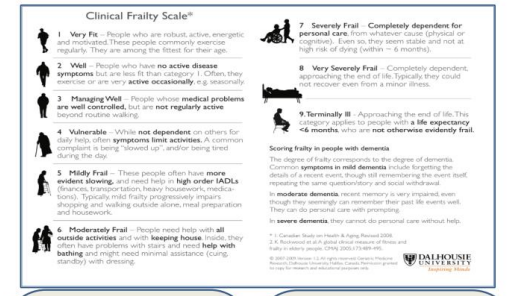



*Thunder Bay Emergency Department Referral Arms draft*



## APPENDIX B

*Clinician Handout*



Clinical Frailty Scale*

1 **Very Fit** – People who are robust, active, energetic and motivated. These people commonly exercise regularly. They are among the fittest for their age.

2 **Well** – People who have **no active disease symptoms** but are less fit than category 1. Often, they exercise or are very **active occasionally**, e.g. seasonally.

3 **Managing Well** – People whose **medical problems are well controlled,** but are **not regularly active** beyond routine walking.

4 **Vulnerable** – While **not dependent** on others for daily help, often **symptoms limit activities.** A common complaint is being "slowed up", and/or being tired during the day.

5 **Mildly Frail** – These people often have **more evident slowing,** and need help in **high order IADLs** (finances, transportation, heavy housework, medications). Typically, mild frailty progressively impairs shopping and walking outside alone, meal preparation and housework.

6 **Moderately Frail** – People need help with **all outside activities** and with **keeping house.** Inside, they often have problems with stairs and need **help with bathing** and might need minimal assistance (cuing, standby) with dressing.

7 **Severely Frail** – **Completely dependent for personal care**, from whatever cause (physical or cognitive). Even so, they seem stable and not at high risk of dying (within ~ 6 months).

8 **Very Severely Frail** – Completely dependent, approaching the end of life. Typically, they could not recover even from a minor illness.

9. **Terminally Ill** – Approaching the end of life. This category applies to people with a **life expectancy <6 months**, who are **not otherwise evidently frail.**

**Scoring frailty in people with dementia**

The degree of frailty corresponds to the degree of dementia. Common **symptoms in mild dementia** include forgetting the details of a recent event, though still remembering the event itself, repeating the same question/story and social withdrawal.

In **moderate dementia**, recent memory is very impaired, even though they seemingly can remember their past life events well. They can do personal care with prompting.

In **severe dementia**, they cannot do personal care without help.

* J Canadian Study on Health & Aging. Revised 2008.
2. K. Rockwood et al. A global clinical measure of fitness and frailty in elderly people. CMAJ 2005;173:489-495.

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DALHOUSIE UNIVERSITY

**Functional Inquiry to Inform Frailty (DEATH SHAFT)**

Activities of Daily Living (ADL)

1. Dressing
2. Eating (Feeding Self)
3. Ambulation (Walking & Transferring – if a patient needs a walker, holds walls or any other help, then they need help with this ADL
4. Toilet (ability to use toilet and wipe self without help)
5. Hygiene (bathing self)

Instrumental Activities of Daily Living (IADL)

1. Shopping
2. Housekeeping (or housework)
3. Accounting (managing finances)
4. Food preparation
5. Telephone/Transportation

**Falls Risk Factors**

| | |
|---|---|
| **Alcohol Intake** | More than 7-14 drinks/wk |
| **Cognition** | Indicated or diagnosed dementia or prior history of delirium |
| **Feet/Footwear** | Foot concerns such as pain, edema, bunions or improper footwear |
| **Hearing** | An indicated or diagnosed loss of hearing |
| **Home Hazards** | Poor lighting, loose rugs, stairs, no handrails, pets, toys, clutter, ladders, etc. |
| **Inactivity/Sedentary** | Less than 150 min/week or 30 min/day 5 days per week of physical activity |
| **Incontinence** | Urinary tract infections, overactive bladder, benign prostatic hyperplasia, etc |
| **Orthostatic Hypotension** | Recorded decrease in blood pressure from lying, to sitting, to standing, reports of dizziness, light-headedness or unsteadiness when standing up |
| **Polypharmacy** | Prescribed 5 or more medications |
| **Vestibular conditions** | Assessments indicating the presence of dizziness and balance performance |
| **Vision** | Decreased capabilities associated with contrast sensitivity, depth perception, and the ability to negotiate obstacles |
| **Medical History** | Chronic conditions - stroke or cardiovascular event, arthritis, depression, chronic kidney disease and diabetes |
| **Mobility/Balance** | Indicated loss of balance (standing or moving), decreased mobility, or functional impairment |
| **Mood** | Indicated changes in mood, or depression. Or use of antipsychotics, antidepressants or mood stabilizers |
| **Nutrition/Hydration** | Lack of nutritional intake, requires assistance for feeding, food refusal, diet of fluids, diuretics, laxatives, weight loss, muscle weakness, diminished bone strength, etc. |

## APPENDIX C

*Patient Information Card*

Organizational logo

**Helping you avoid another fall**

Rehabilitation can help you improve your strength and balance so you don't fall again. We will refer you to another health care professional to get this care.

We are working to improve the care we give to patients who fall.

We would like to know whether rehabilitation helps you. You will be asked to fill out a brief questionnaire today and a second questionnaire when you finish your rehabilitation.

The number below will help us track this information. None of your personal information will be shared with anyone outside of your care team.

Please bring this card to any health care professionals that help you after your fall.

Thank you!

Your number: _____

For more information, contact: email or phone goes here

## APPENDIX D

*Script for Health Care Providers*

**What to say to patients:**

- We want to help you avoid another fall.
- We think rehabilitation will help you by improving your strength and balance.
- We are referring you to _____.
- Describe:
    - what kind of rehab they will receive
    - why it will help
    - who will provide it
    - how many visits they will likely have
    - that the cost is covered.
- We are working to improve the care we give to patients who fall, so we want to know how much the rehabilitation you receive helps you.
- We are asking you to fill out a brief questionnaire for us today. When you finish your rehabilitation, there will be another questionnaire. We use a tracking number so we can match up the two questionnaires. None of your personal health information will be shared anyone other than your care team.
- This information and the tracking number are on this card. Please take this card with you when you go to receive your care.

## APPENDIX E

*EQ-5D-5L™*

Under each heading, please tick the ONE box that best describes your health TODAY.

**MOBILITY**

I have no problems in walking about ❑
I have slight problems in walking about ❑
I have moderate problems in walking about ❑
I have severe problems in walking about ❑
I am unable to walk about ❑

**SELF-CARE**

I have no problems washing or dressing myself ❑
I have slight problems washing or dressing myself ❑
I have moderate problems washing or dressing myself ❑
I have severe problems washing or dressing myself ❑
I am unable to wash or dress myself ❑

**USUAL ACTIVITIES** *(e.g. work, study, housework, family or leisure activities)*

I have no problems doing my usual activities ❑
I have slight problems doing my usual activities ❑
I have moderate problems doing my usual activities ❑
I have severe problems doing my usual activities ❑
I am unable to do my usual activities ❑

**PAIN / DISCOMFORT**

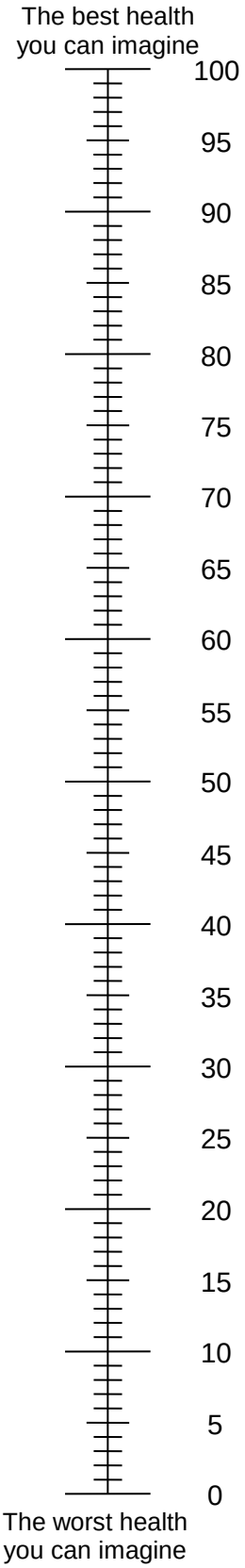
I have no pain or discomfort ❑
I have slight pain or discomfort ❑
I have moderate pain or discomfort ❑
I have severe pain or discomfort ❑
I have extreme pain or discomfort ❑

**ANXIETY / DEPRESSION**

I am not anxious or depressed ❑
I am slightly anxious or depressed ❑
I am moderately anxious or depressed ❑
I am severely anxious or depressed ❑
I am extremely anxious or depressed ❑

YOUR HEALTH TODAY = ☐

- We would like to know how good or bad your health is TODAY.
- This scale is numbered from 0 to 100.
- 100 means the <u>best</u> health you can imagine.
  0 means the <u>worst</u> health you can imagine.
- Mark an X on the scale to indicate how your health is TODAY.
- Now, please write the number you marked on the scale in the box below.



## APPENDIX F

*Patient-Reported Experience Question*

I am likely to recommend this service to friends and family if they need the same care. (Please rate all services who cared for you since you reported having a fall.)

- _____ 1 2 3 4 5 6 7
- _____ 1 2 3 4 5 6 7
- _____ 1 2 3 4 5 6 7

Comment Box:

## APPENDIX G

*PDSA Cycle #1 Action Plan*

| Type | Problem | What | How | Who | When | Where |
|---|---|---|---|---|---|---|
| Strategy | **In Sudbury, the wait for Outpatient Physiotherapy is 10-12 months. Not feasible to be a part of the pilot.** | Refer to Community Interventions and private pay options. Still refer to Outpatient Physiotherapy to share the gap to funders and health planners. Document what was referred for best access and what was needed, but not available. | Follow up phone calls to the patients using the Survey Monkey follow up phone call tracker. | ED Manager to do follow up phone calls in the ED. NPs to do follow up phone calls in the FHT. | PDSA Cycle #2. Follow up phone calls in 3 months from time of referral. | Sudbury |
| | **In Thunder Bay, Cycle #1 implemented the post-fall pathway during regular working hours, Monday to Friday only.** | Expand implementation of the post-fall pathway to include evening and weekend hours and potential launch of the pathway in Marathon Emergency Department. | Thunder Bay Regional considering options for expansion of post-fall pathway implementation. Possible use of P4R funding. Rehab and Senior Care leads meeting with team in Marathon to discuss potential launch there during PDSA Cycle #2. | Thunder Bay Regional leadership, Rehab and Senior Care leads, Marathon ED team | PDSA Cycle #2. | Thunder Bay |
| People | **Patients are offered rehabilitative care services in the Emergency Department; however, they have often refused the service because they are overwhelmed and do not want to have another appointment.** | Still give the patient information card. Change the script to patients in PDSA #2 that it is the organization who is piloting to ensure that patients get rehabilitative care services that they need to help prevent falls. Alert primary care if a patient refuses rehabilitative care service referrals for follow up. | Script changed. GEM to send a note to primary care that patient meets criteria for rehab services but refused so primary care can follow up. | Clinicians working directly with patients and completing referrals. | PDSA Cycle #2 | All regions |

| | | | | | | |
|---|---|---|---|---|---|---|
| | **Patients who are less frail and offered community interventions are often not interested.** | Inform patients of services available to use a "pull" instead of a "push" system. Use the language "we want to keep you strong" as "preventing falls" can be negative language. Alert primary care if a patient refuses rehabilitative care service referrals for follow up. | Posters in internal waiting rooms to give information regarding availability of services.<br><br>GEM to send a note to primary care that patient meets criteria for rehab services but refused so primary care can follow up. | Sudbury ED Manager developing posters.<br><br>Clinicians working directly with patients will change script and alert primary care. | PDSA Cycle #2 | All regions |
| **Process/ Organization** | **Patients who are assessed in the Community Intervention stream are not appropriate to be seen by the Admission Avoidance Team in the ED.** | Flagging older adults with a fall to be seen by the team: PT/OT/GEM. Alert primary care for follow up. | ED to use internal processes to flag interdisciplinary team. GEM to send a note to primary care for follow up. | Clinicians working directly with patients | PDSA Cycle #2 | Hamilton |
| | **Baseline data showed that assessment tools were not utilized effectively. Since the pilot was launched, marked improvement in assessment. Still areas that are not assessed consistently primarily in ED: Vestibular Conditions, Orthostatic Hypotension, Home Hazards, Alcohol Intake.** | Increase clinician awareness of assessment tools and preliminary evaluation of fall risk factors, especially those which were not consistently assessed in PDSA Cycle #1. | Provide clinician education focused on assessment tools available and the preliminary evaluation of those fall risk factors were not consistently assessed in PDSA Cycle #1. Re-orientation to the preliminary evaluation section of the pathway. Make assessment tools accessible with the pathway. | Site leads to provide/coordinate education | PDSA Cycle #2 | All regions |
| **Technology** | **For the home situation question, clinicians are not ticking off all that apply to the patient. I.E., only ticking apartment, but not ticking lives alone.** | Break the question up in the tracker so clinicians answer each part of the question. | a) □ House<br>□ Apartment<br>□ Retirement Home<br>□ Long-Term Care Home<br>□ Assisted Living<br>b) □ Lives alone<br>□Lives with caregiver<br>c) □ Access to transportation<br>□ Access to community supports<br>d) □ Rural<br>□ Urban<br>□ Unknown | Gabrielle to change tracker. Site leads to re-orient clinicians. | PDSA Cycle #2 | All regions |

| | | | | | | |
|---|---|---|---|---|---|---|
| | **Not capturing if the patient is returning to the SAME services or if there are NEW services now in place** | There should be a spot on the tracker to capture if the patient is returning to the SAME services or if there are NEW services now in place | sub-bullet after each service in the tracker if it is new or resumed service | RCA secretariat to change tracker. Site leads to re-orient clinicians. | PDSA Cycle #2 | All regions |
| | **Not capturing whether patients are referred to another service from the rehabilitative care service** | There should be a spot on the tracker to capture if the patient is referred to another service from the rehabilitative care service | Add a referral question to the Rehabilitative Care Referral Partners Tracker | RCA secretariat to change tracker. Site leads to re-orient clinicians. | PDSA Cycle #2 | All regions |
| | **Home Hazards may be checked as not assessed because the clinicians may be referring for an OT Home Safety assessment** | Tracker should include either home hazard assessment or awaiting home safety assessment | Change the tracker to include either home hazard assessment or awaiting home safety assessment | RCA secretariat to change tracker. Site leads to re-orient clinicians. | PDSA Cycle #2 | All regions |

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[8] The Performance Management Group LLC. (2012) LEAN Six Sigma Excellence in Health Care Delivery Black Belt Certification Program.

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