STRIDE; ‘Service To reduce Risk improve Independence and Decrease Emergency admissions’

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About Alfred Health

110,188 emergency presentations (Alfred and Sandringham)
115,759 episodes of inpatient care
11,238 elective surgeries performed from waiting list
9,283 employees
542 volunteers
Key Problem

• Approx 40% of people over 65 in the community will fall each year

• Falls can have a cascading effect on older adults including decreased confidence, reduced activity, functional decline and reduced QoL

• The highest predictor of a fall is a previous fall

• Routine transportation to an ED as a default disposition following a fall is questionable and may not be an effective or efficient use of resources in the absence of physical injury or change in functional status (Mikolaizak 2013, Talarska 2017, Lachal 2016, Tiedemann 2013)

• Falls account for 16% of all Ambulance Victoria (AV) dispatches within the Alfred Hospital catchment area and are the leading cause of Emergency Department (ED) admissions for those over 65 years. (ref)

• A growing body of evidence demonstrates that a multifactorial assessment can reduce the rate of falls and that exercise and home safety interventions can reduce the risk and rate of falls (Sherrington & Tiedemann, 2015).
Why do people fall?
Aim of this Innovation

Purpose of Pilot:
Determine the feasibility of a specialised allied health, rapid falls response service working in collaboration with ambulance

Objectives:
i. Establish if there is a demand for the service
ii. Establish impact on falls related health care utilisation of AV and ED
iii. Identify the knowledge and skill set required by the STRIDE clinicians
iv. Measure client satisfaction and perceptions of the service
v. Measure staff satisfactions and perceptions of the service

Aims:
1. To reduce the number of unnecessary emergency transfers
2. Reduce the number of Alfred Health Emergency Department admissions
3. Improve overall effectiveness of falls management and prevention for those ≥65 who fall at home
Project Timeline

The STRIDE service was officially offered to clients living Alfred Health catchment between 1 August 2017 and 5 March 2018.
## STRIDE inclusion and exclusion criteria

<table>
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<tr>
<th>Inclusion</th>
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<tr>
<td>65+ yo who have had a fall resulting in an emergency call.</td>
<td>Reside in Residential Aged Care / Respite Facilities.</td>
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<td>Fallen from equal to or less than standing height</td>
<td>Have a history of or demonstrating Behaviours of Concern</td>
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<td>Live within the Alfred Hospital catchment area</td>
<td>Fall is related to intoxication i.e. excessive consumption of alcohol or illicit substances</td>
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<td>All independent living arrangements, (inc. living alone, with family or carers)</td>
<td>Condition requiring immediate medical attention such as cardiac symptoms, breathing problems or stroke symptoms, head strike, potential fracture. New confusion, drowsiness or loss of consciousness.</td>
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<td>Non-English speaking background (interpreter service available)</td>
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<td>Can be attended to in their home</td>
<td>Direct referral from AV Referral Service to STRIDE team for those requiring lift assistance off the floor</td>
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<td>Internal referrals from ED or short stay cleared for direct discharge home</td>
<td>Direct referral from AV Referral Service to STRIDE team in a known identified Location of Interest (LOI)</td>
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<td>Consent to the service</td>
<td>Require an inpatient hospital stay</td>
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Baseline Data

Falls for the 65 and over account for 16% AV calls outs within the Alfred LGAs

Falls in the 65 and older within the Alfred catchments accounted for >600 admissions to ED (2015-16)

13% of patients admitted to ED secondary to a fall were readmitted within 28 days and 46% of these required an inpatient stay

72% falls occur between 7am -7pm

31% patients do not require paramedic treatment at the scene

27% are not transported to a Hospital Emergency Department (ED)

Opportunity to prevent hospital transfers and re attendances

Opportunity to prevent future falls and increase confidence and QoL

No rapid, alternative, allied health model currently exists for patients to be seen in their home post fall

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STRIDE Model of Care

1. "000" call
2. "9517 5111" call
3. 
   - Primary triage by ESTA
   - Secondary triage by AV Referral Service
4. 
   - AV Dispatch Crew
     - Emergency
     - Non-Emergency patient transport
5. 
   - Post Fall Assessment
     1. Primary Survey
     2. Secondary Survey
6. 
   - Mobilisation of Floor (if required)
7. 
   - Treat at home & Refer
8. 
   - Treat and transfer to Alfred Hospital ED (if required)
9. 
   - Alternative service provider—STRIDE Falls Response Service
10. 
    - Alfred Hospital
11. 
    - Specialist falls intervention
    - Referral to existing Community services
    - Follow-up Phone intervention for 1 month post service
12. 
    - GP Liaison
13. 
    - Chevra Hatzolah Ambulance Service
14. 
    - AV retrospective case review
Advanced practice AH role

- Senior clinician
- Interdisciplinary
- Falls expert

Innovative service

- Partnership with AV
- Pilot research project
- See patients in own home
- Rapid response & extended hours
Key Changes Implemented

POST FALL SCREEN
- Primary Survey: (DRABC)
- History:
- Vital Signs Survey (VSS)
- Physical Assessment: Head to Toe Screen
- Perform Neurospinal Assessment
- Recognise & Respond to clinical deterioration
- Mobility Assessment (bed mobility, transfers, ambulation, etc.)

ASSESSMENT
- Complete Previous Falls History and risk assessment
- Functional Assessment (Toileting, Bathing, Meal Prep)
- Assess Quality of Life (QOL) EQ-5D-3L
- Complete Falls Self Efficacy Scale FES-I (short form)
- Complete Balance Screen
  Establish baseline, detect and respond to changes in mobility and balance
- Complete Home Environment Screen
- Complete Visual Screen (if Required)
- Complete Dizziness Screen (if Required)
- Complete Continence Screen
  Inc. Urine dipstick test (if Required)

MANAGEMENT
- Prescription of an appropriate gait aid
- Prescription adaptive equipment
- Environmental Recommendations
- Minor Wound Management
- Mobility training with the aim of reducing falls risk, improving confidence, functional mobility, exercise tolerance
- Motivational interviewing & Health Coaching model
- Set up and implement Otago exercise program
- Referral to community Services
- Liaisons with GP, family, Carer/s
- Follow-up Monthly Phone call

Analysis, inference and case formulation

Formulate & implement
Cohort Characteristics

Between 1\textsuperscript{st} August 2017 and 5\textsuperscript{th} March 2018:

- 144 clients were referred to the STRIDE service
- 120 (83.3\%) clients consented to participating in the STRIDE service
- 104 (86.7\%) provided consent for their clinical and follow-up data to be used in the formal evaluation of the STRIDE project.
Patient data collected from patients (base line, 1-month and 6 months post referral)

- Falls self efficacy (fear of falling) – Falls Efficacy Scale International (FES-I short form)
- Falls Risk for older people – Community Setting (FROP-COM)
- Quality of Life – EQ-5D-3L
- Adherence to plan
- Health service utilisation
- Subsequent falls

Service Data collected from AV and ED databases

- Elderly falls patients aged > 64

Satisfaction with service

- Clients survey at 1 month
- Staff – surveys and focus groups (pilot completion)

Clinician skill set

Epidemiological analysis of clients

Alfred Health
Outcomes

120 patients participated in STRIDE service
104 (86.7%) patients consented to evaluation
101/104 (97.1%) completed the 1-month evaluation
47/104 (45.2%) completed the 6-month evaluation

Approximate Costs STRIDE clinician compared with inpatient care

- **Acute Inpatient Stay**: $10,385
- **Combined ED and Short Stay Unit Admission**: $2,776
- **Average Fall-Related ED Only Admission**: $927
- **Average STRIDE Clinician Cost per Client (Assuming an 8 hour/day Service)**: $355
Results

Most clients (71.2%) required one or more referrals. The most frequent referrals were to community physiotherapists (64.9%), general practitioners (56.8%) and community occupational therapists (33.8%).

Adherence with STRIDE education interventions was in excess of 70%. Exercise was the most common (68.3%) of the interventions delivered.

At one-month review, substantial proportion of clients still remained on wait lists for:
• Continence clinic,
• My Aged Care; and
• Community Occupational Therapy.
Fear of Falling

- Statistical significant reduction in the median scores for fear of falling improved at 1 month and 6 months
- Patients reporting low concern for falling improved at 1 and 6 months
- Reduction in the patients reporting a high concern of falling at 1-month and 6-month follow-up

Fear of falling (FES-I) low, moderate and high concern categories for STRIDE service patients at baseline and one-month follow-up
Quality of Life

Statistical significant increase in median QoL scores at 1 month, maintained at 6 months. Statistically significant reductions in pain and discomfort, self care and anxiety & depression at 1 month; other domains reduced but not statistically significant. Compared to Australian population norms, STRIDE patients reporting problems was significantly higher indicating the vulnerability of this cohort.

Quality of life (EQ-5D) dimensions for STRIDE service patients at baseline and one-month follow-up
Lessons Learnt

Demand for STRIDE service is insufficient to sustain a stand-alone service
Challenging service model due to STRIDE following the Alfred Health catchment and AV operating a state wide approach
Complete six month outcomes pending
The robust competency standard and packages are transferable to other home base services
Improved Risk mitigation strategies for clinician safety transferable
Outcomes and support for the service by clients, clinicians and referrers indicate the service has value
Outcomes support further investigation into how aspects of the STRIDE service could be integrated into existing models offered at Alfred Health.
Results

Client perceived satisfaction with the collaborative falls response service
Of the 104 clients who consented to the evaluation, 91.3% completed the service satisfaction survey.

- 95% of patients either agreed / strongly agreed to all questions;
- 81% of patients agreed the STRIDE service had contributed to minimising their falls risk; and
- 74.7% stated that the STRIDE service did not need any improvements.
Results

STRIDE clinician and referrer perceived satisfaction

Clinicians and referrers:
• Reported overwhelming support for the STRIDE service;
• Spoke positively in support of the advanced practice allied health clinician role;
• The innovative nature of the STRIDE service was considered beneficial in the context of Alfred Health’s partnership with AV

In regards to service development and structure, a key recommendation:
• To have medical oversight of the STRIDE program through integration with existing Alfred Health services.
Conclusion

• The collaborative model of care had a positive impact on client outcomes at the one-month review.
• Client satisfaction feedback for the service was high
• Clinicians and referrers all valued the STRIDE service and perceived it to be beneficial in meeting a service gap in the community
• Hospital data also shows potential for the STRIDE service to reduce Alfred hospital ED re-presentations due to subsequent falls.
• It may be possible to integrate the STRIDE model into an existing service
• Exploration into additional referral sources could also increase service demand.