Reducing Harm from Falls

Change Package for
Aged-Related Residential Care

Adapted from the Transforming Care Programme 1000 Lives Plus
NHS Wales 1000livesplus@wales.nhs.uk

Institute for Healthcare Improvement
Transforming care at the bedside how-to-guide: Reducing patient injuries from falls

Patient Safety First
The ‘how-to-guide’ for reducing harm from falls

Ko Awatea and Health Quality & Safety Commission
Target CLAB Zero Quality Improvement Guide

Waitemata District Health Board
RN Care Guides for Residential Aged Care
Acknowledgements
This ‘Reducing harm from falls Change Package for Aged-Related Residential Care’ was developed in collaboration with the Northern Region Falls and Pressure Injuries Expert Group as well as individual contributors and is the result of working together for the shared purpose of reducing harm from falls. First, Do No Harm would like to thank those involved for their support and expertise.

Introduction
The First, Do No Harm ‘Breakthrough Series Collaborative’ on Reducing Harm From Falls has seen teams from across the Northern Region district health boards and residential aged care facilities join forces to reduce the incidence of patients or residents suffering harm from falls.

The collaborative methodology has been found to work well as a structured way to implement evidence-based practices that have been enhanced by using local knowledge and skills. The campaign team supports change in participating facilities with learning sessions, access to subject matter and improvement experts, provision of improvement tools, highlighting success and the sharing of learning across the Northern Region. The learning sessions provide an opportunity to bring improvement teams together to share information and support their improvement efforts with both clinical and quality improvement expertise.

This ‘how to’ guide aims to assist teams and care-providers to use a formal quality improvement methodology to drive meaningful improvements in care. Teams involved in the collaborative process have contributed to this guide by forwarding knowledge they have gained in participating in this improvement journey.

Intended Audience
This falls change package is especially targeted to staff working in the ARRC sector. This change package is based on previous change package focused on falls in hospital and has been modified to better focus on needs of the ARRC setting. The intended audience is therefore, staff and leadership working in the frontline of ARRC facilities.

Things to note
The key things to note are as follows:
- Falls are a highly complex and difficult issue.
- Current research shows limited evidence to support any particular bundle of interventions.
- Interventions for reducing harm from falls that are most effective are based on the individual residents care needs. Targeted interventions are based on the individual’s needs.
- The falls’ change package is intended to help support learning for particular facilities and specifically to understand that changes are making a difference and achieving the desired outcome.

What is in here?
You can find the following:
- Change ideas that other improvement teams found useful in reducing harm from falls.
- Guidance on how to use a formal improvement process to make changes in a more effective manner.
- Guidance on how to undertake a change management process.

Why a falls’ change package?
Harm from falls is a major health issue for older people. Those living in residential care are at higher risk of harm than those living in their own homes.

Research undertaken by Professor Ngaire Kerse from The University of Auckland, and published on behalf of the Tu Pakari Research Group in June 2009, highlighted the following statistics:
- Falls are three times higher for people in residential care than for those living in their own homes (some people think of rest homes as being ‘in the community’).
- Up to 61 percent of all residents fall.
- Hip fractures are 10 times higher for people in residential care than for those living in their own homes.
- ACC spent $187 million on falls over a two-year period and two-thirds of the cost of this expenditure was spent on individuals that came from residential care.

The causes of falls are varied and complex in the aged residential care population. These factors relating to their medical conditions include delirium, cardiac, neurological or muscular-skeletal conditions, side-effects from medication, or problems with their balance, strength or mobility. Falls are widely recognised as a complex issue. Appendix one is a diagram representing some of the contributing factors related to falls that an improvement team may need to consider in their improvement work.

Refer to Appendix One: An example of a falls’ system diagram.
In attempting to reduce harm from falls, a balanced approach is required. Consideration of the individual resident’s needs and wishes must be considered. Residents’ safety has to be balanced with independence, rehabilitation, privacy, dignity personal choice and wellbeing.

Purpose of this change package
The Falls Change Package attempts to capture the learning from across the Northern Region and provides a guide to support the reduction of harm from falls. A number of changes and interventions that were used in the collaborative and found to be helpful are outlined in the change package. In addition, guidance of how to take a change idea, test it in your area and determine its effectiveness is provided in this guide.

This change package has been modelled on the following:
- 1000 lives campaign in Wales.
- Quality Improvement Scotland.
- Target CLAB Zero Quality Improvement Guide.
- Institute for Healthcare Improvement. ‘Transforming care at the bedside how-to-guide: Reducing patient injuries from falls’.

The change package identifies and establishes interventions, which have been linked to reduction of falls with harm. This package illustrates a number of interventions that care areas could consider in the improvement process to reduce falls.

How to use this change package
Users of this change package are encouraged to review the change package to determine:
- What fall interventions might already be in place in their care area(s) and determine how effective these have been and if further work may be needed.
- Identify and prioritise the improvement teams ideas for changes that should be undertaken, then determine how the team will know if these changes are making a difference (remember that improvement takes time).
- Develop a plan of interventions that might be useful and how the team will test and learn if these changes make a difference.
- We suggest that a formal improvement method is used and have included information on the Model for Improvement to guide your improvement work. This model is a simple but powerful tool for accelerating improvement.

Will/ Ideas/ Execution
The Institute of Healthcare Improvement (IHI) has identified three key elements required to achieve any improvement effort. It consists of the interaction between the three elements of ‘Will, Ideas, and Execution’.

Creating will
- Establishment of the need for improvement.
- A commitment to make improvements.
- Improvement requires effort. Having the support of leadership in improvement project is a key component to success.
- Engagement of the team. Consider the human side of change management.

Ideas
- Development of the change ideas that will lead to improvement.
- Change ideas will come from a number of ways:
  - Literature,
  - Evidence,
  - Innovation,
  - Front line staff.

Execution
- Effective implementation and spread of changes that have been found to improve the desired outcomes.
- Using improvement science to support effective change management.
The Model for Improvement (MFI) provides a framework in order to structure improvement efforts. It was originally developed by Associates in Process Improvement (API) to provide the best chance of achieving goals and adopting ideas (Langley et al., 1996). The model is based on three key questions, known as the thinking components:

1. What are we trying to accomplish?
2. How will we know that a change is an improvement?
3. What change can we make that will result in improvement?

The Associates in Process Improvements’ MFI improvement module has been effective in driving improvements in various settings. It has been widely used in healthcare and has been effectively used by the Institute for Healthcare Improvement in many of its programmes and campaigns.

These questions are then used in conjunction with small-scale testing of change concepts. The ‘doing’ component is known as Plan-Do-Study-Act Cycles (PDSA) as outlined in Figure 1.

1. **What are we trying to accomplish?**
   Undertaking improvement work is extremely challenging. Creating clarity by establishing the specific problem to be addressed is a key step. Identifying what are we attempting to improve for whom and by when. This can be quite important in creating clarity for the improvement team and communicating with the wider group.

   Once the improvement project has a clear aim, and support from leadership (resources, time and aligned with the organisation’s goals) then the improvement process is ready to begin.

   The next step is to recruit the improvement **team**.

   Undertaking improvement projects in health settings often requires multi-disciplinary teams consisting of doctors, nurses and allied health professionals. Improvement teams with a wide variety of skills are generally found to be more effective in a health setting. When starting out it is important to identify those who are keen to work on the project. Begin by working with the willing and expand the team as the results show credibility.

   An effective team will need to have a named coordinator/ leader of the team – a ‘go to’ person for questions and co-ordinator of meetings, and helping stay on tract and keep the activity going.

   The next step is to, **develop a project charter**

   A project charter outlines the scope, objectives and participants in a project. It provides guidance of the key of roles and responsibilities and outlines the project objectives. The charter can identify the improvement process, the main stakeholders and outlines the expected outcomes and measures that will be used to gauge the level of improvement.

   Refer to Appendix Three: Project Charter Template.
2. How will we know that a change is an improvement?
Once a clear aim is defined, a set of measures to assess the effects of the changes is needed. It is a good idea to establish a family or suite of measures that will assist the team to assess the effectiveness of the changes being made.

What is measurement?
Measurement is a key element in accelerating quality improvement and a crucial component of testing methods such as PDSA cycles because it can tell you if the changes you are making will lead to quality improvement.

It helps to have measures that are:
- Well-defined
- Easy to collect or part of the current process, and
- Specific and sensitive enough to allow outcomes to be regularly assessed.

In selecting measures, it is important that there is clarity in what and how changes will be measured. Clear understanding of what and how data for measurement is collected and used is a key component of the improvement process. Teams must be clear on the process for data collection and why it is being collected. A key learning is the value of staff being involved in collecting data – data should be easily visible as this helps to keep the team engaged in the improvement process.

There are three types of measures used in monitoring your QI efforts: outcome measures, process measures, and balancing measures. The three types of measures are described in the table below.

**Outcome Measures**
- Indicators that capture clinical outcomes and or system performance

**Process Measures**
- Indicators that track the processes that measure whether the system is working as planned

**Balancing Measures**
- Indicators that ensure that changing one part of the system does not cause new problems in other parts of the system

In the *First, Do No Harm* breakthrough series collaborative, we used a rate of falls as a measure. This allowed more effective learning as different sized facilities could look at rates and learn from each other.

Process measures track how well the improvement work is performing in terms of the changes or interventions that we try to achieve the desired outcome. For example, in the case of falls, we might believe that falls are less likely to take place if we conduct a falls assessment with all new residents within six hours of their arrival to the facility. To assess if early assessments are effective a team would need to see if the assessments are regularly completed within the specified time and track that this is what is actually happening. This could assist the team in understanding if the assessment process is happening reliably and if this make a difference to the rate or number of falls occurring.

As there are many factors that contribute to residents falling – it is useful to have a few process measures to consider a range of interventions. Balancing measures are intended to looks at any unintended consequences that may occur as a result of changing any part of the process. For example, if the facility is reducing the number of falls, it would be important to ensure that there has not been any unintended consequence. Examples might include increase use of restraints or impeding the independence of the resident.

In this package, there are examples of a suite of different measures (process, outcome and balancing measures), that may be useful as a guide. Measures are important part of the improvement project as they help determine whether an intervention or change that has been tried has resulted in any improvement.

**Key tip on measurement for improvement:**
In quality improvement, the use of measurement based on learning provides the improvement team knowledge about how the 'system' is performing and the effects of changes that are made. Data for measure need to be collected regularly over time to see the effects of change. This means that just enough data to assess if the changes being tried are having the desired effect is all is required.
Simple data measurement tools such as a run chart are very effective in allowing the team to assess and learn the effectiveness of changes and improvements.

The data you collect in real time can be used to tell the improvement story and build the case and/or argument to change practices in order to improve outcomes. Remember that data collection and its interpretation does not need to be complicated. A simple check on the process(es) with the use of an annotated ‘run chart’ over time will do. There is real value in ensuring that data is displayed for those involved in the improvement effort and it should be easy to understand.

Refer to Appendix Four and Five: Measurement Plan/
Refer to Appendix Six: Balancing Measures/

3. **What changes can be made that will result in improvement?**

A driver diagram is a useful tool to present a team’s theory for improvement. A **driver diagram** translates a high level improvement goal into a logical set of more detailed sub-goals and potential projects associated with each change idea (see below for explanation). It starts with the intended improvement outcome, branches out into the primary drivers and into the next level of secondary drivers before ending up with change ideas. These change ideas can then be converted into actionable change processes.

A **change idea** represents a specific idea that can go towards improving care.

The driver diagram is used as a living document that is updated throughout the improvement project to reflect the new knowledge gained through the improvement process.

- An example of a high-level driver diagram that may be useful can be found in Appendix Seven.
- Suggested Interventions / change concepts for falls drivers can be founding Appendix Eight.
- Some possible secondary drivers and key change ideas can also be found in Appendix Nine.
- A case study showing an example of a facility using the MFI methodology in developing their improvement approach Mercy Parklands and can be found in Appendix Ten.

During the collaborative process the following are examples are types of failures that both our and other international improvement teams have found to be problematic in their improvement processes.

Typical failures associated with patient/resident assessment and reassessment factors include the following:
- Lack of standardised or reliable process for fall risk assessment and reassessment.
- Lack of identification of patients/residents at increased risk of fall-related harm.
- Lack of expertise in administering the assessment.
- Lack of clarity in expectations regarding patient assessments.
- Failure to intervene quickly based on assessment findings.
- Failure to recognise the limitations of the falls risk screening tools.
- Failure to recognise change in condition as a prompt for reassessment.
- Lack of procedure or time to consistently reassess change in patient/resident condition.

**Typical failures associated with staff/carer factors:**
- Failure to quickly communicate results of a new or changed risk assessment and associated intervention.
- Failure to incorporate and document prevention interventions in the plan of care.
- Unclear or incomplete handovers between department and among staff within a unit.
- Unclear safety instructions.
- Patient/resident or family confusion about nurse teaching on safety precautions.
- Incorrect assumption that the patient/resident is the key or sole learner.
- Delivery of safety education that fails to fit individual patient/resident and family needs.

**Typical failure associated with environmental factors:**
- An older physical plant (e.g. trip hazards).
- Lack of support or resource for environmental improvements.
- Insufficient staff accountability for maintaining a safe environment.
- Failure to specify protective interventions based on individual needs.
- Assumption that the presence of the family in the patient/resident room constitutes a falls prevention intervention.
• Lack of reliability in performing comfort or toileting rounds as scheduled.
• Problems related to bed alarms, including failure of alarms to sound, lack of timely response to bed alarm, overreliance of staff on bed alarms to prevent falls, failure of staff to reset alarms.
• Missing or inconvenient placement of intervention supplies (e.g. visual alert markers, bed alarms).

**Typical failures associated with customizing interventions for patients/residents at highest risk of serious harm:**
• Lack of nurse observation of patient/resident.
• Failure to identify in a patient/resident at greater risk for fall-related harm that a change in status represents a new risk of falling.
• Failure to individualise the plan of care based on needs.
• Lack of reliable implementation of interventions to prevent fall-related injuries.
• Lack of staff knowledge about interventions for more challenging patient/resident populations (e.g. patients/residents, who are confused or impulsive, tend to wander or have previously fallen).

**Critical success factors for improvement:**
• Teams (multidisciplinary) involved.
• Measurements/data feedback to clinical staff.
• Small steps and testing of changes on a frequent and small-scale basis.
• Ongoing learning of systems and processes and how they can be improved.
REFERENCES


Residential Aged Care Integration Programme (2010). Care giver guides for residential aged care. Waitemata DHB.

Residential Aged Care Integration Programme (2012). RN care guides for residential aged care. Waitemata DHB.


APPENDIX ONE: An example of a falls’ system diagram
APPENDIX TWO: The Model for Improvement

The Model for Improvement* is a simple yet powerful tool for accelerating improvement, which has two parts:

- Three fundamental questions, which can be addressed in any order.
- The plan-do-study-act (PDSA) cycle to test and implement changes. The PDSA cycle guides the test of a change to determine if the change is an improvement.

Setting aims - Improvement requires setting aims. The aim should be time-specific and measurable; it should also define the specific population of patients that will be affected.

Establishing measures - Teams use quantitative measures to determine if a specific change actually leads to an improvement.

Selecting changes - All improvement requires making changes, but not all changes result in improvement. Organizations therefore must identify the changes that are most likely to result in improvement.

Testing changes - The plan-do-study-act (PDSA) cycle is shorthand for testing a change in the real work setting — by planning it, trying it, observing the results, and acting on what is learned. This is the scientific method used for action-oriented learning.

Plan
List the tasks needed to set up the test of change. Predict what will happen when the test is carried out. Determine who will run the test.

Do
Run the test. Document what happened when you ran the test. Describe problems and observations.

Study
Describe the measured results and how they compared to predictions.

Act
Determine what your next PDSA cycle will be based on your learning.

*The Model for Improvement was developed by Associates in Process
Langley GL, Nolan KM, Nolan TW, Norman CL, Provost LP. The Improvement Guide: A Practical Approach to Enhancing Organizational Performance
### APPENDIX THREE: Project charter template

<table>
<thead>
<tr>
<th><strong>Aim:</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><em>What are we trying to accomplish?</em></td>
<td></td>
</tr>
<tr>
<td><em>How much by when?</em></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Problem statement:</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Background to the problem/why area was selected</em></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Project scope:</strong></th>
<th><strong>Metrics:</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Area(s) of focus</em></td>
<td><em>How will we know that a change is an improvement?</em></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Expected outcome(s)/goal(s):</strong></th>
<th><strong>Business case:</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Success criteria</em></td>
<td><em>How does this affect patient safety, experience, costs, revenue/other aspects?</em></td>
</tr>
</tbody>
</table>
### APPENDIX FOUR – Measurement plan

<table>
<thead>
<tr>
<th>Measure name</th>
<th>Compliance with high risk management plan.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measure type</td>
<td>Process (percentage).</td>
</tr>
<tr>
<td>Measure description</td>
<td>Number of patients identified as high risk of harm from falls that have an individualized management plan.</td>
</tr>
<tr>
<td>Numerator</td>
<td>Number of patients/residents identified at high risk of harm from falls with an individualised plan.</td>
</tr>
<tr>
<td>Denominator</td>
<td>Number of patients/residents identified as high risk of harm from falls.</td>
</tr>
<tr>
<td>Sampling plan</td>
<td>To collect this measure randomly sample the care bundle sheets of twenty patients/residents on a monthly basis (could be broken down to reviewing five sheets on a given day once a week) and identify the high risk patients/residents from these sheets (Denominator), how many of these high risk patients/residents had an individualised management plan. You are encouraged to sample over a range of conditions (i.e. weekends, week days, different shifts etc.). Calculate: N/D x 100 = %.</td>
</tr>
<tr>
<td>Reporting frequency</td>
<td>Monthly.</td>
</tr>
<tr>
<td>Numeric goal</td>
<td>&gt;95% with management plans.</td>
</tr>
<tr>
<td>Measure name</td>
<td>Fall incidence with serious harm per 1000 patient bed days*</td>
</tr>
<tr>
<td>--------------</td>
<td>----------------------------------------------------------</td>
</tr>
<tr>
<td>Measure type</td>
<td>Outcome – rate.</td>
</tr>
<tr>
<td>Measure description</td>
<td>Number of falls with serious harm per 1000 occupied bed days.</td>
</tr>
<tr>
<td>Numerator</td>
<td>Total number of falls with serious harm (see regional operational definitions).</td>
</tr>
<tr>
<td>Denominator</td>
<td>Total number of days that patients/residents day for the month.</td>
</tr>
<tr>
<td>Reporting frequency</td>
<td>Monthly.</td>
</tr>
<tr>
<td>Sampling plan</td>
<td>For each individual who have a fall(s) whilst in hospital/care home that results in serious harm (SAC1 or SAC 2). Captured by incident reporting process.</td>
</tr>
<tr>
<td></td>
<td>Calculate: N/D x 1000 as rate.</td>
</tr>
<tr>
<td></td>
<td>There should be no sampling for this measure.</td>
</tr>
<tr>
<td>Numeric goal</td>
<td>For example - To reduce the rate of falls with harm by??% on ward x by month year.</td>
</tr>
</tbody>
</table>

* Use of a rate measure enables comparison between different sites.
APPENDIX SIX: Balancing measures

These are measures designed to identify the impact (positive or negative) of this work and interventions on other parts of the care system. Other impacts of this programme might be a reduction in average length of hospital stay or number of complaints. It is a good idea at the outset of your improvement work to gather baseline data for the following balancing measures.

<table>
<thead>
<tr>
<th>Cost (productivity)</th>
<th>Reduction in the cost of managing fall injuries.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Staff satisfaction</td>
<td>Reduction in the number of complaints from service users (family etc.).</td>
</tr>
</tbody>
</table>
APPENDIX SEVEN: An example of a high-level falls' driver diagram and change ideas
## APPENDIX EIGHT: Suggested interventions / change concepts for falls driver diagram

<table>
<thead>
<tr>
<th>Interventions / Change Concepts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standardise assessment process</td>
</tr>
<tr>
<td>Use of ABC and S (age, bones, coagulation and surgery) falls assessment</td>
</tr>
<tr>
<td>Identify patient at risk on handovers</td>
</tr>
<tr>
<td>Red socks / signs</td>
</tr>
<tr>
<td>Patient/resident and family information</td>
</tr>
<tr>
<td>Falls signs</td>
</tr>
<tr>
<td>Process for falls education</td>
</tr>
<tr>
<td>Standardise handovers</td>
</tr>
<tr>
<td>Safety huddles each shift</td>
</tr>
<tr>
<td>Safety checklist</td>
</tr>
<tr>
<td>Room set-up list</td>
</tr>
<tr>
<td>Lighting</td>
</tr>
<tr>
<td>Handrails</td>
</tr>
<tr>
<td>Staff competency in equipment use</td>
</tr>
<tr>
<td>Availability of equipment (monitors, mats, low beds)</td>
</tr>
<tr>
<td>Equipment in good repair</td>
</tr>
<tr>
<td>Remove clutter</td>
</tr>
<tr>
<td>Post falls review</td>
</tr>
<tr>
<td>Appropriate footwear</td>
</tr>
<tr>
<td>Individualise room (i.e. well lit, clutter-free, low bed, personal items in reach)</td>
</tr>
<tr>
<td>Pharmacist review of medications of at risk patient/resident</td>
</tr>
<tr>
<td>Rounding with three Ps (i.e. position, potty, pain)</td>
</tr>
<tr>
<td>Balance and strength exercises</td>
</tr>
</tbody>
</table>
### APPENDIX NINE: Secondary drivers

<table>
<thead>
<tr>
<th>Secondary drivers</th>
<th>Key change concepts and change ideas for PDSA testing</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Conduct appropriate harm risk assessment</td>
<td>• Support a change in focus from falls reduction to harm from falls.</td>
</tr>
<tr>
<td>• Develop a reliable assessment and reassessment process</td>
<td>• Develop targeted and individualized harm reduction plans.</td>
</tr>
<tr>
<td>• Understand local context and analyse local data to assess patient/resident at risk of harm</td>
<td>• Educate staff/patients/residents on harm from falls.</td>
</tr>
<tr>
<td>• Staff competency in assessment</td>
<td>• Build reliable harm risk assessments into care bundle process.</td>
</tr>
<tr>
<td>• Support a change in focus from falls reduction to harm from falls.</td>
<td>• Engage with the multidisciplinary team and develop a shared visual management plan.</td>
</tr>
<tr>
<td>• Develop targeted and individualized harm reduction plans.</td>
<td>• Use the ABCS (age, bones, coagulation and surgery) falls assessment for high risk populations.</td>
</tr>
<tr>
<td>• Educate staff/patients/residents on harm from falls.</td>
<td>• Engage with staff to learn about the barriers to risk assessment being done within six hours from admission/transfer.</td>
</tr>
<tr>
<td>• Build reliable harm risk assessments into care bundle process</td>
<td>• Work with staff to develop a system where at risk patients/residents can be easily identified.</td>
</tr>
<tr>
<td>• Visually communicate – use visual cues above the beds/doors of at risk patients/residents to alert staff to patients/residents risk of acquiring a fall.</td>
<td>• Individualised management plans for those at risk of harm</td>
</tr>
<tr>
<td>• Verbally communicate - incorporate patients/residents at risk into safety briefings/handover processes.</td>
<td>• Reassess risk regularly and when condition changes</td>
</tr>
<tr>
<td>• Monitor compliance with daily re-assessment of risk and increase compliance to &gt;95% by developing a monitoring/feedback and learning loop. Please note patients/residents may need to be reassessed when there is a change in their condition.</td>
<td>• Communicate and educate about patient/resident harm from falls risk</td>
</tr>
<tr>
<td>• Reassessment on medication changes (alert process for falls-potential medications)</td>
<td>• Identify at every shift patients/residents most at risk of harm from a fall</td>
</tr>
<tr>
<td>• Utilise formal and informal learning opportunities to educate staff about falls risk.</td>
<td>• Ensure visibility of improvement measurements and progress</td>
</tr>
<tr>
<td>• Provide patients/residents and relatives with information on the risks of falls on admission/transfer or when there is a change in their condition that puts them at risk.</td>
<td>• Use visual and audible cues</td>
</tr>
<tr>
<td>• Educate patients/residents and families as to how they can help to minimize falls risk whilst in hospital/care home, at home where relevant.</td>
<td>• Multidisciplinary team approach</td>
</tr>
<tr>
<td>• Work with patients/residents and families as co-partners in their care.</td>
<td>• Use the guides for various tools to educate staff on how they could be used.</td>
</tr>
<tr>
<td>• Use teach-back method for patients / residents and family for falls information.</td>
<td>• Safety huddle process at beginning of shifts.</td>
</tr>
<tr>
<td>• Post fall review process.</td>
<td></td>
</tr>
</tbody>
</table>
APPENDIX NINE: Secondary drivers (continued)

<table>
<thead>
<tr>
<th>Secondary drivers</th>
<th>Key change concepts and change ideas for PDSA testing</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Environment safety checklist for high risk room set-up</td>
<td>• Team approach.</td>
</tr>
<tr>
<td>• Review environment for suitability (i.e. lighting and handrails)</td>
<td>• Visual/audible cues.</td>
</tr>
<tr>
<td>• Establish an equipment repair process</td>
<td>• Night lights and hand rails.</td>
</tr>
<tr>
<td>• Provide consumer designed signage</td>
<td>• Environment safety checklist – room set up.</td>
</tr>
<tr>
<td>• Improve visibility and use of visual and audible cues</td>
<td>• Patient education (teach back).</td>
</tr>
<tr>
<td>• Establish an effective process of monitoring at-risk patients/residents</td>
<td>• Intentional rounding process. The five P's are questions that every patient/resident is asked on each hourly round. These questions assess the person’s current condition and identify opportunities to prevent problems. The 5 Ps – <em>pain, potty, positioning, perceptions</em> (include asking if anything needs to be moved, the lights adjusted or personal items placed closer) and <em>prevention</em> focuses on checking equipment to ensure it is working correctly and asking the patient/resident if they need anything so they do not fall trying to get it themselves).</td>
</tr>
<tr>
<td>• Standardised interventions for patients/residents most at risk of falling</td>
<td>• Staff competency in assessments.</td>
</tr>
<tr>
<td>• Identify at each shift patients/residents most at risk of harm from a fall</td>
<td>• Room location – high visibility.</td>
</tr>
<tr>
<td>• Individualised management plans for those at risk of harm</td>
<td>• Use colourful easy to view alerts.</td>
</tr>
<tr>
<td>• Target interventions to reduce side-effects of medication</td>
<td>• Visual/audible cues.</td>
</tr>
<tr>
<td></td>
<td>• Non-slip/skid-padded floor mat on the exit side of bed.</td>
</tr>
<tr>
<td></td>
<td>• Assistive devices (walking aids, transfer boards, bedside commodes) located on exit side of bed.</td>
</tr>
<tr>
<td></td>
<td>• Night lights.</td>
</tr>
<tr>
<td></td>
<td>• Individualised toileting schedule.</td>
</tr>
<tr>
<td></td>
<td>• Hip protectors.</td>
</tr>
<tr>
<td></td>
<td>• Balance and strength assessment.</td>
</tr>
<tr>
<td></td>
<td>• Individualised rounding.</td>
</tr>
<tr>
<td></td>
<td>• Use of technology – monitors.</td>
</tr>
<tr>
<td></td>
<td>• Establish a post fall review process.</td>
</tr>
</tbody>
</table>
APPENDIX TEN: Case Study – Mercy Parklands (Reducing falls with harm)

Mercy Parklands’ Background
Established in 1985, Mercy Parklands is a not-for-profit organisation with charitable status. Its owners are the Sisters of Mercy Charities.

It is located in Ellerslie, Auckland and has 97 beds. The facility is home to predominantly Hospital level care residents, a significant portion of who live with Dementia. Mercy Parklands has been officially acknowledged as the world’s first Spark of Life Centre of Excellence by Dementia Care Australia. The Spark of Life promotes a facility wide culture change towards compassion and enrichment in the lives of the residents, particularly those affected by dementia.

Mercy Parklands was one of the first facilities that participated enthusiastically in the First, Do No Harm improvement programme.

Mercy Parklands has garnered several awards including:

- **2013** – The Jackson Van Interiors Built and Grown Environment Award given by the NZ Aged Care Association in recognition of the creation of a dementia enabling environment,
- **2013** – Mercy Parklands were invited to participate in the Health Quality and Safety Commission educational videos for the National Patient Safety Campaign Launch
- **2014** – Two ‘Outstanding Achievement’ ratings by the DAA Group Quality Auditors, awarded to organisations that demonstrate leadership in which it is outstanding amongst its peers. The achievements for planning, delivering and evaluating care/service in partnership with the consumer/patient and carer or family/whanau to achieve the best possible outcomes.
- **2014** – Recognised as the World’s First Spark of Life Centre of Excellence by Dementia Care Australia, with recertification achieved in February 2015
- **2014** – The QPS Benchmarking Innovative Delivery Award given by the NZ Aged Care Association in recognition of the Spark of Life Centre of Excellence.

Mercy Parklands makes use of the Model for Improvement (MFI) as their improvement methodology. The Model for Improvement (MFI) is the framework adopted by the Institute of Healthcare Improvement (IHI) in order to structure improvement efforts.

IHI ‘Model for Improvement’ methodology
The MFI was originally developed by Associates in Process Improvement (www.apiweb.org) to provide the best chance of achieving goals and adopting ideas (Langley et al, 1996). The model answers three key improvement questions as follows:

What are we trying to accomplish?
How will we know that a change is an improvement?
What change can we make that will result in improvement?

These questions are then used in conjunction with small-scale testing of change concepts (good ideas that we think will result in improvement of care). To carry out these small-scale testing, we follow a pattern of the plan-do-study-act (PDSA) cycle.

We have chosen Mercy Parklands to demonstrate the use of the MFI model at their facility.

Case Study – Mercy Parklands
Project Background
With support from management, a coalition was formed to focus upon reducing the number of falls and falls with harm in the Mercy Parklands’ facility. It consisted of Helen Delmonte (Allied Health Manager) with Catherine Heaney (Occupational Therapist) as the coordinator and the clinical risk team.

They began their improvement journey in January 2012 when Helen Delmonte joined the Auckland District Falls subgroup and became a cluster host, assisting to determine common definitions and practices relating to falls. Following their attendance at a First, Do No Harm session in October 2012, Mercy Parklands adopted the MFI methodology.

Up until Mercy Parklands started using the MFI methodology, attempts were made to implement change in order to reduce falls. However, they did not have standardised process for problem analysis or programme implementation. They acknowledged their difficulty in interpreting data in a meaningful way and sustaining new initiatives.

What are we trying to accomplish?
In understanding what they wanted to achieve, three goals were established as follows:
- Reduce falls and falls with harm by 20% from Jan 2012 to Dec 2013,
- Improve resident wellbeing, safety, and overall quality of life,
- Develop and strengthen further our Pursuit of Excellence programme.

They identified their first steps:
- Adopt a culture for change via the Spark of Life programme,
- Develop a falls prevention charter and driver diagram,
- Participate in learning sessions, ADHB subgroup, and cluster group host.

How will we know that a change is an improvement?
Following this, they developed a series of measures that reflected improvement including outcome, process, and balancing measures.

Dashboards were established to track their performance via measurement charts. The types of measurements can be found in Appendix 1a.1. The dashboards tracked Mercy Parkland’s total fall rate, falls with harm rate, falls with fracture incidence and incident of residents with serial falls (defined as someone with 2 or more falls per month) Appendix 1a.2.

What changes can we make that will result in an improvement?
The team, together with colleagues’ feedback, prepared a driver diagram (Appendix 1a.3). Their focus was on evidence-based practice on those issues which were highlighted within focus group meetings with staff.

A list of creative ideas was generated with the following selected first for trial: The High fall risk Profile for a resident recognised as a serial faller:
Through individual data analysis of fall history and circumstance, routine and interventions trialled, the falls prevention needs for that individual are identified. The resulting data to be presented in a document alongside a plan tailored specifically to the person at risk.
(Appendix 1a.4). NB: There were three sub-initiatives within this intervention (Appendix 1a.5) that answers the questions:
What we track (Format),
How we update the document (Updating of document), and
How we update the assigned caregivers accordingly (Location of document).

Involving staff to gain their perspective as well as providing them with regular performance updates and appreciation (Appendix 1a.6),
Providing a checklist for staff members to use on each resident so that staff could use it to make the place safer (Appendix 1a.7), and
Engaging family and residents through the use of posters and information.

For each idea, they followed the PDSA approach by documenting its trial journey. A PDSA example can be found in Appendix 1a.8.

**Tracking success**
As the team had been tracking outcome data on a monthly basis and reflecting the data on a dashboard, all staff members were in a position to follow the progress of the falls’ reduction initiative.

Prior to starting the MFI methodology project, the average fall with harm rate was 29.71%. At the end of 2014 this rate had decreased by over 24% with a 22.54% result. Since 2009 where the year had seen 353 falls, there has been a decrease in fall incidence with an overall percentage decrease improvement of 36.8% by Dec 2014 when 223 falls were reported.

The data recording and analysis process demonstrated that implemented initiatives were, in effect, making a difference in terms of their goals in falls and associated harm reduction. Throughout the journey, as they achieved their milestones, the staff celebrated their achievements with praise and rewards.
### Appendix 1a.1 – Measures to reduce falls – Mercy Parklands

<table>
<thead>
<tr>
<th>Type</th>
<th>Name of Measure</th>
<th>Definition/ How data will be collected</th>
<th>Summary</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Outcome Measure</strong></td>
<td>To reduce falls with harm (SAC L 1 &amp; 2) by 20% from Jan 2012 to Dec 2013</td>
<td>Daily evaluation of fall incident forms</td>
<td>Run chart of the findings displayed in each nursing station. Discussed at handover and general staff meetings.</td>
</tr>
</tbody>
</table>
| **Process Measure 1** | 100 % of staff will be aware of the falls prevention intervention in place for their group of residents | Each HCA in one area will be asked to give a verbal report on their assigned resident group  
Each RN & CN will be asked to give a verbal report on each resident in their allocated wing  
(Revolved through each area each month) | Successful finding will be feedback to the wing verbally and through visual representation (Bar chart showing # of residents using the intervention and # of residents correctly identified). |
| **Process Measure 2** | 100 % of residents with injury prevention intervention will have these in place as prescribed (Included as noted below) | Review of fall incident forms – details section  
(Daily and monthly)  
Review of Care plan for clear documentation of recommended intervention  
(ongoing)  
Visual environmental check of five residents (chosen for criteria noted below)  
(Revolved through each area each month) | Documented with the monthly evaluation.  
Success and failure of interventions represented visually, for staff. Displayed and discussed in individual nursing stations. |
| **Process Measure 3** | 100 % of sensor alarms will be responded to within 30 seconds | Activation of each alarm type, on each shift and response time measured.  
Quarterly | Results demonstrated visually in a chart and discussed in general staff meeting |
| **Balancing Measure** | Number of residents on restraint will be aligned to quarterly QPS “All Aged care” mean rate | Review of clinical risk meeting minutes – ”New and existing residents on restraint” | Run chart of the findings against QPS measure  
Documented in the monthly fall evaluation report each quarter |

**Outcome measures**  
The result that you would like to achieve in regard to the project.

**Process measures**  
The parts in the system that, if you follow closely to, will help you achieve your outcome.

**Balancing measures**  
The changes that you make in one part of the system that cause problems in other parts of the system.
### Outcomes Measure Table

<table>
<thead>
<tr>
<th>TOOL</th>
<th>NAME OF MEASURE</th>
<th>METHOD</th>
<th>TARGET</th>
<th>HARMONY</th>
</tr>
</thead>
</table>

### Case Study – Mercy Parklands

**Method for effectively communicating Feedback to staff**

- Case Study – Mercy Parklands
Appendix 1a.2 – Dashboards and their impact
Appendix 1a.3 – Mercy Parklands’ Driver Diagram

**OUTCOME**

- Decrease falls with harm incidence (SAC 1 & 2) by 20% from Jan 2012 to Dec 2013

**PRIMARY DRIVERS**

- Risk Assessment
  - • The Mercy Parklands Falls Assessment within 24 hours, on readmission and upon change of status.
  - • At risk checklist
  - • Visual prompt of risk stickers (3 locations)
  - • Assistance Required Badge
- Implementation of Bundle
  - • High fall risk profiles
  - • Sensor alarms
  - • Assistance Required Badge
  - • Non-slip socks
  - • Hip protectors
  - • Restraint
  - • Supervision/assistance
  - • Footwear
  - • Medication Review – Vitamin D
  - • Balance exercise classes
  - • 1:1 re-strengthening
  - • Environmental risk management
  - • W2 hip protector supply
  - • Hip protector supply for trials
  - • Beyond Boundaries tool
  - • Wing 2 home environment
- Grading of Injury
  - • SAC grading aligned with ADHB
- Knowledge & awareness
  - • Staff education
  - • Patients/family/whanau familiarization of fall risk factors and falls prevention
  - • Communication - regular liaison
  - • Reflective Cycle

**SECONDARY DRIVERS**

- Creative Ideas
  - • How can we increase resident education, “So you’ve had a fall” - bundle of care info
  - • Rewards for staff compliance in wings
  - • Falls Prevention Month
  - • Manual for preceptors
  - • Celebration/Appreciation method for resident participation
  - • Fall risk profile wall chart
  - • Individualised hip protector awareness packs

**INTERVENTIONS**

- • Standardised tool easily accessible
- • Visible leadership of falls team
- • OPS benchmarking
- • Equipment available through incident follow up and referral
- • Monthly and annual statistical analysis and reporting with stated quality indicators and feedback loop
- • Audits of existing interventions against practices
- • Proactive rounding
- • Skin tear prevention procedures

**CREATIVE IDEAS**

- • ADHB subgroup/cluster group collaboration
- • Communication within handovers, clinical risk meeting
- • Bundle of care development and evaluation
- • Education and discussion – brochure
- • ADHB subgroup/cluster group collaboration
- • Staff have orientation and updates
- • Data analysis
- • Falls alert sticker – fall occurred
- • Falls preceptors
- • New staff trained within 2 weeks
- • ‘Quick wins’ for increased broadcasting
Appendix 1a.4 – High Fall Risk Resident (Intervention Form) + Tracker
Appendix 1a.6 – Falls Prevention Knowledge Survey

Position:

Length of time working in the area:

Please name the residents who have alarms in this wing and the types of alarm?

Who has hip protectors in your area?

How do you know if a resident is high fall risk?

What symptoms might indicate to you that a resident could be at risk of falling?

Which residents in your wing would you prioritise for regular checks as a falls prevention precaution?

Please list 3 falls’ prevention interventions excluding alarms and restraints.
# Appendix 1a.7 – Checklist for Residents

## Falls Prevention Checklist

**RHH to complete at time of each assessment. Date and sign interventions considered, and add to resident’s individual care plan.**

<table>
<thead>
<tr>
<th>Consider for ALL FALL RISK LEVELS</th>
<th>Date</th>
<th>Sign</th>
<th>Consider for ALL FALL RISK LEVELS</th>
<th>Date</th>
<th>Sign</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Person</strong></td>
<td></td>
<td></td>
<td><strong>Mobility</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Orientable to room and facility call bell in reach</td>
<td></td>
<td></td>
<td>Check handling plan completed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Check visual and auditory aids are operational</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Personal items and call bell in reach</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Equipment/Environment</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Do they require adaptive equipment for ADL’s?</td>
<td></td>
<td></td>
<td>Ensure uncluttered environment</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Medication</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Check medications appropriate/adverse effect</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Additional Consider for High Risk</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Management of behaviours: e.g. Spark of Life approach care</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Do they need Hip Protectors?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yellow non-slip socks?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Assistance/Required budge</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Is a restraint assessment required?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Risk Assessment</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Is a cot/lag required?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fall risk status noted on file and resident’s handling wall chart</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

☑ FALLS MANAGEMENT PLAN DOCUMENTED IN RESIDENT CARE PLAN

<table>
<thead>
<tr>
<th>REVIEW</th>
<th>SIGN</th>
<th>DATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>REVIEW</td>
<td>SIGN</td>
<td>DATE</td>
</tr>
<tr>
<td>REVIEW</td>
<td>SIGN</td>
<td>DATE</td>
</tr>
</tbody>
</table>

Reviewed: Oct 2016
Appendix 1a.8 - An example of a PDSA

**Objective for this PDSA cycle:**
To provide a Profile for residents who are at a particularly high risk of falling in order to increase the effectiveness of raising staff awareness.

**Develop change:** This is an intervention which is currently in place though requires further adaptation to increase staff effectiveness.

**Plan:** (Questions - Who, What, When, Where, Data collection, Predictions)
- **What:** A double sided document which identifies an individual's fall trends, what interventions they have tried and succeeded or failed and their related fall statistics.
- **Who:** OT (Catherine Heaney) to create and update (monthly) profiles. All staff to read the profiles regularly.
- **When:** August-September - 1 month

**Data Collection:** Staff will be asked about the purpose of the profile and what they thought of the information. They will also be asked where it is kept.

**Hypothesis:**
A mixed response in knowledge.

**Do:** (Carry out test, collect data, and begin data analysis)
Staff were asked the above questions. The Charge Nurse was clear on the purpose and placement of the profiles. Various amounts of knowledge from the HCA’s. Some people did not know where they could find them.

**Study:** (Complete data analysis)

The placement of the profiles needs to be in a location where the HCA are required to check each shift.

**Act:** (Are we ready to make a change? Plan for next PDSA cycle)