



Improvements in patient handling for worker and patient safety

Current and emerging approaches for worker and patient safety interventions

To provide insight into interventions designed to reduce worker injuries and improve patient safety, as well as their outcome measures

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A joint initiative of



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This Environmental Scan is based on a website scan and key informant interviews. The intent is to provide a snapshot of information on current and emerging initiatives to improve worker and patient safety in the area of patient manual handling, using all reasonable efforts within the timelines. It is not an exhaustive account of all current and emerging practices in the sector. This Environmental Scan is part of a larger stream of work on Worker and Patient Safety (ISCR project 190) and should be considered along with other evidence such as the Evidence Review.

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Table 1. Organisations and key contacts interviewed as part of the Environmental Scan

Organisation	Contact	Position
Public Healthcare		
Alfred Health	Vicki White	Safe Moves Coordinator
Barwon Health	Lisa Aitken	Musculoskeletal Physiotherapist, Workforce Safety
	James Tamblyn	Director Workforce Safety
Bendigo Health	Stephen Morley	Safe Manual Handling Coordinator
Eastern Health	Janine Petersen	Director OHS and Emergency Management
The Kilmore and District Hospital	Carolyn Atkinson	No Lift Coordinator
Mercy Health	Veelyn Tan	Group WHS Manager
Monash Health	Kelley Caggiati	Director, Occupational Health and Safety
	Carley Annells	Workplace Health and Safety Advisor
Northern Health	Will Halpin	Associate Director, OHS and Wellbeing
	Suzanna Tan	Manual Handling Risk Coordinator
Royal Children’s Hospital	Anna Noisette	Workplace Health and Safety Advisor (Manual Handling)
St Vincent’s Hospital	Amber Atkinson	Move Smart Coordinator
Private and Not-for-profit Healthcare		
Bolton Clarke (originally Royal District Nursing Service and RSL Care)	Larissa Erzetich	Senior Safety and Wellbeing Adviser
Epworth Geelong	*	Health and Safety Advisor
Epworth Healthcare	*	Group Health Safety and Wellbeing Trainer
The Tipping Foundation	Andrea Cain	Occupational Therapy and Ergonomics

*Elected not to be identified

ABBREVIATIONS

Terms

Full time equivalents	FTE
Musculoskeletal disorders	MSD
Occupational health and safety	OHS
Victorian Health Incident Management System	VHIMS

Organisations

Bendigo Health	BH
Monash Health	MH

EXECUTIVE SUMMARY

Background

Health care workers experience a high rate of work related musculoskeletal disorders (MSD) and patient manual handling is one of the main causes of staff injuries in hospitals. Evidence has consistently shown that safe patient handling interventions and programs result in fewer and less severe injuries to healthcare workers and reduced staff sickness absence. The benefits of MSD-related occupational health and safety (OHS) interventions extend to patient outcomes, particularly in relation to improved pressure care, fewer skin tears, reduced length of stay, and increased patient comfort, mobility and satisfaction.

Approach

This Environmental Scan aimed to identify new and emerging patient manual handling initiatives designed to prevent worker musculoskeletal disorders that impacted on patient safety. This scan was conducted in September and October 2017 and comprised 1) a desktop scan of 17 organisations, and 2) key informant interviews with patient manual handling coordinators and/or OHS managers of 14 healthcare organisations (including public and private hospitals, and not-for-profit organisations).

Key findings

Patient manual handling coordinators have developed and implemented the following initiatives by examining injury causes and claims data, collaborating with OHS managers, ward managers, consultants and staff, and through identifying initiatives in other hospitals.

Equipment

All hospitals used manual handling equipment to move patients. Examples commonly in use were slide sheets, HoverMatts, HoverJacks, and hoists, either with overhead tracking or portable hoists. The number and type of equipment varied between hospitals. Generally, well-resourced hospitals have more equipment available. The newer hospital buildings had more overhead tracking for hoists, although some older buildings have had it retrograde fitted. In addition, some hospitals used other equipment such as HT rollers, stadies, special electric wheelchairs etc. Many hospitals saw equipment and rooms for bariatric patients an urgent need due to changing demographics.

Equipment tracking

Some hospitals now have an online directory to locate patient manual handling equipment within the hospital.

Policies and procedures

Written patient handling policies and procedures were developed or updated. Proper procedure for staff was also written and sometimes accompanied by video demonstrations showing correct use when new equipment is purchased.

Patient handling committees

Some hospitals have convened or reinitiated a patient handling committee to review incidents and trends, discuss issues and monitor training levels. Inclusion of a senior manager on the committee created greater awareness of manual handling issues amongst the hospital executives.

Training

Most organisations have developed a combination of education, training, and competency assessment in patient manual handling for staff commencing in a new position, and then annually. All hospitals now include practical training and some hospitals also use online training.

Monitoring system for tracking training

Many hospitals used a monitoring system for tracking which staff members had participated in training. In some cases, this system provided accurate data by each ward. At one hospital, this information was reported to Executive management, with responsibility to maintain training levels and compliance then cascaded down to ward managers.

Other initiatives

Examples of other initiatives described by participants were: a leadership walk through, modification of patient handling program for at-home support, manual handling week, a project with dorsaVi to monitor muscular stress, an online physical assessment tool to identify MSD risk, bariatric study day, bariatric working group and deceased bariatric pack.

Outcomes of the initiatives

The key informants reported numerous positive outcomes for staff including:

- Perceived improvements in safety culture - staff knowledge of safety has improved, staff know what equipment is available, where to get them from, and safe operating procedures
- Reduced number and severity of manual handling injuries, particularly back injuries in nurses
- Fewer WorkSafe claims and reduction in premiums.

In relation to patient outcomes, all patient handling coordinators perceived the initiatives were of benefit to patients, associated with the following outcomes:

- Fewer skin tears and pressure injuries
- Increased patient comfort level and confidence in being transferred, leading to less resistance and more cooperation when being moved by staff.

Facilitators to good patient manual handling

The following were identified as increasing the success of patient handling initiatives:

- Commitment from senior management
- Modern equipment, in particular the use of overhead tracking for hoists
- Targeted staff training tailored to the needs of staff and informed by trends in injury data
- Patient Handling Coordinator's ongoing support of managers and staff. Some coordinators were able to walk through the wards every day and address problems, take preventative actions and reinforce what was learnt at training.
- Staff awareness, value and respect for patient handling coordinators. Coordinators with clinical experience were more highly regarded given their detailed understanding of the daily challenges staff face in real work settings.

Barriers to good patient manual handling

There were many barriers to achieving good patient manual handling identified by participants. These included:

- Lack of funding for sufficient equipment, training or manual handling coordinator hours
- Failure of nursing and care staff to use the appropriate equipment in the right way
- Difficulties ensuring all staff are trained due to high staff turnover, part-time and shift workers
- Restricted staff time available for training as ward managers need them on the ward
- Lack of support for initiatives from Executives in some hospitals
- Lack of regulatory guidance and mandatory manual handling education.

Identified Needs in Patient Manual Handling

There is a need for all healthcare networks to link manual handling initiatives with patient safety outcomes. This data would strengthen business cases and other applications for resources.

All patient handling coordinators identified gaps in current patient manual handling. The majority required extra staff resources to address as current workloads were already considered to be extensive. The areas in need of addressing included:

- Support to conduct reviews of the training system
- More time on the wards for mentoring staff, identifying problems early, and co-delivering training with Ward Trainers
- Support and resources for additional training or incorporation of scenario-based training
- Support and resources for manual handling skills and equipment for bariatric patients.

Key messages

Based on the information gathered in this Environmental Scan, focusing on the following would be beneficial:

- **Executive and senior management commitment** to implementing patient manual handling initiatives
- Having **dedicated patient manual handling coordinators** can reduce staff injuries and actively address issues in hospitals. Ideally this person has clinical experience in addition to skills in OHS; has sufficient time available to assist with staff training and to regularly walk through wards to support staff in their manual handling efforts and reinforce correct procedure
- Availability of **sufficient equipment** which reduces worker injuries and increases patient safety
- More internal **collaboration between hospital departments** (OHS and Quality/Risk areas that collect patient outcomes)
- **Legislative and/or policy support** possibly via WorkSafe. Participants felt it would be extremely beneficial if patient manual handling coordinators were mandatory in hospitals and WorkSafe provided guidelines on best practice for hospitals in staff training, safety management and compliance.

1. BACKGROUND AND APPROACH

Healthcare workers experience some of the highest rates of nonfatal occupational illness and injury, including work-related musculoskeletal disorders (MSD), fatigue and burnout.¹² Evidence has consistently shown that safe patient handling interventions and programs result in fewer and less severe injuries to healthcare workers and reduced staff sickness absence. There is also increasing evidence demonstrating the connection between worker safety and patient safety.¹³ For example, evidence suggests that the benefits of MSD-related occupational health and safety (OHS) interventions extend to patient outcomes, particularly in relation to improved pressure care, less skin tears, reduced length of stay, increased patient comfort, mobility and satisfaction¹⁴⁻¹⁶ (ISCR Project 164).

The growing evidence that employee well-being affects patient safety, both directly and indirectly, suggests that healthcare organisations should be concerned with safety for both patients and workers. Interventions that can simultaneously benefit patients, employees, and the healthcare organisation as a whole present an opportunity to integrate patient and worker safety activities and investments.

A scoping review of research evidence, undertaken for WorkSafe in 2015, demonstrated that there is a relationship between interventions to reduce musculoskeletal injury for hospital staff and improved patient outcomes. A scan of current and emerging practice in relation to preventing MSD and improving worker safety is needed to identify initiatives being implemented and current best practice.

1.1 Purpose

This project has two components (an evidence review and environmental scan) and will inform WorkSafe Victoria's future approaches to supporting worker and patient safety. This Environmental Scan component aimed to identify new and emerging patient manual handling initiatives designed to prevent worker musculoskeletal disorders that have had a subsequent impact on patient safety.

1.2 Approach

This scan was conducted in September and October 2017 and comprised 1) a desktop scan of 17 organisations, and 2) key informant interviews with patient manual handling coordinators and/or OHS managers of 14 healthcare organisations.

For the desktop scan, a review of the online resources made publically available by public and private hospitals was conducted. Resources included both primary and secondary information sources including:

- Primary: Existing work and research in this area, annual performance reports, strategic plans, policy and planning reports, work program and initiatives reports, government papers and proposals and press releases.
- Secondary: Industry standards and trends (international and national), industry practices and activities in the sectors, current and emerging government legislation and policies.

For the key informant interviews, we included large public and private healthcare networks, a smaller country public hospital, not-for-profit aged and home care, as well as disability care.

The interview schedule focused on the following issues:

- What the initiatives were
- Why they were implemented

- How they were developed
- What roles were involved
- How successful they were.

The barriers and facilitators to successful patient manual handling were identified and how the approaches have changed over the years examined. The gaps that the manual handling coordinators would like to address in the future and emerging initiatives that they were aware of were also documented.

Organisations involved

The healthcare organisations involved in this report are listed in Table 2 below. They comprise a mix of public, private and not-for-profit healthcare organisations in Australia. A total of 17 organisations were initially identified from the desktop scan and ten were invited to participate in a 45-60-minute interview via teleconference. Organisations were selected to provide insights across different locations around Australia.

As the invitation to participate also went out to a Safe Patient Handling Special Interest Group, five other organisations volunteered to take part in this project. During the five-week interview period, 14 organisations and three subject matter professionals were interviewed.

Three healthcare organisations with comprehensive safe patient handling initiatives are featured as case studies in Section 5 of this report.

Table 2. Organisations included in this Environmental Scan

Healthcare organisation	Location	Type of service	Desktop Scan	Interview
Alfred Health	Victoria	Public	✓	✓
Barwon Health	Victoria	Public	✓	✓
Bendigo Health	Victoria	Public & Private	✓	✓
Bolton Clarke	Queensland	Not-for-profit		✓
Calvary Health Care	Victoria	Public	✓	
Eastern Health	Victoria	Public	✓	✓
Epworth HealthCare	Victoria	Not-for-profit	✓	✓
Epworth Geelong	Victoria	Not-for-profit		✓
Kilmore & District Hospital	Victoria	Public		✓
Liverpool Hospital	New South Wales	Public	✓	
Manning Base Hospital	New South Wales	Public	✓	

Healthcare organisation	Location	Type of service	Desktop Scan	Interview
Mercy Health	Victoria	Public	✓	✓
Monash Health	Victoria	Public	✓	✓
Nepean Hospital	New South Wales	Public	✓	
Northern Health	Victoria	Public	✓	✓
Peninsula Health	Victoria	Public	✓	
Ramsay Health Care	New South Wales	Private	✓	
Royal Children's Hospital	Victoria	Public		✓
Royal Melbourne Hospital	Victoria	Public	✓	
St Vincent's Hospital	Victoria	Public	✓	✓
The Tipping Foundation	Victoria	Not-for-profit		✓
Victoria Ambulance	Victoria	Public	✓	

References: 1-11

2. CURRENT PATIENT MANUAL HANDLING INITIATIVES

2.1 Findings

The patient handling coordinators have implemented many initiatives over the last five years which are directly addressing worker injuries due to manual handling of patients. These initiatives generally included updated training and competencies, new equipment and updated procedural documents, as well as other initiatives specific to organisations.

Why did the initiatives come about?

The initiatives and changes were introduced for the following reasons:

- Large number of staff injuries as a result of patient manual handling
- High costs of these injuries
- WorkSafe improvement notices and risk of being prosecuted by WorkSafe
- Legislative requirement to provide safe working place for staff and safe living environment for patients
- Staff training numbers were low and some staff considered it a 'tick and flick' requirement
- Programs required modifications to be more relevant for particular organisations
- Changing demographics with now an increased number of bariatric patients
- Although in most cases the initiatives were introduced to address staff injuries, in one healthcare network it was also to help reduce pressure sores in patients and promote independence

Key roles involved in implementing the initiatives

Patient manual handling coordinators (also called Smart Move coordinators or No-lift coordinators) were identified as playing a key role in the implementation of these initiatives. In some hospitals, there may be 2 or 3 people in this role or assisting this role, often part-time. Coordinators also spend time investigating patient manual handling injuries, closing off incident reports and running refresher sessions if needed. This informs future training sessions, procedure updates and equipment needs.

Usually, the patient handling coordinator role is overseen by the OHS manager who provides support and in some hospitals may also help with updating the executive group, advocating business cases, making sure that training is being done across the organisation and introducing a model of accountability.

Other roles involved in the implementation of the initiatives included:

- Senior Executives and Program Directors
- For those that use the Train-the-Trainer model, the trainers/facilitators/nurse educators (up to 110 in number)
- Managers of wards
- Allied Health departments
- Equipment maintenance people/facility people/building design group for new buildings
- Procurement team for equipment and finance
- External trainers or physiotherapists
- Staff in the Falls Prevention Team and Skin Integrity Team.

How have the initiatives been developed?

- Exploring injury causes in data system and claims data
- In consultation with OHS managers, managers of the wards, staff and sometimes consultants
- Addressing problems in training e.g. methods taught in training not applicable in real situation
- Through research and discussions of what other hospitals were doing. Many of the patient handling coordinators are involved in Patient Manual Handling special interest groups, which helped them keep up to date with what was happening in other hospitals.
- Reviewing the training resources and materials
- Auditing of patient handling equipment.

What are the current initiatives?

i. Equipment

All of the hospitals included in the scan used a variety of manual handling and pieces of equipment, such as slide sheets, HoverMatts, HoverJacks, and hoists, either with overhead tracking or portable hoists. Table 4 describes some of the equipment used. These varied in number between hospitals with the more well-resourced hospitals having greater access to equipment. Newer hospital buildings tend to have more overhead tracking for hoists, although some older buildings have had it retrograde fitted. In addition, some hospitals and aged care centres used other equipment such as HT rollers, stadies and special electric wheelchairs.

Training in the use of manual handling equipment was generally provided in annual staff training and competencies. Some hospitals produced videos that could be accessed by staff at any time, or offered special training.

Regular audits of patient manual handling equipment were undertaken, and some hospitals now have an online directory to locate patient manual handling equipment within the hospital.

Issues related to ageing equipment and specialised equipment for bariatric patients emerged in the interviews. Some healthcare services reported ageing equipment put staff and patient safety at risk. For example, some patient beds were 20 years old and their castor wheels did not move smoothly, requiring additional force to push. These beds also had a single side rail which can lead to falls. It was considered that replacing old beds with newer wider beds that have a split side rail and new mattresses would address risks relating to patient falls, pressure injury care and the staff's ability to transport beds.

Many hospitals perceived an urgent need for bariatric-specific equipment and rooms due to changing patient demographics. Some hospitals had modified rooms and equipment for bariatric patients in place that included beds, chairs, overhead tracking and bathroom setup. Bariatric kits have been developed as well as a deceased bariatric pack. Even the Royal Children's Hospital has seen an increased need for bariatric equipment since the new building opened six years ago.

'The Utopia for me would be not having to physically touch a patient in order to move them, that you have got equipment in place to actually do all that for you. I know that is Utopia...That's where we should get' Director OHS and Emergency Management, Eastern Health

Table 3. Patient manual handling equipment

Equipment	Use and description	Healthcare Services using the equipment [^]
HoverMatt Air Transfer System	Lateral patient transfers and patient repositioning. The mattress - and the patient - float on a cushion of air, enabling safe patient transfer without lifting or straining. Virtually eliminates injuries related to lateral transfers and repositioning, increases patient comfort and safety, and reduces skin shear and bruising.*	All
HoverJack Air Patient Lift	Enables safe lifting of fallen patients. The HoverJack consists of four chambers inflated sequentially to lift patients from floor to bed or stretcher in a supine position, maximising patient comfort and minimising risk of injury to both patient and caregivers.*	All
Hoists	Portable hoists, or ceiling tracking for hoists. A variety of slings are available to use with the hoists. These include repositioning slings and walking harnesses.	All
Slide sheets	Used for some time, but newer procedures require at least two people to use at the same time rather than one.	All
Pelican slide and turn sheet	Eases patient turning. Patient can sleep directly on top of the breathable sheet. Patients can be turned or repositioned easily with reduced need for contact. Preservation of fragile skin.*	Barwon Health
Stedy aid	A mobility-promoting support tool to encourage independent standing among mobile patients. Patients can be raised from a bed, chair, toilet or wheelchair for transfer or transportation. Promotes mobility and early mobilisation, helping them gain important physical and psychological benefits.*	The Kilmore and District hospital
Sara Stedy	With a number of improvements from the Stedy aid, the Sara Stedy™ helps to minimise manual handling in a wider range of care environments. An increased inner width, a pivoting divided seat, pedal-operated chassis leg and a higher safe working load of 182kg enables lifting of bariatric patients.*	Epworth Healthcare
HoverApps HT rollers	Inflatable lateral turning device for immobile patients that eliminates manual lifting and positioning. Can be used by a single worker and assists with daily nursing care that requires patient turning. The gentle turning motion also helps reduce friction and shearing associated with repositioning.*	Currently being trialled at RCH in the ICU.

Equipment	Use and description	Healthcare Services using the equipment [^]
Power beds	A motorised bed that can be repositioned into seated position. Limits patient transfer, enhances patient comfort and reduces manual handling for staff.	Royal Children's Hospital
Bariatric beds	Beds and mattresses designed for bariatric patients.	RCH currently hiring bariatric beds but looking to purchase
ArjoHuntleigh Maxi Transfer Sheet for bariatric patients	Combined bed linen and sling, used for lateral and in-bed positioning. Strong thin lightweight material increases patient comfort, especially those with pressure injuries. Can remain beneath the patient between handling tasks, reducing patient handling time. Available in regular or wide versions with a Safe Working Load of 272kg.*	Barwon Health
Other bariatric equipment	Bariatric-specific fridge, body bags and HoverMatts for body transfer to the mortuary.	RCH
Electric wheelchair	European model electric wheelchair, reaches normal walking speed, chair design increases patient comfort, greater storage.	Mercy Health Used in hotspots with high level of patient movement, eg. transfer from ED to wards.
Emu walker	A walker/stander designed to lift weight bearing patients. Operated by a hand held electric controller.*	Epworth Healthcare
Bed movers	Single-handed move patients safely. Reduces staff muscle and back strains.	Epworth Healthcare
Leg lifters	Leg lifters assist a user to lift their legs onto or off of a bed or into or out of a vehicle. A rigid loop on the end holds the foot and a soft loop at the opposite is the handle.	Epworth Healthcare Alfred Health
Powered Stretchers	New powered stretchers which will make moving patients safer and easier for paramedics will be fitted in all Ambulance Victoria vehicles over the next two years. The new stretchers will also deliver a higher quality and more comfortable experience for patients. ¹⁶	Ambulance Victoria

* Information obtained from manufacturers' websites

[^] Likely to also be used in other healthcare services but not discussed during the interview

ii. Equipment tracking

Regular audits of patient manual handling equipment are done and some hospitals now have an online directory to locate patient manual handling equipment within the hospital. One hospital has a paging system to get equipment delivered rapidly to where it is needed.

iii. Policies and procedures

Some hospitals have developed or revised patient handling policies. When new equipment is purchased procedures are written and, sometimes, videos are produced in-house to demonstrate correct technique. These provide the baseline of how things should be done to ensure equipment use by all staff is consistent.

'It needs to be written down or it doesn't happen' Safe Manual Handling Coordinator, Bendigo Health

iv. Patient handling committees

Some hospitals have convened or reinstated patient handling committees. Committees include representation from the hospital executive, as well as management and individual departments. The key functions of committees are to review patient handling incidents and trends, discuss issues and monitor training levels. It was thought that inclusion of senior management on the committee allowed for increased awareness of manual handling issues amongst the hospital executive.

"The working groups definitely help in terms of patient handling. A new model has been introduced to monitor performance. Accountability helps... restructured our OHS committee as well to ensure that someone at the Director level is chairing those committees. We have got the right group of management, a lot of engagement in those meetings." Director Workforce Safety, Barwon Health

vi. Training

Most organisations have developed a combination of education, training, and competency assessment related to patient manual handling (Table 3). Training is delivered to clinical staff when they commence working with the organisation and subsequently on an annual basis. This includes practical training and sometimes online training. Some hospitals originally only used online training with videos and found this was not very successful based on the large number of patient handling injuries. Now all hospitals include some practical training, either with online or group-based education sessions. Annual training sessions are also used to update staff on equipment purchases and new or updated resources, such as safe operating procedures. Some healthcare providers also train medical, physiotherapy and nursing students in safe patient handling.

Those healthcare services that use online training have developed updated videos on generic or specialised procedures, and show the right and wrong way to do procedures. These are used either in their annual training or as a refresher on key procedural steps and processes. Some hospitals have used their own staff in the videos which has been well received, as the training was considered relevant and targeted.

For practical training, all but two healthcare networks included in the scan use a Train-the-Trainer model, mostly adapted from the *O'Shea No Lift Patient Handling System* developed by Louise O'Shea.

The patient handling coordinators train from around nine to 110 trainers (also called facilitators or champions) who then train staff in their area. Nurse educators have been used successfully as trainers in some hospitals.

St Vincent’s hospital has moved away from the Train-the-Trainer model and now employ three dedicated trainers. Training across the hospital was considered to be more consistent with just three trainers and resulted in an 80-90% training rate with staff receiving four hours of training annually. This model presents its own challenges when there are thousands of staff to train. Some hospitals are currently conducting a review of their training to ensure it is the best possible for their circumstances. Some hospitals are considering adopting a model similar to the one employed at St Vincent’s, but for many it is not practical. Other hospitals have considered using a Train-the-Trainer model but also at times having the manual handling coordinators present to support the trainers. Some hospitals reported using a Train-the-Trainer model in addition to patient handling coordinators providing regular support to staff on wards. The coordinators walked through the wards on a regular basis to offer support, education, reinforce what is learnt at training and to respond to questions.

Across the hospitals included in this scan, training has become increasingly practical. Some hospitals have staff act as patients and are put in slings to increase their understanding of the patient experience. Two hospitals have a bariatric suit that staff can wear to understand the challenges faced by bariatric patients. Other hospitals reported using bariatric dummies weighing 200kg for nurses to handle. Some hospitals create real-time simulations of clinical situations including emergencies. This type of training has been found to be rich in learning as many stories are shared between staff as they find a solution to the situation together.

Table 4. Patient handling training approaches for staff across hospitals

Organisations	Train-the-Trainer model	Number of trainers	Practical component	Online component
Alfred Health	✓		✓	
Barwon Health	✓	80 for 3500 staff; 5 key expert trainers with higher proficiency and also deliver new staff training	✓	✓
Bendigo Health	✓		✓	✓
Bolton Clarke	✓	1-2 facilitators from each residential aged care	✓	✓
Eastern Health	✓	100	✓	✓
Epworth Geelong	✓		✓	✓
Epworth Healthcare	✓		✓	✓
The Kilmore and District Hospital	✓		✓	✓
Mercy Health	✓		✓	
Monash Health	✓	9	✓	✓

Organisations	Train-the-Trainer model	Number of trainers	Practical component	Online component
Northern Health	✓	80	✓	
Royal Children's Hospital	✓	110	✓	✓
St Vincent's Hospital		3 for 2500 staff	✓	
The Tipping Foundation			✓	

vi. Monitoring system for tracking training

A monitoring system for tracking which staff members have been trained has been developed by a number of hospitals. This accountability model with a new statistical program gives accurate numbers on how many from each ward have completed their training. At one hospital, this information goes to the Executive with the responsibility then pushed down to ward managers to enforce the program.

vii. Other initiatives

The environmental scan identified a number of other initiatives that have been or are currently being implemented.

Leadership walk: Two hospitals have implemented a process whereby every month a member of the Executive teams up with an area manager, a work area health and safety representative and a member of the OHS team and do a walk around the wards. This activity has identified patient handling issues. The presence of a member of the Executive on the walks ensures that improving processes is given a high priority.

Project with dorsaVi at Monash Health: This project involved putting monitoring pads on some staff members to measure muscular contractions while staff performed daily tasks and to monitor the stress on the body at different times during the tasks. This allowed ergonomic modifications to help the staff members move more safely.

An online physical assessment tool called ASSiST has been developed by The Tipping Foundation who provide disability support in community and homes, and is currently being implemented. It is designed to be used by managers to review their disabled clients' physical support needs and identify musculoskeletal injury risk to staff based on the client's physical abilities and equipment being used. It presents front-line managers with a range of control strategies. ASSiST helps to maintain a level of consistency and minimum standards where environments are highly varied, such as in a person's home. Depending on client physical support needs they can ensure the correct equipment is in place for the safety, comfort and function of clients and staff.

Bolton Clarke reviewed and modified the patient manual handling program so that client handling techniques can be implemented for at-home support, such as community nursing and carers who visit homes.

The Kilmore and District Hospital hosted a Manual Handling Week during which time education and practical sessions were delivered to staff and annual competencies completed.

A bariatric study day was developed by Alfred Health and aimed to build up clinicians' confidence in their care for patients weighing 200-300kg. The study day included a hands-on workshop in bariatric management and focused on manual handling, nutrition, pressure, wound management, and the prevention of patient deterioration.

A bariatric working group has been formed which advocates for more bariatric rooms and equipment, as opposed to the minimum set by the Government.

Bendigo Health has developed a deceased bariatric pack to facilitate the transfer of deceased bariatric patients from bed to trolley to coffin, using the same sling with overhead tracking throughout the process without having to physically move the patient.

Success of implementation of initiatives

There was a general lack of measuring the success of both implementation of the initiatives and the initiatives themselves. Despite this, the patient handling coordinators discussed their insights into implementation:

- There is variation in the acceptance and correct use of new pieces of equipment although in general most staff adopted them well.
- It can be difficult for coordinators to know whether staff are using equipment on the floor as they have been trained because of the large number of staff and limited time. Ideally, they would like to follow up with coaching on the floor.
- Some hospitals felt that they had enough equipment, while others believed they did not have the funding for sufficient equipment. The approaches for assessing equipment needs was not described.
- Rates of training had increased over time, and this was supported by data from some hospitals.

“Just in time coaching and training ... where you have got someone at the bedside as a task is happening and they are coaching. We put forth a ratio, if every ward has someone who is upskilled in patient handling to the trainer level, one in every ten employees, that it will actually get to a point that it just gets embedded. As they are doing things, they are getting coached, they are getting feedback, they dealing with dynamic risk assessment issues that come up with patients. That was our Utopia...”
Certified Professional Ergonomist and Physiotherapist

Impacts of the initiatives on staff safety

Most healthcare services interviewed had conducted no formal evaluation on any individual initiative or on any single piece of equipment used. Often, changes in training and new equipment purchases overlapped, making it challenging to assess the impact of individual interventions. Evidence of the impact of patient handling initiatives were based on changes in staff injuries and WorkSafe Victoria claims and were available from six hospitals (see Table 5).

Overall patient manual handling initiatives were found to have the following impacts on healthcare workers:

- Decrease in the number of manual handling injuries, particularly back injuries in nurses. Now there are occasionally shoulder or wrist injuries, possibly due to the use of portable hoists or slide sheets or other push or pull actions.
- Decrease in WorkSafe claims and reduction in premiums
- Reduction in severity of injuries
- Reduced number of manual handling claims in VIHMs
- For one healthcare service, injury rates increased due to staff not using or misusing new equipment or during the treatment of more challenging patients

Other participants noted a number of benefits, based on their own perceptions of the effectiveness of the initiatives including: an improvement in safety culture, staff knowledge of safety, staff knowledge of available equipment and safe operating procedures.

'Staff were reporting that their backs weren't sore. It was normal for them to have a sore back, aches and pain. The staff were reporting that this wasn't an issue anymore.' Senior Safety and Wellbeing Adviser, Bolton Clarke

Table 5. Changes in patient manual handling injuries since introduction of initiatives

Healthcare Service	Outcome and description	Change
Alfred Health	Emergency department – number of staff assessed for patient manual handling competency	Improvement of 10% to 100% – A reduction in staff injuries from 3 per year to 1 per year
	Radiography department – injuries	Decreased from 6 injuries to 0
	Riskman reporting	Increased reporting
Barwon Health	Patient manual handling injuries – continued to decrease each year – originally approximately 20 per year (2011/12/13/14)	2015: 5 (75% reduction) 2016: 15 (25% reduction) 2017: 10% reduction in claims compared with 2016 to date
Bendigo Health	WorkSafe claims – since January 2016 there have been 16 patient handling incidences (but only 3 WorkSafe claims) – mostly only need physiotherapy and modified lighter duties and are able to be dealt with in-house, resulted in lower lost time injury.	2012-13 (before initiatives were changed): 12 WorkSafe claims 2013-14: 9 claims 2014-15: 4 claims 2015-16: 3 claims 2017: so far 3 claims
Royal Children's Hospital	Patient handling claims and manual handling support have decreased annually	2014/15: 16 patient handling claims, 4 manual handling client support 2015/16: 4 patient handling claims, 2 manual handling client support

Healthcare Service	Outcome and description	Change
		2016/17: 3 patient handling claims, 0 manual handling client support
Eastern Health	Lost time injury claims have decreased annually	2014: 32 lost time injury claims 2015: 25 lost time injury claims 2016: 20 lost time injury claims 2017: so far 18 lost time injury claims, mostly shoulder
Bolton Clarke	12 months after the program was implemented in 2014 – there was a decrease in incidents, injuries and days of lost time	2014: 45% drop in incidents 2015-16: there was also a reduction in the severity of the manual handling injury – a reduction of 20% was calculated to have saved 313 days of lost time, which amounted to \$47,684 of savings a year.

Three healthcare services completed independent evaluations on patient handling programs or new equipment. These are shown in Table 6.

Table 6. Evaluations of patient manual handling initiatives

Healthcare service	Evaluation
Alfred Health	<p>There was an evaluation of a change in practice with the trauma mat which assessed staff's satisfaction and compliance with the new practice.</p> <p>The evaluators received approximately 100 responses out of 200-300 staff surveyed. The overall results were extremely positive.</p> <p>When comparing pain level when using trauma mat transfer to the previous process on a scale of 1-10 (10 being very painful), the result was between 0-1</p> <p>These evaluation results led to the adoption of the trauma mat transfer to replace the previous process.</p>
Epworth Healthcare	An independent review was completed 5 years ago by David Caple on the program of work. This year another review is being conducted on the overall OHS strategy including clinical manual handling, with a focus on identifying system improvements and benchmarking against other organisations.
St Vincent's hospital	During a critical review of their manual handling program in 2012, St Vincent's had St Vincent's Private do an evaluation of the program to get independent advice. They concluded that St Vincent's Public did not have sufficient human resources for a good manual handling program and the FTE were not sustainable.

Some coordinators stated that formal evaluations were not well integrated into OHS activities. In particular, it was noted that health professionals lacked the training, time or skill to undertake comprehensive evaluation.

“It [evaluation] is not something that is ingrained in OHS professionals.” Group WHS Manager, Mercy Health

A number of healthcare services have set up an in-house treatment program for injured staff with an early intervention return-to-work program. This has encouraged staff to identify and treat injuries early to prevent minor injuries from worsening. This has decreased claim costs and reduced lost time at work as injured staff return to work almost immediately. In some programs staff see their own doctor or physiotherapist, while in others, staff are treated by those within the healthcare network. Staff are able to discuss alternative duties with their managers if required to return to work.

Outcomes of the initiatives on patient health and safety

Only one of the healthcare services had data on the impact of the initiatives on patient safety. The introduction of HoverMatts to reposition patients in an intensive care unit, in combination with the introduction of a Skin Round providing education on pressure injury prevention, resulted in a reduction of pressure injuries from 13 over three months to zero the following six months.

All patient manual handling coordinators perceived the initiatives had a positive impact on patient health and safety. Specifically, patient manual handling initiatives implemented were perceived to be associated with the following outcomes:

- Reduction in skin tears
- Reduction in pressure injuries with HoverMatts and slings, as it was easier to move or roll patients
- Increase in patient confidence in being transferred
- Enhanced patient comfort and independence
- This also has an added advantage for staff because when patients are more comfortable they are less likely to resist and are more cooperative.

“Staff were reporting that they were getting feedback from our patients or residents that they felt safer because of what was happening, that there was more rigour around the practices, but also the staff, the competency and skills of staff, have improved.” Senior Safety and Wellbeing Adviser, Bolton Clarke

Facilitators to good patient manual handling

The following factors were identified by key informants as promoting the success of manual handling initiatives:

Organisation

- Commitment of senior management is critical for supporting and financing of initiatives
- Providing adequate and accessible modern equipment preferably with overhead tracking for hoists. Keeping the equipment in the wards or somewhere where it is easily accessible or available means it will be more likely to be used.
- Patient Handling Coordinator’s ongoing support of staff. Some coordinators are able to walk through the wards every day and can solve problems, take preventative actions and reinforce what was learnt

at training. Most wish they could have more time for this as they see it as important but do not usually have time.

- Ongoing review of whether the program is meeting organisational needs and KPIs, and adapting the program accordingly
- Good engineering department and maintenance to audit and maintain devices
- Organisational culture of “Low risk” appetite

“To make any changes, we need the buy-in from Execs. When the Execs are on board, it filters down to the line managers and line managers make the staff accountable. It needs to be top-down before we can go bottom-up.” Group WHS Manager, Mercy Health

“OHS is always front and centre, well-respected and has good profile within the organisation” Workplace Health and Safety Advisor (Manual Handling), Royal Children’s Hospital

Staff

- Staff awareness, value and respect for patient handling coordinators. This is increased when the coordinators have clinical experience which helps them understand the challenges staff face in real work settings. Some coordinators feel it important to still be working as a nurse to keep up to date with current issues.
- Targeted staff training tailored to the needs of staff that is informed by injury data trends
- Receptive staff

“When they see the processes work, and use them, they appreciate it. Sometimes staff may not be interested or confident to use a new piece of equipment and it may take someone to embrace the change and drive the culture in the team” Safe Manual Handling Coordinator, Bendigo Health

Patients

- Cooperative patients and family members

Barriers to good patient manual handling

Identified barriers to successful implementation of manual handling initiatives included:

Organisation/system

- Quality and Safety Team for the patients and OHS team for the staff operate in silos in many hospitals, so most patient handling coordinators did not have data on changes to patient outcomes from a manual handling intervention. It was felt that an increase in collaborations between the hospital departments would be beneficial for both staff and patients.
- Lack of support from the Executives in some hospitals to endorse and support the initiatives
- Cumbersome reporting system. Victorian Health Incident Management System (VHIMS) is where OHS incidents are reported, but it is a cumbersome system to use and near misses are not often reported. If those near misses had been identified earlier, they could have prevented future injuries. A simple reporting system would encourage regular, accurate reporting of incidents.

- No legislative requirement for mandatory patient handling training or education and lack of recommendation of optimal training frequency
- Lack of collaborations between hospital departments.
- Working in a non-controlled environment including patient homes and in the community poses difficulty enforcing safety standards.
- Lack of communication within healthcare networks.
- Unsuitable hospital facilities and limited guidance for handling bariatric patients eg rooms do not have sufficient space for bariatric patients and the necessary equipment. The narrow hallways can be a problem for handling of bariatric patients. These can also be a problem for sub-acute facilities to which the patients are moved from an acute facility. One coordinator stated that it would be helpful if WorkSafe had guidelines or a standard for healthcare organisations for the handling of bariatric patients.
- Working in a non-controlled environment in patients' homes and in community care poses difficulty enforcing the safety standards for staff.

Resources

- Lack of funding for sufficient equipment. Aging equipment and no money for replacement is a significant problem.
- Insufficient time for the manual handling coordinators to complete required tasks, particularly if part-time positions
- Lack of dedicated training room or equipment. In some aged care facilities training needed to be planned around client care as there was not enough money to buy equipment just for training
- Training costs. For those who have many sites in a number of states in Australia, getting the trainer out to train the trainers is very expensive.
- Inadequate bariatric equipment

Skills

- Failure of nursing and care staff to use the appropriate equipment and in the right way – either because it takes longer to do things the proper way, they are not confident to use equipment, they put their patients before themselves, or they don't have time to go to another ward to find the piece of equipment.
- Difficult to make sure all staff are trained due to high turnover of staff, part-time and shift workers

Patients

- Non-compliance from the patients. For example, staff injuries have been sustained due to non-compliance from patients who were agitated and resisted having a sling on them. This can be a problem particularly in aged care with patients with delirium and dementia.

What have been the changes over the years?

Over recent times system improvements were identified and include the following:

- Hospitals now having a dedicated patient manual handling coordinator(s)
- Manual handling coordinators are more supportive, engaged and hands on than in the past
- Culture of safety has improved

- More understanding and support from Executives, and better reporting means the Executives can have better visibility of OHS issues
- Training is no longer just for nurses and carers, with Allied health staff and relevant students having their own tailored manual handling training
- More emphasis on practical sessions in staff initial manual handling training and yearly updates
- Better standardised procedures and better protocols
- Better equipment which reduces worker injuries and increases patient safety
- Regular audits of equipment and online directory of equipment locations so staff can find it when it is required
- Knowledge of better patient outcomes from the evidence base

Business Cases

Business cases have been written by many of the patient handling coordinators or OHS managers for equipment or positions. Only some have a cost-benefit analysis or figures to support a return on investment. Table 7 shows examples of some business cases that have been prepared.

Table 7. Examples of Business cases in patient handling that have been prepared

Healthcare Service	Business cases
Alfred Health	<ul style="list-style-type: none"> • Installed retro fitted overhead hoist systems. After recording a large number of incidents, nearly \$300,000 manual handling injury costs, a business case was submitted and the rooms retro-fitted with rail systems costing about \$190,000 (this was prior to any manual handling strategy). • Bariatric beds – successful. Purchased two \$50,000 beds • Funding for manual handling equipment – successful, now in the form of the Manual Handling Strategy • Resources for 2x FTE manual handling roles – benched, no success yet so far
Barwon Health	<ul style="list-style-type: none"> • Currently pulling some data together for Chief Financial Officer to remodel the way equipment funding is structured at Barwon Health, in order to make it easier for Department Heads to purchase equipment ad-hoc • Beds to be replaced in an aged care setting. No Claims directly attributable to beds, but beds are aged, lack Trendelenburg (tilt) capability and backrest adjustment, and put staff at risk • At the start of each year, data is presented showing number of patient manual handling claims and average cost/claim to the organisation, as well as patient manual handling risk register which details all the outstanding business cases and risk assessments for patient manual handling equipment that are outstanding. • Emergency department trolleys - There were incidents where staff were injured or patients fell from the trolley. Trolleys were old, the brake functionality was insufficient, no guide wheels, consistent breakdowns and repairs. Only have one bariatric trolley and an increase in bariatric patients means more are needed. • Hoist in the psychiatric aged care facility and rehabilitation facility replaced

Healthcare Service	Business cases
Bolton Clarke	<ul style="list-style-type: none"> One developed every year to pay for an external consultant physiotherapist who trains the trainers.
Eastern Health	<ul style="list-style-type: none"> A new type of bed mover, which is more flexible and adaptable for different beds, to move bed from one location to another
Epworth Geelong	<ul style="list-style-type: none"> Prepared when seeking funds to purchase a new piece of equipment – would have risk assessment and have to be supported by executives
Epworth Health	<ul style="list-style-type: none"> To promote manual handling role for support services May have a business case after the review of the program, when they know what they need to do moving forward
The Kilmore and District Hospital	<ul style="list-style-type: none"> HoverJack business case was initially put on hold due to lack of finances. It took a change of management to one who was more engaged with manual handling issues to approve it.
Monash Health	<ul style="list-style-type: none"> For Allianz Insurance to fund dorsaVi To bring the injury management in-house, included a cost-benefit analysis
Northern Health	<ul style="list-style-type: none"> There was a business case on ceiling hoists with costs benefits analysis but that has been put on hold because of the constructions of new buildings
Royal Children’s Hospital	<ul style="list-style-type: none"> Bariatric equipment case based on organisation need rather than cost-benefit analysis, although hiring has been costly. Mortuary fridge change for bariatric patients
St Vincent’s Hospital	<ul style="list-style-type: none"> Changed the patient handling program training to face-to-face approach – needed an extra full-time equivalent (FTE) staff to train 2,500 staff, a dedicated training room and training equipment. Cost-benefit analysis was done in relation to what St Vincent’s has been spending in the previous years for the manual handling injuries, compared to what they wanted to implement. Releases the trainers from training so that they can concentrate on clinical manual handling Installation of overhead tracking. Used a population trend (aging bariatric population, older building) and what was best practice in Victoria as basis for business case rather than using a cost-benefit analysis.
The Tipping Foundation	<ul style="list-style-type: none"> Development of the ASSiST program in 2013/2014

3. GAPS IN PATIENT HANDLING AND EMERGING INITIATIVES

Identified needs and existing gaps in patient manual handling approaches

A large gap for all healthcare networks was the linking of manual handling initiatives with patient safety outcomes. This data would strengthen business cases and other applications for resources. Many patient handling coordinators want to do or are currently doing reviews, either of their whole system, their entire training framework, their key performance indicators, their online resources, or reviewing the ways correct patient handling practice can be better integrated as business as usual. These should include correlation of patient safety data to initiatives, and analysis of the factors that can influence the success of the initiatives.

All patient handling coordinators identified areas of patient manual handling they consider important to address in the future.

These gaps included:

- Getting out to the wards more, mentoring staff and identifying problems early
- Co-delivering training with the Ward Trainers, and a buddy system for trainers in areas where there have been more incidents
- Extra training of staff would be helpful, or incorporation of scenario-based training. This training incorporates real life scenarios, and gives it a more real context.
- Revision of online resources and incorporating more manual handling work situations
- Time motion studies to investigate how long it really takes to move a patient using the correct versus the incorrect way, to show if nurses are really saving that much time
- With many staff working across numerous hospitals in the precinct, benchmarking skills taught across organisation may allow for accreditation of patient manual handling skills across precinct in the future
- For many hospitals, manual handling skills and equipment for bariatric patients is a critical gap in optimising OHS.

Overall, most of the gaps discussed required extra staff resources as current workloads were noted as being extensive.

“Extra staffing in this area would be great. Victoria is not investing enough in manual handling staff and organisations are understaffed to produce the results that people want out of patient manual handling program – if you don’t put people in the program, you will never get the investment. WorkSafe need to know this.” Move Smart Coordinator, St Vincent’s Hospital

Emerging initiatives

There were two emerging initiatives in other hospitals or countries that were identified as being potentially of interest for the future. A team in California is advocating for early mobilisation patient to shorten length of stay.

In Japan, they are developing the use of robots for patient handling. A nursing-care assistant robot named Robear was released in 2015, a lighter version of RIBA II (Robot for Interactive Body Assistance),

that can lift patients into and out of bed, from a bed to a wheelchair, or from the floor to a wheelchair has been developed. Further improvements are required before it is used clinically.

4. INSIGHTS AND IMPLICATIONS

4.1 Insights

Central to improving patient and staff safety in relation to patient manual handling is having a dedicated patient manual handling coordinator. All healthcare networks involved in this scan consistently recognized this need. Executive commitment for appointing the coordinator role, and supporting their functions across the organisation with resources and funding is also essential for an effective program. Historically, the allocation of resources that allow program coordinators and dedicated staff to implement and sustain programs has been considered to be critical.²⁰

Ideally the patient manual handling coordinator has clinical experience in addition to skills in OHS. They also need to proactively engage across the health service to identify and manage issues as they arise, walk through wards regularly to see and address real-world problems, take preventative actions, and reinforce with staff what was learnt at training. Allowing sufficient time for the coordinator to undertake these activities is a key challenge recognised widely.

Initiatives currently used in practice to improve staff and patient safety related to the following: equipment purchases; equipment auditing and online equipment tracking; developing/updating written policies and procedures; organising manual handling committees; training nurses, carers and allied health staff; and monitoring organisational training levels. These initiatives were associated with fewer and less severe staff injuries, and improved patient outcomes (such as reduced pressure injuries and skin tears), patient comfort and feelings of safety. The initiatives were also associated with a clear improvement in safety culture of nurses and carers. Senior level demonstrations of commitment such as the leadership walks also influenced the success of the initiatives.

Training was a critical element but needs to be tailored and targeted to meet staff needs. Ideally training is also informed by trends in injury data and designed to address the most important issues. All hospitals have found that a practical component of training is essential and scenario-based training is being used by some hospitals and found to be beneficial. Management should also have oversight to monitor and ensure all staff are appropriately trained and this training is regularly updated.

Availability of sufficient equipment which reduces worker injuries and increases patient safety is critical. It was common for the hospitals to have successfully introduced equipment, overhead tracking and portable hoists. However key challenges faced included having sufficient equipment for staff to regularly use and making it convenient to access. Consideration needs to be given to addressing these challenges. Staff uptake of new equipment was best when the equipment was convenient to use and saved staff time. Regular equipment audits and an online directory of patient handling equipment are factors that influence the success of the equipment initiatives.

Importantly, equipment and patient handling skills for bariatric patients was identified as a pressing need and critical gap across the healthcare sector. The issue is compounded in some hospitals with small room size or narrow corridors which does not provide sufficient space for equipment and moving between areas.

Many manual handling coordinators felt that having legislative and/or policy support possibly via WorkSafe would be very beneficial. Mandating the patient manual handling coordinator role in hospitals was seen as a way to remove the constant need to justify the role and would be highly valued if possible. It was also considered to be of value if WorkSafe provided guidelines for hospitals on best practice in staff training, safety management and compliance.

There was an identified need to address worker safety and patient safety through an integrated approach across the hospital. Only one healthcare network had data on the effect of a manual handling initiative on the patients. The literature suggests the success of patient handling initiatives should be measured by both patient health and safety and worker health and safety. Including patient outcomes such as reduced length of stay, fewer pressure sores or falls would strengthen business cases and other applications for resources.

4.2 Conclusion

Introduction of patient manual handling coordinators and supporting them to implement initiatives, including purchasing modern equipment and effective training programs has resulted in a decrease in the number and severity of staff injuries and a perceived improvement in staff safety culture. Data supporting the perceived improvement in patient outcomes is needed. Additional investment in resourcing manual handling programs and providing appropriate equipment will lead to further improvements in staff and patient safety.

5. CASE STUDY: ST VINCENT'S HOSPITAL

This case study provides greater insights into St Vincent's Hospital's approach to patient manual handling and includes an example of a patient manual handling initiative that has a quantified effect on patient outcomes. The case study is a snapshot of the organisation's programs and initiatives relevant to the scope of this project and is not intended to be a comprehensive or exhaustive picture of the organisation's whole approach to safe patient handling.

Organisation overview

St Vincent's Hospital¹⁸ provides medical and surgical services, sub-acute, care, aged care, correctional health, mental health services and a range of community and outreach services. It has close to 6,000 staff, including approximately 900 doctors and 2,500 clinical staff.

St Vincent's "Move Smart"¹⁹ is a patient manual handling training program that aims to reduce the risk of musculoskeletal injuries that are attributed to the manual handling of people through the provision of techniques and equipment, and education for staff.

Move Smart Critical Review

In 2012, the Move Smart team undertook a critical review on their patient manual handling program due to issues which were highlighted after St Vincent's received improvement notices from WorkSafe Victoria. It was found that the existing program using the "Train-the-Trainer" approach had poor compliance of training and the transfer of information from trainers to staff was unsatisfactory. As a result, there were a high number of injuries, with back injuries as the most prevalent, followed by shoulder and neck injuries.

On the basis of "no longer acceptable that nurses are injured caring for patients at our organisation",² the Move Smart team researched and benchmarked what other organisations were doing in Australia and around the world. It took a year to completely restructure the program and get a unanimous approval to allocate funds to the Move Smart Program.

Business case

The Move Smart team prepared a business case for the Board to introduce the following main changes to the manual handling program:

- Refurbish a dedicated training room: A clinical area dedicated to training staff
- Purchase equipment: e.g. hoists, slide sheets, overhead tracking, bariatric simulation dummy
- Increase staff to two full time equivalents (FTE) to improve resources to staff the program and training capabilities

A cost-benefit analysis was also included in relation to what the business had been spending in the previous years on staff manual handling injuries, compared to the cost of the new implementations. The business case was submitted and approved in 2012.

Current initiative

Replacing the "Train-the-Trainers" approach, the Move Smart team now has three trainers who deliver safe patient manual handling training to approximately 2,500 clinical staff. Training now consists of two 2 hour sessions of core tasks in the Move Smart training room. Additional area-specific tasks training is delivered in the wards as necessary. Training modules include education and competency.

Trainers create real-time simulation situations so that staff may learn what is safe practice. For example, staff are taught how to laterally transfer bariatric dummies of 200 kg using different techniques and equipment such as HoverMatts and emergency transfers.

Patient safety and outcome

When there was a spike of injuries related to repositioning of patients at the end of 2016, the Move Smart team did an investigation. The intensive care unit (ICU) was identified as the hotspot in relation to repositioning tasks. A trial to use a HoverMatt to roll patients was initiated.

At the same time, there was also an in-depth study by the skin integrity working group due to high incidence of pressure injuries in the ICU. It has been suggested there might be a positive effect of rolling using a HoverMatt on staff safety as well as a patient skin integrity.

The result of these, in combination with the introduction of a Skin Round providing education on pressure injury prevention, resulted in a reduction of pressure injuries from 13 over three months to zero the following six months.

Key features of the Move Smart program

- Centralised training to maintain consistency and training quality.
- Increased presence in the clinical space to assist staff with patient handling techniques. Move Smart Coordinators not only have qualified clinical background, they are also working clinically and doing nursing shifts.
- Increased one-on-one contact between trainers and staff.
- Each staff member has to take responsibility for attendance at training.
- St Vincent’s is well-invested in equipment such as HoverMatts and more recently with the installation of overhead tracking.

Table 8 describes the outcomes and evaluations of the initiatives at St Vincent’s Hospital, as well as barriers and enablers of implementation.

Table 8. Implementation of initiatives at St Vincent’s Hospital

Implementation elements	Description
Changes	<ul style="list-style-type: none"> • Replaced “Train-the-trainer” approach by having the same coordinators train and assess competency for all staff. • Expanded the previous 45-minute training session into a minimum of 4 hours. • Program is continually evolving. Training is designed and informed by data collected from training and incidences, so that the training is applicable to staff and meets the needs of the hospital. • The Move Smart team now consults regularly with other key stakeholders such as the Skin Integrity Working Group.
Outcomes	<ul style="list-style-type: none"> • Data showed there were a peak of body stressing in 2007 and 2011. Since the rollout of initiative, lost-time due to manual handling-related injuries have diminished. • Staff attendance for training has improved with compliance now sitting at approximately 80 - 90%.

Implementation elements	Description
Evaluations	<ul style="list-style-type: none"> ● Planning to do an evaluation on the initiatives in 2018.
Barriers	<ul style="list-style-type: none"> ● Attitude towards safety is shaped and affected by past experiences, old practices, time pressure or unfavourable work spaces. ● Staff's retention of training techniques ● Coordinator fatigue ● Inadequate bariatric equipment, spaces. ● Cumbersome reporting system for near misses and injuries
Enablers	<ul style="list-style-type: none"> ● Trainers have on-the-floor experience ● Improved uptake when training is provided by someone from the nursing profession ● Flexible training module for staff working in different areas ● The Move Smart team's familiarity with the organisation ● Commitment and support from the Executives

APPENDIX 1: INTERVIEW GUIDE

Guide of interview questions and prompts

Note: The interview questions are designed to provide insight into the current and emerging manual handling initiatives designed to improve worker safety. The scan will also explore the indirect effect of these initiatives on patient safety outcomes.

1. Types of manual handling initiatives:
 - a) What initiatives have been implemented over the past two years to prevent musculoskeletal disorders and improve worker safety? (if nothing within 2 years, has there been anything implemented recently perhaps up to 5 years?)
 - b) What were the main reasons for implementing these initiatives and how were they developed?
2. Implementation of manual handling initiatives:
 - a) How well have the current initiatives been implemented? What are the key roles involved in delivering the initiative? Do they have to work together with other roles?
 - b) What are the challenges and facilitators that you have observed or experienced in implementing manual handling initiatives?
 - c) How has your approach to implementing these initiatives changed over the years? What were the drivers of the changes?
3. Outcomes and impact of manual handling initiatives:
 - a) Have the initiatives implemented been successful? If so, in what way and how was this evaluated? (If no evaluation conducted, anecdotal insights are ok)
 - i. What measures have been used to evaluate their success?
 - ii. What have been the impact of the initiatives on worker outcomes / safety?
 - iii. Was there any independent evaluation? What did it find?
 - b) Have the changes and impacts been sustained?
 - c) Have the initiatives/s had any unintended impacts on workers or patient safety outcomes?
 - d) Have any business cases been developed and/or used in house demonstrating cost benefits to support the funding of initiatives?
4. What has been the most significant change that has resulted from manual handling initiatives implemented in your organisation?
5. Have you identified gaps or opportunities for future manual handling initiatives to help improve worker safety and patient safety? In your organisation? Across the sector?
6. Does your organisation have any emerging manual handling initiatives or programs that are being developed or recently trialed? (If this question has not been covered)
7. Are you aware of any emerging initiatives or programs beyond your organisation in this area, either locally or internationally that would be good to consider implementing?
8. Could we contact you again if needed?

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