

Creating Champions for Skin Integrity

Final Report

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**Encouraging Best Practice in
Residential Aged Care Program**

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Part B – Main messages

- Wounds are a major health issue for residents in aged care settings

Improvements in wound care

- The CSI model achieved changes in practice reflecting increased implementation of evidence based wound management and prevention strategies
- The CSI model resulted in decreased prevalence and severity of wounds in residents
- Maintaining optimal skin moisture balance (i.e. avoiding drying substances or prolonged moisture, applying moisturiser twice per day) is an easily implemented evidence based strategy to prevent loss of skin integrity and wounds such as skin tears and pressure ulcers

Improvements in staff skills

- The Champions for Skin Integrity (CSI) model was able to achieve improved staff skills and knowledge of evidence based wound management
- The CSI model achieved increased staff confidence with wound management and an improved learning culture
- The model resulted in increased staff awareness of their roles in evidence based wound care at all levels (e.g. carers recognised the areas where they could contribute)
- The model addressed both evidence based practice and leadership skills and resulted in improved communication between levels of staff

Processes of changing practice

- A resource kit on evidence based wound management was developed and could be made available to all Residential Aged Care Facilities
- Involvement of all levels of staff, residents and family in education and decision making promotes greater uptake of evidence based practice and continuity of care
- Clinical leadership and management support is crucial for successful changes in practice
- It is important to carefully ascertain the prior knowledge of participants when developing project plans and resources
- Information and education on evidence based guidelines must be adapted to suit different audiences (e.g. carers, residents, health professionals) and take into account the different education and literacy levels of carers and staff
- Undertaking this project has demonstrated to us the importance of keeping resources brief, simple and easily accessible
- Feedback on progress (audit and feedback cycles) helps keep enthusiasm and momentum going, as well as aiding the goal setting process
- Translational work takes time

Part C – Executive summary

Overview

The incidence of skin tears, pressure ulcers and chronic leg or foot ulcers increases with age¹⁻⁴ and is a serious issue in residential aged care facilities (RACFs). This project focused on preserving skin integrity through the application of evidence to prevention, assessment and management of wounds. The aim of this project was to utilise evidence based strategies to preserve skin integrity and increase implementation of evidence based wound management through implementation of the Champions for Skin Integrity (CSI) Model of practice.

To achieve these aims the project initially obtained contextual data on how the participating RACFs assessed, managed and prevented wounds (specifically venous leg ulcers, arterial leg ulcers, diabetic foot ulcers, pressure ulcers and skin tears) by quantifying the prevalence of these wound types and undertaking clinical audits, surveys and interviews to assess resident and staff attitudes and knowledge regarding wound management in RACFs. The project team developed, implemented and evaluated an evidence-based model of practice (the Champions for Skin Integrity Model) to promote transference of evidence-based guidelines into practice. As part of the CSI model, a package of resources - the RACF Wound Management Education and Self-evaluation Resource Package – was developed, trialled and evaluated.

The CSI model

This project utilised evidence based strategies to promote the transfer of evidence into practice through implementation of the Champions for Skin Integrity Model of wound management. Central to the model were strategies drawn from systematic reviews of the effectiveness of guideline dissemination and implementation strategies.⁵ The CSI model involved:

- multifaceted interventions, which are reported to be more likely to be effective than single strategy interventions⁶
- educational materials and easy access to information^{5,7-10}
- evidence provided in a form that can be easily used in practical situations¹¹
- hands-on skill development sessions⁸
- audit and feedback cycles including modification of resources according to feedback^{5,6}
- consumer-directed interventions⁵
- clinical decision making support systems and documentary aid or reminder systems^{5,6}
- a supportive environment with local Champions and management and resource support.^{7-9,11} In the CSI Model, teams of 'Champions' were identified to become key points of contact for staff and the project team.

Outcomes

Following a six month implementation phase, evaluation via surveys, clinical audit and interviews found significantly decreased prevalence and severity of wounds in residents, improved staff skills and knowledge of evidence based wound management, increased staff confidence with wound management, increased implementation of evidence based wound management and prevention strategies, and increased staff awareness of their roles in evidence based wound care at all levels. A resource kit on evidence based wound management was developed and could be made available to all Residential Aged Care Facilities. Undertaking this project demonstrated to us the importance clinical leadership and of keeping resources brief, simple and easily accessible.

Implementing the Evidence

There are a large number of evidence based guidelines addressing various aspects of wound management and/or different types of wounds. As the literature reports skin tears, pressure ulcers and chronic leg ulcers are the most frequent wounds found in residential aged care settings, the primary evidence based guidelines implemented in this project included:

- Australian Wound Management Association (2010) *Standards for Wound Management*. West Leederville WA: Cambridge Publishing.
- Royal College of Nursing (RCN) (2006) *Clinical Practice Guidelines: The nursing management of patients with venous leg ulcers*. London: Royal College of Nursing.
- Scottish Intercollegiate Guidelines Network (SIGN) (2006) *Diagnosis and management of peripheral arterial disease: A national clinical guideline*. Edinburgh: SIGN.
- International Working Group on the Diabetic Foot (IDF) (2007) *International Consensus on the Diabetic Foot. Practical Guidelines on the Management and Prevention of the Diabetic Foot*. Amsterdam: IDF.
- Royal College of Nursing (RCN) (2005) *The management of pressure ulcers in primary and secondary care. A Clinical Practice Guideline*. London: Royal College of Nursing.
- Carville K. et al. (2007) STAR: A consensus for skin tear classification. *Primary Intention*, 15: 18–28.

These clinical practice guidelines and international consensus documents were supported by a range of other guidelines including wound bed preparation and evidence on strategies for prevention of wounds. The existence of a large body of evidence in the literature created a challenge to translate the evidence into education and practice for the multi-disciplinary and diverse skills profile of staff in RACFs. To address this issue the project team developed a suite of Guidelines Summaries which provided a simple summary of evidence based guidelines from multiple documents in one 2-3 page document for each topic. All education and resources for the project were then based on these summary documents.

The change management process for this project utilised an action research approach based on involving all participants, collecting context data, planning, disseminating and implementing, evaluating and adapting in a cyclic process. The process of implementation involved three main phases:

- a) obtaining context information, establishing relationships and roles, and development of the CSI Model and RACF Wound Management Education and Self-evaluation Resource Package;
- b) implementation of CSI Model and education resources over a six month timeframe; and
- c) evaluation activities, adaptation of the model and setting long term goals for sustainability.

The model was implemented in seven participating RACFs, ranging from 20 – 495 nursing home and hostel beds in each facility and situated across metropolitan, outer metropolitan, regional, rural and remote locations.

Outcomes

Evaluation of outcomes from the project found the implementation of the Champions for Skin Integrity model of care resulted in:

- improved implementation and documentation of evidence based practices for prevention, assessment and management of wounds
- significantly decreased prevalence and severity of wounds in residents
- improved staff confidence and knowledge of evidence based wound management
- increased awareness of residents, family, carers and RACF staff of evidence based wound management and prevention strategies
- a resource kit on the CSI model and evidence based wound management was developed and could be made available to all Residential Aged Care Facilities

In addition, project activities demonstrated:

- wounds are a major health issues for residents in aged care settings
- involvement of all levels of staff, residents and family in education and decision making promoted greater uptake of evidence based practice and continuity of care
- clinical leadership and management support was crucial for successful practice changes
- the importance of keeping resources brief, simple and easily accessible

Issues found difficult to address within the scope of the project were:

- the breadth of the topic – multiple strategies and changes in practice were required to address evidence based management and prevention of all common wound types. Facilities were encouraged to focus on a priority area in their RACF (identified from the surveys and audit at the beginning of the project) e.g. skin tears, and concentrate on practice changes in this area.
- role definitions for staff – perceptions and understanding of roles in implementing wound management and prevention activities varied across facilities and were not always clearly defined
- it was a challenge for staff, and in particular visiting Link Clinicians, to find time to attend meetings to review progress and plan future strategies. Teleconferencing was sometimes successful for rural facilities conducting multidisciplinary Wound Care Network meetings.

Conclusions and Recommendations

This project aimed to utilise evidence based strategies to preserve skin integrity and increase implementation of evidence based wound management. The project was successful in achieving increased implementation of evidence based wound management, assessment and prevention strategies; decreased prevalence and severity of wounds in residents; and development of a resource kit on the CSI model and evidence based wound management for RACFs. In addition staff reported improved skills and knowledge and increased awareness of their roles in management and prevention of wounds. Factors contributing to successful implementation of the CSI model were clinical leadership, provision of easily accessible resources, and a multi-tiered approach addressing all members of the RACF communities with regards to information, education, resource development and feedback.

Recommendations include:

- Wounds should be recognised as a major health issue for residents in aged care settings and be monitored regularly
- The CSI model or a similar strategic approach should be implemented in RACFs to facilitate the uptake of evidence based wound management and prevention
- The resource kit on evidence based wound management should be made available to all Residential Aged Care Facilities and interested parties
- Resources to facilitate evidence based practice should be brief, simple and easily accessible
- There are a number of easily implemented evidence based strategies (e.g. moisturising skin twice per day, padding equipment, daily ankle and calf muscle exercises, regular position changes) which can be undertaken by staff, carers, residents and/or family members to prevent common wounds such as skin tears and pressure ulcers
- All members of RACF communities (i.e. residents, family, carers, staff, surrounding community link clinicians) should receive information on evidence based wound management and prevention strategies and be aware of who their local wound expert contacts are within the facility

Part D - Main Report

1 Introduction

1.1 Background

The incidence of skin tears, pressure ulcers, chronic leg ulcers and diabetic foot ulcers increases with age¹⁻⁴ and this therefore is a serious issue in residential aged care facilities. In particular, skin tears are common amongst frail older or disabled persons.³ Reasons for this are related to pathophysiological changes that occur in ageing skin and the increased incidence of falls and manual handling requirements amongst elderly frail or disabled persons.³ Risk factors include visual impairment, impaired mobility or balance, altered mental status and further changes in skin condition due to medications such as steroids or anticoagulants.³

In Australia, Everett and Powell¹² found skin tears constituted 41.5% of known wounds amongst residents (with an average age of 80 years) in a 347 bed long-term care facility, and on average, 22 skin tears occurred each month.¹² Similarly in 1999–2000, an audit of Department of Veterans Affairs clients with wounds by a community nursing organisation found that skin tears accounted for 20% of all known wounds.³

Pressure ulcer prevalence has been reported at 16–23% in combined hospital and residential aged care populations^{13,14} and chronic leg ulcers affect 1–3% of population aged over 60 years, with incidence increasing up to 5-10% of the over 80 years age group.^{1,2} Studies on patients with chronic leg ulcers have reported the average duration of these ulcers is around 12–13 months,^{15,16} 60–70% of patients have recurrent ulcers,¹⁷ 24% are hospitalised because of the ulcers and most people suffer from the condition for an average of 15 or more years.¹⁶

Chronic wounds are a significant cause of pain, decreased functional ability and poor quality of life, as well as a burden on carers and health system resources.^{1,18,19} Residents of residential aged care facilities are at high risk of suffering with skin tears, pressure ulcers and chronic wounds; and are thus in need of appropriate evidence based assessment, prevention and management strategies.

Past work in this area identifies that more emphasis is needed on translating evidence and research findings into practice. A gap exists between the evidence and clinicians' decision making practices for persons with chronic wounds.^{15,20,21} Although strong evidence exists for wound management and best practice guidelines have been developed to promote healing and maintain skin integrity,^{4,22-24} evidence–practice gaps have been frequently reported in appropriate assessment and timely use of best practice treatments,^{20,25-28} for example,

- Around 70% of chronic leg ulcers are caused by venous disease and compression therapy is the standard treatment,²⁹ yet 40–60% of venous leg ulcers in Australia do not receive adequate compression^{27,30}
- A population-based study performed in Australia suggested that preventive foot screening is poor, with less than half of the diabetic population reporting a regular foot examination.³¹
- In a study by White,³² it was found that registered nurses involved in the delivery of clinical care to residents in high care residential aged care facilities did not have a policy to record skin tear injuries on an incident form (20%); less than 50% recorded the shape of the skin tear, amount of skin loss, depth of wound or condition of surrounding skin; 89% indicated they would use a skin tear assessment and documentation chart if made available; and only 24% indicated that their facility had a 'standard' for treatment and management of skin tears.

A number of reasons have been identified as contributing to this evidence-practice gap, including lack of information and skills,²⁵ poor communication^{25,26} and limited access to evidence on effective assessment, referral and treatment pathways of care to manage this chronic condition.²⁵

Aim

The aim of this project was to implement sustainable evidence-based wound management in demographically diverse Australian Government funded Residential Aged Care Facilities. Specifically, the aim of the project was to focus on enabling staff from RACFs to preserve skin integrity through application of evidence to assessment, prevention and management of wounds and preserving skin integrity.

The objectives of the Champions for Skin Integrity project were to:

1. Improve the skin integrity of residents in RACFs.
2. Enhance the knowledge, skills and attitudes of care staff towards skin integrity assessment, prevention and management.
3. Obtain contextual data on how RACFs currently assess, manage and prevent wounds (specifically venous leg ulcers, arterial leg ulcers, diabetic foot ulcers, pressure ulcers and skin tears) by quantifying the prevalence of these wound types and undertaking clinical audits, surveys and interviews to assess staff attitudes and knowledge regarding strategies to assess, manage and prevent common wound types in the RACFs.
4. Develop, trial and evaluate a RACF Wound Management Education and Self-evaluation Resource Package which would contain: audit and knowledge survey tools; summaries of evidence based guidelines; education materials; clinical decision making aids and implementation processes.
5. Develop, implement and evaluate an evidence-based model of practice (Champions for Skin Integrity Model) to ensure transference of evidence-based guidelines into practice in RACFs that is appropriate and sustainable.

How the project addressed the key priority areas

As part of the Encouraging Best Practice in Residential Aged Care (EBPRAC) Program, the Champions for Skin Integrity Project's objectives were consistent with EBPRAC program key priority areas, as follows:

- a) Improving quality of clinical care for residents in Australian Government-funded aged care homes taking into account resident preferences;

Our project addressed the key priority area of wound management and aimed to improve quality of clinical care for residents through increased implementation of evidence based wound management. Standard One of the Australian *Standards for Wound Management (2002)*²² acknowledges the central role of the individual and their carer in wound management and relevant health care decisions. We kept residents and carers informed and involved them in the development and implementation of evidence-based guidelines. We involved residents in shared decision-making about the assessment, management and prevention of wound types. Specifically, we invited residents and carers to participate as consumer representatives in Local Wound Care Networks and Advisory Group. Additionally, we provided residents and their carers with information relating to evidence based wound management in a manner considerate of their age, cognitive status and cultural preferences, which facilitated their understanding and informed consent to assessment and planned care.²² We also provided residents and carers with relevant evidence based information for the prevention of wounds and promotion of wound healing so that they were able to participate in and share responsibility for their own wound prevention, wound healing and associated chronic disease management.

- b) Communicating the changes required to the residents and their families;

Regular meetings with residents and their families were undertaken during each visit to the RACFs, providing time for discussion to obtain residents' opinions and preferences regarding management and prevention of wounds, and to answer questions. Project resources, newsletters

and flyers for residents and families were disseminated to raise their awareness of the project and of evidence based wound management.

- c) Implementing a change management processes across all levels of the staff to ensure that clinical best practice is accepted and informs care delivery;

We used a change management process for this project that was informed by strategies in the literature identified as being successful and adaptable in a range of health care settings. For any change in clinical practice to influence health care outcomes it must occur both at an individual level and at an organisational level. Each RACF team was assisted to generate their own evidence about the need for change, and about the effectiveness of the change process. The project utilised teams of Champions for Skin Integrity in each facility, consisting of Champions across differing levels of staff (care workers, Enrolled Nurses, Registered Nurses, clinical managers) to foster peer support and dissemination of information and practice changes throughout the facilities.

- d) Improving clinical capacity and staff skills

Residential aged care facilities have been noted to be traditionally hierarchical with strong occupational-based authority structures.³³ Therefore, it was critical to consider the issues of role boundaries, team involvement and communication. We used a methodology that supported best practice in residential aged care that encouraged multidisciplinary staff involvement through formation of multi-level CSI teams and multidisciplinary Wound Care Networks in each facility. The CSI model involved an extensive education and skills development program, in addition to development of a Wound Management Education and Self-Education Resource Package for use by all staff who were unable to be involved in person in project activities.

1.2 The nature of the change in practice

There are a large number of evidence based guidelines addressing differing aspects of wound management and/or different types of wounds (e.g. guidelines on wound assessment, diagnostics, infection, dressings, venous/arterial/diabetic leg ulcer prevention and management, pressure ulcer prevention and management, general skin care etc.). Very few guidelines cover all aspects of wound management and this contributes to the difficulties faced by clinicians trying to quickly locate appropriate evidence based information on wound care. In addition the large number of guidelines increases confusion for clinicians and carers in deciding which ones they should follow.

As the literature reports skin tears, pressure ulcers and chronic leg ulcers are the most frequent wounds found in residential aged care settings, the primary recent evidence based guidelines implemented in this project included the following:

- The Australian Wound Management Association (AWMA) (2010) *Standards for Wound Management*. West Leederville WA: Cambridge Publishing.
- Royal College of Nursing (RCN) (2006) *Clinical Practice Guidelines: The nursing management of patients with venous leg ulcers*. London: Royal College of Nursing.
- Scottish Intercollegiate Guidelines Network (SIGN) (2006) *Diagnosis and management of peripheral arterial disease: A national clinical guideline*. Edinburgh: Scottish Intercollegiate Guidelines Network.
- International Working Group on the Diabetic Foot (IDF) (2007) *International Consensus on the Diabetic Foot. Practical Guidelines on the Management and Prevention of the Diabetic Foot*. International Working Group on the Diabetic Foot/Consultative Section of IDF, Amsterdam, Netherlands: International Diabetes Federation.
- Royal College of Nursing (RCN) (2005) *The management of pressure ulcers in primary and secondary care. A Clinical Practice Guideline*. London: Royal College of Nursing.

- Carville K. et al. (2007) STAR: A consensus for skin tear classification. *Primary Intention*, 15 (1): 18–28.

These clinical practice guidelines and international consensus documents were supported by a range of other recent evidence based literature including wound-bed preparation and evidence on strategies for prevention of wounds, including, but not limited, to the following:

- Joanna Briggs Institute. Topical skin care in aged care facilities. *Best Practice* 2007, 11. http://www.ioannabriggs.edu.au/pubs/best_practice.php
- Stechmiller J, Cowan L, Whitney J et al. Guidelines for the prevention of pressure ulcers. *Wound Repair and Regeneration* 2008, 16: 151-168.
- European Wound Management Association (2004) *Position Document: Wound Bed Preparation in Practice*. London: MEP Ltd.
- World Union of Wound Healing Societies (WUWHS) (2004) *Principles of best practice: Minimising pain at wound dressing-related procedures*. London: MEP Ltd.
- World Union of Wound Healing Societies (WUWHS) (2007) *Principles of best practice: Wound exudate and the role of dressings. A consensus document*. London: MEP Ltd.
- Hopf H, Ueno C, Aslam R et al. (2008) Guidelines for the prevention of lower extremity arterial ulcers. *Wound Repair Regeneration*, 16: 175-88.

The above resources and literature demonstrate the existence of a large body of evidence relevant to the assessment, prevention and management of wounds prevalent in older people in RACFs. The challenge was to translate the evidence into education and practice for the multi-disciplinary and diverse skills profile of staff in RACFs.

To address this issue the project team developed a suite of Guidelines Summaries (provided in the resource packages) – which provided a simple summary of evidence based guidelines from multiple documents in one 2-3 page document for each topic, with each document using the same classification of levels of evidence (all guidelines documents were reviewed and their evidence levels reclassified into equivalent NH&MRC evidence levels), and all documents grouping the guidelines' recommendations into Assessment, Management and Prevention sub-headings. All education and resources for the project were then based on these summary documents.

1.3 Context

The Australian aged care sector has experienced significant growth in recent years. This trend is predicted to escalate over the next four decades, whereby the number of people aged 85 and over will quadruple.³⁴ In light of this, it is recognised that residential aged care facilities will be in increasing demand.³⁵ Currently, the sector appears to be undergoing considerable strain. Difficulties have arisen in terms of providing quality care due to an increasing need for residential care, juxtaposed with the difficulties of retaining and recruiting qualified staff. In general, most reports conclude that these difficulties are exacerbated because of increased workload, few resources, low wages and increased stress levels.³⁴ This has culminated in an inability to deliver continued quality of care.

The RACFs involved in this project were situated in diverse communities, from small coastal communities, western rural towns and small to mid-sized regional areas, to outer metropolitan and inner metropolitan areas. The smallest RACF had only 20 beds, while the largest had 495 beds across their nursing home and hostel sections. The census data collated for the areas in which the RACFs in this project were situated demonstrated higher proportions of older people (compared to total state figures) for the majority of participating RACFs. In addition, three of the seven participating RACFs were situated in areas with higher proportions of non-English speaking backgrounds. Future-wise, this suggests that these areas will require more carers who are well-

trained and effective in their work, a finding congruent with the Productivity Commission Report³⁶ findings on the aged care sector in general. Additionally, the ageing carer population in these localities is also an issue of concern. Recruitment and training will be particularly important given that within ten years approximately 40% of carers within these localities will be retiring. As few aged care workers possess a post-school qualification, and only 44% possessing a Certificate Level qualification, a concerted focus on education and training may be necessary.

2 Methods

2.1 Model for change / implementation

The Champions for Skin Integrity Model was developed using implementation strategies which have been demonstrated to facilitate effective implementation of evidence-based guidelines.¹¹ In the CSI Model, 'Champions' in each facility were identified to become key points of contact for staff and the project team. 'Link Clinicians' who had good knowledge and skills related to wound management and who could provide support and guidance to the RACF staff were also identified for each facility. Link Clinicians were predominantly local clinicians external to the facility (e.g., from local hospitals or community health services).

Central to the CSI Model were strategies and activities to facilitate the implementation of evidence into daily practice based on systematic reviews of the effectiveness of guideline dissemination and implementation strategies.⁵ Reviews report that multifaceted interventions are more likely to be effective than single strategy interventions.⁶ In addition, a team approach with collaboration between all health professionals to facilitate high-quality holistic care have been found to improve wound healing rates.³⁷

The CSI model thus included the following previously successful strategies:

- educational materials and easy access to information^{5,7-10}
- evidence provided in a form that can be easily used in practical situations¹¹
- hands-on skill development sessions⁸
- audit and feedback cycles including modification of resources according to feedback^{5,6}
- consumer-directed interventions⁵
- clinical decision making support systems and documentary aid or reminder systems^{5,6}
- supportive environment with local Champions and management and resource support^{7-9,11}

Implementation

The change management process for this project utilised an action research approach based on involving all participants, collecting context data, planning, disseminating and implementing, evaluating and adapting in a cyclic process. The steps in this process included:

- a series of initial visits and meetings with each RACF to establish relationships, plans and awareness raising communication activities
- development and adaptation of the role descriptions of Champions, Wound Care Networks and Link Clinicians in each facility to foster clinical leadership, peer support and organisational support
- contextual data was obtained via surveys, audit and interviews on how the RACFs assessed, managed and prevented wounds prior to implementation of the model, along with knowledge, attitudes and preferences of all involved parties

- resources were developed and adapted to address the barriers and facilitators identified from data collected throughout the pre-implementation and implementation stages
- education seminars, skills development workshops and one-on-one education was provided during a series of visits to each RACF during a six month implementation phase commencing sequentially in each RACF
- regular meetings with staff, residents and families to identify goals, discuss progress and adapt or refine goals at each RACF. Each RACF regularly reviewed the prevalence of wounds as part of their own organisational monitoring procedures and provided feedback on these reviews in project meetings and regular staff meetings.
- post-implementation data were obtained via surveys, audit and interviews to obtain feedback on the implementation strategies and results disseminated back to all those involved

2.2 Stakeholder engagement

RACF staff: Engagement of staff was facilitated through regular face-to-face meetings with the clinical leaders and a communication campaign to raise awareness of the project among all staff (talks at staff meetings and small group discussions, flyers, project website, brochures and project newsletters and email updates). RACFs were encouraged to establish multidisciplinary Wound Care Networks, which could include quality improvement officers, resident representatives, management, allied health professionals and education officers. The Networks aimed to meet on a regular basis to identify goals and facilitate a coordinated multidisciplinary approach to evidence based wound management in each facility.

Residents and families: During each implementation visit, meetings with project team members and residents and their families were undertaken, including informal group meetings, Twilight Seminar functions and individual meetings. Residents and families were also asked to participate in more formal interviews and focus groups, which provided time for discussion to obtain residents' opinions and preferences regarding management and prevention of wounds, and to answer questions. Project resources for residents and families have been based on this feedback and resources have been distributed to raise their awareness of the project and of evidence based wound management. During the second and third implementation visits the adapted resources on wound prevention and management for residents and carers were provided back to the residents for feedback and further input into the final products. In addition residents were asked to identify facilitators and barriers to implementation of evidence based practice in wound care to incorporate interventions to address these issues where possible (e.g. translation of resources into Mandarin).

Resident and family members have been invited and hold positions as representatives on the Wound Care Networks at each RACF and on the Project Advisory Group. Articles introducing the project have been included in RACFs' resident newsletters and the project newsletters have been distributed to residents. The project team have also been invited to talk about project activities during the regular Residents' meetings held in every facility. During each implementation visit morning tea seminars or Twilight Seminars involving residents, family and the surrounding community have been held to communicate project information and progress. There has been a positive reception from residents, along with many queries about specific wound treatments and preventive strategies.

Stakeholders in the wider community: A project Advisory Group was formed to provide expert advice from representatives from the aged care industry, national and state wound management associations, allied health professionals, GPs and community nursing organisations. Project newsletters were distributed to partner RACFs by some of the participating RACFs who were members of large organisations with multiple RACFs e.g. Blue Care, Masonic Care Queensland. A series of awareness raising and educational seminars were held in each facility. The Twilight Seminars to hear about the project and an update on evidence based wound care were very

successful and well attended by wound care industry organisations, residents, family, and local health service providers from all sectors. Link Clinicians were identified for each RACF and meetings held during each visit with the Link Clinicians, project team and RACF teams.

2.3 Partnerships

- The QUT team has developed close relationships with the relevant staff at the partner RACFs through a series of on-site visits culminating in an all-partner CSI workshop held in Brisbane during July 2010.
- A monthly schedule of teleconference and/or on-site (where applicable) meetings was implemented with the QUT team and individual partners, alternating with group teleconferences with all partners.
- Regular project update emails were sent to the partner network and project newsletters were published and distributed every three months.
- QUT team members have participated in other activities at each RACF such as Family and Friends nights, resident meetings, Twilight Seminars with residents, families, RACF staff, wound care industry representatives and health professionals from the surrounding local community, as well as providing custom training sessions.
- Partnerships have been developed with external experts through the Project Advisory Committee, Link Clinicians and multi-disciplinary Wound Care Networks at each partner RACF.

2.4 Governance

Queensland University of Technology was the leading organisation for the project and managed the project in collaboration with the consortium partners. The project team from QUT was led by Prof. Helen Edwards and included Prof. Mary Courtney, Prof. Anne Chang, Prof. Glenn Gardner, Ms Michelle Gibb, Dr Kathleen Finlayson, Ms Christina Parker and Mr Robert Jensen. Internal evaluators, Prof Bob Lonne and Ms Debbie Duthie also joined the team. Monthly QUT Project Team (governance) meetings were held and minuted. Project plans were reviewed at each meeting. A Project Advisory Group which included the QUT Project team and external experts in the fields of wound care and aged care was assembled and met quarterly. Financial management was undertaken through monthly reconciliations and adherence to QUT policies and procedures.

2.5 Evaluation methods

This project used action research approaches to embed ongoing evaluation of the implementation through audits, surveys, meetings and feedback loops. Further, the effectiveness of the program was examined through the pre and post prevalence audits and knowledge surveys, as well as evaluations of the quality of the training programs and their delivery. The action research methodology utilizes an iterative evaluation process of the program and change management processes to facilitate incremental development of wound management practices in the participating RACFs. Action research depends upon effective feedback loops to bring about sustainable change.

Supplementing these evaluative methods was an overarching framework that examined the project as a whole, and was consistent with national evaluation parameters. Key questions for the project evaluation were:

- What were the key factors over time that facilitated and hindered implementation of evidence-based wound management practices and outcomes for residents, their families and other stakeholders?

- How effective was the RACF Wound Management Education and Self-evaluation Resource Package and CSI Model in addressing the identified needs and objectives?
- Which organisational and other local contextual and communication factors affected the overall success of the program and how might specific differential requirements be successfully incorporated within it?
- How well was the project organised and delivered and how might improvements be made to increase its effectiveness?
- What 'lessons have been learned' with respect to effectively implementing and sustaining the program for these and other RACFs?
- How might the learning and outcomes of the project be successfully disseminated and implemented elsewhere?

These questions were in addition to the contractually specified questions concerning the overall project impact of:

- What was the impact for residents?
- What was the impact on communication of care requirements?
- What was the impact on workflow within the RACF organisations?
- What barriers and challenges impacted on the change processes across all levels of staff?
- In which ways might the project be adopted by RACF homes to address the same clinical gaps for residents?
- What were the unintended consequences which arose as part of the project? and
- Any other relevant issues that arose during the course of the project.

Evaluation Methodology

Within the overarching action research method used in this project, there were a number of quantitative and qualitative methodologies and tools employed to collect and collate data concerning the effectiveness of the project and the CSI Model. The project used a pre- and post-data collection approach in order to more effectively gauge change and progress. These included:

- Analysis of publicly available demographic and other data on local communities;
- Analysis of organizational data concerning governance, structure and operational characteristics;
- Analysis of organizational change management processes and the impacts of the project;
- Utilization of valid and reliable teaching and learning outcome strategies;
- Analysis of pre and post skin integrity surveys and audits, pre and post staff wound care surveys, feedback questionnaires for education materials and sessions and surveys with open-ended questions for use in interviews and focus groups
- Face-to-face interviews with residents and families;
- Face-to-face interviews with the project leaders and project staff;
- Telephone and face-to-face interviews with RACF managers, key clinicians, CSI Champions; and
- Focus groups with key project participants.

Ethics

Ethical approval for the project was obtained from the Queensland University of Technology Human Research Ethics Committee, Blue Care Human Research Ethics Committee, Masonic Care Queensland Human Research Ethics Committee, Crowley Nursing Home and Hostel Ethics Committee and Jeta Gardens Ethics Committee. No ethical issues arose during the project.

3 Results

The main findings from analysis of data from the Skin Integrity Survey of residents, the staff Wound Care Survey, and interviews with clinicians, management, residents and family are provided in this section. Further detail, tables and figures are provided in Appendix 1.

Skin Integrity Survey

A random sample of 200 residents was surveyed between June – September 2009 at the beginning of each RACF's project implementation stage (undertaken sequentially). A second random sample of 201 residents was surveyed in February – June 2010.

Overview of Results from the Skin Integrity Survey (further details in Appendix 1)

- ✿ The demographic characteristics were similar across both samples
- ✿ The overall prevalence of wounds (of any type) significantly decreased from 53% of residents to 43%
- ✿ The prevalence of pressure ulcers significantly decreased from 24% to 10% of residents
- ✿ There was a significant decrease in the number of Category 3 skin tears
- ✿ There was a small increase in implementation of pressure reducing strategies and an increase in the variety of strategies used
- ✿ There was an increase in use of strategies to prevent other wound types, particularly implementation of foot and ankle exercises and a significant increase in the use of limb protectors or protective clothing
- ✿ There was a significant increase in documented pressure risk assessments and risk assessments for other wound types on admission
- ✿ There was also an increase in documented wound assessments and documented management of current wounds
- ✿ Issues remaining included documented risk assessments for pressure ulcers on admission and documented management and assessment of progress of existing wounds

Wound Care Survey – RACF staff

126 surveys were returned in the pre-implementation stage in 2009 and 143 surveys returned in the post-implementation stage survey in 2010. The samples were nearly all different groups of staff – very few staff completed both surveys.

Overview of Results from the Wound Care Survey (further details in Appendix 1)

- ✿ The age and gender profile of respondents was similar across both surveys, with around 90% of staff female and the greatest numbers of staff in the 51–60 years age group
- ✿ The role and qualifications of staff were also similar across both surveys, with care workers comprising the majority of respondents, followed by Enrolled Nurses. Around 90% of staff had completed a qualification relating to their role, mostly Certificate III.
- ✿ There was no change in the overall total from the scale measuring confidence in ability to undertake evidence based practice activities, however, some items of the scale were significantly improved, e.g. locating appropriate on-line EB guidelines
- ✿ There was an increase in the proportion of staff who indicated they had received training in evidence based practice and computer use in the second survey

- ✿ There was no difference found in overall confidence to manage wounds scale, however, a significant improvement was noted in the 'ability to manage leg ulcers' and 'ability to manage the diabetic foot' items
- ✿ There was a significant increase in the use of an emollient or soap alternative for bathing residents
- ✿ Although staff levels and time remained the two most important barriers to implementing evidence based practice, the rating of how limiting barriers were to EBP was significantly reduced for all nominated barriers in the second survey.

Interviews and Focus groups with RACF carers, clinicians, management, residents and families

110 interviews or focus groups were conducted in total throughout the project, 72 during the pre-implementation and early implementation phases, and 38 at the completion of the implementation phase.

Analysis from interviews conducted during the pre-implementation phases found:

- The greatest perceived barriers to implementation of evidence based wound care was the need for knowledge and education, costs and resources (including staffing levels), and attitudes and culture
- The greatest facilitators for implementation of evidence based wound care were the provision of education and training, involvement of residents and families, and positive attitudes and culture (e.g. approachable management), good communication and access to resources
- Enrolled Nurses and Personal Care Workers were more likely than Registered Nurses (RNs) to identify resources (time and staff levels) as a barrier to evidence based practice
- RNs, residents and family were more likely than other participants to identify limited access to expertise and specialist knowledge as a barrier to evidence based wound management
- Access to expertise was also more likely to be identified by rural RACFs than metropolitan and outer metropolitan RACFs
- There was marked variation across facilities with regard to issues such as culture and empowerment

Findings from the post-implementation phase interviews included:

- Reduction in knowledge and education being nominated as a barrier, which was nominated by only 21% of those interviewed post-implementation in comparison to 58% of participants in the pre-implementation phase
- Continuation overall of resources, attitudes and culture frequently identified as barriers to evidence based practice
- Improvement in positive attitudes and culture being identified as a facilitator to evidence based wound management by 56% of participants, in comparison to 34% of participants in the pre-implementation phase
- Enrolled Nurses and Personal Care Workers were more likely than Registered Nurses (RNs) to identify attitudes and culture as a barrier to evidence based practice, however, all staff agreed that costs and resources were a major problem
- The issue of access to expertise was markedly reduced as a barrier by all respondents and by rural facilities in the post-implementation interviews
- There was variation among facilities with regard to issues of empowerment and role clarity and their impact on implementation of evidence based practice

3.1 Process

We used the following process to implement evidence-based guidelines into practice for wound prevention, assessment and management. The process involved three main phases, as follows:

A. Development, trialling and refining of CSI Model and the RACF Wound Management Education and Self-evaluation Resource Package

- In February 2009, QUT team members visited each RACF to establish relationships, obtain RACF input, liaise with stakeholders, begin identification of Champions and Link Clinicians, develop a schedule of meetings and plan for future project activities.
- The QUT project team and RACF team commenced a communication campaign to raise awareness of project activities via information presentations given during visits, summary fact sheets, project newsletters, RACF newsletters and short articles in local newspapers. Upon request, a DVD of the introductory presentation was distributed to all partner RACFs so that any staff members unable to attend the presentations were able to view the video.
- We organised an official project launch with all partner RACFs during Australia's National Wounds Awareness Week in March 2009. During the launch a teleconference was held with all RACFs and each individual facility held a celebratory morning/afternoon tea in their facility to promote the project.
- The team developed a skin integrity prevalence audit tool and skin integrity knowledge survey for staff in consultation with experts in the field.
- We developed an education program for training and assessing the competency of audit data collectors. QUT staff and staff members from RACFs were trained to collect their own audit data so the audit-feedback loop was built into practice.
- Teams of Champions for Skin Integrity were identified in each RACF and role descriptions developed and adapted to suit each facility's context. Commitment to the role of CSI was reinforced through education and relevant support interventions in wound management and change management.
- Multidisciplinary Wound Care Networks were initiated in each RACF to identify needs, disseminate information and guide implementation and evaluation of evidence based wound care. Participants varied from one RACF to another, however, overall there was representation from management, nurses, care staff, quality improvement coordinators, visiting GPs, resident and/or family representatives, allied health professionals, and manual handling instructors.
- A Project Advisory Team was set established and met quarterly.
- The QUT project team conducted a Skin Integrity survey across the seven RACFs with a random sample of 200 residents (20 residents from each small facility, 30 from mid-size facilities and 50 from the largest facility, equally divided over nursing home and hostel residents). The resident surveys involved a top to toe skin inspection of the residents, an audit of prevention and treatment strategies in situ and a chart audit to identify other management and assessment strategies and documentation processes. Data collectors all had to complete and achieve an 80% pass rate with a training package prior to auditing, which included education and testing on identification and classification/staging of the different wound types and stages.
- We distributed the staff Wound Care Knowledge surveys to all partner RACFs. Staff members were given approximately two weeks to fill in the surveys and boxes were provided in each RACF for them to return the surveys. The CSIs collected the surveys and posted them back to QUT.
- The project team conducted interviews and focus groups with all levels of staff, residents and families.

- The project team collated and analysed the data from surveys and interviews, then disseminated results to each RACF (individual RACF and combined RACFs results) for feedback.
- We developed education programs and skills development workshops and reviewed and modified education materials after each visit.
- We commenced development of a computer-based self-directed learning package and asked participating RACFs and experts in the area to review components of the package.
- A suite of resources on evidence-based wound assessment, management and prevention strategies for residents, families, staff and health professionals were prepared, trialled and refined, including brochures, tip sheets, evidence-based guideline summaries, clinical decision support and reminder systems, flow charts and a self-directed learning package on DVD.

B. Implementation of CSI Model and implementation of Wound Management Education Resource Package

- The project team delivered intensive evidence-based education, group discussions and skills development workshops for clinical staff using the RACF Wound Management Education resources throughout the six month implementation phase between June 2009 and June 2010 (sequential in each RACF). Each RACF received a number of on-site visits throughout the implementation stage (3 longer visits averaging 3–5 days, in addition to 1 or 2 day visits).
- The team provided specialised training in evidence-based practice in skin care and wound management to CSIs during the implementation phase according to needs.
- The team completed a program of ongoing education for staff, residents and families over the 6 month implementation period in each RACF, including:
 - consultation and discussions on specific topics in evidence based wound care
 - resources to provide RACF staff with pathways to access information and expertise on evidence-based wound management (referral pathways, contacts to access consumables, wound care product formulary).
 - trial and evaluation of decision support and reminder systems
- Evaluations of educational activities, resources and skill development workshops were undertaken via evaluation forms for staff and through interviews with staff and residents and families.
- All project partners continued the communication campaigns to raise awareness and commitment to the project.
- The QUT project team encouraged regular contact between the RACFs, Champions, Link Clinicians and QUT via email updates, teleconferences, project website and newsletters.

C. Post-Implementation evaluation phase

- Stage 3 visits included follow-up resident Skin Integrity surveys and staff Wound Care knowledge surveys, qualitative data gathering, meetings and interviews with staff, residents, families and external health professionals.
- The project team completed analysis of pre and post data and produced summary reports for each partner with their own facility's results, in addition to aggregate summary reports for all partners.
- We held a two day workshop for the CSIs in July 2010, during which evaluation activities on the project, resources and processes were undertaken, in addition to workshops on setting goals for future sustainability of the project.

Problems encountered and engagement

The level of literacy in RACF staff was a challenge, including large numbers of staff where English was a second language. This created some problems in terms of relaying both written and verbal information. Educational materials and resources were translated into Mandarin for one facility, with refined and simplified language used to adapt to the needs at each site.

Additional challenges were diminishing staff resources in some facilities (changes in staffing levels and staff skills mix during the project), role ambiguity and system problems (e.g. many staff attending educational sessions in their own time). Role conflict was an issue in some RACFs, particularly for Personal Carers who had undertaken the role of Champions (hierarchical workplace cultures). Conversely, in other facilities, communication improved considerably. However, the RACFs recognised the need to maintain staff motivation for continuing evidence-based practice, particularly within the context of minimal resources. To resolve some of these issues copies of education seminars and skills workshops were produced (hard copies, DVD copies and electronic files) and left at each RACF, to allow staff to access the information whenever they had time.

An issue found difficult to address within the scope of the project was the breadth of the topic – multiple strategies and changes in practice were required to address evidence based management and prevention of each individual wound type, even though the wounds addressed were limited to those commonly found in aged care settings. The scope of the topics was broadened from the original plan in response to requests from the participating RACFs, however, this did create a large volume of information and resources. Facilities were encouraged to focus on a priority area in their RACF (identified from the surveys and audit at the beginning of the project) e.g. skin tears, and concentrate on practice changes in this area. In addition, it was a challenge for staff, and in particular visiting Link Clinicians, to find suitable times to attend meetings to review progress and plan future strategies. Teleconferencing was sometimes successful for rural facilities conducting multidisciplinary Wound Care Network meetings.

Factors influencing engagement throughout the course of the project, such as major organisational changes within particular RACFs during the project timeframe, limited their capacity to undertake change associated with the project. Facilities with models of care promoting empowerment of hands-on care staff were more likely to have engaged care workers who adopted evidence based guidelines. Facilities that were not part of a large multi-facility organisation were more flexible with regard to ease in adapting policies, procedures and documentation to incorporate evidence based practice changes.

A key issue in the nursing sector in general but also the aged care sector is the limited training and education in management and leadership.^{38,39} Effective leadership and management skills have been found to increase nurse satisfaction, reduce turnover and contribute to high quality care. RACF staff in this Project commented strongly on the lack of education and training in leadership and management available to them when entering these positions. Leadership and management play a large role in efficiently undergoing change management processes.³⁹

There was greater engagement with the surrounding community organisations and industry than expected, with strong interest shown from local (non-participating) RACFs, community health organisations, hospital staff and allied health professionals. This was associated with a high demand for information and the project resources following the dissemination activities, in particular the brochures and tip sheets for health professionals and for consumers and carers. The interest from other facilities and allied health professionals not involved in the project indicates a need within the aged care sector for training and education in wound care practices.

3.2 New Resources Developed

A suite of resources were developed, including:

- Summaries of evidence based guidelines on wound assessment and management, skin tears, pressure ulcers, arterial leg ulcers, venous leg ulcers, diabetic foot ulcers and maintaining general skin integrity
- Information brochures (based on the evidence summaries) for both health professionals and for residents, family and carers on evidence based practice and skin integrity, general skin care, skin tears, nutrition and wound healing, pressure ulcers, venous leg ulcers, diabetic foot ulcers, arterial leg ulcers, wound assessment and general wound management. These brochures cover information on the condition, management and prevention strategies
- Tip Sheets (A4 or larger, for easy placement in meeting rooms/workstations or for residents) on evidence based wound assessment and management, prevention of skin tears, prevention of pressure ulcers, preventing venous leg ulcers, tips for compression therapy, nutrition for skin integrity, preventing diabetic foot ulcers and preventing arterial leg ulcers
- A revised one page Skin Integrity prevalence audit tool was developed after feedback for RACFs' future needs
- Clinical decision making support tools (flow charts) and reminder systems on skin tear prevention and management, wound dressings, venous leg ulcers, arterial leg ulcers, diabetic foot ulcers and pressure ulcer prevention and management
- A Dressings Resource Folder on appropriate dressing types (with samples) and application according to type of wound
- An interactive CD with 8 self-directed education modules, a self guided quiz at the completion of each module, and links to all the project resources to complete the Wound Management Education and Self Evaluation package.
- A Champions for Skin Integrity Resource Folder includes the majority of the resources above, in addition to information on roles and processes, links for further information and tools to assist implementation of the CSI model (e.g. meeting tools, evaluation tools, audit training tools).

The resources were developed by the QUT project team, in combination with feedback from the facilities involved in the project and the project Advisory Group. The project RACFs trialed the resources and provided positive feedback. The Guidelines Summaries documents are used primarily by the CSIs and RNs requiring this higher level of information and the source documents of the evidence. Two sets of brochures were produced, one for residents, family and carers, and one for health professionals. They were widely distributed for feedback and found very useful by both residents and staff caring for them.

The Tip Sheets were developed at the request of the Champions for a simpler document that could be laminated and placed on notice boards or in lifts etc., spreading simple messages on evidence based wound care. Similarly, the flow charts were developed from the guidelines and brochures to provide a larger (designed to be A3 size) visual aid for staff to quickly refer to. The Dressing Resource Folder provides samples of dressing types, a guide for appropriate use of dressing types and tips for application. The CSI Resource Folder is designed to assist new CSIs understand the CSI model and provide resources to implement the CSI model into practice.

Representatives from the community, acute hospital and other primary care settings (from the RACF's Wound Care Networks) have also reviewed the resources and provided positive feedback and expressed a desire for multiple copies of the final resources.

3.3 Impact

3.3.1 Impact on the use of evidence

The use of evidence in clinical practice has increased in a number of ways, as demonstrated by the following results from analysis of pre and post-implementation surveys and audit data. At the completion of the six month implementation stage:

- There was an **increase in implementation of pressure reducing strategies** and an increase in the variety of strategies used to prevent pressure ulcers
- There was an **increase in use of strategies to prevent other wound types**, particularly implementation of foot and ankle exercises to prevent leg ulcers and a significant increase in the use of limb protectors or protective clothing to prevent skin tears
- There was a significant **increase in documented pressure risk assessments** and risk assessments for other wound types on admission
- There was also an **increase in documented wound assessments and documented management** of current wounds
- There was a **significant improvement in staff rating of confidence** in the 'ability to manage leg ulcers' and 'ability to manage the diabetic foot'
- There was a significant increase in the use of an emollient or soap alternative for bathing residents as a strategy to maintain skin integrity
- Although inadequate staff levels and time remained the two most important barriers to implementing evidence based practice, the rating of how limiting barriers were to evidence based practice was significantly reduced for all nominated barriers (e.g. knowledge) in the post-implementation survey

Interview and focus group data at the completion of the implementation phase reported a number of changes, varying across facilities, which included:

- Introduction of new pressure relieving mattresses
- New education programs for carers on use of equipment (to prevent skin tears)
- Changing wound assessment practices
- Introducing emergency skin tear kits or boxes
- Staff having the confidence and knowledge to search for resources on the computer
- Residents reported undertaking preventative activities, such as moisturising skin twice/day, using a non-soap cleanser, moving position regularly, following nutrition and hydration guidelines, doing regular foot and calf muscle exercises and wearing protective clothing
- Increased staff awareness of regular moisturising
- Increased use of pressure reducing equipment and limb protectors
- Increased use of padding for equipment e.g. wheelchair footplates
- Introduction of new evidence based wound assessment and management documentation

3.3.2 Impact on residents

An impact on residents was seen in both health outcomes i.e. improved skin integrity; and in improvements in clinical care for residents, as follows:

- **Decreased prevalence and severity of wounds**, including pressure ulcers, skin tears and leg ulcers

- **Increased implementation of pressure reducing strategies**
- **Increased use of strategies to prevent skin tears and leg ulcers**
- **Improved documentation of risk assessments and wound management**
- Residents provided positive feedback from their education seminars, brochures and tip sheets, reporting appreciation of the opportunity to take control and be able to implement preventative strategies and appropriate wound care themselves

3.3.3 Impact on staff

Evidence of improved staff knowledge and skills and the impact of the project on staff was gained from the staff surveys (n = 269), evaluation surveys of education seminars and workshops (n = 250) and interviews and focus groups (n = 49).

- Analysis of short knowledge surveys undertaken pre and post education seminars found **improved knowledge** following the seminars with regards to:
 - risk factors and prevention strategies for skin tears
 - understanding of what is evidence based practice
 - nutrition requirements for wound healing
 - strategies to prevent pressure ulcers
 - strategies to prevent leg ulcers
 - compression therapy
 - principles of wound dressing
- A package of self-directed learning **evidence based wound management and prevention resources is available** for staff
- Analysis of evaluation surveys found over 90% of staff and residents agreed or strongly agreed that the project resources (brochures, evidence summaries, flow charts, tip sheets, interactive DVD) were easy to read and understand, the amount of information was sufficient, the resources would make documentation easier, and the **resources were easy to use**
- The most frequently reported **knowledge items gained** were:
 - general wound care, wound assessment and documentation
 - skin care and prevention of wounds
 - leg ulcer and diabetic foot ulcer management
 - dressing selection and techniques
 - skills to manage compression therapy
 - management of skin tears
- Surveys found staff were **more confident** in locating evidence based guidelines and their ability to manage leg and foot ulcers
- staff surveys and interviews identified that **barriers to evidence based practice** such as knowledge, education and access to resources were **significantly less important** after implementation of the CSI model
- when staff were asked how they would apply the information they had learnt, comments included:
 - 43% said they would disseminate the information they had learnt during regular meetings, informal and formal education sessions and during handovers
 - 33% said for improved assessment and diagnosis of wounds
 - 32% said they would use the skills in every day practice and treatment of wounds
 - 23% said they would implement early detection and prevention strategies
 - 21% said they would update policies and procedures
- other reported outcomes included:
 - improved recognition of the importance of preventative strategies
 - improved awareness of carers of their role in wound prevention

- improved awareness of the resources and products that are available and the roles of multidisciplinary health professionals in wound care and prevention
- changed practice in wound assessment techniques
- improved confidence in wound care

3.3.4 Impact on the residential aged care facilities

- Multi-disciplinary Wound Care networks and contact with Link Clinicians were initiated in each facility, providing **increased capacity** for facilities to access expertise when needed
- The CSIs in each facility identified different areas appropriate to their facility in which **policy and procedures were adapted** to incorporate evidence based wound management e.g. new Wound Assessment packages, skin tear management package, policies on pressure relieving mattresses, orientation procedures to incorporate the project resources
- Staff reported **improved communication** between levels of staff and improved attitudes and culture towards implementing changes in wound management practices
- Staff at each facility were trained in the skin integrity audit procedures and a **one page audit tool** was developed for future use
- Information was gathered on the RACFs' policies and procedures with regard to wound management so that any new procedures and guidelines could be incorporated into the current processes. For example, the pre-implementation assessment identified that staff would benefit from the introduction of appropriate assessment tools for wounds, and a skin tear assessment tool and management pathway was trialled successfully and continues to be used in some of the RACFs

3.4 Dissemination

Dissemination activities were an important component of the project and continued throughout the life of the project.

Dissemination aimed at engaging the project participants included:

- Visits by the QUT project team members to all participating facilities early in the project to disseminate information on the project and obtain contextual information from participants
- Short information sheets and project summaries were distributed to all RACF staff and residents early in the project
- Regular project update emails, teleconferences and newsletters
- Meetings with residents, including one-on-one discussions, group discussions at morning teas or formal project seminars /focus groups
- Seminars for staff, residents and families at regular intervals throughout the project to provide updates on progress and updates on evidence based wound management
- During each visit to the RACFs, time was set aside for one-on-one meetings and information sharing with staff
- A secure project website was set up as a site for communication between partners and access to project resources and notices

Dissemination extending beyond the involved facilities included:

- A public project website was established
- Newspaper articles published in the local press in north Brisbane, Bethania, Ballina and Cairns areas

- Project news disseminated in RACF newsletters for residents and families and other RACFs owned by the organisations
- Local stakeholders and surrounding community health professionals invited to the education seminars held during visits to each RACF
- Project news reported regularly to the Richmond Aged Care Services Network Regional Meetings, Masonic Care Queensland Regional Department Managers Meetings and Blue Care Regional Managers Meetings
- Project Advisory group members represented Aged Care Queensland, Queensland Health, the Australian Wound Management Association, acute hospital sector, Hospital in the Nursing Home Program and Divisions of GPs
- Papers presented at conferences held by the Queensland Wound Care Association, Australian Wound Management Association and Joanna Briggs Institute of Evidence Based Nursing and Midwifery
- Project information available on display during the public Seminar held by the Queensland Wound Care Association Seminar during Wounds Awareness Week in 2010
- State Parliamentary acknowledgement of wound management issues in the RACF sector following distribution of press releases and Wounds Awareness Week activities
- Twilight Seminar functions provided information on the project for residents, families, community members, industry representatives and health professionals from surrounding RACFs, hospitals and community health service providers
- Meetings have been held with the Aged Care Channel to explore opportunities for developing a relationship based on Wound Management programming.
- Papers planned for industry and professional journals on project activities and outcomes

RACF participants evaluated and provided feedback on dissemination activities during project meetings, in short surveys and as part of the CSI workshops held at the completion of the project. They reported that the most effective activities were one-on-one sessions and awareness raising events such as the Twilight Seminars (public seminars held with industry representatives, health service providers, residents, family and surrounding community stakeholders) and seminars held to celebrate the annual Wounds Awareness Week. One-on-one sessions were able to be tailored to specific individual staff or residents' need for information, while the seminar functions were able to ignite enthusiasm and interest in the area in addition to providing opportunities to form stronger networks with surrounding community stakeholders. Project participants also found the public seminars allowed all members of the RACF community to hear the same messages – reinforcing continuity of care and providing confirmation for staff on the messages they were giving to other staff, residents and families.

3.5 Sustainability

Feedback from both the Project Team and RACF staff regarding their views on the sustainability of the CSI model in daily practice was positive. The majority of RACF staff, particularly DONs, expressed a high level of enthusiasm about the CSI project and believed the model to be sustainable in their facility. Potentially, what might impact on sustainability efforts is the high workload experienced in facilities and the continued resource constraints experienced in terms of staff levels. The reduction of motivation was a key factor mentioned by RACF staff, suggesting that maintenance of training on a regular basis might allay this, as well as the maintenance of newsletters and other information.

Strategies for sustainability and outcomes included:

- Resource kits available for future CSIs to promote sustainability of the roles and processes of the Champions for Skin Integrity and Multidisciplinary Wound Care Networks
- The RACF Wound Management Education and Self-evaluation Resource Package is expected to be continued to be used in all participating RACFs and will be available for use elsewhere
- Links between the RACFs and Link Clinicians (clinicians with expertise in wound management from the surrounding community who are able and willing to provide advice and support for the RACF staff) are long term arrangements
- Information on the CSI model and resources are now incorporated into orientation packages for new staff and CSI Resident resource materials are incorporated into facilities' Resident and Family Application and Admission Packs
- Facilities indicate they will continue with regular audit and feedback cycles and regular CSI meetings
- The self-directed DVD contained in the resource package contains a short interactive quiz at the end of each module and some facilities indicated they will include this in their staff annual education requirements
- CSI meetings towards the end of the implementation period and a post-implementation CSI workshop have focused on sustainability issues and each RACF has set goals for long term sustainability
- The post-implementation CSI workshop strengthened relationships between the CSIs from the individual partner facilities. Members of this network have already been in touch in order to share information and ideas.
- Strong relationships have been built during the project and the participating facilities are keen to be involved in future projects. Follow-up projects which will assist in sustainability of the project have already been initiated with two of the large RACF organisations involved in the project; involving the commencement of outreach wound clinics with visiting wound care experts to assist RACF staff and residents in implementation of evidence based wound management. These clinics will promote access for residents of RACFs to expertise and further education and skills development for RACF staff.

4 Discussion and conclusions

This project identified that wounds are a major health issue in residential aged care settings. Previously there has been little information available on the prevalence of all wound types in aged care facilities, particularly in Australian aged care facilities, to guide carers and management on areas of need.

Implementation of the Champions for Skin Integrity model for evidence based wound management was successful in increasing implementation of evidence based wound management and obtaining decreased prevalence and severity of wounds in residents in aged care facilities. The model was based on evidence based strategies for successful translation of evidence into practice and utilised a multi-faceted and multi-tiered approach to promote the uptake of evidence based wound care. The multi-faceted approach combined the use of local Champions, group and one-on-one education and skills training, formation of multidisciplinary networks to facilitate access to expertise, audit and feedback cycles and provision of accessible resources to assist in implementing evidence based wound management. The positive outcomes from the project support the evidence suggesting a multifaceted approach is more effective than single strategy approaches.⁶ The project also utilised a multi-tiered approach, with education, information and resources aimed at residents, families, carers, and staff at all levels, to promote a 'whole facility'

consistent approach to evidence based wound management and prevention. Feedback from residents and staff suggests that this was also an important contributor to positive outcomes from the project.

One of the most successful components of the model was the development and dissemination of a suite of educational resources and a primary outcome is the production of the CSI resource kit on evidence based wound management which could be made available to all Residential Aged Care Facilities and interested stakeholders. In particular, the interactive DVD incorporates an easy source of information on evidence based wound care which is tailored to the RACF setting and organised into individual modules to allow quick access to a particular topic at any time. An important consideration with this resource package is the long term sustainability of the package. The nature of evidence based practice encompasses the need for regular review and updates of the evidence. The web based DVD is designed to be easily updated with new information, however, the process requires resources and a nominated organisation to take responsibility for regular monitoring and updates.

The model was able to achieve improved staff skills and knowledge of evidence based wound management. In particular, the model resulted in increased staff awareness of their roles in evidence based wound care and resulted in improved communication between levels of staff. These benefits were reported primarily in education evaluation surveys, CSI workshops and interviews. There were limited response rates to the staff surveys, and in particular, very small numbers of staff who responded to both the pre-implementation and post-implementation surveys - thus limiting the value of analysis from this survey to detect any changes over time.

The varying levels of education, experience and literacy among RACF staff was one of the greatest challenges for the project. To address this, education seminars, workshops and resources were adapted to suit the audience and many were produced in duplicate forms to cater for different audiences. Educational resources were produced in Mandarin for a facility with a high proportion of Asian staff and residents. Another issue was the difficulty for all staff in RACFs to find time to attend meetings and education seminars. Clinical leadership and management support was an important influence in this area. The self-directed Wound Education and Self Evaluation DVD was produced to help address this issue, to enable all staff access to education and the resources available at a convenient time.

There was strong interest shown from surrounding community organisations, including local (non-participating) RACFs, community health organisations, hospital staff and allied health professionals. This was associated with a high demand for the project resources following the dissemination activities, in particular the brochures and tip sheets for health professionals and for consumers and carers, suggesting that the resource package may be found useful for a range of sectors outside of the aged care setting.

A number of strategies to promote sustainability of the project were implemented. CSI resource kits and the RACF Wound Management Education and Self-evaluation Resource Package will be available for future CSIs, RACF staff and residents. As mentioned above, the long term sustainability of these resources will depend on resources to maintain and update the packages. The links formed between the CSI teams, RACFs and Link Clinicians are likely to assist the sustainability of the project. At the completion of the project all facilities aimed to continue their CSI networks and to incorporate project resources into the facility's procedures e.g. resources included in orientation documentation, regular monitoring and feedback cycles to continue.

Importantly, strong relationships were built during the project and participating facilities are keen to be involved in future projects. Follow-up projects which will assist in sustainability of the project have already been initiated with two of the large RACF organisations involved in the project; involving the commencement of outreach wound clinics with visiting wound care experts to assist RACF staff and residents in implementation of evidence based wound management. These clinics will promote access for RACF residents and staff to expertise and further education and skills development.

Conclusions

Improvements for residents

Wounds are a major health issue for residents in aged care and therefore it is imperative to implement a focused program to facilitate evidence based wound prevention and management. In this project, implementation of the Champions for Skin Integrity model resulted in improved quality of clinical care as demonstrated by increased application of evidence to prevent, assess and manage wounds. Importantly, this was associated with decreased prevalence and severity of wounds in residents in the participating facilities.

Improvements for staff

RACF staff members were provided with opportunities to develop and enhance their knowledge and skills. Evaluations reported improved knowledge and skills in evidence based wound management and in locating and accessing evidence based guidelines. Resources and procedures were developed to support staff to use best available evidence in everyday wound management practice, including evidence summaries, dressing information folders, brochures, tip sheets, flow charts and access to networks of expertise for advice. Education and resources were developed for all levels of staff and carers to promote a combined 'all facility' approach and to help all staff recognise their role in wound management and prevention. Additional reported outcomes were an improved learning culture and communication between staff.

System improvements

Involvement of residents and family in determining preferences, participating in education and information seminars, and testing and reviewing resources improved communication and understanding between RACF staff, residents and families. Dissemination of project outcomes at regional stakeholder meetings and national and international conferences has raised the profile of wounds in the aged care setting, awareness of the available evidence and the importance of applying evidence to prevention, assessment and management of wounds. A resource kit on the CSI model and to facilitate evidence based wound management was developed and could be made available to all RACFs nationally.

Community impact

The wide dissemination of project information and community involvement in project activities raised the profile of evidence based practice in the participating RACFs. Newspaper articles, conference presentations, the project website and dissemination of project newsletters resulted in many queries on the project and requests for resources.

5 Recommendations

Recommendations for RACFs, aged care and health service providers and government

- Wounds should be recognised as a major health issue for residents in aged care settings and be regularly monitored
- The CSI model or a similar strategic approach should be implemented in RACFs to facilitate the uptake of evidence based wound management and prevention
- Funding should be available for initial implementation of the CSI model in RACFs, to cover necessary education and skills development for Champions
- The resource kit on evidence based wound management should be made available to all Residential Aged Care Facilities and interested parties
- Information and education on evidence based guidelines must be adapted to suit different audiences (e.g. carers, residents, health professionals) and take into account the different education and literacy levels of carers and staff
- Resources to facilitate evidence based practice should be brief, simple and easily accessible
- Resources should be available for regular monitoring, updating and dissemination of the resource package
- Leadership and management training should be promoted throughout the aged care sector to equip RACF staff with additional non-direct-care skills and abilities. This is particularly important considering the level of staff turnover, the ageing workforce, and the benefits of these skills in effective change management processes.

Recommendations for RACF staff

- There are a number of easily implemented evidence based strategies (e.g. moisturising skin twice per day, padding equipment, daily ankle and calf muscle exercises, regular position changes) which can be undertaken by staff, carers, residents and/or family members to prevent common wounds such as skin tears and pressure ulcers
- All members of RACF communities (i.e. residents, family, carers, staff, surrounding community link clinicians) should receive information on evidence based wound management and prevention strategies and be aware of who their local wound expert contacts are within the facility
- Clear role descriptions for all levels of staff will promote appropriate application of evidence to prevention, assessment and management of wounds

Recommendations for RACF providers

- All members of a RACF's community (i.e. residents, family, carers, staff, surrounding community link clinicians) should be involved in awareness activities, education, and policy and procedure development for wound management and prevention
- Policies and procedures should support continuing education and skills development in the prevention and management of wounds

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Appendix 1

1.1 Summary of Results - Champions for Skin Integrity Resident Skin Integrity Survey

A random sample of 200 residents was surveyed between June – September 2009 at the beginning of each RACF's project implementation stage. A second random sample of 201 residents was surveyed in February – June 2010.

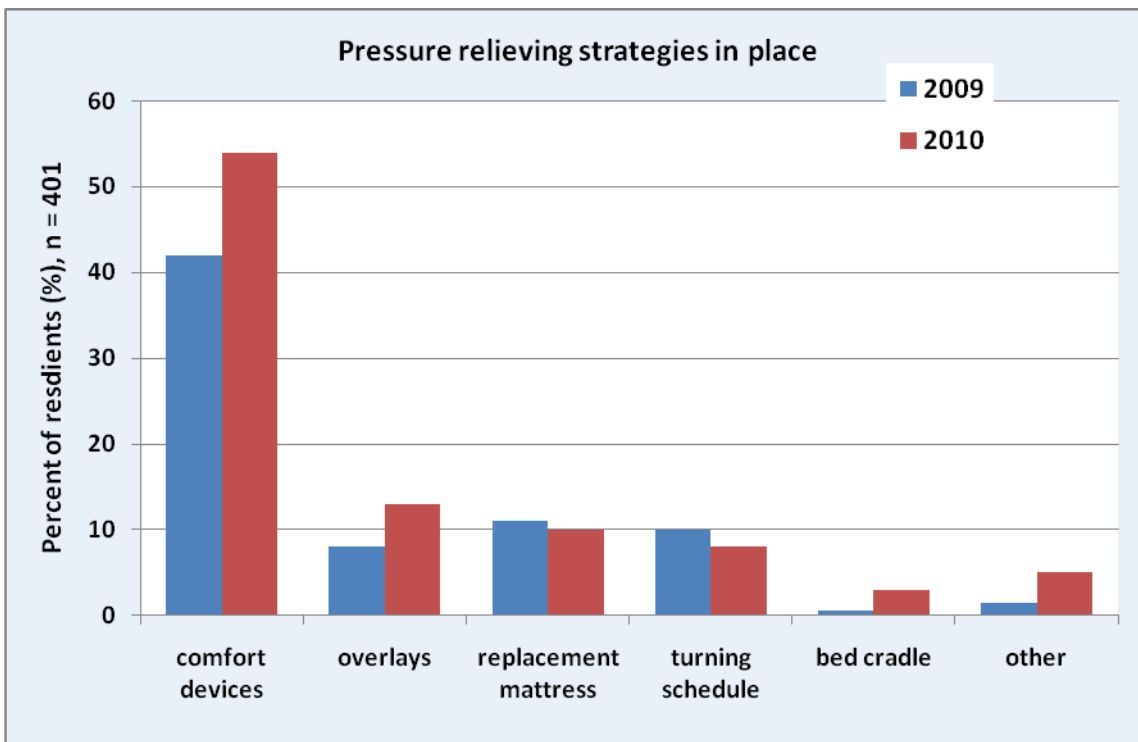
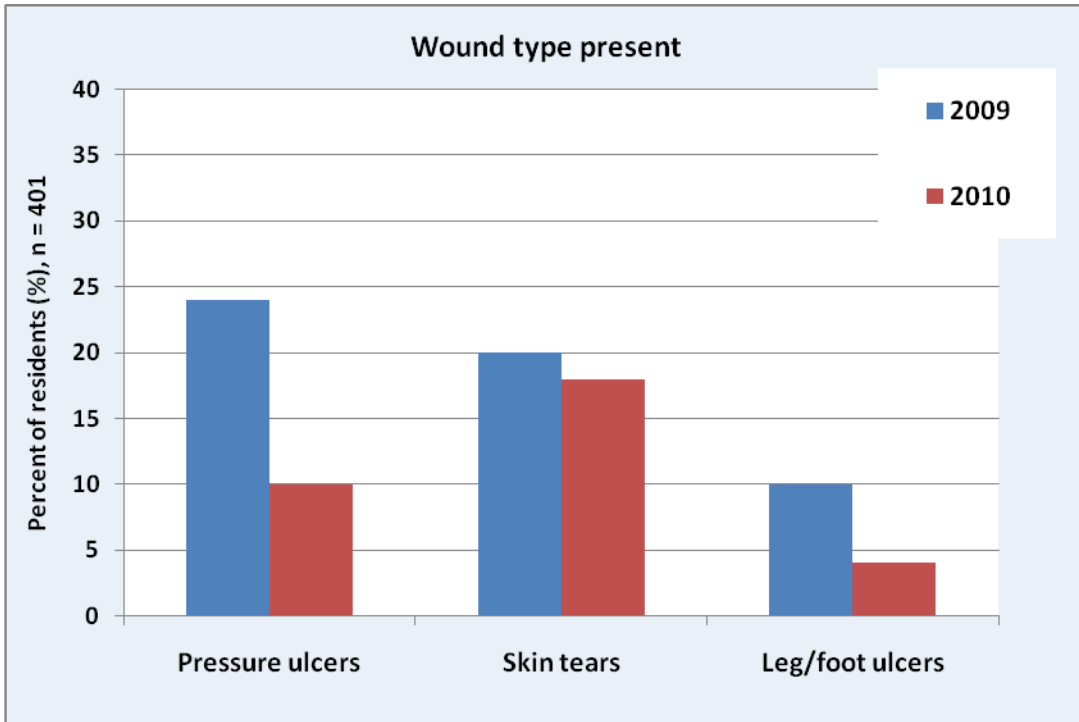
Item	2009 (pre, n = 200)	2010 (post, n = 201)
Gender - female	70%	66%
Average age	85 years (range 48 – 100)	85 (range 55 – 103)
Residents with a wound (of any type)	53% (n = 106)	43% (n = 86) * (χ^2 4.2, $p = 0.041$)
* 11% of these wounds were present on admission to the RACF		
Residents / type of wound	24% with pressure ulcers	10% with pressure ulcers ** (χ^2 14.1, $p < 0.001$)
	20% with skin tears	18% with skin tears
	10% with leg ulcers	4% with leg ulcers * (χ^2 8.4, $p = 0.004$)
Pressure ulcer stages (number of residents with stage 1/2/3/4 or unstageable ulcers)	31 with Stage 1 pressure ulcers (predominantly toes/feet or sacrum) 17 with Stage 2 pressure ulcers (mostly toes/feet or sacrum/ischium) 1 x Stage 3 pressure ulcer (heel) 1 x Stage 4 pressure ulcer (foot) 1 x unstageable pressure ulcer (ankle)	14 with Stage 1 pressure ulcers * (toes/feet/heels or back/sacrum) 4 with Stage 2 pressure ulcers * (2 ischium, 1 toe, 1 dorsum foot) 3 x Stage 3 pressure ulcers (2 x sacrum, 1 heel) 0 x Stage 4 pressure ulcers 0 x unstageable pressure ulcers
Skin tear categories (no. of residents with category 1/2/3 skin tears)	22 with category 1 skin tears 4 with category 2 skin tears 20 with category 3 skin tears	24 with category 1 skin tears 7 with category 2 skin tears 9 with category 3 skin tears *
Type of leg and foot ulcers (no. of residents with venous/arterial/mixed or diabetic ulcers)	8 x venous leg ulcers 13 x mixed venous/arterial ulcers 9 x arterial leg ulcers 2 x diabetic foot ulcers	2 x venous leg ulcers * 2 x mixed venous/arterial ulcers * 5 x arterial leg ulcers 3 x diabetic foot ulcers

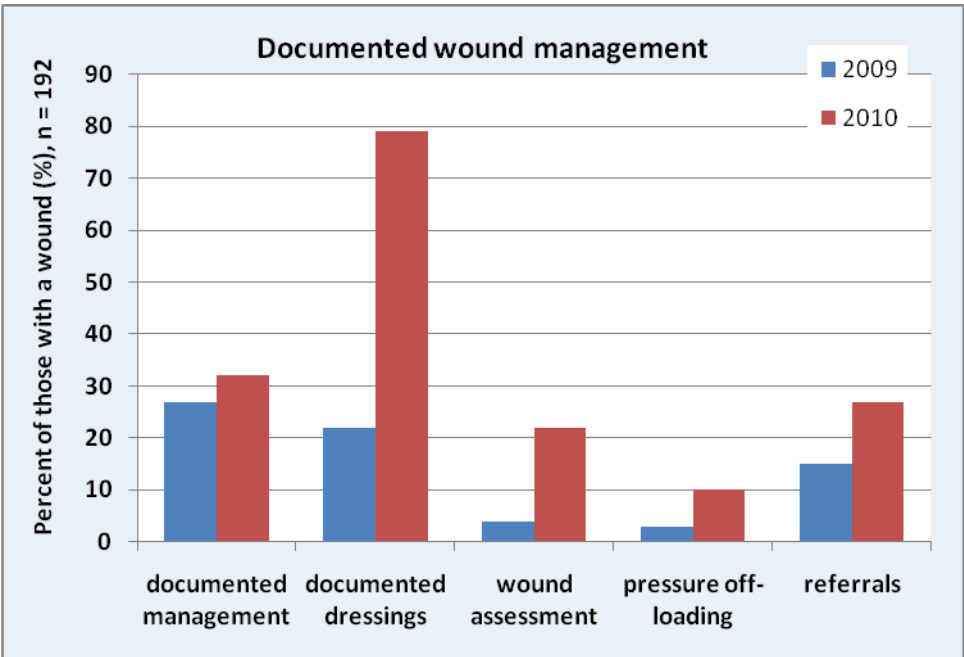
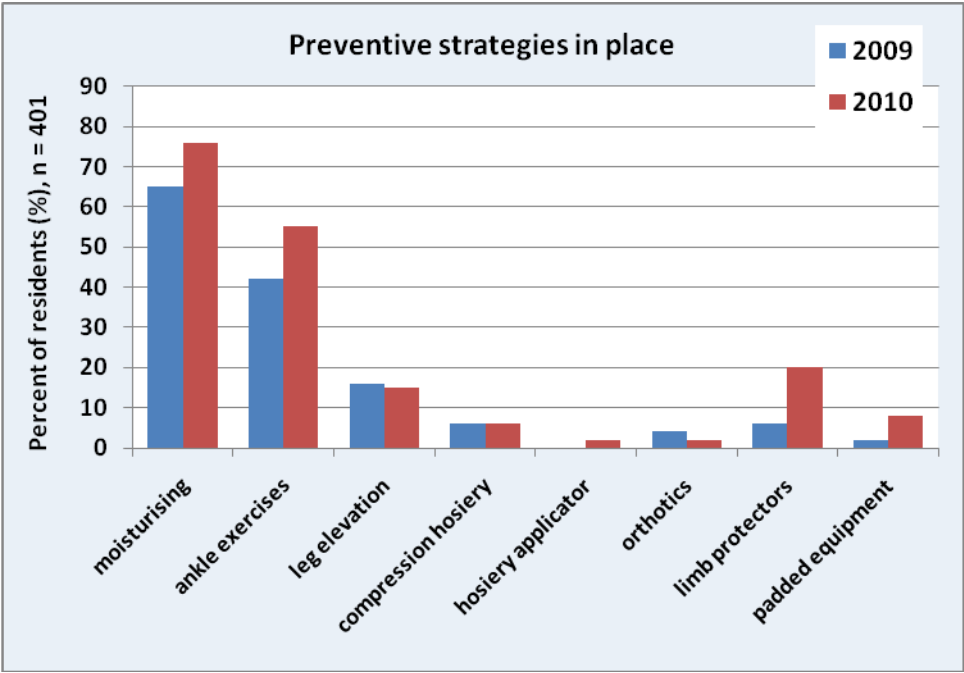
Item	2009 (pre, n = 200)	2010 (post, n = 201)
Prevention		
Residents not able to reposition themselves	18%	19%
Pressure reducing strategies in place	52% had strategies in place <ul style="list-style-type: none"> - 42% comfort devices - 10% turning regime - 8% speciality overlays - 11% replacement mattress - 1% speciality chair - 1% wedge / bed cradle 	59% had strategies in place <ul style="list-style-type: none"> - 54% comfort devices - 7% turning regime - 13% speciality overlays - 10% replacement mattress - 1.5% speciality chair - 4% wedge / bed cradles - 1.5% hip/heel protectors - 0.5% slide sheet
Other prevention strategies in place	73% had strategies in place <ul style="list-style-type: none"> - 65% moisturising regularly - 42% foot and ankle exercises - 16% leg elevation - 6% compression hosiery - 6% limb protectors /protective clothing - 4% orthotic footwear - 2% padded equipment (e.g. wheelchair plates/arm/rests) 	87% had strategies in place <ul style="list-style-type: none"> - 76% moisturising regularly - 55% foot/ankle exercises - 15% leg elevation - 6% compression hosiery - 2% compression applicator - 20% limb protectors /protective clothing * - 2% orthotic footwear - 8% padded equipment
Assessment		
Documented pressure risk assessment on admission	30%	50% * (χ^2 9.6, $p = 0.002$)
Documented risk assessment for other wound types	7%	18% * (χ^2 12.1, $p = 0.001$)
Documented wound assessment for current wounds	16% of those with wounds	28% of those with wounds
The facility has a pressure ulcer risk assessment tool	100%	100%
Facility has risk assessment tools for other wound types	14% (14% skin integrity assessment)	56% ** (41% skin integrity assessment 15% skin tear risk assessment)

Item	2009 (pre, n = 200)	2010 (post, n = 201)
Management		
Documented management of current wounds within the previous five days	27% of those with wounds	32% of those with wounds
Types of interventions recorded	22% dressings 14% referrals (GP, Hospital in NH, dietician, hospital wound specialist) 11% wound photography 4% assessment 3% pressure off-loading 2% wound tracing 1% investigations (swab) 1% compression	79% dressings ** 17% referrals (GP, physio, HINH) 7% wound photography 22% wound assessment * 10% pressure off-loading 7% wound tracing 10% investigations
Additional health professionals involved in wound prevention and management strategies	15% dietician 20% physiotherapist 26% podiatrist 1% wound specialist 1% GP	16% dietician 43% physiotherapist 23% podiatrist 1% GP
Facility has protocols for prevention and management of wounds	Pressure ulcers 71% Skin tears/breakdown 71% Leg ulcers 29% Dressings / management: 14%	Pressure ulcers 71% Skin tears/breakdown 71% Leg ulcers 29% Dressings / management: 43%*
Facility provides resident & family information on wound prevention and management	25% (education sessions, case management conferences)	100% ** (pamphlets, flyers, education sessions, case management conferences)

* p < 0.05

** p < 0.001





1.2 Summary of Results - Champions for Skin Integrity Wound Care Survey – RACF staff

126 surveys were received in the pre-implementation stage in 2009 and 143 surveys received in the post-implementation stage survey in 2010. Response rates were 40% for the pre-implementation survey and 58% for the post-implementation survey. The samples were nearly all different groups of staff – very few staff completed both surveys.

Item	2009 survey (n = 126)	2010 survey (n = 143)
Gender - female	91%	89%
Age	38% aged 51 – 60 years 29% aged 41 – 50 years	34% aged 51 – 60 years 23% aged 41 – 50 years
Staff role	Director of Care/Manager 3% CNC/CN/QI Coordinator 3% Registered Nurse 17% EEN / EN 22% AIN/PCW/Care worker 48% Allied Health worker 2% GP / MO 1% Administration staff 2% Student EN/EEN/RN 2%	Director of Care/Manager 3% CNC/CN/Nurse educator/QI 5% Registered Nurse 15% EEN / EN 10% AIN/PCW/Care worker 62% Allied Health worker 2% GP / MO 0% Administration staff 2% Students 1%
Completed education relating to role	80%	94%
Type of course completed	Postgraduate qualifications 13% Degree 9% Adv. Diploma/Diploma 18% Certificate IV 21% Certificate III 37% Certificate I / II 2%	Postgraduate qualifications 11% Degree 14% Adv. Diploma/Diploma 10% Certificate IV 9% Certificate III 54% Certificate I / II 3%
Confidence in ability to accomplish EBP activities (scale 0 – 10)	Mean score 6.1 (SD 1.60)	Mean score 5.9 (SD 2.15) Items showing improved scores: - identifying key search terms - conducting a literature search - locating on-line guidelines
Received training in EBP	46%	55% *

Item	2009 survey (n = 126)	2010 survey (n = 143)
Received training in literature searching	39%	41%
Received training in computer use	54%	73% *
Frequency of use of EBP (scale 0 – 7)	Mean 4.2 (SD 1.63)	Mean 4.1 (SD 1.88)
Staff directly involved in wound care	52%	42%
Confidence in wound care scale (scale 0 – 4)	Mean 2.8 (SD 0.68)	Mean 2.8 (SD 0.86) Items with improved scores: - ability to manage leg ulcers - ability to manage diabetic foot
Able to choose the most appropriate wound care?	20% always 76% some of the time	20% always 61% some of the time
Use an emollient or soap alternative for bathing residents	50%	74% **
How often do you use a wound assessment tool?	36% always 56% some of the time	40% always 39% some of the time
Barriers to evidence based wound care. Scale 0–7, where 0 = not at all limiting, 7 = very limiting		
	Mean (2009)	Mean (2010)
Staffing levels	4.5	3.7 *
Time	4.3	3.5 **
Knowledge & education	3.9	2.7 **
Access to dressing consumables	3.7	2.9 *
Management support	3.6	2.7 *
Documentation requirements	3.6	2.7 **
Current practices	3.5	2.6 **
Resident preferences	3.4	2.7 *
Other health care professionals	3.4	2.6 **
Policies & procedures	3.3	2.4 **

* p < 0.05

** p < 0.001

Appendix 2

Evaluation Report

Champions for skin integrity (CSI): Assessment, prevention and management project

Evaluation undertaken by:
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CONTENTS

	Page
Abbreviations	4
List of Tables	4
1. Introduction	5
2. Contextual factors	5
2.1. The Australian Residential Aged Care Sector	5
2.2. Organisational details	6
2.3. The Champions for skin integrity project: Aims and objectives	7
2.4. Project Team description	7
2.5. Processes and methods	8
2.6. Implementation Visits	10
3. Resources	11
4. Knowledge transfer	11
5. Project approach	12
6. Key Issues	12
6.1. Cultural Barriers	13
6.2. Educational and literacy levels	13
6.3. Role/knowledge conflict	13
6.4. Organisational culture	14
6.5. Workforce development	14
7. Sustainability Factors	14
8. Outcomes	16
8.1. Unintended outcomes	16
9. Lessons	17
10. Recommendations	17

ABBREVIATIONS

ABS	Australian Bureau of Statistics
CALD	Culturally and Linguistically Diverse
CSI	Champions for Skin Integrity
DOHA	Department of Health and Ageing
DON	Director of Nursing
EN	Enrolled Nurse
GP	General Practitioner
PC	Personal Carer
QUT	Queensland University of Technology
RACF	Residential Aged Care Facility
RN	Registered Nurse

TABLES

		Page
Table 2.1	Residential Aged Care Facilities: Participant details	6
Table 2.4	Facility Lead and Deputy Champions	9
Table 7.1	Facilitators and barriers to sustainability	15
Table 8.1	Objectives and met outcomes	16

1. Introduction

This evaluation report outlines and evaluates the Champions for Skin Integrity (CSI) project (hereafter called the Project). The Project was conducted in seven Residential Aged Care Facilities (RACFs) located in Queensland and Northern New South Wales. The Project extended over approximately two years (2009-2010) and was funded by the Australian Department of Health and Ageing (DOHA). In brief, Project Staff conducted three week-long on-site Implementation Visits to provide education and training for staff in wound care assessment, prevention and management. RACF staff ratios included Registered Nurses (RNs), Enrolled Nurses (ENs) and Personal Carers (PCs). A number of resources were also provided to assist in the sustainability of the CSI model.

An independent evaluation of the project was undertaken by Professor Bob Lonne and Ms Deb Duthie of QUT's Social Work and Human Services Program, who have extensive prior experience of program evaluations. In evaluating the implementation of the CSI project, the Project Evaluation Team conducted two sets of interviews with staff at each of the RACFs. Initial face-to-face interviews at each RACF were conducted after Project Staff completed the second Implementation Visit to each facility. A second interview via telephone was undertaken following the Project Staff's third implementation visit. The Evaluation Team attended project meetings including teleconference meetings, Project Advisory meetings and the end-of-project workshop. Data were collected from the Australian Bureau of Statistics (ABS) Census (2006) to provide an understanding of community contexts and the outcome data collected by the Project Team were also analysed. Members of the Project Team were also interviewed to gain their perspective of the implementation and management of the CSI project.

Overall, the Project was highly successful in implementation. The number of wounds has decreased substantially in all facilities, and staff knowledge and practice confidence has increased in wound care. However, RACFs also clearly recognise the need to maintain staff motivation for continuing evidence-based practice, particularly with minimal ongoing resources available. Additionally, significant interest from other facilities and allied health professionals not involved in the project indicates a need within the aged care sector for training and education in wound care practices. It is suggested that this Project model could be successfully implemented on a national level through appropriate dissemination of knowledge and additional resourcing to ensure its success.

The following report evaluates the process undertaken in implementing the CSI project, using feedback provided by both RACF staff and the Project Team. Facilitators and barriers to sustainability will be discussed, the aim being to provide documented evidence of effective and efficient processes and methods of educating and training in best practice wound care assessment, prevention and management.

2. Contextual Factors

2.1 The Australian Residential Aged Care Sector

The Australian Residential Aged Care sector has experienced significant growth in recent years. This trend is predicted to escalate over the next four decades, whereby the number of people aged 85 and over will quadruple.³⁴ In light of this, it is recognised that residential aged care facilities will experience increasing demand.³⁵ Currently, the sector appears to be undergoing considerable strain. Difficulties have arisen in terms of providing quality care due to an increasing need for residential care, juxtaposed with the difficulties of retaining and recruiting qualified staff. In general, most reports conclude that these difficulties are exacerbated because of increased workload, significant resource constraints, low wages and increased stress levels (Senate

Standing Committee 2009, p. 5).³⁴ This has culminated in variability in delivering continued quality of care.

It is expected also that the complexity of resident needs will become more diverse in terms of increased longevity, increased chronic illness and diversity of care needs. As such, the range of services required, the flexibility of these services, and the costs associated with them will increase and are likely to require staff with specialised nursing skills.³⁶ However, there appears to be a lack of opportunity for nursing staff to access specialised training due to the lack of resources. Additionally, the health and community services sector is experiencing an ageing workforce, with little projection of graduate nurses entering the aged care sector, indicating continuing skills shortages. This has serious implications for future quality of care and best practice standards.

A profile of the facilities participating in this research undertaken by the Evaluation Team demonstrates that these services are also experiencing the above-mentioned issues. This is further backed up by evaluation interviews undertaken with RACF staff during the course of the project.

2.2 Organisational Details

A total of seven (7) RACF's participated in this research. Six (6) facilities were located in Queensland and one (1) was located in Northern New South Wales. All facilities have met the Department of Health and Ageing (DOHA) Accreditation Standards (2008-2011), and are deemed as compliant facilities. Participating RACFs were located in urban, coastal and rural settings, as indicated in Table 2.1 below. Included in this table are the total number of residential beds available at each facility, the number of high care residents, and the type of special-needs group the facility caters for. As can be seen, facilities care for a considerable number of high care residents.

Facility	Number of Beds	High Care	Special Needs Groups
Jeta Gardens	116	49	Multi-cultural Dementia
Masonic Care Qld Sandgate	496	203	Dementia
Blue Care Yurana Aged Care	61	43	Dementia
Masonic Care Qld Cairns	107	86	Dementia
Masonic Care Qld Cooloola Coast	20	6	Dementia
Crowley Nursing Home and Hostel	119	50	Dementia
Blue Care Avalon Aged Care	58	20	Dementia

Table 2.1: Residential Aged Care Facilities: Participant details (Department of Health and Ageing, 2008)

2.3 The Champions for Skin Integrity Project: Aims and objectives

The Champions for Skin Integrity (CSI) Project aimed to implement a sustainable model of evidence based wound care to improve skin integrity of RACF residents. Staff, including Registered Nurses (RNs), Enrolled Nurses (ENs) and Personal Carers (PCs) were involved in education and training provided by the CSI Project Staff in wound care assessment, prevention and management. Ideally, this model would be embedded into everyday wound care practice, guided by the identified Champions, whose role is discussed later in this report. Underpinning this specific aim were five objectives, including:

1. Improvement in clinical care for residents (specifically for venous leg ulcers, arterial leg ulcers, diabetic foot ulcers, pressure ulcers and skin tears);
2. The development and enhancement of staff knowledge and skills, including evidence-based practice;
3. Improved systemic outcomes such as enhanced communication between stakeholders (facilities, residents, residents' families);
4. Development of resources for best practice for national dissemination and improved industry focus of clinical care; and
5. Building consumer confidence in aged care facilities involved in Encouraging Best Practice in Residential Aged Care (EBPRAC) Programs.

For each objective, Key Activities and Indicators of Achievement were developed. These included areas of preparation; data collection; development and implementation of the Wound Management Resource Package; and development, implementation and evaluation of the CSI Model.

2.4 Team description

The Project Team encompassed the Project Leaders (Professor Helen Edwards (primary), Professor Mary Courtney, Professor Anne Chang, Professor Glenn Gardner), Project Manager (Ms Kathleen Finlayson), Nurse Practitioner (clinical) (Ms Michelle Gibb), Project Officer (Ms Christina Parker) and Project Assistant (Administration) (Mr Bob Jensen). All Project Staff, excepting the Project Assistant (Administration) had lengthy backgrounds in nursing practice and demonstrated expertise in key areas such as evidence-based practice, wound care and management and ageing. High quality leadership was evident across the Project Team and were instrumental in ensuring that the Project was well conceived, planned, coordinated and successfully implemented. The Project Leader (Professor Helen Edwards) and Project Manager were closely involved in the project and also visited participating RACFs to liaise with the staff and hold seminars. They also provided high levels of support to the Nurse Practitioner and Project Officer. Outstanding leadership was also demonstrated by the Nurse Practitioner in terms of the education and training aspect. Her practice knowledge and experience assisted in cementing effective professional relationships between RACF and Project Staff. The CSI model was a hands-on direct approach, demonstrating wound care in practice. Overall, RACF staff at all qualification levels commented positively about the Project Team and their level of knowledge and skills. Regular comments included the confidence RACF staff had in asking questions of the Project Team and not feeling overwhelmed or intimidated.

All meetings and communication (teleconferences, newsletters, etc), RACF Implementation Visits, workshops, resource implementation and Project progress reports were compiled into a comprehensive project plan with a detailed calendar of key dates. This enabled structure and coordination and ensured key milestones were met on target. The Project Team as a whole, were high functioning, and had key strengths both as individuals and within the team environment. The

selection of the Project Team members based on their skills and abilities in key areas, particularly wound care, largely contributed to the overall success of this Project.

2.5 Processes and Methods

Project Staff initially visited each site to:

- Orient staff to the CSI project
- Establish team relationships and plans of communication
- Establish implementation plans
- Regular schedules of meetings
- Identify CSI teams and Link Clinicians and discuss their roles

This process effectively established clear guidelines for both the Project Staff and participating RACF staff. Communication and consultation schedules were imperative in maintaining contact with RACF staff and, in effect, also built and maintained motivation of staff to continue with the CSI model once implementation commenced. Communication methods included regular site visits (both education and training sessions, and face-to-face meetings) and teleconferences (both QUT/CSI and QUT/All RACFs). Additionally, the Nurse Practitioner had an 'open door policy' for RACF staff who could contact her for guidance or discussion regarding wound care at any time.

RACF on-site meetings included Project Team liaison with residents and their families. This was an important process for a number of reasons. Residents and their families appreciated being involved in the project and gaining an understanding of the importance of maintaining skin integrity. This was particularly relevant as many residents held fixed views of wound care, particularly the need to change dressings on a regular or daily basis. As the CSI model recommends reduced dressing changes, residents expressed concerns that dressings were not being changed regularly enough. Ensuring residents and their families understood the CSI process reduced resident anxiety and increased their motivation to attend to skin care. RACF staff further commented that residents were less resistant to this new process once clear information and advice was provided. It was also deemed important that RACF staff and residents were kept up to date with the progression of the Project and site visits enabled this.

Teleconferences with CSIs were conducted on an approximate monthly basis. A teleconference plan was constructed with detailed action steps and strategies. Some technical difficulties were experienced in terms of the clarity of the calls, with RACF staff commenting on not being able to hear other conversations clearly. All RACF staff commented that teleconferences were the least preferred method of communication with the Project Team. The Project Team recognised that this method was not ideal; however, the lack of staff resources, the distances between facilities and the busy nature of the work were barriers to implementing regular face-to-face meetings with all CSIs.

Roles undertaken across the CSI project included Champions, Link Clinicians and Wound Care Network members. These roles were identified in Phase one (1) of the project. The following table provides an overview of the Lead and Deputy Champions within each of the facilities:

Facility	Manager	RN	EN	PC
Yurana	√ (L)		√ (L) √√(D)	√√√√ (D)
Crowley		√√(L) √√√√ (D)	√ (D)	√√ (D)
Cairns	√ (L)	√√√ (D)	√√√√√ (D)	
Sandgate	√ (L) √ (D)	√	√√√ (D)	√ (D)
Tin Can Bay	√ (L)	√√ (D)	√ (D)	√√√√ (D)
Emerald		√ (L)	√ (D)	√ (D)
Jeta Gardens	√ (L)	√√√√ (D)	√ (D)	√√√ (D)

Table 2.4: Facility Lead and Deputy Champions

The role of the Champions for Skin Integrity (CSIs) was integral to implementing the model. Facilities were requested to appoint Lead and Deputy CSIs who had credibility with their facility and possessed an interest in wound care. In most instances, staff volunteered for the role because of their interest in wound care. However, other staff members were appointed by management. Undertaking the role of Lead or Deputy Champion was not based on qualification level, however, all Lead Champions in this project were qualified RNs. The Deputy Champion roles were undertaken by staff with a range of other qualifications, as the above table demonstrates.

Participating RACFs were provided detailed information and descriptions on the role of the Champions at each level of qualification. In general, the Champion role required identified staff to:

- Implement evidence-based strategies for the assessment, prevention and management of wounds aimed at preserving skin integrity
- Act as key contact and resource person for RACF staff, allied health practitioners, Link Clinicians and the Wound Care Network
- Enhance knowledge, skills and attitudes of staff
- Facilitate in-service education, and
- Coordinate CSI team meetings.

The CSI role had both positive and negative outcomes, but overall, was successful. This project demonstrated that encouraging PCs to undertake a Champion role had positive outcomes due to the level of resident interaction these staff members have within facilities. That is, this Project noted that, by far, the majority of staff working on the floor and interacting with residents were PCs. This placed them in the ideal position to regularly note changes in wounds and report any skin problems to higher level staff. PCs also gained recognition within their role, leading to increased satisfaction with their work. An interesting factor noted by some RACF Directors of Nursing (DONs) was the potential of PCs in Champion roles to effectively reduce the workloads of RNs by practising wound care, including changing dressings. If this was to occur, policy change, both in facilities and within the broader aged care sector would be required.

Less positive outcomes included increased workloads and elements of conflict. For example, appointments by management did create issues within the workplace. Designated staff who, not by choice, undertook this role, appeared somewhat resentful. RACF staff commented that the CSI role added to their already high workload, and difficulties were experienced in terms of attending meetings, facilitating training and undertaking research, further impacting on their already stretched resources. Additionally, issues arose for Champions who were lower qualified staff. Conflict sometimes emerged when Champions who were PCs noticed changes in wounds and alerted the RN to address the wound. This is discussed further in the key issues section of this report. This has implications for sustainability. If PCs have the motivation and enthusiasm to undertake the CSI role, and are confident and competent within that role, reflection of who might be in the best position to undertake the CSI role needs to occur.

The role of Link Clinician was an important one in the provision of support and guidance for the Champions. Link Clinicians were local health professionals who had expertise and skills in wound management. They could be internal or external of the facilities. A Wound Care Network was also established in each RACF, consisting of a range of health professionals internal and external to the facility. The purpose of the Wound Care Network was to provide a multidisciplinary perspective on changing wound care practices in a range of health care situations. Project Staff experienced some difficulties implementing the Wound Care Network in many of the RACFs. There appeared to be some reticence or decreased interest on the part of internal and external members based on time and resource issues. Potential members did not have the time for 'another meeting to attend', and struggled to maintain regular meetings. The one facility where the Wound Care Network thrived had an extremely motivated membership and clearly wanted to embrace all aspects of this Project. Meetings were maintained throughout, and these meetings continue to occur.

To provide guidance and expert advice to the Project Team and participating RACFs, a Project Advisory Group was also formed. This group included a number of field experts from a range of residential and community aged care health service industries (podiatry, occupational therapy (in aged care), Divisions of General Practitioners (GPs), representatives from the Hospital in the Nursing Home program, community nursing services, an Aged Care Queensland representative (consumer advocacy organisation), consumer representatives, and representatives from the Australian Wound Management Association and the Qld Health hospital sector). The group was highly motivated and met on a regular basis to discuss the progress of the project. Their support of the Project Team was noted and it is likely this support assisted in the processes undertaken throughout the project.

Project Staff also successfully trialled Twilight sessions at each facility. These sessions provided an opportunity for aged care representatives from a range of areas (internal and external direct care staff, allied health representatives and resource providers) to network and also involved residents and their families. These sessions presented an avenue to transfer knowledge about the CSI project, aims and objectives to a broader audience. The Twilight sessions were positively embraced.

2.6 Implementation Visits

The Project Team conducted three on-site Implementation Visits to each facility between June 2009 and July 2010. Education and training workshops were positively received, with the one-on-one sessions with RACF staff cited as most beneficial. RACF staff commented they found that the hands-on demonstrations were the most effective method of learning. The processes and methods used by Project Staff effectively enhanced or validated wound care knowledge and skills. The use of visuals (photos and overheads) assisted RACF staff to identify wounds, remember information and make a generalisation of the wound and what steps were to be undertaken. Increased awareness of environmental factors and knowledge of equipment were also positively

commented on. Of particular note were expressions of appreciation of the ability of the Nurse Practitioner and the Project Officer to deliver information in “layman’s terms”, that is, a clear and straightforward manner, and were able to clarify any misunderstandings. In addition, RACF staff at all levels of qualification commented on their ability to ask questions and gain clear responses without feeling intimidated or unknowledgeable. This indicates the importance of communicating effectively and ensuring positive interactions occur between RACF and the Project Team, and that teaching methods are congruent with the contextual factors experienced by each facility. The ability of the Project Team to do this contributed to the successful achieved outcomes.

The Project Team also liaised with residents and their families to discuss the elements of CSI project. As stated earlier, this was beneficial for residents and their families to understand the wound care processes being undertaken. RACF staff commented that residents looked forward to the Project Team visiting and to attending any presentations. This strategy also contributed to the successful outcomes achieved.

An area which created some anxiety for RACF staff was the responses from some General Practitioners (GPs) to the CSI model. In the main, GPs were supportive of the processes and, indeed, appreciated information on wound care; however, staff in several facilities commented that their resident GPs refused to acknowledge new wound care practices and staff were reluctant to go against their orders. The Project Team attempted to liaise with these GPs, however, on at least one occasion, communication attempts were not responded to, and on one another occasion, the GP became somewhat defensive and resistant to learning about wound care. Efforts to change ingrained views about the best methods to care for wounds appears to be seen as a challenge to authority, and this could be a clear barrier to sustainability in some RACFs.

3. Resources

The development of the RACF Wound Management Education and Self-evaluation Resource Package comprised of skin integrity audit tools, knowledge surveys, summaries of evidence-based guidelines, education materials and implementation processes. The education package was developed based on staff educational needs identified in the pre-implementation phase of the project. A range of other resources were also available including tip-sheets, treatment planners and skin care grading systems. The tip-sheets, in particular, were positively acknowledged as the information supported staff explanations to residents and their families. RACF staff members were very enthusiastic about the Resource Package content, and acknowledged it is an “ideal resource to refer to”. Other comments included that staff “will think outside of the box” in terms of identifying and trying other dressings. Issues that arose with the Resource Package were limited. Firstly, the content needed to be targeted to RACF staff with a broad range of qualifications and medical knowledge, particularly some of the medical terminology. The second issue arose in terms of the amount of information that was sent to RACFs throughout the project to add to the Resource Package. Some facilities commented on feeling overwhelmed and suggested that less intensive methods of providing information be considered.

4. Knowledge Transfer

Apart from the on-site Implementation Visits and education and training sessions, the Project Team continually disseminated information about the CSI Project. Regular newsletters over the course of the Project were sent to RACFs containing updates, new information, upcoming events and conferences, overviews of participating facilities, and the latest research information regarding wound care. Conferences attended included the Queensland Wound Care Association Biennial Conference (2009); Australian Wound Management Association Conference (2010); and the 7th

Biennial Joanna Briggs Colloquium (Knowledge in Action: The Next Generation of Evidence-Based Practice) (2010) in Chicago. Publications are forthcoming.

RACF staff members have been sharing information when attending workshops as per the CSI role. Facilities celebrated Wound Awareness Week by arranging displays in their facilities of the CSI Project and the importance of a holistic approach to wound care. Additionally, information of the Project was provided by RACFs through newsletters, local newspapers and community displays to raise awareness of the Project and also of wound care. There has been increased interest from the Acute Care sector, hospital sector and areas of allied health with a high number of requests for information and resources stemming from the Project.

5. Project approach

Identifying RACFs to participate in this Project was initially undertaken via a networking approach. The Project Leader instigated contact with several known contacts, which then snowballed to other facilities. All RACFs approached agreed to participate in the Project.

An action research method was undertaken for this project. Action research provided a clear understanding of the issues impacting on the RACFs and their residents and allowed for constant observation, reflection, planning and action.⁴⁰ The involvement of a range of stakeholders (RACF staff, residents and residents' families, other Aged Care professionals and allied health practitioners) supported a collaborative approach to best practice in wound care. This also provided meaningful data that generated information of changes required in practice that would be responsive to the needs of residents. This approach was particularly effective in terms of the education and training provided and the content of the Resource Package. For example, during the first Implementation Visit, it came to the Project Staff's attention that initial methods of verbal and written information required translation and a scaling down into simpler layman's terms due to language and literacy barriers. This was successfully amended prior to the second Implementation Visit.

It is suggested that this method of research was effectively undertaken and successfully implemented, and the process of observation, reflection, planning and action assisted in the implementation of the CSI model. Additionally, collaboration between stakeholders has occurred, and in some cases, has been maintained, and consumer confidence has been increased within the participating RACFs.

6. Key Issues

The CSI Project aim was to implement a sustainable model to improve skin integrity. Several key themes arose in interviews with CSIs regarding the implementation and sustainability of wound care methods into daily practice. These include:

- Cultural barriers
- Education and literacy levels
- Role/knowledge conflict
- Organisational culture, and
- Workforce development

The following section details these key themes and outlines the facilitators and barriers to sustainable wound care practice.

6.1 Cultural barriers

The aged care sector employs a considerable number of nurses and personal carers who are Culturally and Linguistically Diverse (CALD). In this Project, English was a second language for many of the staff. Jeta Gardens, for example, catered for a large number of CALD residents and employed a high number of CALD staff. This created some problems in terms of relaying both written and verbal information. For this service, all resource materials required translation to Mandarin and an interpreter was present when discussing wound care practices and processes with residents and some staff. The Project was delayed to a minor degree in terms of providing information; however, the Project Team acted quickly to emend this oversight. More demonstrations for the CALD staff were required to enhance their understanding, as suggested by the DON of that facility. A further cultural issue was staff understanding of skin properties. A second facility, Avalon, has a 70% CALD staffing level. RACF staff of Fijian background, for example, struggled to understand why wounds were so prevalent for residents in Australian aged care, as their skin is naturally oily and less prone to skin issues. This was a barrier to understanding the CSI model. However, it also provided practice knowledge and understanding.

6.2 Educational and literacy levels

The level of literacy and knowledge of basic medical terminology also created some issues. The Project Team (and some RACF staff) assumed incorrectly that all RACF staff had a base level of literacy and practice knowledge. Many staff did not understand basic medical terminology. Surveys distributed throughout the project were often not completed due to a lack of understanding of questions or terms used. Comments from some DONs were that staff felt “intimidated and unskilled” after attempting to complete the surveys, with many staff feeling confronted about how little knowledge they actually possessed. Comments that the education provided through the TAFE system does not adequately prepare PCs for working in the aged care sector, for example, was reiterated. The Project Team adjusted later surveys to simpler terminology in an aim to gain a greater response. Additionally, information provided regarding resources needed to be adjusted into simpler wording to tailor to specific levels of staff ability and knowledge. This was mainly for the PCs, but also for higher qualified staff.

6.3 Role / knowledge conflict

A number of issues arose regarding the role of the CSIs. On the one hand, staff members who were placed into the role by management initially appeared somewhat resentful of the project. The role was perceived as another job to undertake in their already busy schedule. Secondly, when ENs or PCs were in the role of the CSI, conflict emanated due to role hierarchies. That is, some RNs who were offered the role but declined, were nonetheless dissatisfied with lower qualified staff requesting wound care for a resident. It appeared that RNs were affronted at ‘being told what to do’ by lower qualified staff, who knew more than they did about evidenced-based wound care management. This created some difficulty for the lower qualified CSIs in fully undertaking their role, even though there was a high level of interest in the role and in wound care management processes.

Conversely, some RACF staff commented on the increased collegiality, respect for skills and communication between RNs, ENs and PCs that resulted from CSIs having a range of

organisational roles. Additionally, for the PCs, recognition of their ability to practice wound care management increased, as did their practice confidence. It was also generally recognised that PCs were in the best position to undertake the role of Champion due to their daily interactions with, and care of, residents.

6.4 Organisational culture

As is the case with many RACFs and the nursing sector in general, turnover and recruitment of staff is a significant problem.^{39,41} Influencing factors for turnover are the lack of resources, increased stress³⁴ and increased workload, particularly for RNs.⁴² The lack of resources was a common factor across all RACFs in this project. This impacted to some degree on the Project when CSIs left their facility. Replacement CSIs were required and further training was necessary to induct new staff in the CSI model. Induction incorporated training in wound care management processes and, as such, new staff members were introduced to the CSI method of wound care from the outset of their employment. This is a clear indication that facilities are now implementing wound care into daily practice.

6.5 Workforce development

A key issue in the nursing sector in general but also the aged care sector is the limited training and education in management and leadership.^{38,39} Effective leadership and management skills have been found to increase nurse satisfaction, reduce turnover and contribute to high quality care. However, it would appear that there are a considerable number of nurses in supervisory positions across the sector who are ill-equipped to undertake a leadership or management role.³⁹ RACF staff in this Project commented strongly on the lack of education and training in leadership and management available to them when entering these positions. While possessing credible skills in the provision of care, often nurses are recruited in management positions from direct care work due to high staff turnover without the support, training or skills in how to operate and manage a team of people or to implement change management processes. Additionally, Valentine³⁸ found an increasing shortage of individuals entering the nursing field as a whole. This, combined with the number of nurses retiring due to an ageing workforce (as indicated in this project's RACF profiles), suggests that the aged care sector should consider appropriately training staff members at all levels in leadership and management in an aim to retain skilled nursing practitioners. Leadership and management also play a large role in efficiently undergoing change management processes³⁹ and, as Green⁴³ suggests, adopting leadership styles will effectively support change within the broader system of healthcare delivery. For the aged care sector, succession planning is imperative for effective and quality care.

The lack of leadership and management training may have implications in terms of sustainability of the Champion model. It appeared the motivating force behind the direct care practice of wound care in this Project was the DONs and a number of the RNs. Leadership skills across RACFs will help to ensure that projects such as the CSI are sustainable in the long term.

7. Sustainability factors

Feedback from both the Project Team and RACF staff regarding their views on the sustainability of the CSI model in daily practice was positive. The majority of RACF staff, particularly DONs, expressed a high level of enthusiasm about the CSI project and believed the model to be sustainable in their facility. Some RNs discovered a renewed interest in wound care, but, by far, the most enthusiastic staff members were the PCs and ENs. This new role has increased their

practice skills and knowledge and has also provided them with role recognition and, in all likelihood, greater job satisfaction. Support for them within this role, and ensuring new staff are inducted appropriately when initially employed, intimates that the Champions model can be successfully implemented within daily practice.

Potentially, what might impact on sustainability efforts is the high workload experienced in facilities and the continued resource constraints experienced in terms of staff levels. The reduction of motivation was a key factor mentioned by RACF staff, suggesting that maintenance of training on a regular basis might allay this, as well as the maintenance of newsletters and other information.

In general, RACFs strongly believed the model can be embedded in daily practice. However, they are also aware of barriers that might impact on this. The following table provides an overview:

Facilitators	Barriers
<ul style="list-style-type: none"> • Leadership • Local leadership • Management support • Importance placed on providing quality care for residents • Increased practice skills • Increased confidence in practice ability • Motivation levels • Level of interest of staff in wound care • Accessibility of information • Resource information (dressings, etc) • Education and training pitched to varying levels of staff qualifications 	<ul style="list-style-type: none"> • Lack of resources • Difficulties in retention and recruitment of RACF staff • Conflict / lack of communication skills • Organisational culture • Education and literacy levels of RACF staff • Funding processes • Decrease in motivation

Table 7.1: Facilitators and barriers to sustainability

8. Outcomes

The project successfully met the intended objectives as the following table demonstrates:

Objectives	Outcomes
Improvement in clinical care for residents (specifically for venous leg ulcers, arterial leg ulcers, diabetic foot ulcers, pressure ulcers and skin tears)	Responses from RACF staff and Project Staff indicate a significant decrease in venous leg ulcers, arterial leg ulcers, diabetic foot ulcers, pressure ulcers and skin tears, suggesting that clinical care for residents has improved markedly. More focus is now on wound prevention methods, rather than wound management.
The development and enhancement of staff knowledge and skills, including evidence-based practice	All RACF staff commented on their increased level of knowledge and skills in wound care, although many staff remain unsure whether they are competent in evidence-based practice
Improved systemic outcomes such as enhanced communication between stakeholders (facilities, residents, residents' families)	Communication increased markedly between facilities, residents and residents' families.
Development of resources for best practice for national dissemination and improved industry focus of clinical care;	The development of resources during this project was intense and covers a range of practical information for best practice. Facilities nationwide, who were not involved in this project, have demonstrated a high level of interest in accessing the resources developed. This is an excellent outcome of the CSI Project, and a particularly good outcome for residents in Australian aged care facilities
Building consumer confidence in aged care facilities involved in Encouraging Best Practice in Residential Aged Care (EBPRAC) Programs	The interaction with families of residents has likely increased consumer confidence in facilities involved in Encouraging Best Practice in Residential Aged Care (EBPRAC) Programs.

Table 8.1: Objectives and met outcomes

8.1. Unintended outcomes

One of the major unintended outcomes was the facilities' capacity to manage organisational change. Although conflict between some staff emanated during the change process, overall, facilities have successfully embedded the Champion for Skin Integrity in their practice, effectively changing previous methods. As Cork (p. 41)⁴⁴ notes, "change must be planned, focused and inclusive to succeed, and any change agent must be supported in practice by peers who believe in the cause and can act as 'champions'". It is suggested that the support and assistance provided to RACF staff by all members of the Project Team, including Administration, has assisted RACF staff to undergo change relatively smoothly.

9. Lessons

In consultation with the Project Team, a brief overview of the lessons learned through implementing the CSI model is provided:

- The best persons for the role of Champions may not necessarily be higher qualified staff. Rather, PCs who are interacting with residents and their care on a daily basis, may be better placed as Champions
- Resources need to be developed at differing educational levels to cater for the range of qualifications, knowledge and skills of RACF staff
- Resource Package information needs to be disseminated at a more progressive pace
- Surveys and other written information to be written in simpler language
- Methods of teaching wound care need to be cognisant of the literacy and language barriers
- Language and literacy barriers need be taken into consideration when developing resources
- Critical importance of leadership and management training to assist in change processes

Overall, the lessons learned in the initial implementation of the CSI Project will better place implementation in other RACFs in the future.

The following section discusses the recommendations stemming from this evaluation report.

10. Evaluation key conclusions and recommendations

In evaluating the Champions for Skin Integrity Project, it is recognised that, while overall the CSI model is sustainable, there are some barriers in implementing a changed wound care management system. This Project demonstrated that resource constraints, education and literacy levels, organisational culture and elements of workforce development may be potential barriers to embedded implementation of the CSI model. However, as this Project has demonstrated, these barriers can be minimised. The following recommendations are suggested:

Recommendation 1:

Champions for Skin Integrity: Intervention, prevention and management continue

1. The Champions for Skin Integrity model continue to be implemented across the aged care sector, supported with additional funding from DOHA. This evaluation found that the implementation of the CSI model successfully met the aims and objectives of the project, and further, that the model is, indeed, sustainable. The benefits to residents in terms of increased skin integrity and decreased wounds, and the benefits to the RACF staff and facilities in terms of increased practice knowledge, skills and confidence are significant milestones. The outcomes of this project suggests that other aged care facilities and their residents would benefit from positive and effective change in wound care practice

Recommendation 2:

Project management and implementation guidelines utilised in the CSI project underpin future projects in the aged care sector

2. The success of this project can be linked clearly to the methods and processes undertaken to manage and implement the CSI project. Findings should be provided to other teams undertaking projects in the aged care sector so guidelines for managing, coordinating and implementing projects within the aged care sector can be duplicated.

Recommendation 3:

Promotion of leadership and change management processes is embedded

3. Leadership and management training be promoted throughout the aged care sector to equip RACF staff with additional non-direct-care skills and abilities. This is particularly so considering the level of staff turnover, the increasingly ageing workforce, and the benefits of these skills in effective change management processes.

In conclusion, the Champions for Skin Integrity: Assessment, prevention and management has successfully been implemented into the daily practice of the seven (7) participating RACF's. The successful reduction of wounds and the increased skin integrity of RACF residents is a clear indication that the overall aim of this Project has been achieved. The practice knowledge and skills of the Project Team, as well as their ability to coordinate and manage this Project is also a large contributing factor to its success.