

# The Evaluation of the Adherence to the Recommended Pressure Ulcer Guidelines within the Aged Care Sector

**By**

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## **ABSTRACT**

Pressure ulcers are debilitating, costly and potentially fatal, particularly for the frail and elderly. In addition, pressure ulcer prevalence remains a major concern in both the acute and aged care sectors. However, the most sobering reality is that the utilisation of recommended clinical practice, at the bedside, has the potential to prevent pressure ulcers. This thesis reports on a study aimed at establishing the pressure ulcer prevention and management practices of the aged care organisation and nurse within the Queensland aged care sector, including the identification of the enablers and inhibitors.

A mixed method approach utilising questionnaire, audit and focus group was undertaken. The priority of the quantitative data was a key element in the research design, however, a qualitative approach was used to explore pre-identified quantitative findings. An audit and focus group were conducted in each of the seven aged care facilities and 118 aged care nurses from these aged care facilities provided the data for the survey. A Factor Analysis was the initial step in the statistical analysis of the quantitative data. Furthermore, a thematic approach was utilised to categorise and interpret the qualitative data.

The main findings of this study are: aged care organisational pressure ulcer prevention and management strategies influence the aged care nurses pressure ulcer prevention and management practices; the utilisation of evidence based pressure ulcer prevention and management varied across aged care facilities and the type of pressure ulcer prevention and management strategy; aged care political and economical drivers have a motivational influence on the organisation; and inhibitors (lack of time and resources) and enablers

(education, pressure ulcer prevention and management policies and wound champions)  
moderate pressure ulcer prevention and management practice.

Exploring the pressure ulcer prevention and management practices utilised in the aged care sector has assisted in delineating processes that will encourage the adherence of aged care nurses to the recommended pressure ulcer guidelines. Furthermore, it has become increasingly apparent that organisational pressure ulcer prevention and management strategies play a vital role in the aged care nurse's pressure ulcer prevention and management practices and that organisational pressure ulcer prevention and management strategies are, in the main, less than ideal.

## **BONAFIDE DECLARATION STATEMENT**

I, Debra Irene Harcourt, declare that the research and discussion presented in this thesis are the original work of the author and has not been submitted at any tertiary institute or university for any other award. Any material which has been presented by any person or institute is duly referenced, and a complete list of all references is presented in the bibliography.

Signed by Debra Irene Harcourt .....

Date



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## GLOSSARY

***Accreditation:*** Accreditation is the process established by the Australian Government to verify that aged care facilities provide quality care.

***Aged Care Act 1997:*** Commonwealth legislation that supports Australian Government funding to be provided for aged care.

***Aged care facility:*** A residential aged care home that provides services and care, including nursing care, for highly dependent residents. Also known as a ‘nursing home’, ‘home for the aged’ and ‘aged care home’.

***Aged care organisation:*** A governing body that administers aged care facilities within their jurisdiction.

***Basic mattress:*** The basic mattress found in the aged care sector. This mattress usually consists of a single layer of foam confined by a non-stretch plastic cover. Life expectancy of the mattress is approximately two to three years (AWMA 2001).

***Clinical effectiveness:*** Applying the best available knowledge, derived from research, clinical expertise and patient preferences, to achieve the optimum processes and outcomes for the patient.

***Core fatigue:*** Occurs when the basic foam mattress softens under the area of maximal weight. The base of the bed is felt when palms of the hands apply full body weight downward over this region.



***Direct care staff:*** Staff working within the aged care facilities that provide hands on care for the residents. This includes LHCWs and UHCWs.

***Enrolled nurse:*** An enrolled nurse is bound by the Nursing and Midwifery Acts in each State and Territory and regulatory authorities pursuant to those Acts and regulations. The enrolled nurse may practice within the scope of their educational training under the supervision of a registered nurse.

***Evidence based practice:*** The utilisation of current best evidence when making decisions about the healthcare of patients.

***Friction:*** A force created by two surfaces in contact moving across each other (Queensland Health 2004).

***Guidelines:*** Systematically developed advisory statements created according to validated methodologies (Field & Lohr 1992).

***Incidence:*** ‘The number of new cases of a disease or event in a population during a specific period of time.’ (AWMA 2001, p. 4).

***Licensed health care worker (LHCW):*** A group that incorporates registered nurses and enrolled nurses.

***National Institute of Clinical Studies:*** Is part of the National Health and Medical Research Council. The National Institute of Clinical Studies aims to improve health care by getting the best available evidence from health and medical research into everyday practice.

**‘No Lift’:** This term, when used in this study, means the exclusive use of manual handling equipment (For example, slide sheets and mechanical hoists) to move residents who require assistance when changing position.

**Policies:** An organisations official position regarding an explicit health condition (Courtney 2005).

**Pressure ulcer:** Any lesion caused by unrelieved pressure when soft tissue is compressed between a bony prominence and an external surface for a prolonged period (Queensland Health 2004).

**Prevalence:** The number of existing cases of a particular disease or condition in a given population at a designated time (Queensland Health 2004).

**Procedures:** An established series of steps, approved by the organisation, in order to complete a specific task, usually has an accompanying policy (Courtney 2005).

**Protocols:** Prescribed statements detailing how a process of care should be conducted (Courtney 2005).

**Registered nurse:** A nurse that is registered with the state Nurses’ Board in division one and has developed skills in assessment and knowledge of disease processes. Registered nurses have an overall coordinating responsibility for the resident’s care.

**Risk factors:** Predisposing factors, both intrinsic and extrinsic, which increase a person’s probability of pressure related injury (Queensland Health 2004).

**Shear:** Skin trauma caused by tissue layers sliding on one another, resulting in disruption or angulation of blood vessels (Queensland Health 2004).

***Staging of pressure ulcers:*** The depth of tissue damage, ranging from observable pressure related damage (stage-one) to full thickness skin loss with extensive destruction (stage-four) (AWMA 2001).

***Standard:*** A designated and accepted directive for patient-care procedures developed to increase the probability of appropriate treatment (Courtney 2005).

***The Joanna Briggs Institute:*** An International not-for-profit research and development organisation specialising in evidence-based resources for healthcare professionals.

***Unlicensed health care worker (UHCW):*** Applies to an unlicensed employee in the health care sector who is predominantly untrained. The UHCW functions in an assistive role to the LHCW in providing patient care activities delegated by the LHCW. Sometimes referred to as a ‘carer’, ‘personal carer’, ‘assistant in nursing’ or ‘nurse assistant’.

***User pays:*** User pays is a pricing approach based on the idea that the most economically efficient allocation of resources occurs when consumers pay the full cost of the goods that they consume. There is no subsidy from government revenue.

***Wound management:*** Is a complex term that incorporates all aspects of caring for a client with a wound that positively affects wound healing. It is specifically used in this study generically to represent provision of care for a client with a pressure ulcer.

## **LIST OF ABBREVIATIONS**

AWMA	The Australian Wound Management Association
CE	Clinical effectiveness
EBP	Evidence based practice
EN	Enrolled nurse
LHCW	Licensed health care worker
PRA	Pressure risk assessment
PU	Pressure ulcer
PUP & M	Pressure ulcer prevention and management
RN	Registered nurse
UHCW	Unlicensed health care worker

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# Chapter 1 : INTRODUCTION

‘Pressure ulcers. Abuse. Neglect. Attorneys. Cha Ching! The growing concern regarding nosocomial pressure ulcers in healthcare facilities today is getting million dollar attention’ (Goudberg Lockhart 2002, p. 63).

The reality of pressure ulcer incidence remains grim and the risk of litigation is increasing (Coble Voss et al. 2005). In excess of two thousand incidences of pressure ulcers were reported in the Queensland public health system during 2006/7. Furthermore, approximately half the individuals who sustained a pressure ulcer experienced preventable harm (Wakefield 2008). It is prudent to bear in mind that this statistic is not a true reflection of the incidence of pressure ulcers in Queensland during this period, as private healthcare statistics are not available. However, the most sobering reality is that the use of recommended clinical activity prevents the majority of pressure ulcers (Nicosia et al. 2007). This study explores the utilisation of clinical guidelines for the prevention and management of pressure ulcers in the Queensland public and private aged care sector. In this first chapter a rationale for the study, the study aim and objectives, the significance of the research and a brief overview of the thesis are elucidated.

The number of Australian citizens over the age of 65 has increased by one percent every year since 1998 and approximately 200 000 of these citizens are residing in permanent residential aged care facilities (Department of Health and Ageing 2007). The Australian Governments and private organisations, including not-for-profit operators, provide residential aged care in Australia. The Australian Commonwealth Government supports aged care providers financially and regulates the provision of this support according to the

resident's care requirements (Department of Health and Ageing 2007). For aged care providers to be eligible for continued government fiscal support they are assessed against predetermined standards of care (Department of Health and Ageing 2007). Although pressure ulcer prediction and prevention is not included as one of the four aged care standards, it is a central aspect of caring for the elderly client and is now established in many healthcare settings as a quality indicator (The Australian Council on Healthcare Standards 2008).

The Australian Council on Healthcare Standards is Australia's leading independent, not-for-profit healthcare assessment and accreditation provider. The Australian Council on Healthcare Standards has identified pressure ulcers as a quality care issue and utilises pressure ulcer prevalence as an indicator, collecting data from healthcare providers throughout Australia (Australian Council on Healthcare Standards 2008). The utilisation of pressure ulcer prevalence as a quality indicator has seen an escalation in the requirement for the implementation and utilisation of pressure ulcer prevention strategies, predominantly in the acute care sector (Robinson 2005). In comparison, the prevalence of pressure ulcers in the aged care sector has received minimal attention. The solitary contemporary Australian study that specifically considered the prevalence of pressure ulcers in the aged care sector, reported a pressure ulcer prevalence of 25.9 percent in twenty three nursing homes throughout New South Wales, Victoria, South Australia and Western Australia (Santamaria et al. 2005).

In 2003, the researcher undertook a quality improvement project, the aim of which was to provide education in wound management to nursing professionals. While conducting education sessions in the aged care sector throughout Southern Tasmania, it was observed



that nursing staff members were not aware of national guidelines and standards that underpinned pressure ulcer prevention. Moreover, the majority of aged care organisations did not utilise a strategy for implementing the readily available Clinical Practice Guidelines for the Prediction and Prevention of Pressure Ulcers (Australian Wound Management Association 2001). Furthermore, the researcher, as a wound management nurse, has cared for numerous clients who live with the reality of a preventable pressure ulcer many of which were the result of poor clinical decision-making. These observations were the impetus for this study.

## **1.1 RATIONALE FOR THE STUDY**

The nurses' role in wound management has undergone considerable change in the past decades. Nurses have a greater responsibility in risk identification and management, patient education and wound management including the selection of wound management products. In addition, they are required to effectively evaluate whether expected outcomes have been met and if not they are to know why and what course of action is required (Lait & Smith 1998). With this changing role there has been an increased requirement for nurses to ensure the utilisation of evidence-based nursing practice and hence, incorporate clinical practice guidelines into their provision of care (Closs & Cheater 1999). The review of literature highlights the dearth of Australian research regarding pressure ulcer clinical practice and guideline utilisation in the aged care sector. Through this research, the existing literature 'gap' is lessened, therefore providing insight into pressure ulcer guideline adherence by nurses in the aged care sector.

## **1.2 RESEARCH QUESTIONS**

The following questions were devised to guide this research project:

- Are aged care organisations using evidence-based guidelines and standards to strategically implement pressure ulcer prevention and management (PUP & M) strategies?
- To what extent is the licensed healthcare worker (LHCW) and unlicensed healthcare worker (UHCW) utilising recommended guidelines and standards for the prevention and management of pressure ulcers in the aged care sector?
- What organisational factors enable or inhibit implementation of recommended guidelines and standards for the prevention and management of pressure ulcers in the aged care sector?

## **1.3 STUDY AIM AND OBJECTIVES**

The overall aim of the research was to determine the extent pressure ulcer guidelines and wound management standards are used in the aged care nurses' clinical practice and to ultimately establish a process whereby aged care nurses are encouraged or motivated to adhere to national pressure ulcer prediction and prevention guidelines and standards for wound management. The objectives formulated to achieve this aim include:

- To identify the guidelines and tools aged care organisations in the Southern Queensland region utilise in PUP & M;

- To gain an understanding of current, individual PUP & M practices of nurses in aged care within Southern Queensland;
- To identify practices used by nurses in aged care to prevent and manage pressure ulcers using the 'Clinical Practice Guidelines for the Prediction and Prevention of Pressure Ulcers' (AWMA 2001) and, to a lesser extent, the 'Standards for Wound Management' (AWMA 2002);
- To establish the barriers that constrain nurses in the aged care setting implementing evidence based PUP & M strategies; and
- To establish what facilitates the aged care nurses' implementation of evidence based PUP & M strategies.

## **1.4 SIGNIFICANCE OF THE STUDY**

Pressure ulcers are a considerable health problem worldwide and Australia is not immune (Nelson 2003). The prevalence of pressure ulcers globally in the residential aged care sector highlights a large statistical variance of between 8.8 percent (Tannen et al. 2006) and 53.2 percent (Davis & Caseby 2001). Consideration of the fiscal cost of pressure ulcers is problematical due to the limited research, different methodologies and diverse settings. However, it is universally reported in literature and accepted in the wound management arena that pressure ulcer treatment costs are high and exert a burden on the healthcare sector (Gunningberg et al. 2001; Prentice & Stacey 2001b; Sharp et al. 2000). However, from the individual's perspective, the cost imposed on the quality of life holds far greater significance (Hopkins et al. 2006; Spilsbury et al. 2007).

Studies examining the effects of pressure ulcers on quality of life report emotional, mental, physical and social difficulties for the sufferer (Gunes 2008; Hopkins et al. 2006; Redelings, Nolan & Sorvillo 2005; Spilsbury et al. 2007). Redelings, Nolan and Sorvillo (2005) found that over a two year period pressure ulcers were reported as a cause of death among 114,380 persons and for 18.7 percent of these deaths, pressure ulcers were the reported primary cause. Furthermore, the majority of pressure ulcer associated deaths occurred in the elderly (75 years and older). Pressure ulcer prevention precludes unnecessary suffering and is indisputably 'cost effective'. However, mortality is not the only adverse effect of pressure ulcers for the individual and their relatives.

Pain is also associated with the presence of a pressure ulcer and this pain restricts daily functioning (Gunes 2008; Hopkins et al. 2006; Spilsbury et al. 2007). In fact the pain associated with pressure ulcers is reported to be 'endless' (Gunes 2008) and is furthermore, perceived by sufferers as not acknowledged by nursing staff (Spilsbury et al. 2007). Goudberg Lockhart (2002) suggest that the failure to follow the nursing process (assess, diagnose, plan, implement and evaluate), which ultimately ends in injury to a patient may be the basis for a malpractice case and research from the United States of America reveals that lawsuits related to pressure ulcers is increasing (Coble Voss et al. 2005). Nelson (2003) reports that litigation against individual health care providers and organisations in the pressure ulcer arena is uncommon in Australia. Though, Nelson (2003) also extrapolates that this may not always be the case.

Tingle in 1997 cited several cases in the United Kingdom, related to mortality, suffering and pressure ulcers that proceeded to court. These cases revealed appalling patient neglect and suboptimal pressure area care and in all cases money was awarded to the defendant

(Tingle 1997). Coble Voss et al. (2005) investigated long-term care provider's liability related to pressure ulcers in the United States of America. During 1984 to 1999 there were 109 cases against long-term care providers. The jury ruled in favour of the resident in the majority of cases that proceeded to court. The median recovery by residents was 695 000 Australian dollars. Furthermore, Coble Voss et al. (2005) found that during 1999 to 2002 these types of cases increased. Australian society may not be as litigious as the United States of America, however, the potential for lawsuits regarding pressure ulcers exist and in general are based on negligence and failure to provide care dictated by industry standards. The fiscal outcome of these lawsuits, as seen in the United States of America, is costly (Nelson 2003).

Chapter Two establishes that the individual's potential for developing a pressure ulcer will decrease as the nurses' knowledge and utilisation of best practice for pressure ulcer prevention increases. This in turn has a flow on effect for the organisation by decreasing pressure ulcer occurrence and therefore, a decrease in fiscal costs. The potential risk of litigation and the aged care resident by potentially negating suffering of the aged care resident are similarly reduced. This study examines the PUP & M strategies utilised by nurses, for the individuals who have the greatest risk of acquiring a pressure ulcer, the elderly (Gunningberg 2005). Identifying existing PUP & M strategies assists in directing the future when implementing evidence based pressure ulcer prevention.

The Queensland Government has provided significant finances for the production and dissemination of pressure ulcer guidelines. However, Osborne and Webster (2005, p. 194) argue that in order for clinical guidelines to be effective, they must be perceived as useful and they must be used. The CE of pressure ulcer guidelines is only as beneficial as the

implementation process (Osborne & Webster 2005). Even the most rigorously developed clinical guidelines will be of little benefit if they are not implemented effectively (Flottorp et al. 2002). Potentially the ineffective implementation of pressure ulcer guidelines at the bedside may render the Queensland Government's fiscal outlay futile.

This study addresses a gap in evidence surrounding the implementation of pressure ulcer guidelines within the aged care sector. It is imperative that an adherence to recommended pressure ulcer guidelines and wound management standards by aged care nursing staff is established promptly, including the enablers and constrainers to the utilisation of evidence based practice (EBP) in this domain. The establishment of PUP & M practices in the aged care sector will elucidate the direction for future pressure ulcer implementation endeavours.

The occurrence of pressure ulcers remains a concern both from a fiscal, legal and a social aspect. The development and management of a pressure ulcer is both financially costly (Graves, Birrell, & Michael 2005; Queensland Wound Care Association 2005; Sykes & Blanchfield 2005) and potentially litigious (Goudberg Lockhart 2002; Meehan & Hill 2002), however, arguably the greatest cost is the personal suffering of the individual (Gunes 2008; Hopkins et al. 2006; Spilsbury et al. 2007). Therefore, it is essential that all healthcare providers, from the individual clinician to the key decision makers within the large organisation do all that can be done to prevent pressure ulcers.

## **1.5 SCOPE OF THE STUDY**

Pressure ulcer prediction and prevention is a component of daily activity for the nurse, regardless of the healthcare setting (Coble Voss et al. 2005). Whilst this study is relevant

to all healthcare settings, the scarcity of research on pressure ulcer prevention in aged care and the existence of an aging population provided the impetus to limit this research to the aged care sector. Therefore, data was obtained from pressure ulcer preventative and management practices of the aged care nurse and organisation, in both the public and private aged care sectors, in the Southern region of Queensland.

## **1.6 AGED CARE STAFF: DELINEATING THE CONTEXT**

Residential aged care services provide accommodation and support for the elderly who, for various reasons, can no longer live at home. Two levels of care exist, low and high care. The basic difference between the two levels of care is that the resident in high care requires a greater intensity of nursing (Australian Institute of Health and Welfare 2007).

The Federal Government supports the private aged care provider financially and regulates the provision of this support through the Aged Care Funding Instrument. This instrument is based on an assessment of resident's care needs (Department of Health and Ageing 2008). To be eligible for continuing government fiscal support aged care facilities are assessed using four aged care standards that incorporate forty four service criteria (see Appendix A). This regulatory process was established under the *Aged Care Act 1997*, the *Accountability Principles 1998* and the *Accreditation Grant Principles 1999* (Attorney-General's Department 2007, 2009a and 2009b). The Department of Health and Ageing appoint an independent body to administer the accreditation processes and aged care facilities obtain accreditation if they meet the required standards (Attorney-General's Department 2007).

Australian aged care facilities employ LHCWs and UHCWs for the provision of resident care. During 1987 to 2001 there was a phenomenal growth in the unskilled, unregulated healthcare work force. In 2001, 39 thousand UHCWs were employed throughout Australia (Shah & Burke 2001). UHCWs represent a considerable proportion of the workforce providing direct care for residents' in the residential aged care sector. In 2002, there were five UHCWs employed to every one registered nurse (Department of Health and Ageing 2003, p. 18). Research in the aged care sector pertaining to this topic was minimal. However, Hegney et al. (2006) when examining nurse workforce issues in Queensland found that aged care nurses believe it is more difficult to complete their job than nurses employed in other settings. Furthermore, the majority of aged care nurses believe there is an inadequacy in skill mix and staff to resident ratio.

The Australian Nursing Federation released a policy in 1994, with additional endorsement in 2006 that clearly delineates the roles of the LHCW and UHCW in the residential aged care environment (Australian Nursing Federation 2006). In summary, this policy advocates a team approach and incorporates resident involvement. The registered nurse is acknowledged as the assessor, planner and manager of the resident's care. Furthermore, the Royal College of Nursing Australia and the Australian Nursing Federation (2008) released a joint position statement that integrates guidelines, concerning UHCWs. This position statement emphasised the registered nurses delegation and supervisory role. Therefore, under the delegation and supervision of a LHCW, the UHCW performs many of the pressure ulcer preventative measures. UHCW, unlike LHCW, are not regulated in Queensland, are predominantly unskilled, and in many instances not formally trained and therefore, are required to work as a member of a team structure (Chandler 2003). This



team approach to providing nursing care is a pivotal element in the residential aged care environment.

## **1.7 ORGANISATION OF THE THESIS**

This thesis contains six chapters. Chapter Two is a literature review and provides an analysis of current research underpinning pressure ulcers and PUP & M strategies, including the strengths and weaknesses of existing implementation methods. The increasing development of clinical guidelines to facilitate evidence-based practice is also examined including an identification of variables that communicate the barriers and enablers of EBP.

Chapter Three describes the methodology of the study and includes the conceptual framework and an in depth explanation of the chosen mixed method structure. In particular, it examines the tools used to collect the quantitative data and the process of validation.

The quantitative and qualitative results from the nursing staff questionnaire and aged care organisation audit are presented in Chapter Four. The research questions provide a foundation for the organisation of this chapter. Graphs and tables have been used to assist in the interpretation and the illustration of the results.

A discussion on PUP & M in the aged care sector utilising the results from the audit and questionnaire occurs in Chapter Five. Furthermore, quotes that represent the main themes emanating from the focus group data are included to qualify the quantitative data. The research literature is used to support and refute the findings in the context of previous

research studies. Chapter Six is a summary of the study and includes recommendations aimed at increasing the utilisation of evidence based PUP & M strategies by Australian Governments, aged care organisations and aged care nurses. This includes suggestions for prospective research within PUP & M.

## **1.8 CONCLUSION**

The suffering associated with the existence of a pressure ulcer is the researcher's key motivator for this study. If one pressure ulcer can be prevented then this changes the world for the individual. However, if many of these pressure ulcers can be prevented, through a system that is fiscally sustainable, then this not only changes the world for the individual but also positively changes healthcare. Therefore, the aim of the study is to identify and establish a process whereby aged care nurses are able to adhere to national pressure ulcer guidelines and standards for wound management in the expectation that adherence will prevent pressure ulcers. For as Brandeis, Berlowitz and Katz (2001, p. 248) suggest:

Unlike death and taxes, the inevitability of PU [pressure ulcer] development is uncertain. Nursing homes, if assiduous about assessing risk and implementing standards for prevention and care of established PUs, can minimize [sic] the development of PUs [pressure ulcers] and enhance patients' quality of life.

## **Chapter 2 : LITERATURE REVIEW**

The multifarious concepts that underpin this study are evidence-based practice (EBP); CE; clinical guidelines; pressure ulcer prevention; and, wound management; in particular pressure ulcers, and aged care. As such it is necessary to investigate the literature surrounding each of these concepts. However, as each concept is associated with a vast amount of literature, this chapter will focus on those aspects that relate directly to the research, with particular emphasis on the literature that focuses on the intersection of these concepts.

The first section of this chapter will examine the history of EBP: the support for this concept including barriers and enablers of EBP and how clinical guidelines facilitate the attrition of these barriers. Furthermore, the perception that EBP supports CE will be discussed. The second section of this chapter will explore pressure ulcer guidelines in a national and international context, with particular focus on pressure ulcer prevention and the aged care sector.

### **2.1 EVIDENCE-BASED PRACTICE**

The EBP process, in the main, begins with a line of inquiry. This line of inquiry may have evolved from an observed clinical problem, a personal or professional interest, or as a necessity to complete course work. Regardless of the reason for the inquiry, a review of the literature must follow. This literature is embedded in many formats, for example within best practice statements, clinical guidelines and original research articles. From this point the clinician deliberates and determines if the evidence is of significant quality to

incorporate into clinical practice (Closs & Cheater 1999). Subsequently the implementation process is formulated, instigated and evaluated (Reavey & Tavernier 2008; Stetler 2001). The EBP process is examined and explained throughout this section of the literature review to facilitate the understanding of the relationship linking evidence and clinical practice.

There is a significant quantity of research surrounding the concept of EBP. However, this research is predominantly focused in two areas: the extent the evidence-based process is utilised by healthcare professionals and the inhibitors and enablers of this utilisation (Ellis et al. 2005; Fink, Thompson, & Bonnes 2005; McKenna, Ashton, & Keeney 2004; McSherry 1997; Olade 2004). Research encompassing the concept of EBP and the associated outcomes for nursing as a profession is minimal, with the major focus of nursing research aimed at nurses' utilisation of best evidence in clinical decision-making and clinical practice. Even though nursing research lacks diversity within this subject, numerous expert opinions exist. In the main the expert 'opinion' is supportive of the EBP process (Buchan 2004; Gronseth 2004); however, there does exist elaborations of potential pitfalls (DiCenso, Cullum, & Ciliska 1998).

The global support for EBP has seen the EBP movement gain momentum throughout the previous decade. With the rise of the EBP movement came recognition that good quality evidence is required to inform decision-making and ultimately clinical practice. It could be argued that this is not a new realisation, as healthcare professionals throughout time have been utilising, what they believed to be the 'best' method to provide care (Closs & Cheater 1999). However, the rigor that the process of EBP provides to decision-making

ensures that clinical practice is based on high quality evidence and not on out-of-date practices.

EBP has its origins in the concept of evidence-based medicine (EBM). EBM was conceptualised by Sackett et al. (1996) as the thoughtful utilisation of best known evidence to inform decision-making processes, subsequently ensuring the provision of the best medical care for the individual. Albeit using an informal approach, the nursing profession has been adapting, implementing and appraising the concept of providing the best nursing care since the inception of nursing as a profession in the 1860s (Madsen 2005). With the emergence of the EBP movement, the 1990s saw this informal approach to decision-making and provision of care transform into a formal methodology. Sackett, Straus and Richardson (2000) were the first to refute the understanding that evidence is found only in research by introducing the concept that clinical expertise and patient values were types of evidence.

Muir Gray (2001) explains the relationship between best evidence and patient values as an approach to decision-making in which the clinician uses the best evidence available and in consultation with the patient decides upon the options that best suit the individual. Patients depend on nursing staff to provide high quality care and EBP is a strategy designed to ensure potentially competing goals of policy makers, practitioners and patients can be mutually satisfied (Higgs, Burn, & Jones 2001). Hence there is an increasing expectation from consumers and managers that health professionals will choose to make informed clinical decisions using appropriate evidence. When making clinical decisions, it is necessary to reflect on not only the practices undertaken, but the effect such practices have on patients (Muir Gray 2001). EBP provides the structure to rise to this challenge.

EBP is a concept that incorporates searching, appraising and implementing quality evidence-based care. A central characteristic of EBP is the type and quality of evidence used to inform decision-making and ultimately clinical practice. The term ‘evidence’ in its literal form is information that tends toward establishing fact. There is debate within the EBP arena over what constitutes evidence and what types of evidence are of a good quality (Closs & Cheater 1999).

In EBP, evidence is described broadly as research findings and the strength of the evidence is judged on the rigor and quality of the research study, hence the evidence from randomised control trials is considered the highest level of evidence (Closs & Cheater 1999). Table 2.1 is one example of a hierarchical system of levels of research evidence. This example has been included as the AWMA ‘Clinical Practice Guidelines for the Prediction and Prevention of Pressure Ulcers’ utilised within this study incorporate this system (AWMA 2001).

**Table 2.1** National Health and Medical Research Council (1999) grading system for level of evidence

<b>Level of Evidence</b>	<b>Study design</b>
I	Evidence obtained from a systematic review or meta analysis of all relevant RCT
II	Evidence obtained from at least one properly designed RCT
III-1	Evidence obtained from well-designed pseudo-RCT (alternate allocation or some other method)
III-2	Evidence obtained from comparative studies with concurrent controls and allocation not randomisation (cohort studies, case-control studies or interrupted time-series without a parallel control group)
III-3	Evidence obtained from comparative studies with historical control, two or more single-arm studies, or interrupted time-series without parallel control group
IV	Evidence obtained from case series (either post-test or pre-test and post-test)

Rycroft- Malone et al. (2004), through their qualitative enquiry into nurses’ beliefs and EBP, reported that nurses view evidence as equivalent to research, and progressed to

acknowledge that evidence also incorporated clinical experience and other data sources such as audit information. The health professional's view on levels of evidence is evolving, and the endorsement for other forms of evidence to be considered as quality evidence and hence included in the hierarchical systems is gaining support (Jack 2006; Thompson 2003; Thompson et al. 2001). This support has progressed to where The Joanna Briggs Institute (2008a), an international EBP collaboration, has recently included 'expert opinion' as 'level four' evidence in their hierarchical 'levels of evidence' system.

Human sources of research-based information are now becoming more prevalent globally with health organisations developing roles for clinical nurse specialists and nurse practitioners. These speciality roles have developed over the past decade and continue to gain momentum. Thompson et al. (2001) examined sources that nurses find useful for reducing uncertainty associated with their clinical decision-making and found that human sources of information were overwhelmingly seen as the most useful. It could be surmised that if the human sources of information carry the mantra of EBP then the information they provide will facilitate best practice, and furthermore, Thompson et al. (2001) concluded that it is not research or the methodological strength of research that carries weight in the clinical decision-making of nurses, but rather the method in which it is presented.

### **2.1.1 Benefits**

The benefits of EBP are diverse. There are benefits not only for the health consumer but also for the health professional, health organisation and the community. The health consumer has the certainty that the best, cost effective care is provided when a health professional utilises EBP (Powell-Cope et al. 2004). The health professional has a system

that assists in ensuring they are utilising the best evidence to guide their clinical practice (Pipe 2007). An EBP compliant institute allows organisations to be positioned as a quality institution, which is less likely to attract litigation (Goudberg Lockhart 2002) and has a cost effective approach to the supply of evidence-based care for the consumer. Lastly, the community benefits as resources are not wasted on ineffective care and furthermore, the degree of disability and suffering is potentially limited (French 1999; Ring et al. 2006). With these genuine benefits as an outcome of EBP and the health professional becoming more accountable for their decision-making and care provision there is an increasing resolve concerning the utilisation of evidence to inform clinical practice (Haines & Donald 1998; Rycroft-Malone et al. 2004).

### **2.1.2 The ‘evidence-practice’ gap**

The ‘evidence-practice’ gap is the difference between what best evidence reveals should be done and what is actually done in every day clinical practice (Gronseth 2004, p. 331). In the late 1990s, the amount of good quality evidence required to inform nursing practice was relatively small and it was perceived as not viable for nurses to always use EBP (Closs & Cheater 1999; Higgs, Burn, & Jones 2001). However, over the past few years, the body of good quality evidence has increased, albeit slowly, along with the nurses’ ability to access, appraise and synthesis this evidence (Gerrish & Clayton 2004). The concern now is not so much the lack of quality evidence but that there is difficulty finding data to show what actually takes place in everyday clinical practice.

The difficulty in finding practice data is evident in the pressure ulcer arena. There are many valuable studies on pressure ulcer prevalence and incidence, cost of pressure ulcers, risk assessment tools, pressure-relieving devices and implementation of pressure ulcer



guidelines (Baier et al. 2003; Charlier 2001; Eves 2000; Gethin, Jordan-O'Brien, & Moore 2005; Gould et al. 2000; Gunningberg 2004; Gunningberg et al. 2001; McErlean et al. 2002; Prentice & Stacey 2001b; Prentice & Stacey 2001a; Santamaria et al. 2005; Sharp 2004; Strachan & Balding 2004; Strachan & May 2005; Taler 2002; Verdu 2003; Young & Stoker 2000; Young et al. 2002). However, there are few studies that explore the practices of direct care staff in PUP & M (Buss et al. 2004; Saliba et al. 2003; Sharp et al. 2000). In clinical practice, nurses are required to make numerous decisions about the care they provide for patients. These decisions must be founded on the best evidence available and EBP provides a platform for the quest and utilisation of the best evidence, nevertheless there are barriers to the utilisation of best evidence.

### **2.1.3 Inhibitors**

There has been a plethora of discussion and research in the health arena surrounding barriers to EBP. The importance of these barriers on decision-making may differ between groups of health professionals and therefore, require different strategies to remove them (McKenna, Ashton, & Keeney 2004). Originally, research into barriers of EBP was predominantly centred in the United Kingdom (Gerrish & Clayton 2004; McSherry 1997; McSherry & Simmons 2002; Rycroft-Malone et al. 2004; Thompson et al. 2001; Thompson et al. 2005), and although the United Kingdom is still a main player in barrier research, research from other regions of the world is emerging. This research supports the published findings from the United Kingdom on the barriers to research utilisation and EBP. Therefore, barriers to EBP are an identifiable worldwide phenomenon and are comparable regardless of the clinical context (refer to Table 2.2 for a review of contemporary research on barriers to research utilisation and EBP).

**Table 2.2** Contemporary research on barriers to research utilisation and evidence-based practice

<b>Study</b>	<b>Methodology</b>	<b>Barriers</b>
Olade 2004	<p>Literature review (MEDLINE and CINAHL)</p> <p>Research utilisation for EBP in healthcare delivery included:</p> <ul style="list-style-type: none"> <li>• Empirical studies</li> <li>• Reviews</li> <li>• Theoretical, opinion and information articles</li> </ul>	<ul style="list-style-type: none"> <li>• Lack of time</li> <li>• Staff</li> <li>• Access to research information and research knowledge</li> <li>• Lack of support from administration</li> <li>• Lack of authority to change practice</li> <li>• Lack of knowledge of research terminology</li> <li>• An inability to understand how to apply findings</li> <li>• Lack of feedback</li> <li>• Research published in an 'unknown' language to the practitioner</li> <li>• Lack of resources</li> <li>• Unsupportive organisational culture</li> <li>• Resistance to change</li> <li>• Deficit's in nurses' education</li> <li>• Lack of understanding of statistics</li> </ul>
Upton and Upton 2005	<ul style="list-style-type: none"> <li>• Postal survey, pre and post initiative</li> <li>• 500 nurses across <b>Wales</b> were randomly selected for both groups</li> <li>• Response rate = 75.1% (751 nurses)</li> </ul>	<ul style="list-style-type: none"> <li>• Perceived lack of skills</li> <li>• Lack of time</li> <li>• Lack of resources</li> <li>• Contextual issues</li> </ul>
Thompson et al. 2005	<ul style="list-style-type: none"> <li>• Case study-Mixed methodology (Semi- structured interviews, observation and Q-sorts)</li> <li>• Multi-site: 3 primary care organisations in the <b>North of England</b></li> <li>• Data collected in 2001 as part of a previous study (Thompson et al. 2001)</li> <li>• Nurses selected using a published theoretical sampling frame (Purposive sampling)</li> <li>• Between-methods triangulation and data analysed using constant comparison principles</li> </ul>	<ul style="list-style-type: none"> <li>• Perceived lack of time for information seeking and use</li> <li>• Perceived deficit in information-handling skills, particularly using computers <ul style="list-style-type: none"> <li>○ Tried and tested information formats were preferred.</li> <li>○ Interpreting statistical information and technical language</li> </ul> </li> <li>• Summarised information sources were often seen as out of date and lagging behind clinical practice</li> <li>• Lack of summarised and targeted information</li> </ul>
Newhouse et al. 2005	<ul style="list-style-type: none"> <li>• Introduction of a collaborative model to facilitate EBP implementation</li> <li>• Conducted in The John Hopkins Hospital, <b>United States of America</b> The John Hopkins Nursing Evidence-Based Practice model</li> <li>• 5-member leadership team (3 nurse administrators, 2 academics) completed and pilot tested the model.</li> <li>• Implementation included mentorship, educational sessions and a train the trainer approach</li> </ul>	<ul style="list-style-type: none"> <li>• Nurses' concern about possible disparity between clinical priorities and EBP</li> <li>• Knowledge deficit in collection and synthesis of evidence</li> <li>• Lack of time</li> </ul>
McSherry and Holloran 2006	<ul style="list-style-type: none"> <li>• Descriptive quantitative study</li> <li>• Convenience sample of 2,126 registered healthcare professionals working in a large acute hospital in <b>Northeast England</b></li> <li>• A research Awareness Questionnaire was utilised.</li> <li>• Response rate of 40% (825 questionnaires)</li> </ul>	<ul style="list-style-type: none"> <li>• Time</li> <li>• Lack of knowledge</li> <li>• Reluctance to change/power</li> <li>• Lack of resources</li> <li>• Lack of support from management</li> <li>• Lack of support from colleagues</li> <li>• Lack of education and training in research (In rank order)</li> </ul>
Henderson, Davies & Willet 2006	<ul style="list-style-type: none"> <li>• <b>Australian</b> project-qualitative</li> <li>• Report on the 13 grants provided by National Institute of Clinical Studies in 2001 and 2002 for projects that increased the use of clinical evidence and research</li> </ul>	<ul style="list-style-type: none"> <li>• Lack of leadership support</li> <li>• Conflict of interest between key stakeholder</li> <li>• Belief that current practice is at a high</li> </ul>

	<ul style="list-style-type: none"> <li>• Reports on the 13 projects were provided at 6 months and at the end of the project and included barriers and enablers</li> <li>• The 13 projects covered areas such as improving diabetic risk management, improving analgesia in hospital emergency departments and decision support systems in acute coronary syndrome</li> <li>• Thematic analysis</li> </ul>	<ul style="list-style-type: none"> <li>• level</li> <li>• Lack of ineffective communication</li> <li>• Lack of resources (high work loads, procuring funding, time commitments of those involved)</li> <li>• Lack of appropriate training for health workers</li> <li>• Weak grasp of the necessity of defining evaluation measures</li> <li>• Lack of positive consumer involvement</li> <li>• Inadequate knowledge</li> <li>• Lack of evidence-based literature and real world effectiveness of clinical practice to be implemented</li> </ul>
Thompson, Chau, and Lopez 2006	<ul style="list-style-type: none"> <li>• Survey design-mailed</li> <li>• Random sampling method</li> <li>• 5000 nurses working in private and public health-care sectors in <b>Hong Kong</b></li> <li>• Research utilization Questionnaire employed in this study</li> <li>• Response rate of 30% (1487 nurses)</li> </ul>	<ul style="list-style-type: none"> <li>• Facilities are inadequate for implementation</li> <li>• Lack of authority to change practice</li> <li>• Lack of time</li> <li>• Lack of time to read research</li> </ul> (In rank order)
Nilsson Kajermo et al. 2008	<ul style="list-style-type: none"> <li>• University hospital (900 beds) in Stockholm, <b>Sweden</b>.</li> <li>• Three questionnaires were utilised (Barriers Scale, Quality Work Competence and a professional issue questionnaire)</li> <li>• Questionnaires were mailed</li> <li>• Response rate of 51% (833 registered nurses and registered nurse-midwives)</li> </ul>	<ul style="list-style-type: none"> <li>• Lack of support from immediate superior/head nurse</li> <li>• Unclear and unrealistic goals for the work place</li> <li>• Lack of an academic degree</li> </ul>
Oh 2008	<ul style="list-style-type: none"> <li>• Data collected 2004</li> <li>• Target population of registered nurses and nurse managers working in critical care units of medical centres based within large tertiary hospitals in <b>Korea</b></li> <li>• n = 63 nurses</li> <li>• BARRIERS to Research Utilization Scale was utilised</li> </ul>	<ul style="list-style-type: none"> <li>• Implication for practice are not made clear</li> <li>• Insufficient time</li> <li>• No documented need to change practice</li> <li>• Facility is inadequate for implementation</li> <li>• No time to read research</li> </ul> (In rank order)
Gerrish et al. 2008	<ul style="list-style-type: none"> <li>• Cross-sectional survey</li> <li>• Two sites: a university teaching hospital (n = 728) and a district general hospital (n = 683)</li> <li>• Conducted in the <b>United Kingdom</b></li> <li>• Population sample of registered nurses</li> <li>• Response rate of 45% (330/728) and 40% (274/683) respectively</li> <li>• Data collected during 2003</li> <li>• Junior nurses comprised 60% of the sample</li> </ul>	<p>Barriers to finding and reviewing evidence:</p> <ul style="list-style-type: none"> <li>• Insufficient time to retrieve reports and information</li> <li>• Resources not readily available</li> <li>• Lack of confidence in critiquing research reports</li> <li>• Difficulty in understanding research reports</li> </ul> <p>Barriers to changing practice:</p> <ul style="list-style-type: none"> <li>• Insufficient time and resources to implement change</li> <li>• Lack of authority to change workplace practice</li> <li>• Culture is not receptive to changing practice</li> <li>• Lack of confidence to change practice</li> </ul> <p>Support for changing practice:</p> <ul style="list-style-type: none"> <li>• Lack of support from colleagues, managers and medical staff</li> </ul>
Koehn and Lehman 2008	<ul style="list-style-type: none"> <li>• Descriptive, cross-sectional design</li> <li>• Self report questionnaires, distributed by nursing leaders (n=1031), convenience sample</li> <li>• Conducted in 2006, within a Midwestern urban medical centre, in the <b>United States of America</b></li> <li>• Response rate of 40.9% (422 registered nurses)</li> <li>• Instrumentation: The Clinical Effectiveness and Evidence-Based Practice Questionnaire</li> </ul>	<ul style="list-style-type: none"> <li>• No time</li> <li>• Too costly</li> <li>• No knowledge/ limited knowledge of research</li> <li>• No nurse with research knowledge in my practice setting</li> <li>• No interest by nursing leader</li> </ul>

Research into the barriers to research utilisation and EBP has provided an understanding of what health professionals consider to be the significant barriers. Olade's (2004) literature review on research utilisation for EBP in healthcare delivery reported fourteen barriers that supported two main themes: the difficulty in synthesising scientific evidence; and the lack of administrative commitment to ensure EBP is a priority. Contemporary global research, utilising interview, observation, Q-sort and survey methodologies, continues to reveal that health professionals perceive the lack of time, lack of resources and lack of support as the most common barriers to research utilisation and EBP (Gerrish et al. 2008; Henderson, Davies & Willet 2006; Koehn & Lehman 2008; McSherry & Holloran 2006; Newhouse et al. 2005; Nilsson Kajermo et al. 2008; Oh, 2008; Thompson et al. 2005; Thompson, Chau, & Lopez 2006; Upton & Upton 2005).

***Lack of Time:*** Research conducted in the United States of America, United Kingdom, Hong Kong, Korea and Australia found lack of time to be a major barrier to EBP, more specifically a lack of time to search for relevant literature and to then sift through this literature to find relevant research that will be a catalyst to changing practice both for the individual and within the organisation (Fink, Thompson, & Bonnes 2005; Gerrish & Clayton 2004; McKenna, Ashton, & Keeney 2004). Insufficient time has been proven to be a global barrier to research utilisation and EBP, and in addition its significance as a barrier has been maintained across time (Gerrish et al. 2008; McSherry 1997). There has been minimal progress reported throughout literature on the abolition of this barrier, however, recommendations on how to improve time availability have included 'protected learning time' during a shift for EBP (Upton & Upton 2005), a nurse support role in EBP (Sherriff, Wallis, & Chaboyer 2007) and promotion of a research-friendly work environment (Oh 2008).

The workplace context and level of education have been referred to in the literature as factors influencing the utilisation of EBP. Research reveals that both junior and senior nurses identified insufficient time as a barrier (Gerrish et al. 2008; Thompson, Chau, & Lopez 2006) and that regardless of the workplace setting, 'lack of time' is a perceived barrier to EBP (McSherry & Holloran 2006; Oh 2008; Thompson et al. 2005; Thompson, Chau, & Lopez 2006). The 'lack of time' for EBP processes has been linked to heavy workloads (Koehn & Lehman 2008), the burden of clinical workloads (Upton & Upton 2005), staff shortages (Rycroft-Malone et al. 2004) and the extent of support from management (McSherry & Holloran 2006). The outcome from Nilsson Kajermo et al.'s 2008 study into the predictors of nurses' perceptions of barriers to research utilisation, revealed that the greatest predictor was work tempo, whereby the heavier the workload, the greater the perception of barriers to research utilisation. As the workload increases so does the required time necessary to meet the care needs hence the time available to participate in 'non-clinical' activities is minimal.

***Lack of Resources:*** Nurses identify a lack of resources to be a major barrier to utilising the EBP process (Gerrish & Clayton 2004; McKenna, Ashton, & Keeney 2004; McSherry & Simmons 2002). Furthermore, a recent research publication reported registered nurses ranked 'lack of resources' as a barrier, second only to 'lack of time' (Gerrish et al. 2008). The categories of resource deficits identified within the literature are inadequate computer and Internet access (McKenna, Ashton, & Keeney 2004), insufficient education provided on how to utilise research in every day practice (Fink, Thompson, & Bonnes 2005), lack of current 'knowledge resources' such as ward manuals and guidelines (Oh 2008), lack of nurses and access to nurses with clinical and research expertise and knowledge (Koehn &

Lehman 2008; Thompson et al. 2001), and insufficient equipment (Rycroft-Malone et al. 2004).

Resource availability affects two key EBP domains. Firstly the retrieval and critiquing of research and evidence (Gerrish et al. 2008; Koehn & Lehman 2008; Rycroft-Malone et al. 2004) and secondly the implementation of this evidence into practice (Gerrish & Clayton 2004; Mazurek Melnyk et al. 2004; Upton & Upton 2005). Without ‘knowledge resources’, such as text, computers and Internet, it is time consuming and difficult to retrieve current best practice evidence and without the resources of knowledge, skill, adequate staffing and equipment, it is difficult, and in some situations impossible, to implement best practice (Gerrish et al. 2008).

***Lack of support:*** The outcome of Olade’s (2004) literature review was the establishment of the major barriers to research utilisation and EBP prior to 2004. One of the evolving themes was the lack of adequate administrative commitment to make evidence based nursing a priority. This theme included barriers such as lack of support from administration, an unsupportive organisational culture, lack of feedback and lack of authority to change practice (see Table 2.2). Contemporary research literature has continued to support and add to Olade’s (2004) findings by revealing that ‘lack of support’ is a multifaceted barrier and includes lack of administrative/organisational support (Fink, Thompson, & Bonnes 2005; Oh 2008; McSherry & Holloran 2006), lack of mentoring support (Fink, Thompson, & Bonnes 2005), insufficient managerial support (Gerrish et al. 2008; Gerrish & Clayton 2004; McKenna, Ashton, & Keeney 2004; McSherry & Holloran 2006; Sherriff, Wallis, & Chaboyer 2007), lack of support from medical staff (Gerrish et al. 2008; Henderson, Davies, & Willet 2006), lack of support from peers (Gerrish et al.

2008; McSherry & Holloran 2006), and a lack of authority to change practice within the organisation (Fink, Thompson, & Bonnes 2005; Gerrish et al. 2008).

McSherry and Holloran (2006), through a large descriptive quantitative study, examined levels of research awareness among healthcare professionals and the influence of research awareness on EBP, and found that many of the factors that influence the implementation of EBP were organisational. The majority of healthcare professionals reported that EBP was a successful process for changing practice but to do so effectively required time, support from peers and managers and sufficient resources. McSherry and Holloran (2006) conclude that internal organisational pressure appeared to result in an environment that was not viewed by respondents as enabling EBP. Oh's (2008) study supported this finding purporting that organisational support is crucial for critical care nurses to achieve EBP and recommended that organisations promote a research friendly environment to enable EBP.

Lack of time, resources and support from management are the major barriers to the EBP process reported throughout literature. Arguably these barriers are interrelated and have a common origin, that of organisational culture. Therefore to remove these barriers may require an individual approach that considers the organisation and its culture (Gerrish & Clayton 2004). Henderson, Davies and Willet (2006) reviewed thirteen National Institute of Clinical Studies funded EBP projects and through this process illustrated that all projects had a diverse implementation strategy. They found that although some of the barriers to implementation were similar, the processes to remove barriers did consider the diverse culture of the specific organisation and therefore, varied in nature.

#### **2.1.4 Enablers**

The dissemination of evidence has been enhanced with the rise in availability of computers, the World Wide Web, electronic databases and libraries, and prominent healthcare organisations and associations advocating EBP (Courtney 2005). However, dissemination is not implementation. The dissemination of evidence does not ensure that it is utilised in clinical decision-making or clinical practice. Therefore, an efficient implementation strategy is paramount if best evidence is to be utilised by clinicians when making clinical decision about the care of patients.

There are numerous implementation activities utilised to facilitate best evidence into practice. These activities include education and workshop programs, mentorship programs, the utilisation of champions in EBP, establishment of journal clubs, development of relevant policies, and guidelines utilising EBP and support from colleagues, administrators and the organisation. Table 2.3 contains a contemporary list of both EBP and research enablers. Fink, Thompson and Bonnes (2005) assert that a multifaceted implementation process is a major key in facilitating evidence into practice. Furthermore, Upton and Upton (2005) contended that this process be flexible and considerate of practical and contextual issues. This suggests that a single, rigid implementation strategy is less likely to realise the uptake of EBP.



**Table 2.3** Contemporary research on enablers to research utilisation and evidence-based practice

<b>Study</b>	<b>Enablers of EBP</b>
Rycroft-Malone et al. 2004	Organisational relevance Adequate resources appropriate for the context Organisational agenda and investment into EBP Multi-disciplinary focus The role of a dedicated project leader Access to, and use of, a broader evidence base
Gerrish and Clayton 2004	Evidence based policy and procedure manuals Readily available and easily understood evidence-based information Clinical nurse specialists are instrumental in disseminating evidence-based information at ward level Developing skills in initiating and managing change
McKenna, Ashton and Keeney 2004	Education Support
Olade 2004	Collaboration among managers, academics and practitioners Organisational support Availability of research consultants Administrative commitment Knowledge of the research process Favourable research attitude Affiliation with a university Financial resources
Mazurek Melnyk et al. 2004	Research facilitator role Agencies (Schools of Nursing, professional organisations, clinical research officers housed in the hospital and university research offices) Sources of support (Clinical Nurse Specialists, speakers, physician colleagues and centres for clinical excellence) Mentors in EBP Types of support (education and knowledge, administrative and organisational, time, financial, mentor and computer or data-related support)
Fink, Thompson and Bonnes 2005	Organisational commitment to EBP Multifaceted interventions Dialogue between administration and staff about how to remove barriers Modification of barriers Journal club 'Champions of change' groups Annual research symposium Workshops on EBP
Upton and Upton 2005	Flexible implementation program that considers practical and political contextual issues, including current levels of skills and access to resources. Education and training
Thompson et al. 2005	Pre appraised papers in journals Appraisal guides Relevant clinical guidelines
Newhouse et al. 2005	EBP project linked to the nurses' and the units' clinical priorities. Mentorship and guided interactive sessions Support from nursing leaders to provide dedicated time away from every-day activities for EBP (Administrative support)
Henderson, Davies and Willet 2006	Support from colleagues, professional bodies and administration Clinical champions Involve key individuals affected by the change in practice Multidisciplinary team approach Use marketing or awareness raising strategies Implement simple changes first Funding

	Education of staff Establish evaluation processes Involve patient and family in practice changes Educate patients about benefits of change Understand how current systems and processes work Development of relevant policies and procedures
Thompson, Chau, and Lopez 2006	Managerial support and encouragement Colleague support network Education Improvement in the understanding of a research report Improving the availability and accessibility of research reports Increase in available time Conducting more relevant research Nurses with research skills as role models (In order ranking)
Sherriff, Wallis and Chaboyer 2007	Education programs on EBP (Didactic sessions and interactive workshops) Adequate computer support Sustained assistance from library services Provision of printed materials
Nilsson Kajermo et al. 2008	Training and education for the head nurse (Who is not academic) Champions in EBP
Gerrish et al. 2008	Information gained from patients Experience gained from caring for patients Information gained from professional colleagues Protocols and guidelines Development of a nursing culture to implement change
Koehn and Lehman 2008	Positive attitude to EBP Higher education levels attained

Henderson, Davies and Willet's (2006) research further highlighted the effect of the contextual setting on the implementation of EBP. The contextual setting was reported to be both an enabler and a barrier to the implementation process. However, Ellis et al.'s (2005) study on the implementation of a new EBP protocol within six contextually diverse rural Australian hospitals confirmed that although the time frame for adoption varied between hospitals, five out of the six hospitals successfully implemented the updated protocol utilising a multifaceted facilitation strategy. The authors concluded that high quality facilitation has a superior influence than the contextual setting in overcoming implementation barriers.

A further consideration in the implementation of EBP is the health professional at the coalface, specifically in this study, the nurse. It is frequently the nurse at the bedside who is compelled to change clinical practice in line with updated evidence and best practice.

Through a mixed method enquiry, Fink, Thompson and Bonnes (2005) established that nurses view the implementation of research into practice and hence evidence, as being a complex process in which the steps needed to make change are complicated, time consuming and often discouraging. These views must be negated if decision-making is to be founded on best practice. To realise this an EBP process that can be successfully implemented and therefore utilised by nurses at the bedside is necessary (Newhouse et al. 2005). The following section will consider the key enablers for the implementation of EBP that assist in surmounting these impedimenta. The first enabler to be considered is the utilisation of EBP implementation models.

***EBP implementation models:*** The development of EBP implementation models is founded on the occurrence of an ‘evidence-practice’ gap (Rosswurm & Larrabee 1999; Titler et al. 2001). While there are many reasons for this ‘evidence-practice’ gap, implementation models provide a framework for shifting what is known, usually through research, into clinical practice. However, there are two distinct methods arising from these models. The first approach is that the organisation is the central stimulus for implementation (Olade 2004; Rycroft-Malone 2004; Titler et al. 2001). The second approach is that the clinician at the bedside is the central impetus for implementation (DiCenso, Cullum, & Ciliska 1998; Newhouse et al. 2005; Reavy & Tavernier 2008; Rosswurm & Larrabee 1999; Stetler 2001).

EBP implementation models enable a focused framework for both the organisation and the clinician to implement EBP. There has been little testing of the validity and reliability of these models. The majority have either never undergone evaluation or have been evaluated in limited contexts. Although models have the potential to assist in facilitating EBP, they

are a tool and therefore require contextual appraisal. EBP implementation models provide an imprint for implementation; models do not provide an impetus for change. The impetus for change originates and extends from the organisation, clinician or both.

***Change agents and opinion leaders:*** These terms are similar and are often utilised interchangeably when referring to an individual who diffuses change. Everett Rogers (1983), the founder of the ‘Diffusion of Innovations’ theory, refers to these terms as separate entities while agreeing that the same individual may, although not ideally, operate in the dual roles of change agent and opinion leader. As a member of a social system, the opinion leader’s interpersonal networks allow them to serve as a social model whose innovative behaviour is imitated by many other members of the system, therefore the role of an opinion leader is to influence other individual’s attitudes and behaviour informally, in a desired way and with relative frequency. The opinion leader will struggle to perform this role if their credibility is threatened.

A change agent is an individual, who influences clients’ innovation decision in a direction deemed desirable by a change agency (Rogers 1983, p. 312), but is often not associated with the work environment. Table 2.4 explores the seven sequential roles of a change agent, as stated by Rogers (1983, p. 312).

**Table 2.4** The sequence of the change-agent role (cited in Rogers 1983, p. 312)

Seven Roles	
1.	Develops need for change
2.	Establishes an information-exchange relationship
3.	Diagnoses their problem
4.	Creates intent to change in the client
5.	Translate intent into action
6.	Stabilises adoption and prevents discontinuance
7.	Achieves a terminal relationship

Change agents are a necessity in the enabling of the implementation of EBP, for not only do they facilitate change, by identifying a need for change, but in addition work towards achieving a terminal relationship. That is, according to Rogers (1983), they 'freeze' the change in place.

Wallin et al. (2003) identified that facilitative human resources, for example, clinical nurse educators, research nurses and nurse practitioners, increased activity in seeking new research and enhanced implementation of research findings in clinical practice. These human resources are 'champions of change'. Nay (2003), through a three-phase study which included a systematic review, ethnographic techniques and lastly an audit, established that geriatric facilities that had local champions were more engaged in research projects and reported more successful outcomes than those that did not. Furthermore, Thompson et al. (2001) applied a mixed qualitative research design to identify what information sources nurses utilised to inform their practice and discovered that human sources of information were overwhelmingly identified as the most useful. This finding supports the necessity of a 'champion of change' for the implementation of evidence into practice. This champion may be formal, such as a 'change agent' or informal such as 'opinion leaders' or ultimately both, working synergistically to diffuse change.

Healthcare associations operate as 'champions of change' or 'change agents'. Two examples of this in Australia are the National Institute of Clinical Studies and The Joanna Briggs Institute. The National Institute of Clinical Studies facilitates EBP by working with multidisciplinary groups to establish gaps in evidence, raising awareness of these gaps, affording resources to assist evidence uptake and providing opportunities for clinicians to

increase knowledge and skills relevant to improving evidence utilisation (National Institute of Clinical Studies 2008). The Joanna Briggs Institute promote evidence-based healthcare by conducting and publishing systematic reviews, the development of 'Best Practice' information sheets, and the implementation of EBP and the conduct of evaluation cycles and primary research arising out of systematic reviews (The Joanna Briggs Institute 2008b). With the overwhelming support of, and research into EBP, the ground is laid for the dynamic concept of EBP to be increasingly incorporated into both organisational foundations and clinical practice. However, if EBP is the chosen road that is to be travelled to obtain best practice then the clinical guideline is the vehicle that will transport it (Miller & Kearney 2004).

## **2.2 CLINICAL GUIDELINES**

With the increasing use of clinical guidelines as a tool for decision-making in clinical practice (Osborne & Webster 2005; Woolf et al. 1999), a clear definition of a guideline is required. Muir Gray (2001, p. 24) defines clinical guidelines as '...systematically developed statements to support healthcare professionals and patients when making decisions about the most appropriate healthcare in particular circumstances'. The quantity and quality of research has improved with the augmentation of EBP, which has fundamentally ensured clinical guidelines are increasingly based on systemic reviews of interventional and observational studies (Boon & Tan 2006). Constructing guidelines using scientific and clinical evidence increases the rigor and therefore, rationally they are regarded as a product of EBP. The synergistic relationship between EBP and clinical guidelines is strengthening. Considering this, it is extrapolated that an increasing

availability of evidence based clinical guidelines will facilitate an increase in the availability of best evidence and therefore, an increase in CE (Osborne & Webster 2005).

### **2.2.1 Quality**

The global utilisation of clinical guidelines originated in medicine and remains resolute within this profession. Evolving from this is the clinical guideline that incorporates nursing care. For example, clinical guidelines have been developed regarding pressure ulcers, wound management, chronic and acute pain, obesity and diet, stroke rehabilitation and recovery, and diabetes (AWMA 2001, 2002; National Health and Medical Research Council 2008). There is no statistic to reveal just how many clinical guidelines there are but it is known that guidelines are numerous and there are many guidelines for the same condition (Woolf et al. 1999). Furthermore, many of the clinical guidelines are formulated and published by organisations that have a vested interest within a particular area (Holleman et al. 2006). Consider the PUP & M scenario. Nationally, the Queensland Health Department (Queensland Health 2004), the AWMA (2001), the National Institute for Health and Clinical Excellence (2005) and The Joanna Briggs Institute (2008c) have released pressure ulcer guidelines.

With numerous clinical guidelines available, the concern is ascertaining what clinical guidelines are appropriate for utilisation. The criteria for a high quality clinical guideline includes validity, reliability, clinical applicability, clinical flexibility, clarity, a multidisciplinary approach, scheduled reviews and a documented process for development (Boon & Tan 2006). The Appraisal of Guidelines Research and Evaluation (AGREE) Collaboration has conducted research into the criteria that signifies a high quality clinical guideline. The AGREE Collaboration (2001) has acknowledged the difficulties in

ensuring that a clinical guideline is of a high quality and through research has formulated a tool to assist clinicians in evaluation. This instrument evaluates clinical guidelines utilising six criteria, (see Table 2.5). If a clinical guideline possesses all of these attributes it is deemed a 'high quality' guideline. The AGREE Collaboration have tested this instrument for validity and although they cannot demonstrate conclusively the validity of the instrument, the criteria are accepted as key determinants of valid and acceptable guidelines among methodologists (The 'AGREE' Collaboration 2002).

**Table 2.5** Criteria for high quality clinical practice guidelines (The 'AGREE' Collaboration 2002, p. 20)

<p><b>Scope and purpose:</b> Contain a specific statement about the overall objective(s), clinical questions, and describes the target population.</p> <p><b>Stakeholder involvement:</b> Provide information about the composition, discipline, and relevant expertise of the guideline development group and involve patients in their development. They also clearly define the target users and have been piloted prior to publication.</p> <p><b>Rigour of development:</b> Provide detailed information on the search strategy, the inclusion and exclusion criteria for selecting the evidence, and the methods used to formulate the recommendations. The recommendations are explicitly linked to the supporting evidence and there is a discussion of the health benefits, side effects, and risks. They have been externally reviewed before publication and provide detailed information about the procedure for updating the guideline.</p> <p><b>Clarity and presentation:</b> Contain specific recommendations on appropriate patient care and consider different possible options. The key recommendations are easily found. A summary document and patients' leaflets are provided.</p> <p><b>Applicability:</b> Discuss the organisational changes and cost implications of applying the recommendations and present review criteria for monitoring the use of the guidelines.</p> <p><b>Editorial independence:</b> Include an explicit statement that the views or interests of the funding body have not influenced the final recommendations. Members of the guideline group have declared possible conflicts of interest.</p>
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## 2.2.2 Benefits and pitfalls

**Benefits:** It has been accepted by many professionals that 'high quality' clinical guidelines assist in promoting EBP, improve clinical practice and therefore increase positive outcomes for the end user, in this instance the resident (Grimshaw & Russell 1993). For example, Brasel et al. (2003) found that the introduction of clinical guidelines for blunt splenic trauma improved rates of non-operative measures, therefore decreasing hospital stay and required resources, without changing the mortality rate.



The improvement in clinical practice benefits all stakeholders. Potentially patients receive improved quality of care, health outcomes and consistency of care. Healthcare professionals have medicolegal protection, reinforcement for their position when dealing with administrators who disagree with the practice, improvement in the consistency of care, reassurance on the appropriateness of their treatment policies and a point of reference that may be used to assist in the overturning of beliefs in outdated practices. Lastly the healthcare system has improved efficiency leading to clinical effectiveness (CE), optimising of value for money and improved public image, which may lead to the promotion of good will, political support and revenue (Feder et al. 1999; Miller & Kearney 2004; Woolf et al. 1999). Clinical guideline utilisation ultimately has the potential to increase CE for all stakeholders.

CE is defined by the Royal College of Nursing (cited in McSherry, Simmons, & Pearce 2002, p. 5) as “applying the best available knowledge, derived from research, clinical expertise and patient preferences, to achieve the optimum processes and outcomes for patients”. From this definition it is determined that the EBP and CE are similar concepts, in fact Upton and Psychol (1999) refer to them as ‘dual concepts’.

The skills required to assess and achieve CE include the ability to identify and critique quality research, the incorporation of these findings into clinical practice and the ability to effectively evaluate the outcome of the changed practice (Madsen 1999). In a survey conducted to assess nurses’ knowledge of CE, there was found to be a low level of perceived knowledge by nurses in the area of CE. The respondents affirmed that time and resources were the major barriers to implementing CE (Upton & Psychol 1999).

Evidence-based clinical guidelines assist in overcoming both the lack of time and lack of resources by providing a ready to use tool that has been developed using an evidenced based process, which has already been assessed for CE. Furthermore, the clinical guideline is ideally positioned for adoption in quality improvement activities. Clinical guidelines are able to be utilised within many areas of the quality improvement cycle, for example, they provide an objective for care, can be incorporated into an action plan and recommendations can act as audit criteria or clinical indicators of quality (Boon & Tan 2006; Duff et al. 1996).

Throughout the literature, the clinical audit is the foremost tool utilised when assessing CE and is described as a systematic, usually cyclical process that explores the processes and outcomes of care against overt criteria (National Institute of Health and Clinical Excellence 2002). Richens, Rycroft-Malone and Morrell (2004) established that the roles of a clinical audit are to establish variations in practice, aid in guideline review and development, act as a tool for the implementation of clinical guideline recommendations and furthermore, in accomplishing this, augment CE as an outcome of improving quality of care. From these findings, it is evident that the clinical guideline, the clinical audit and CE are related. However, recognising these unique relationships and actually utilising them are two different matters. For example, Keaney and Lorimer (1999) surveyed the management staff of 25 Scottish acute care hospitals to ascertain if a systematic implementation of guidelines existed. The authors found that all respondents identified the implementation of at least one of the five overt clinical guidelines, however, a re-audit (second time audit) process was uncommon and this was accompanied by a lack of understanding of the integral role the audit process possessed in guideline implementation.

A search of the literature did not identify research that supports the view that the understanding and implementation of audit processes has improved since Keaney and Lorimer's (1999) survey. However, there are numerous examples of global and national clinical audit projects. In the United Kingdom, for example, there is the National Sentinel Audit Pilot Project for the Management of Patients With Venous Leg Ulcers, National Sentinel Clinical Audit of evidence Based Prescribing for Older People, National Audit of Helicobacter Pylori and the Management of Dyspepsia and the Myocardial Infarction National Audit (National Institute of Health and Clinical Excellence 2002, p. 94). An Australian example of the utilisation of the clinical audit process is the initiatives of the Australian Council on Healthcare Standards. As part of a process to measure and implement quality improvement systems for healthcare organisations, the Australian Council on Healthcare Standards has been collecting, analysing and publishing national data on clinical indicators since 1998 (The Australian Council on Healthcare Standards 2008). A precursor to these initiatives is the cyclic audit processes undertaken by the contributing healthcare facilities.

***Pitfalls:*** The benefits of utilising clinical guidelines are widely communicated in the literature (Dean et al. 2006; Powell-Cope et al. 2004; Thomas et al. 1999). However, the literature also records perceived pitfalls. One of the pitfalls established is standardising of care. There is an argument that potentially, clinical guidelines ignore the heterogeneity of the individual and the complexity of the clinical decision (Powell-Cope et al. 2004; Woolf 1998; Woolf et al. 1999). Boon and Tan (2006) label this 'cookbook medicine'. Guidelines that are inflexible and fail to consider the individuality of the patient have the potential to prevent clinicians from customising care (Miller & Kearney 2004). Powell-Cope et al. (2004) utilised a qualitative research design to establish that providers of

healthcare believe that guidelines do not assist them when managing elderly patients with multiple co-morbidities and on multiple medications. The potential failure of guidelines to customise care may result in substandard care for the individual, or at worst, unsafe practice that has legal implications (Miller & Kearney 2004).

There is debate over the medicolegal aspects of clinical guidelines. Some highlight the legal protection clinical guidelines offer by ensuring all individuals are provided with evidence based care and therefore decreasing the litigation potential (Brennan 1991; Rosoff 2001). Others highlight the potential for medicolegal difficulties by setting an arbitrary standard of care that has the potential to be cited in court (Brennan 1991; Rosoff 2001; Woolf 1998). Hurwitz (1995) examined both medicolegal aspects of clinical guidelines and concluded that the evidence based clinical guideline will increase in significance in determining if a person has violated the law. However, Boon and Tan (2006) suggest that recommendations in some clinical guidelines may be incorrect, that is not founded on evidence. This has the potential to lead to inaccurate clinical decision-making, substandard clinical management and potential for serious harm (Boon & Tan 2006).

The reasons why recommendations have the potential to be incorrect include lack of quality evidence upon which to base clinical guidelines (The Joanna Briggs Institute 2008c; Miller & Kearney 2004), misinterpretation of the available evidence and reliance on expert opinion to formulate clinical guidelines, which Boon and Tan (2006) suggest has the potential to introduce flawed beliefs. This highlights the importance of ensuring the quality of the clinical guideline, as discussed previously in this section. Even when clinical guidelines have been rigorously constructed and known to define optimal clinical

care there remains the process of implementing these guidelines into practice (Doherty 2006; Richens, Rycroft-Malone, & Morrell 2004; Sonnad 1998). The following section will explore the findings from studies that explore the advantages and disadvantages of diverse implementation strategies.

### **2.2.3 Implementation**

The disparity between research evidence and actual clinical practice is a persistent problem in the provision of quality healthcare. There is increasing evidence that the utilisation of clinical guidelines has the potential to ensure a practitioner rejects ineffective practices, uses evidence-based practices, and in turn, improves outcomes for the patient (Brasel et al. 2003; De Laat et al. 2006; Dean et al. 2006; Humphreys, Trafton, & Oliva 2007; Stone et al. 2007). However, the global quality of healthcare remains largely unreported and the few studies that have considered quantifying the quality of healthcare report that more than 30 percent of patients do not receive healthcare according to scientific evidence (Schuster, McGlynn, & Brook 1998; Seddon et al. 2001). With this understanding the challenge is how to translate evidence-based guidelines into clinical practice.

Richens, Rycroft-Malone and Morrell (2004) suggest that it is naïve to suggest that because guidelines exist, their implementation automatically follows. Guidelines do not passively permeate clinical practice, their dissemination and implementation requires strategic planning accompanied by an appreciation and consideration of the complexity of the unique clinical milieu (Miller & Kearney 2004). Davis and Taylor-Vaisey's (1997) systematic review revealed that variables, both negatively and positively, affect the adoption of clinical guidelines. Enablers include staff buy in to the adoption of guidelines

(Sonnad 1998) and that guidelines are flexible, reliable, valid, clear and applicable to clinical practice (Boon & Tan 2006; Davis & Taylor-Vaisey 1997; Foy, Walker, & Penney 2001; Grol et al. 1998; Grol & Grimshaw 2003; Richens, Rycroft-Malone, & Morrell 2004). Furthermore, that guidelines specify behaviour, stipulating who, what, when, where and how (Mitchie & Johnson 2004).

Passive implementation strategies, such as publishing clinical guidelines in journals and distributing printed material has seldom changed behaviour (Miller & Kearney 2004; Richens, Rycroft-Malone, & Morrell 2004), even when they have been selected to overcome specific barriers. A randomised control trial conducted by Flottrop et al. (2002) established that passively delivered implementation strategies designed to target specific barriers had little effect in changing practice. Conversely, literature reveals that active implementation strategies, such as the use of local opinion leaders and clinical consultation are primarily effective (Cheater & Closs 1997; Davies et al. 2008; Davis & Taylor-Vaisey 1997; Dover 2006; Flottorp et al. 2002; Miller & Kearney 2004; Rantz et al. 2001).

Multifaceted interventions are reported as more effective than single strategies for the implementation of guidelines into practice (Clark et al. 2005; Davis & Taylor-Vaisey 1997; Grol & Grimshaw 2003; Miller & Kearney 2004; Richens, Rycroft-Malone & Morrell 2004). However, the results outlined from the studies in Table 2.6 suggest that the effectiveness is not always maximised (Davies et al. 2008; Grol & Grimshaw 2003) and therefore it is conjectured that the effectiveness of a multifaceted strategy has a contextual influence. To assist in selecting an implementation program for the mobilisation of guidelines into practice within a specific setting, Grol and Grimshaw (2003) suggested

that a review of the main barriers be conducted and interventions be targeted at these barriers.

**Table 2.6** An overview of strategies for guideline implementation and associated outcomes

Study	Methodology	Intervention	Outcomes
Rantz et al. (2001)	<ul style="list-style-type: none"> <li>A three group randomised experimental design</li> <li>Analysis based on 87 nursing home facilities (<b>United States of America</b>)</li> </ul>	Workshop and feedback reports only (Group1, n = 27) Workshop and feedback reports with clinical consultation (Group 2, n = 28) Control group with no interventions (Group 3, n = 32)	No effect Moderately effective
Flottorp et al. (2002)	<ul style="list-style-type: none"> <li>Process evaluation study</li> <li>Unblinded cluster randomised pre-test/post-test trial of tailored interventions for sore throat and urinary tract infection (UTI) guidelines</li> <li>120 general practices (<b>Norway</b>)</li> <li>16 939 consultations for sore throats and 9887 consultations for UTI</li> <li>Multiple methodologies (Observation, telephone interviews, postal survey and medical record review)</li> <li>Top down approach to implementation</li> </ul>	Electronic and hard copy of the guideline provided Computer based decision support and reminders Increase in remuneration Printed material for patient's Electronic material for patient's Interactive courses for general practitioners and staff	Minimally effective
Clarke et al. (2005)	<ul style="list-style-type: none"> <li>A six-phase, 2-year project to implement PU guidelines utilising a computerised decision support system</li> <li>Sample: 7 healthcare facilities including acute care, extended care, intermediate care and home care (<b>Canada</b>)</li> </ul>	Educational strategies (Mentors, experts and train the trainer) Contextually developed implementation strategies Staff education (self learning packages, videos, paper materials) Specific ward based training on using the computer program One on one educational sessions	Chiefly effective
Doherty et al. (2007)	<ul style="list-style-type: none"> <li>Multifaceted strategies utilised in an emergency Department for the implementation of asthma guidelines</li> <li>Single site study (<b>Australia</b>)</li> <li>Pre intervention/post intervention design-chart review</li> </ul>	Multifaceted strategies including opinion leaders, reminders, audit and feedback, education, EB formatting of guidelines, implementation team and identification of specific barriers	Chiefly effective (Sustained for 12 months)
Dover (2006)	<ul style="list-style-type: none"> <li>Quality improvement project to ensure the success and sustainability of a falls minimisation process (<b>Australia</b>)</li> <li>Single site study</li> <li>Reports the outcome from implementing falls intervention guidelines</li> <li>Pre intervention/post intervention design</li> </ul>	Multifaceted implementation process: <ul style="list-style-type: none"> <li>Collect data relevant to the individual ward</li> <li>Establish ward-based roles for falls resource clinicians</li> <li>Ensure access of staff to quality guidelines</li> <li>Notice boards for displaying data and educational material</li> <li>Established a steering committee that displayed senior management commitment</li> <li>Systems developed at ward level for reporting and analysis of falls</li> <li>Ward based education sessions</li> </ul>	Chiefly effective



Davies et al. (2008)	<ul style="list-style-type: none"> <li>• A prospective, before and after implementation design (<b>Canada</b>)</li> <li>• Explored the implementation process and outcomes for six nursing best practice guidelines as they naturally occur in clinical settings</li> <li>• Set in eleven healthcare organisations</li> <li>• Process and outcomes were assessed by a chart audit and interviews (face to face and telephone) with clinical resource nurses and patients</li> </ul>	<p>Multifaceted:</p> <p>Workshops</p> <p>A toolkit, for implementation of guidelines, with an accompanying two-hour training session</p> <p>Multidisciplinary steering committee in every facility</p> <p>Environmental assessment of barriers and enablers</p> <p>Paid education sessions</p> <p>Clinical resource nurse positions in each facility</p> <p>Champions (local opinion leaders)</p> <p>Reminders systems</p> <p>Policy review.</p> <p>Creation of new documentation</p> <p>Patient education</p>	Moderately effective
<b>Review</b>			
Cheater and Closs (1997)	<ul style="list-style-type: none"> <li>• A selective systematic review of guideline implementation and nursing</li> <li>• Medline, Psycit and CINHALL searched for published literature</li> <li>• Grey literature not included</li> <li>• Includes both qualitative and quantitative research</li> <li>• A dearth of literature lead to the use of opinion and descriptive reports that described the current situation in nursing</li> <li>• Medical literature was included</li> </ul> <p>(Note: The availability of studies that were based on the nursing profession was minimal)</p> <p><b>(United Kingdom)</b></p>	<p>Dissemination of guidelines to practitioners (No literature in nursing)</p> <p>Involvement in developing guidelines</p> <p>Active implementation strategies</p> <p>Education, information and financial incentives</p> <p>Social influence strategies</p> <p>Personal interactive strategies (opinion leaders)</p> <p>Formal education approaches</p> <p>Clinical guideline implementation strategies that are:</p> <p>Individualised, interactive, responsive to local problems, occur close to the time of clinical decision-making and provided regularly</p>	<p>Minimally effective</p> <p>Increase effectiveness</p> <p>Increase effectiveness</p> <p>Chiefly effective</p> <p>Chiefly Effective</p> <p>Chiefly Effective</p> <p>Less effective</p> <p>Chiefly effective</p>
O'Brien et al. (1997)	<ul style="list-style-type: none"> <li>• Searched MEDLINE from 1966 to 1997 for related systematic reviews and articles (<b>United Kingdom</b>)</li> <li>• Selection criteria- RCT of outreach visits</li> <li>• Participants were healthcare professionals</li> <li>• Two reviewers independently extracted data and assessed study quality</li> <li>• 18 studies were included involving more than 1896 professionals</li> </ul>	Out reach visits (Defined as a personal visit by a trained person to a healthcare provider in his or her own setting)	Minimally to Moderately effective

Davis and Taylor-Vaisey (1997)	<ul style="list-style-type: none"> <li>A systematic review of strategies for implementing guidelines</li> <li>Peer reviewed (<b>Canada</b>)</li> <li>Search: <ul style="list-style-type: none"> <li>MEDLINE from 1990 to 1996</li> <li>The Research and Development Resource Base in Continuing Medical Education maintained by the University of Toronto (7000 database references)</li> </ul> </li> <li>Included RCT's and trials that objectively measured physician's performance or healthcare outcomes</li> </ul>	<p>Quality of the guideline</p> <p>Didactic interventions Traditional continuing medical education. Mailings Audit and feedback Reminder systems Academic detailing Multifaceted interventions</p>	<p>Increases effectiveness</p> <p>Minimally effective Minimally effective Minimally effective Moderately effective Chiefly effective Chiefly effective Chiefly effective</p>
Grol and Grimshaw (2003)	<ul style="list-style-type: none"> <li>Systematic review of previous systematic reviews</li> <li>235 explicit analytical assessments of guideline dissemination and implementation strategies</li> <li>Utilised a case study approach looking at approaches to improve hand hygiene in hospital settings (<b>Canada</b>)</li> <li>Searched MEDLINE from 1990 to 2003</li> </ul>	<p>Educational material Conference and courses Interactive small group meetings Educational outreach visits Use of opinion leaders Education with different education strategies Feedback on performance Reminders Computerised decision support Introduction of computers in practice Substitution of tasks Multi-professional collaboration Mass media campaigns Continuous quality improvement Financial intervention Patient-mediated interventions Combined interventions</p>	<p>Moderately effective Moderately effective Chiefly effective Chiefly effective Moderately effective Moderately effective Moderately effective Chiefly effective Chiefly effective Chiefly effective Moderately effective Chiefly effective Chiefly Effective Minimally effective Chiefly effective Moderately effective Moderately effective</p>
Richens, Rycroft-Malone and Morrell (2004)	<ul style="list-style-type: none"> <li>Literature review on guideline implementation from 1997 to 2004 (<b>British</b>)</li> <li>Subject to double-blind review</li> <li>Databases: Medline, CINAHL, Embase, PsychINFO and The Cochrane Library</li> <li>Nursing, medical and allied health professional literature</li> </ul>	<p>Multifaceted interventions Reminders and Educational outreach Audit and feedback Local opinion leaders Dissemination of printed educational material Didactic educational sessions</p>	<p>Chiefly effective Chiefly effective Moderately effective Moderately effective Chiefly effective Chiefly effective</p>
Miller and Kearney (2004)	<ul style="list-style-type: none"> <li>Literature review of clinical guidelines and nursing practices.</li> <li>Search included CINAHL and Medline from 1980 to 2003 (<b>United Kingdom</b>)</li> </ul>	<p>Passive methods: mailing to targeted individuals and publishing in professional journals Organisational and managerial support Audit and evaluation systems Removal of barriers with targeted multifaceted strategies</p>	<p>Minimally effective</p> <p>Key element Key element Chiefly effective</p>

Barriers to the implementation of clinical guidelines reflect similar factors to those impeding the uptake of EBP, including lack of time, lack of resources and organisational issues. Table 2.7 summarises the literature findings. Again these highlight the multifaceted nature of the issues affecting individuals through to structure and culture of the organisation.

**Table 2.7** Barriers to the implementation of clinical guidelines

<b>Study</b>	<b>Methodology</b>	<b>Barriers</b>
Flottorp et al. (2002)	Refer to table 2.6	Lack of time Lack of engagement Organisational problems (Infrastructure and culture) Passive character of the interventions Failure to identify important barriers to change Lack of context specific tailored interventions
Clarke et al. (2005)	Refer to table 2.6	Lack of time Under resourced and frequently malfunctioning computer infrastructure Lack of trust by staff in the computer program.
Miller and Kearney (2004)	Refer to table 2.6	Culture of the group Lack of resources (Time, opportunity costs of staff involvement) Lack of information Perceived lack of clinical freedom
Grol and Grimshaw (2003)	Refer to table 2.6	Occur at different levels- patient, professional, healthcare team, healthcare organisation or the wider environment Lack of knowledge Financial disincentives Lack of time Risk of formal complaint Patient's expectations Usual routines Opinion leaders not agreeing with evidence Out-of-date knowledge Clinical uncertainty Lack of self-confidence in skills Compulsion to act-the need to do something Inability to appraise evidence
Doherty (2006)	Refer to table 2.6	False beliefs and lack of knowledge of the patient The lack of desire to use guidelines by professionals Lack of knowledge-health professional Lack of regular nursing staff educational meetings Lack of software capabilities Administrative barriers
Boon and Tan (2006)	A critical review of clinical guidelines attributes, benefits and pitfalls 57 clinical guideline assessment studies were reviewed Predominantly physician studies (Singapore)	<b>Guideline factors:</b> Ambiguity Not contextually applicable Inadequate clinical flexibility Lack of uniformity across healthcare institutions <b>Patient Factors:</b> Patient preference Preservation of a good doctor-patient relationship

		<p>Patient refusal</p> <p>Cost of recommendations to patient</p> <p><b>System and practice-setting factors:</b></p> <p>Lack of auditing and review processes</p> <p>Lack of reminder systems</p> <p><b>Physician factors:</b></p> <p>Intrapersonal attributes (Knowledge, experiences, awareness, attitudes, beliefs and values)</p> <p>Interpersonal attributes (peer support and opinion leadership)</p>
Foy, Walker and Penney (2001)	<p>Review of literature and a review of a clinical effectiveness program</p> <p><b>(Scotland)</b></p> <p>The Clinical Resource and Audit Group of the Scottish Executive Department of Health funded the clinical effectiveness programs</p> <p>Aim: To identify barriers to the implementation of a clinical guidelines</p>	<p><b>Characteristic of a guideline:</b></p> <p>Lack of Validity</p> <p>Limited relevance</p> <p>Limited practicality</p> <p><b>Characteristic of an individual:</b></p> <p>Limited knowledge</p> <p>Unsupportive attitudes and beliefs</p> <p>Lack of skills and time</p> <p>Unsupportive behaviour</p> <p><b>Characteristics of the organisation:</b></p> <p>Obstructive, established practices and decision-making processes</p> <p>An organisational culture not conducive to change</p> <p>Limited resources</p> <p>Limited knowledge and assessment of organisational performance</p> <p><b>Patient factors:</b> including preferences and expectations.</p>
Grol et al. (1998)	<p>Observational study of general practitioners <b>(Netherlands)</b></p> <p>Aim: To determine the attributes of clinical guidelines that influences their uptake</p> <p>12 880 GP decisions were observed</p>	<p>Recommendation is vague or unclear</p> <p>Complexity of the guideline</p> <p>Guidelines that require change of procedures</p> <p>Guidelines that require special training to instigate</p>
Brazil et al. (2008)	<p>Qualitative design (Focus groups)</p> <p>Examination of integrating a disease management program into primary care</p> <p>Purposeful sample of physicians (n=36), advanced practice clinicians (n=19), registered nurses (n=24), other medical staff (n=39) and nonmedical staff (n=33)</p> <p>Content analysis of influencing implementation factors <b>(Canada)</b></p> <p>Multiple reviewers</p>	<p><b>Providers:</b> Cognitive and behavioural attributes of the provider (lack of confidence and motivation)</p> <p><b>Organisation:</b> Environmental variables (lack of staff, lack of time, lack of resources and staff turnover)</p> <p><b>Patient:</b> Patient non-adherence</p> <p><b>Miscellaneous:</b> Participants viewed the guidelines as not applicable to the age group, as a 'cookbook' approach and incorrect</p>
Davies et al. (2008)	Refer to table 2.6	<p>Workloads and time pressures</p> <p>Competing demands</p> <p>Staff resistance</p> <p>Lack of buy-in</p> <p>Lack of support from other organisational levels</p> <p>Organisational change</p>

## **2.3 CLINICAL GUIDELINES - PRESSURE ULCERS**

Globally, there have been numerous pressure ulcer prediction, prevention and management guidelines developed by various EBP and wound management organisations (AWMA 2001; European Pressure Ulcer Advisory Panel 1998; The Joanna Briggs Institute 2008c; National Institute of Health and Clinical Excellence 2005; Registered Nurses Association of Ontario 2005; Wimpenny 2007). Wimpenny (2007) compared and contrasted four national pressure ulcer guidelines (Australian, Canadian, United Kingdom and Netherlands), utilising the AGREE instrument and established that, although the guidelines all scored high in many of the domains, evidence of variability existed. Wimpenny (2007) conjectured that the approach to development, cultural factors and intentions for use might be the chief reason for the variability. Therefore, when selecting a pressure ulcer guideline for implementation there is not just the quality of the guideline to be considered, but also, the context that the guideline is to be implemented into. This suggests that pressure ulcer guidelines developed nationally have the potential to be more contextually relevant, compared to globally formulated guidelines.

The availability of Australian pressure ulcer guidelines has been progressively increasing since 1997 when the Joanna Briggs Institute released EBP information sheets for health professionals in the prevention and management of pressure ulcers. These guidelines were updated in 2008 (The Joanna Briggs Institute 2008c). In 2001, the Australian Wound Management Association published 'Clinical Practice Guidelines for the Prediction and Prevention of Pressure Ulcers'. In addition, 2004 saw the publication of 'Pressure Ulcer Prevention and Management Resource Guidelines' by the Queensland Health Department (Queensland Health 2004). The benefits of these publications were the increased promotion, and improved availability of nationally developed guidelines in PUP & M. The

gap in the availability of pressure ulcer guidelines is the PUP & M guideline specific to a healthcare sector. For example, aged care nurses are unable to access national pressure ulcer guidelines which are specifically designed for the aged care environment. As such nurses in the aged care context are required to adapt the national generic pressure ulcer guidelines. Since 1997, nationally developed pressure ulcer guidelines have been readily available for inclusion in clinical practice, however, the adoption of pressure ulcer guidelines into clinical practice has proven to be a global challenge (Kennedy 2005; Saliba et al. 2003; Wipke-Tevis et al. 2004).

Internationally, there is a dearth of quality research surrounding the implementation of pressure ulcer guidelines particularly when considering studies unique to the aged care environment. Research in this topic, in the main, emanates from the United States of America where the potential for litigation is common (Coble Voss et al. 2005). The studies that were identified established that the adherence to pressure ulcer guideline recommendation in aged care is lacking (Saliba et al. 2003; Wipke-Tevis et al. 2004). Saliba et al. (2003), utilising a medical record review of 35 nursing homes, has shown that the adherence to pressure ulcer guidelines is evident in only 41 percent of the identified 6238 instances where pressure ulcer guidelines might have been utilised. There was no attempt in this study to identify the reasons for the low adherence or the personnel responsible to provide pressure ulcer care within each instance. A further outcome from this study was that there was a wide variation of adherence between nursing homes (29% to 51%) and across recommendations (94% skin inspection; 61% PRA performed; 1% education of residents and families). Wipke-Tevis et al.'s (2004) mixed method study, which explored pressure ulcer guideline utilisation in 321 aged care facilities, supported Saliba et al.'s (2003) findings. Wipke-Tevis et al. (2004) established that there was minimal evidence that a guideline for PUP & M was being utilised within long-term care

facilities, and the majority of the facilities were using their own facility-based pressure ulcer protocol as a substitute.

An additional international study conducted by Buss et al. (2004) presents a sobering description of the hesitation of healthcare professionals to implement evidence based clinical practice guidelines and revise out of date practices. Buss et al. (2004) conducted a qualitative research study to explore why the Dutch national pressure ulcer guidelines were not implemented in Dutch nursing homes. This was achieved by specifically examining the views and beliefs of nurses and physicians in five nursing homes through a semi-structured interview methodology. The findings from this study revealed that the nurses' pressure ulcer preventive activities were based on tradition. An example of this was the inclusion of a recommendation in three of the nursing homes protocols for massage of pressure areas. This practice is not included in pressure ulcer guidelines and anecdotally regarded by many wound care experts as potentially harmful (Duimel-Peeters 2005). Furthermore, enrolled nurses did not see a need to remain up to date with relevant pressure ulcer research and often relied on other healthcare workers, not pressure ulcer guidelines, to inform their practice. Lastly, and perhaps more disturbingly was the finding that the enrolled nurse demonstrated no intention to change practice in pressure ulcer prevention. Buss et al. (2004) concluded that a systematic approach is necessary to change nursing practice and furthermore, that the approach includes local opinion leaders, as there was an acknowledgment by enrolled nurses of reliance on other healthcare workers for knowledge. The methodological limitations of this study inhibit the generalisation to all aged care nurses. However, it provides a foundation for consideration and future research.

There was no identifiable Queensland research into the utilisation of recommended pressure ulcer guidelines within the aged care environment. Australian research into

guideline utilisation has been conducted in the home care environment (Lewin et al. 2007), tertiary facilities (Prentice 2007; Sharp et al. 2000) and the aged care sector (Ellis et al. 2006; Santamaria et al. 2005).

The Lewin et al. (2007) interventional study utilised a four-stage implementation process (1. baseline data collection, 2. guideline implementation, 3. repeat of baseline data collection and 4. ongoing evaluation) which, due to lack of significant reduction in PU prevalence at one year was subsequently modified to include a further two stages (5. implementation of strategies to reinforce adoption and 6. repeat of baseline data collection). The additional implementation strategies included case examples of inapt PUP & M, feedback sessions and reports and lastly, manager reinforcement. Through this process Lewin et al. (2007) examined the adoption of pressure ulcer prevention practices of nurses in the home care environment. The three key elements of practice considered were: the existence of a pressure risk assessment (PRA), identification of an ulcer and subsequent documentation and lastly, whether the correct pressure relieving or reducing equipment was utilised. The results concerning these pressure ulcer practices before implementation were low with only 20 percent of home care clients receiving a PRA, compared to 71 percent post implementation; 39 percent pressure ulcer documentation compared to 84 percent post implementation; and lastly, 63.4 percent of clients had appropriate equipment in use compared to 90.7 percent post implementation. Findings revealed that prior to the implementation of strategies to reinforce adoption there was no significant improvement in outcome measures. Following this modification there was significant improvement in outcome measures however, Lewin et al. (2007) conclude that recurrent monitoring suggested that the practice changes were not sustained over time.



Prentice (2007), as with Lewin et al. (2007), studied and reported on the three elements of pressure ulcer practice in a pre-test, post-test format. The major outcomes of this study incorporating five tertiary facilities across five states were low pre-test scores in all three domains (28 percent PRA on admission; 44 percent pressure relieving devices utilised; 18.5 percent ulcer documentation). However, although improvements (34 percent PRA on admission; 52 percent pressure relieving devices utilised; 27 percent ulcer documentation) were identified post implementation of the AWMA Clinical Practice Guidelines for the Prediction and Prevention of Pressure Ulcers, this improvement was appreciably less than that demonstrated by Lewin et al. (2007). The timeframes of these studies may be a variable in the post-test outcome measures. Prentice's (2007) study was conducted over a significantly shorter (six months) time period than Lewin et al. (2007) (two years), suggesting that time is a potential variable for the establishment of interventions into the organisational systems and the individual's practice. Lewin et al. (2007) and Prentice (2007) demonstrate the less than ideal adherence by health professionals in three elements of PU prediction and prevention and the ability of multifaceted PU prediction, prevention and management systems to produce positive outcomes.

A further study investigating the incidence and management of PUs in the tertiary healthcare system is Sharp et al's (2000) study. Sharp et al. (2000) utilised an exploratory descriptive design with a survey questionnaire as the main data collection tool to elucidate the extent of inappropriate PUP & M practices. This study was conducted throughout the Sydney metropolitan area health service and included registered nurses (n = 2113) who were employed in clinical areas throughout the area health service. This study established that registered nurses maintain diverse approaches to PUP & M and furthermore, the practices were not always evidence based. Two examples within this study of inappropriate practice are the placement of water filled gloves under the heels to relieve

pressure (55%) and the minimal utilisation of a PRA tool (21%) for assessing an individual's pressure risk.

Research situated in the aged care sector emphasises the necessity for an appropriate pressure risk assessment for the elderly (Santamaria et al. 2005). A large Commonwealth funded interventional study, known as the PRIME trial, was conducted to investigate the effectiveness of a PU management system. The interventions included educational programs, the dissemination of PU guidelines, wound imaging system, an electronic incidence database and a PRA and management system instrument. Phase one of the PRIME trial established 25.9 percent (471/1956 residents) pressure ulcer prevalence in 23 nursing homes across four Australian states (Santamaria et al. 2005). There were significant associations between pressure ulcer prevalence and the resident's co morbidity and PRA level and lack of appropriate pressure reducing equipment. Santamaria et al. (2005) concluded that the phase one results of the PRIME trial accentuate the need for an appropriate PRA that includes co morbidity status, and the provision of suitable pressure relieving equipment.

Ellis et al. (2006), as a sub component of the PRIME trial, conducted semi-structured telephone interviews with 120 staff from 17 aged care facilities to investigate organisational factors that may influence PU prevalence and PU system implementation. The stratified random sampling technique utilised by Ellis et al. (2006) supported a generalisability of the results. Ellis et al. (2006) reported that there was no identifiable relationship between PU prevalence and the organisational structure (staff development planning, equipment and resource management, communication management and effectiveness of staff and resident feedback). However, a relationship between the organisation's structure and the ability to implement the PRIME trial was demonstrated.

These results suggest that the attributes of an aged care organisation may not directly influence PU prevalence (although a one off PU prevalence score is not robust enough to be confident) despite the fact that the organisation does directly influence the implementation of new PU systems. This suggests that the individual clinician may have a greater influence at the point of care, that is the bedside (Ellis et al. 2006).

## **2.4 CONCLUSION**

The main concepts that underpin global research into the adoption of clinical guidelines to inform an individuals practice are EBP and CE. A clear definition of these concepts has been provided during this review process including the inhibitors and enablers of the implementation of both EBP and clinical guideline usage. In particular, this literature review has highlighted the complexity of moving evidence into practice and the need to take a multifaceted approach, not only in regards to implementation of guidelines, but also in designing methods of investigating these issues.

## **Chapter 3 : METHODOLOGY**

Chapter Three focuses on the methodology used to examine the research questions. The chapter commences with a justification for the paradigm and the espoused research design. A major section of this chapter is committed to clearly delineating the construction and application of the 'tools' incorporated in the study. These tools are the study's data collection sources and the choice of tool relates to the study's methodology. Furthermore, the ethical considerations and data analysis procedures allied to the research are discussed.

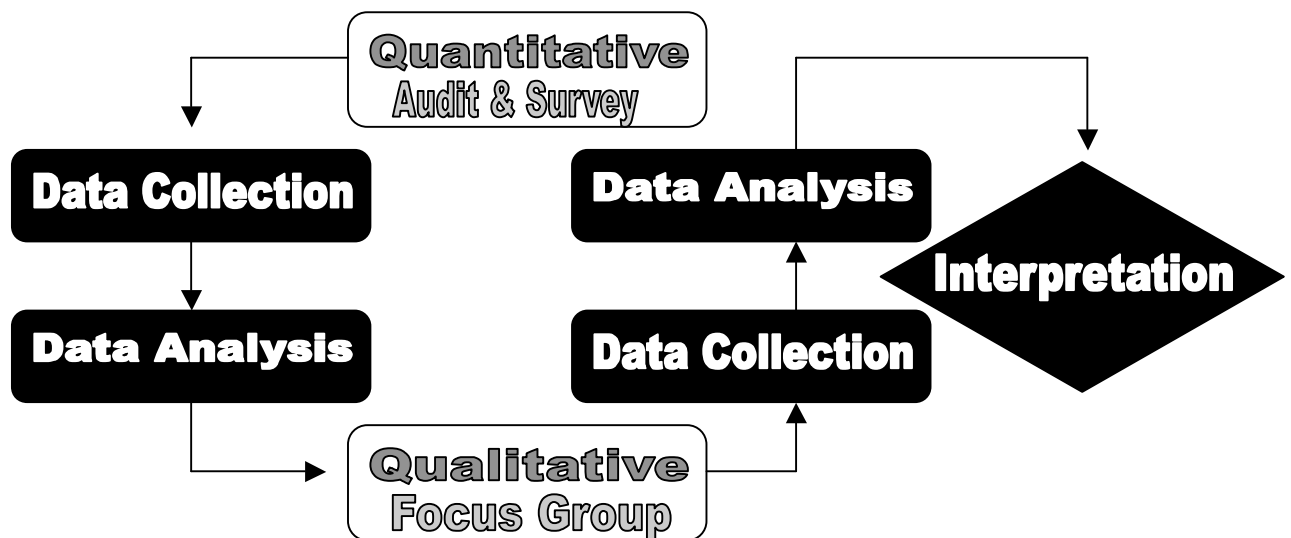
The hypothesis underpinning this research is that readily accessible pressure ulcer guidelines promote EBP. Furthermore, the characteristics of an organisation facilitate or inhibit staff implementing these guidelines. Testing this hypothesis has been achieved by adopting a methodology that not only addresses the research objectives but also answers the research questions. The mixed method strategy utilised in this study provided the ability to collect objective data and explore relationships between the organisation, nursing staff and clinical guideline usage. The mixed method research design was considered fundamental in preserving the underlying research paradigm.

The paradigm that guides and directs this research is positivism. The ontology of positivism is underpinned by realism and objectivism. The epistemology of the positivist paradigm is empiricism, which is defined as the search for knowledge by empirical method or practice (Sarantakos 2005). Therefore, when considering the research questions it was assumed that there was a relationship between the independent and dependent variables and that this relationship could be objectively analysed and confirmed using empirical methods. Collecting objective data assisted in unravelling the relationships between the organisation, nursing staff and pressure ulcer guidelines. Maintaining a

predominantly quantitative study assisted in ensuring the findings could potentially be generalised to a population.

### 3.1 RESEARCH DESIGN

This study uses a mixed method strategy, which Creswell (2003, p. 215) terms the ‘Sequential Explanatory Strategy’. In this strategy quantitative data collection and analysis was performed first, followed by the collection and analysis of qualitative data. The priority was given to the quantitative data and the two methods were integrated during the interpretation phase of the study. Figure 3.1 illustrates the progression of the research study.



**Figure 3.1** “Sequential Explanatory Strategy” adapted from Creswell (2003, p. 213).

Quantitative data was obtained from a facility audit and a staff survey. Qualitative data was obtained in the main, by conducting focus groups with aged care staff that work at the coalface. However, the survey also contained a qualitative section. The qualitative data was used to add complementary information to the quantitative findings (Schneider et al.

2003). The purpose of maintaining a predominantly quantitative design was to facilitate generalisation from the sample to the population so that an inference could be made about the population (Creswell 2003; Sarantakos 2005). This methodology has supported an objective gathering of facts about the use of pressure ulcer strategies for the prevention and management of pressure ulcers, including information on the feelings and perspectives of the aged care staff in relation to pressure ulcer guidelines. In this study the focus groups provided an avenue for qualifying the findings from the survey and audit (Creswell 2003, pp. 220-221) and conversely the survey and audit provided a semi-structured framework for the focus groups. Hence, the mixed method research design has supported the validation of the research data.

The rationale for including an audit process as a component of the data collection method was established when considering the aim of the study. It was anticipated by the researcher that the ability of aged care staff to adhere to pressure ulcer guidelines would be affected by the organisational and facility systems and protocols that the aged care staff work under. For example, if there is a readily available risk assessment tool there may be an increased likelihood of staff using the tool. It was therefore deemed important to identify the organisational and facility systems that underpin PUP & M. Consequently, an audit was conducted at each of the seven aged care facilities. The construction and administration of this audit is discussed later in this chapter.

With the 'Sequential Explanatory Strategy' the collection of qualitative data is reliant on the findings from the quantitative data. Employing this methodology necessitated that the survey development and administration be rigorous. This assisted in increasing the reliability and validity of the findings. The initial step in this process was identifying and selecting a sample.

### **3.1.1 Study population and sampling procedure**

The population for this study was aged care staff employed in residential aged care facilities. Due to fiscal and time constraints a straightforward stratified sampling procedure (de Vaus 2002) was used to identify aged care facilities in the Southern region of Queensland. Saliba et al. (2003) raised the possibility that PUP & M between non-government and government nursing homes may differ therefore the strata was based on the governance of the aged care facility, and consisted of two groups. The first group contained aged care facilities managed by private organisations and the second group contained aged care facilities managed by Australian Governments. Aged care facilities were randomly chosen using a simple random sampling technique, and subsequently invited to be part of the study. In total, ten aged care facilities, offering high and low level care were approached, seven agreed to support the study. Of these seven facilities, six were managed by private organisations. Consequently it was found that due to the privatisation of aged care facilities there was only one government administered aged care facility utilised.

### **3.1.2 Sample size**

Four hundred and forty seven staff members, employed within the seven aged care facilities, were invited to take part in both the survey and focus groups. Of the 447 invitations distributed, a total of 118 aged care nurses replied. This equated to a 25 percent response rate.

### **3.1.3 Inclusion and exclusion criteria**

To provide relevant answers to the research questions, staff whose job description required the provision of pressure ulcer prediction and prevention were required. Therefore the

inclusion criteria included LHCWs and UHCWs from the identified aged care facilities. The exclusion criteria consisted of LHCWs and UHCWs who did not work at the bedside, had been on leave for greater than six months, or were unable to write or speak in English.

### **3.1.4 Ethical considerations**

Administration of the study did not occur until ethical and legal issues were considered. This ensured a minimisation of harm, trauma, anxiety and discomfort for participants (Schneider et al. 2003).

Ethical and legal issues were discussed with the aged care facilities and their governing organisations. The private facilities required ethical clearance from the CQUniversity Human Research Ethics Committee and the public aged care facility required additional ethical clearance from the Royal Brisbane and Women's Hospital Human Research Ethics Committee. Ethical clearance was sought and granted from both Human Research Ethics Committees (see Appendix B). The major ethical considerations encompassed privacy, confidentiality, ability for participants to withdraw without prejudice and the storage of data, including the computer audio recordings from the focus groups.

To manage the ethical considerations, an information handout and consent form were produced for the questionnaire, audit and focus groups (see Appendix C). In addition, the requirement of both Human Research Ethics Committees for all data to be kept in a locked storage was followed. This included the computer recordings of the focus group discussions.



## **3.2 SURVEY**

A survey method was used to gain objective and measurable data about the utilisation of readily available pressure ulcer guidelines. Using the human resource databases of the aged care facilities, the sample for each of the seven aged care facilities was identified. These databases were scrutinised to remove duplications of staff and the inclusion and exclusion criteria was applied. Questionnaires were forwarded to the aged care facilities to distribute via post to all identified staff members. The construction of the questionnaire was thorough to ensure validity and reliability of the subsequent findings.

### **3.2.1 Questionnaire construction**

The questionnaire was adapted, with permission, from an existing instrument developed by Prentice (2007). Appendix D contains the modified questionnaire in its entirety. The modified questionnaire explored the following concepts:

- Demographics of the respondent;
- Utilisation of EBP in PUP & M;
- Barriers to the implementation of PUP & M strategies, such as time and resources as identified in the literature;
- Enablers of PUP & M strategies, such as education, champions and organisational policies.

The guidelines and standards used to construct the statements within the questionnaire were the AWMA's 'Clinical Practice Guidelines for the Prediction and Prevention of Pressure Ulcers' (2001) and to a lesser extent the 'Standards for Wound Management'

(2002). The AWMA pressure ulcer guideline rates well when applying the AGREE instrument (The 'AGREE' Collaboration 2001), ensuring the guidelines utilised were of a high standard. Furthermore, Strachan and Balding (2004) supported the high rating of the AWMA pressure ulcer guidelines. Following the initial formulation of the questionnaire, three respected wound care specialists within Australia were invited to critique the tool. All practical and theoretical suggestions were considered and instigated where considered advantageous.

The initial steps in the adaptive process was to scrutinise the existing tool (Prentice 2007), the AWMA 'Clinical Guidelines for the Prediction and Prevention of Pressure Ulcers' (2001) and 'Standards for Wound Management' (2002) for underlying themes. This was followed by the utilisation of these identified themes as a basis for statement formulation. The aim of this process was to increase the prospect of the statements measuring the identified constructs and therefore increasing the probability of a correlation between the statements (Ho 2006, p. 207).

The questionnaire was constructed using a 5-point Likert scale (see Appendix D). Ranging from 'strongly agree' to 'strongly disagree' and, including the choice 'neither agree nor disagree'. There are three sections to the questionnaire. The first section includes twenty statements that capture how the participant views the organisational PUP & M strategies; including, but not exclusively, the use of pressure ulcer policies and procedures and a pressure risk assessment tool. The second section contains twenty three statements pertaining to the provision of clinical care in relation to PUP & M, including six reverse statements. The final section primarily includes questions regarding the demographics of the participant. However, it also qualitatively explores the perceived inhibitors and enablers to PUP & M (see Appendix D).

### **3.2.2 Questionnaire administration**

The ethical consideration when mailing the questionnaire (refer to Appendix B) was that each participant's consent was required in hard copy. Therefore a consent form (see Appendix C) was formulated which contained a clear explanation of the study purpose and background, associated benefits and risks, and the assurance of privacy and confidentiality. This consent form was included with the questionnaire on dissemination. The effectiveness of the mixed methodology necessitated a good response rate from the survey process. Therefore steps to assist in improving the response rate were initiated.

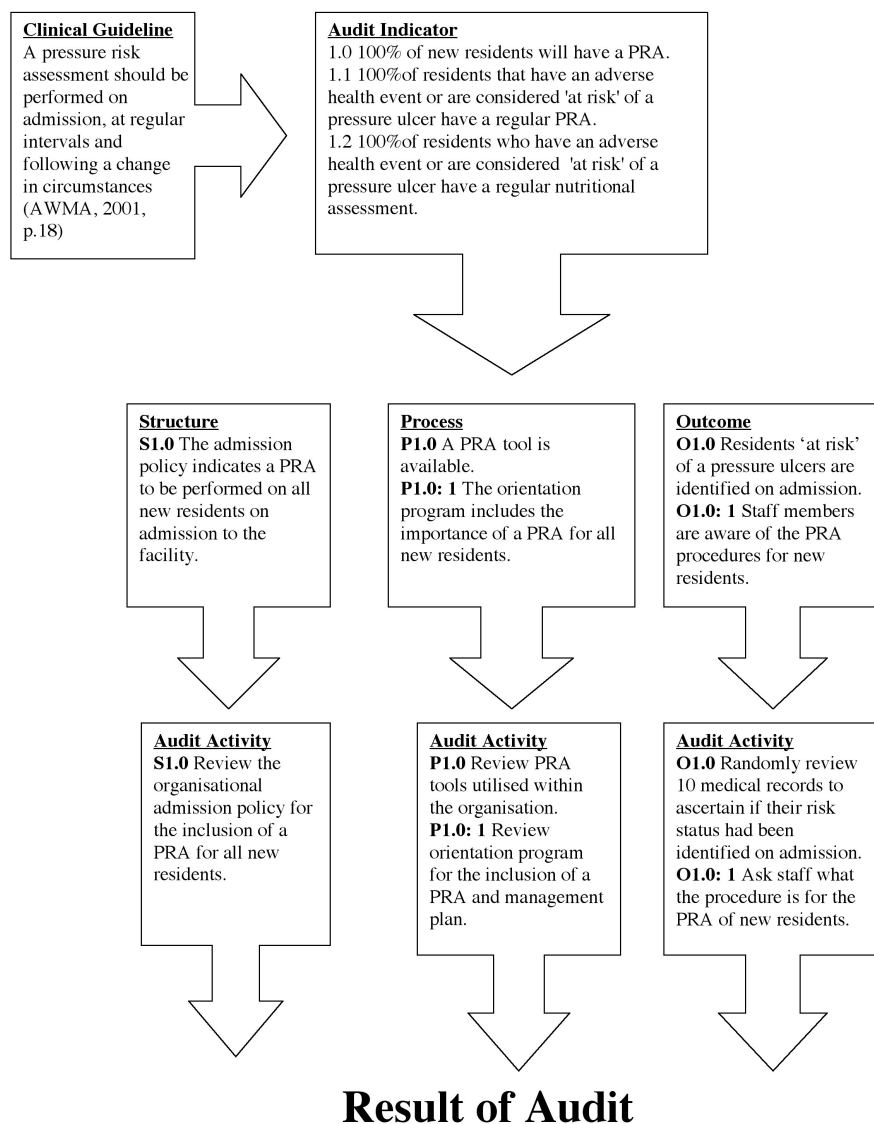
Several administrative factors were instigated to ensure an adequate response rate and enhance the validity of the survey. The researcher allocated time and resources to ensure a strong relationship with the aged care facility representative. The representative worked with the researcher to assist in applying the inclusion and exclusion criteria, disseminating the questionnaires and the administration of both the audit and focus group. Further factors to assist in ensuring an increased response rate were the incorporation of a stamped, self-addressed return envelope with the questionnaire. Posters were designed and placed within the aged care facilities in areas that were frequently accessed by staff. Newsletters were disseminated at regular intervals, which highlighted the progression of the study and the study impetus. Lastly, the timing of the audit was incorporated in this process. It was considered prudent to conduct the audit immediately after the questionnaire was mailed to assist in improving the awareness of the study. This assisted in improving awareness by placing the researcher in the participants' work environment, where the researcher was then able to informally share the impetus for the study. The researcher, while understanding the necessity to ensure a satisfactory response rate was also mindful of the potential for modelling (Sarantakos 2005, p. 189) and therefore was judicial in the

information imparted and the level at which the study was profiled within the aged care facilities.

### **3.3 AUDIT**

An audit was conducted in all facilities to inform the researcher of the organisational systems that underpin pressure ulcer prediction and prevention. The audit was a two-day process, the first day included the audit of organisational procedures and policies as well as gaining consent from each resident whose file was randomly selected for inclusion in the medical record audit. On the second day, the identified medical records were audited and staff members' responses to audit questions obtained. The acquired data was recorded in hard copy and on completion of the audit, entered into a computer. On entering the data into the computer the facilities were de-identified and referred to by a pseudonym. The initial step in this process was to identify a pre-existing audit tool within the literature that had been used in auditing the use of PUP & M strategies. When this was not successful the researcher contacted several wound specialists within Australia.

The identification of a validated pre-existing audit tool was unsuccessful, therefore an audit tool was constructed utilising the AWMA (2001; 2002) pressure ulcer guidelines, wound standards and the clinical audit model cited in Courtney (2005, pp. 162-164). This model utilises audit indicators for clinical guideline recommendations. It achieves this by separating the audit indicator into a structure, a process and an outcome. The structure, process and outcome are then assigned an audit activity and expected finding. Figure 3.2 represents visually the process undertaken to predefine the audit activities for one consensus statement contained in the AWMA pressure ulcer guidelines. For the detailed audit tool refer to Appendix E.



**Figure 3.2** A visual representation of the process utilised to predefine audit activities. Adapted from Courtney (2005, pp. 162-164).

The activities in the audit tool included a medical record audit, an audit of organisational policies and PUP & M equipment, and a staff audit that was administered verbally. The medical record audit was conducted utilising ten records at each aged care facility. These records were selected using a randomised, stratified sample technique (de Vaus 2002).

There were three stratifications:

- Residents not at risk or in a low risk category for pressure ulcers;

- Residents in a moderate to high-risk category for pressure ulcers, however, do not have a pressure ulcer;
- Residents who have a pressure ulcer.

The nurse in charge identified all residents in each group and then each group underwent a randomisation process until there were three residents within group one, three residents in group two and four in group three. The researcher knew the resident only as a number until randomisation was completed. Utilising a randomised stratification process decreased the chance of what Sarantakos (2005, p. 235) terms observer bias; that is when the observer has a consistent tendency to perceive situations in terms of their personal ideology and bias hence producing a distorted reality. A larger sample size would increase representativeness, however, the audit was not the main focus and therefore it was decided to choose a number that was manageable and at the same time permitted information to be collected on organisational systems.

As in the survey, when conducting the medical record audit it was necessary to obtain consent from the participant whose record was to be audited. This was achieved by using a hard copy synopsis of the study purpose, background, associated benefits and risks, and the assurance of privacy and confidentiality (refer to Appendix C). This synopsis was then utilised when personally explaining the study to the resident. If the resident was unable to give consent, the consent was sought from their guardian or the statutory health authority. The data obtained from the medical record was de-identified. This ensured that only the researcher was aware of the identity of the records utilised in the audit process.

The participants of the staff audit were divided into two groups. The first group contained LHCWs, and the second group contained UHCWs in each facility. This was done to

ensure that all groups involved in PUP & M were represented in the audit process (Courtney 2005). To administer the audit the researcher randomly chose the participants from the staff working either on the morning or afternoon shift on the designated audit day. The staff members participated in the audit in a voluntary capacity. To decrease the risk of observer bias (Sarantakos 2005, p. 235), the researcher verbally asked the predefined audit questions and accepted answers without prompts or coercion. On completion of the audit a focus group was administered in each of the seven aged care facilities.

### **3.4 FOCUS GROUP**

The purpose of a focus group format as part of this mixed methods study was to gather a rich understanding of staffs' feelings, reasons and explanations for the findings from the questionnaire analysis. The focus group provided qualitative data that assisted in filling information gaps highlighted in the questionnaire and provided validation for the survey findings. The researcher conducted the focus groups and although there was a semi-structured format, the researcher only assisted with direction on an as necessary basis. The practical advice of Krueger and Casey (2000) and Morgan (1998) was consulted when considering the intricacies of administering the focus groups. The researcher acted as a facilitator and arbitrator by introducing the topic, guiding the discussion and encouraging discussion between members of the group. The pre-existing outline of topics for the focus group were predefined by the questionnaire findings and included:

- The rubbing of bony prominences;
- Hindrances to PUP & M including attitudes of staff, and lack of time and resources;

- Education as an ‘enabler’ for PUP & M strategies;
- ‘Wound Management Nurse’ position and,
- The use and availability of PUP & M policies.

Focus groups were conducted in each of the aged care facilities over a three-month period. The composition of the groups was LHCWs and UHCWs employed by the supporting aged care facilities. The inclusion and exclusion criteria were applied as for the survey. The characteristics that were considered when setting the selection criteria in the selection of the focus group sample were that the participants have a requirement to use pressure ulcer guidelines in their employment. It was not deemed important by the researcher that the participants have an ardent interest in pressure ulcers. The group size for the seven focus groups was between four and ten participants. The sample for these groups was decided according to the following process:

- When the questionnaire was mailed it contained a separate letter that sought an expression of interest from respondents to take part in a discussion on PUP & M (see Appendix C);
- The respondents who returned the expression of interest letter were entered on a list;
- It was intended to use a lottery method to randomly select six to ten participants from each facility but the level of interest rendered this step unnecessary;
- In facilities where the return of the ‘expression of interest’ was low, staff members were verbally invited to be part of the focus group.



The participants were contacted by telephone and invited to be part of a 30 to 60 minute discussion group on PUP & M. Their preferences were also sought on a preferred date, time and venue. The focus group was conducted at a mutually acceptable date, time and venue for both the facility and the participants. The ambiance of the room was set to promote comfort and confidentiality, therefore maximising the sharing of beliefs and feelings. The recording of the focus group discussions was carried out using a computer-recording program.

### **3.5 DATA ANALYSIS**

#### **3.5.1 Questionnaire**

Data analysis of the questionnaire used the Statistical Product and Service Solutions 11 (SPSS-11) computer program. This computer program was utilised because of its availability, useability, flexibility, and its statistical analysis processes. The initial step was to prepare a codebook based on the questionnaire and from this set up a data file. All negative statements were reverse coded where necessitated. With the completion of the data file, data entry began. A systematic process was followed to prepare the data for computer entry and included the following:

- Completed questionnaires were de-identified and entered into the data file within 24 hours of return;
- The researcher entered all questionnaire data to increase the accuracy of the data entry process;
- All questions for which a response was not provided were left blank, as were all ambiguous answers;

- A list containing responses to the two open-ended questions in section three was kept in a separate Word document.

On completion of the data entry the statistical analysis commenced. Initially descriptive statistics of the study sample were calculated using SPSS-11 and included frequencies, measures of central tendency, variances and deviations.

A Factor Analysis was conducted on both the organisational and clinical practice statements. The aim of the Factor Analysis was to simplify, in a methodical manner the forty-three statements to a decreased number of intercorrelated representative statements. The primary objectives for this were to use the factors to analyse and present the survey findings and to decrease the complexity of the questionnaire and therefore improve the response rate in subsequent studies. To achieve the objectives of the Factor Analysis the following requirements were insured: statements were measured at an ordinal level (Likert scale 1-5); several statements were included to represent each proposed construct; and the sample size was greater than one hundred (Ho 2006).

The Factor Analysis employed Principal Components Extraction, followed by Oblimin Rotation with Kaiser Normalisation to investigate the factor structure of the two categories of statements ('Organisational' and 'Clinical Practice'). Missing values were managed by excluding cases pairwise, as the less restrictive nature of this method was suitable for the sample size (Ho 2006). Factor loadings with values less than 0.33 were suppressed, thus ensuring approximately 10 percent or more of the variance in that item was accounted for by its common factor (Ho 2006). The first run was conducted using the Eigenvalues greater than one criterion. Subsequent runs were conducted specifying the number of factors. The number of factors was identified following consultation of the Scree Plot and the theoretical underpinnings of the statements included in each of the factors.

Furthermore, the Bartlette's test of sphericity was used to test for adequacy of the correlation matrix and Cronbach's Alpha to test for reliability of items and internal consistency of the test. On completion of the Factor Analysis, the identified factors and subsequent new variables were utilised accompanied by audit findings, to investigate the three research questions elucidated in Chapter One.

A One-Way Analysis of Variance with a Post Hoc comparison was used to investigate an effect of the participant variables on the response to the dependent variables. The LSD Post Hoc procedure was used in all comparisons to decrease the risk of a type two error. The Chi-Square test for goodness-of-fit and the Pearson Product Moment Correlation were also utilised where deemed appropriate. The level of significance throughout the data analysis process was set at  $p < 0.05$ .

### **3.5.2 Audit**

Audit analysis was initially performed regarding the individual facility and a copy of this finding was distributed to the facility administrators. On the completion of all seven facility audits the findings were amalgamated to establish an overall result. This two-step process provided data on the individual facility and collective data for the seven aged care facilities. Both categories of data were necessary to examine the research questions. In the main, percentages and frequencies were used to present and compare audit data.

### **3.5.3 Focus group**

A thematic analysis method (Creswell 2003) was utilised to explore the qualitative data, resulting from both the questionnaire and the focus groups. The focus group data was initially considered in its entirety and then coded and categorised according to the topics

predetermined by the survey findings. The focus group data was utilised to inform the overall findings and subsequent discussions.

### **3.6 CONCLUSION**

This mixed methodology study contains three interrelated stages: an audit, questionnaire and focus group. Within each of these stages the ethical considerations have been discussed along with procedures that have increased the validity and reliability of the study. Methods, which included Creswell's (2003) 'Sequential Explanatory Strategy' were utilised to support a generalisation of findings from the seven aged care facilities to the greater aged care population and were dependent on three factors. These factors were the willingness of the aged care facilities to embrace the study, the response rate to the questionnaire and the resources available to increase the sample size.

## **Chapter 4 : RESULTS**

Chapter four contains the results of the organisational audit and the aged care staff questionnaire. The demographics of the audit and survey are clearly stated including the response rate for the questionnaire. The major objective for including both an audit and questionnaire in this mixed method study was to provide a quantitative exploration of the research questions elucidated in chapter one. Therefore the results are presented within the mutual constructs they represent. No attempt has been made to produce a coherent overview of the research findings, as an integrated discussion based on the research findings is included in the subsequent chapter. However, a brief description of the Factor Analysis is provided within this chapter and Appendix E contains Scree Plots, detailed tables and theoretical considerations underpinning factor extraction.

### **4.1 DEMOGRAPHICS: SURVEY AND AUDIT**

The samples for the questionnaire and audits were obtained from the seven aged care facilities. The processes utilised to identify the samples is described within the methodology chapter.

#### **4.1.1 Audit**

The sample for the audit process included seven aged care facilities governed by four aged care organisations situated in Southern Queensland, Australia. Private organisations administered six of these aged care facilities and government administered one. All facilities had received accreditation within the previous two years. The names of the aged care organisations and facilities have been withheld to preserve anonymity. Table 4.1 presents the demographics of the aged care facilities.

**Table 4.1** Demographics of the age care facilities

Facility administration	Facility	Type of care provided	Number of beds
Organisation A (Private)	Facility 1	High and low care	50
Organisation B (Private)	Facility 2	High and low care	60
	Facility 7	High and low care	93
Organisation C (Private)	Facility 3	High and low care	120
	Facility 4	High and low care	100
	Facility 5	High and low care	66
Organisation D (Government)	Facility 6	High care	40
<b>Total</b>	<b>7</b>		<b>529</b>

### 4.1.2 Survey

The inclusion and exclusion criteria, as discussed in Chapter Three, were applied to the staff members of the seven aged care facilities resulting in a total of 472 aged care staff who were eligible to participate in the study. The participants were distributed evenly across the seven aged care facilities. However, there was a variation in the number of responses (compared to the number of staff employed) within the facilities. Table 4.2 illustrates the distribution of responses within the aged care facilities.

**Table 4.2** Number of participants from the aged care facilities

Facility	Number of staff members in facility	Responses	Responses within facility
		% (n)	% (n)
Facility 1	70	14 (17)	24 (17/70)
Facility 2	37	19 (22)	59 (22/37)
Facility 3	85	16 (19)	22 (19/85)
Facility 4	120	14 (17)	14 (17/120)
Facility 5	65	14 (16)	25 (16/65)
Facility 6	45	12 (14)	31 (14/45)
Facility 7	50	11 (13)	26 (13/50)
<b>Total</b>	<b>472</b>	<b>100 (118)</b>	

The participant characteristics are presented in Table 4.3. Sixty four (n = 118; 54%) UHCWs and 54 (n = 118; 46%) LHCWs completed the questionnaire. Thirty (n = 63; 47.6%) UHCWs had less than five years experience working in the aged care sector and

eleven (n = 54; 20.4%) LHCWs acknowledged they had less than five years aged care experience. Twenty one participants (n = 115; 18.3%) had not attended PUP & M education within two years. Furthermore, nine participants (n = 115; 7.8%) had never attended PUP & M education. The majority of participants that had never attended PUP & M education were UHCWs (n = 7; 77.8%).

**Table 4.3** Characteristics of the survey sample

	UHCWs	LHCWs					Total % (n)
		Enrolled Nurse	Enrolled nurse (Medication endorsed)	Registered Nurse Level 1	Registered Nurse Level 2	Registered Nurse Level 3	
	% (n)	% (n)	% (n)	% (n)	% (n)	% (n)	
<b>Total sample</b>	54.2 (64)	2.5 (3)	5.9 (7)	28.0 (33)	6.8 (8)	2.5 (3)	100 (118)
<b>Aged care experience</b>							
1-5 years	47.6 (30)	33.3 (1)	0 (0)	24.2 (8)	25 (2)	0 (0)	35.0 (41)
6-10years	25.4 (16)	33.3 (1)	42.9 (3)	33.3 (11)	25 (2)	33.3 (1)	29.1 (34)
11-15years	14.3 (9)	33.3 (1)	28.6 (2)	15.6 (5)	12.5 (1)	0 (0)	15.4 (18)
> 15years	12.7 (8)	0 (0)	28.6 (2)	27.3 (9)	37.5 (3)	66.7 (2)	20.5 (24)
<b>Total</b>	100 ( 63)	100 (3)	100 (7)	100 (33)	100 (8)	100 (3)	100 (117)
<b>PUP &amp; M education</b>							
Never	11.3 (7)	33.3 (1)	0 (0)	3.1 (1)	0 (0)	0 (0)	7.8 (9)
< 6 months	35.5 (22)	33.3 (1)	42.9 (3)	31.3 (10)	37.5 (3)	66.7 (2)	35.7 (41)
6-12 months	32.3 (20)	0 (0)	42.9 (3)	25.0 (8)	25 (2)	33.3 (1)	29.6 (34)
13-24 months	12.9 (8)	0 (0)	14.2 (1)	28.1 (9)	12.5 (1)	0 (0)	16.5 (19)
Over 2 years	8.0 (5)	33.3 (1)	0 (0)	12.5 (4)	25 (2)	0 (0)	10.4 (12)
<b>Total</b>	100 (62)	100 (3)	100 (7)	100 (32)	100 (8)	100 (3)	100 (115)

## 4.2 PRELIMINARY OPERATION - FACTOR ANALYSIS

The 118 participants provided information on the organisational administration of PUP & M. In addition, they provided information regarding their clinical practice. A Factor Analysis was the initial phase in analysing the questionnaire data. A Factor Analysis was performed initially on section one, 'Organisational' statements, followed by section two, 'Clinical Management' statements.

### 4.2.1 Section one – ‘Organisational’ statements

The first section of the questionnaire contained twenty statements written to reflect the individual’s perception of the organisation’s PUP & M strategies (refer to Appendix D).

The following is a brief overview of the Factor Analysis.

The Bartlett’s Test of Sphericity yielded a Chi-Square of 1738.80, and an associated level of significance less than 0.001. Thus the Correlation Matrix has significant correlations among at least some of the variables. Using the Eigenvalues of one or greater criterion, four factors were retained for rotation. These four factors accounted for a total variance of 70.77 percent. The Eigenvalues of one or greater criterion and the subsequent three factor extraction were conceptually ambiguous (see Appendix F). However, the two factor extraction supported an interpretation. Table 4.4 contains the Pattern Matrix for the two-factor extraction and Table 4.5 is a list of the clean factors.

**Table 4.4** Summary of factor loadings for Oblimin two-factor solution for the ‘Organisational’ statements

Item	Factors	
	1	2
Guidelines for the prediction and prevention of pressure ulcers are available in your facility.		-0.590
These guidelines are always accessible in your facility.		-0.649
It is your facility’s policy to conduct a pressure ulcer risk assessment on all new residents.		-0.852
It is your facility’s policy to evaluate the pressure ulcer risk to your existing residents on a regular basis as deemed appropriate for each individual.		-0.745
You are provided with a pressure risk assessment tool/form to assist in predicting and preventing pressure ulcers.		-0.975
Your facility audits the use of these pressure ulcer tools in a timely manner.		-0.731
You are provided with results of these pressure ulcer tool audits.		-0.691
Protocols for the treatment of all stages of pressure ulcers are always available to you.		-0.720
There is a designated wound management resource person for your facility.	No Loading	
Your facility provides you with the pressure relieving/reducing equipment needed to assist in preventing pressure ulcers.	0.766	
Your facility has established repositioning protocols for residents at risk of pressure.	0.709	
There is enough time during a shift to provide pressure area care for all residents who require this.	0.559	
At the end of each shift you know all preventative skin and pressure reducing / relieving strategies required for residents in your care has been attended.	0.823	
Your facility requires you to report the occurrence of a pressure ulcer in a written format or report it to a nurse who does this.	0.562	
It is your facility’s policy to accept new research findings in pressure ulcer prevention and treatment, implementing research findings at the ward level.	0.729	



Appropriate moist wound healing dressings are available to treat stage 3 and 4 pressure ulcers.	0.365	-0.370
If a resident develops a pressure ulcer your facility provides appropriate pressure relieving/reducing equipment for managing the ulcer.	0.862	
Your facility has a mattress maintenance and replacement program in place.	0.748	
Your facility has a manual handling education program that teaches staff how to move residents to avoid skin damage from the forces of shear and friction.	0.612	
Your facility provides education on the prediction, prevention and management of pressure ulcers for all staff involved in the residents care. (Licensed and unlicensed staff).	0.778	
<b>Factor Correlations</b>		
Factor 1	--	
Factor 2	-0.591	--

(Note: no loadings and cross loadings are highlighted in grey)

**Table 4.5** Clean factors for 'Organisational' items

**Factor 1: Organisational Pressure Ulcer Prevention- Cronbach's Alpha = 0.90**

Your facility provides you with the pressure relieving/reducing equipment needed to assist in preventing pressure ulcers.

Your facility has established repositioning protocols for residents at risk of pressure.

There is enough time during a shift to provide pressure area care for all residents who require this.

At the end of each shift you know all preventative skin and pressure reducing / relieving strategies required for residents in your care has been attended.

Your facility requires you to report the occurrence of a pressure ulcer in a written format or report it to a nurse who does this.

It is your facility's policy to accept new research findings in pressure ulcer prevention and treatment, implementing research findings at the ward level.

If a resident develops a pressure ulcer your facility provides appropriate pressure relieving/reducing equipment for managing the ulcer.

Your facility has a mattress maintenance and replacement program in place.

Your facility has a manual handling education program that teaches staff how to move residents to avoid skin damage from the forces of shear and friction.

Your facility provides education on the prediction, prevention and management of pressure ulcers for all staff involved in the residents care. (Licensed and unlicensed staff).

**Factor 2: Organisational Pressure Ulcer Prediction – Cronbach's Alpha = 0.92**

Guidelines for the prediction and prevention of pressure ulcers are available in your facility.

These guidelines are always accessible in your facility.

It is your facility's policy to conduct a pressure ulcer risk assessment on all new residents.

It is your facilities policy to evaluate the pressure ulcer risk to your existing residents on a regular basis as deemed appropriate for each individual.

You are provided with a pressure risk assessment tool/form to assist in predicting and preventing pressure ulcers.

Your facility audits the use of these pressure ulcer tools in a timely manner.

You are provided with results of these pressure ulcer tool audits.

Protocols for the treatment of all stages of pressure ulcers are always available to you.

Conceptually the items loaded on each of the factors have a compelling fit. The statements were purposefully constructed in such a way as to examine the constructs of organisational pressure ulcer prediction and pressure ulcer prevention. All the statements in Factor 1 (see Table 4.5) support the concept of organisational pressure ulcer prevention. The statements

in Factor 2 represent organisational pressure ulcer prediction strategies. Factor 1 and Factor 2 have a high Cronbach's Alpha, 0.9043 and 0.9201 respectively (see Appendix F Tables 3 & 4), signifying that the statements within each factor measure the same construct.

#### **4.2.2 Section two – 'Clinical Management' statements**

The second section of the survey contained 23 statements. As with the first section these statements were constructed to explore PUP & M practices. However, unlike the first section questions 5, 9, 13, 21, 22 and 23 were written as negative statements and hence required reversing before proceeding with the Factor Analysis (refer to Appendix D for a list of these statements). The same participants answered both sections one and two (n = 118).

The Bartlett's Test of Sphericity yielded a Chi-Square of 1360.50, and an associated level of significance smaller than 0.001. Therefore the Correlation Matrix has significant correlations among at least some of the statements. Using the Eigenvalues of one or greater criterion, six factors were retained for rotation. These six factors accounted for 70 percent of the total variance. Interpretation of these six factors was difficult due to cross loadings and minimal loadings. Therefore further extractions stipulating the number of factors were conducted until the factors were less ambiguous for interpretation. This was as suggested by the Scree Plot, at the three factor extraction (see Appendix F for the Scree Plot and pattern matrices for all extractions). A three-factor extraction accounted for a total variance of 55.5 percent. Table 4.6 contains the Pattern Matrix for the three-factor extraction and associated factor correlations. Items that loaded on to more than one factor were deleted (see Table 4.7 for the clean factors).

**Table 4.6** Summary of factor loadings for Oblimin three-factor solution for the ‘Clinical Management’ statements

Item	Factors		
	1	2	3
I find the pressure risk assessment form easy to use.	0.833		
If a resident has a pressure ulcer I always assess their nutritional status.	0.813		
I always use a pressure risk assessment tool to assess the pressure risk to a resident.	0.798		
I always use a standard tool/form to assess the nutritional status of a new resident.	0.786		
When a resident has a pressure ulcer I assess the wound and surrounding skin before continuing with a dressing regime.	0.739		
I regularly consult with a wound management specialist on the management of a pressure ulcer.	0.738		
I always document when and how I provide pressure care for a resident.	0.460		0.361
I assist residents to move in their chair or bed upon their request only.		0.804	
All residents are repositioned according to a set facility schedule.		0.708	
I often replace a dressing on a pressure ulcer without completing an assessment of the wound.		0.680	
I only use my intuition and nursing experience to identify residents at risk of pressure ulcers.		0.661	
The resident’s doctor decides on the treatment of the ulcer and I only do the dressing.		0.594	
I tilt the foot and elevate the head of a resident’s bed to relieve heel pressure.		0.476	-0.368
On turning a resident I always check the resident’s pressure points for skin integrity.			0.801
I use pillows or foam to elevate the heels of bed-bound residents off the bed at every turn.			0.745
I always protect skin susceptible to shearing and friction with padding or a protective dressing			0.715
I encourage ambulatory residents to mobilise on a regular basis.	0.356		0.654
When planning a repositioning regime I always consider the resident’s skin tolerance to pressure.	0.363		0.599
There is a nutritional program implemented for residents identified as having a nutritional deficit.			.572
I educate residents on the importance of mobilising and frequent position changes.	0.461		0.502
All residents considered to be at risk of pressure are on a pressure-relieving surface.	0.368		0.426
I always use pressure-relieving devices on chairs for those who sit out for extended periods of time.	0.391		0.422
I rub the heels and buttocks of residents as a routine part of pressure area care that I provide.			-0.421
<b>Factor Correlations</b>			
Factor 1	--		
Factor 2	6.839E-20	--	
Factor 3	0.349	-0.205	--

(Note: no loadings and cross loadings are highlighted in grey)

**Table 4.7** Clean factors for ‘Clinical Management’ items

**Factor 1: Assessment – Cronbach’s Alpha = 0.89**

I find the pressure risk assessment form easy to use.

If a resident has a pressure ulcer I always assess their nutritional status.

I always use a pressure risk assessment tool to assess the pressure risk to a resident.

I always use a standard tool/form to assess the nutritional status of a new resident.

When a resident has a pressure ulcer I assess the wound and surrounding skin before continuing with a dressing regime.

I regularly consult with a wound management specialist on the management of a pressure ulcer.

**Factor 2: Inappropriate Practice – Cronbach’s Alpha = 0.75**

I assist residents to move in their chair or bed upon their request only.

All residents are repositioned according to a set facility schedule.

I often replace a dressing on a pressure ulcer without completing an assessment of the wound.

I only use my intuition and nursing experience to identify residents at risk of pressure ulcers.

The resident’s doctor decides on the treatment of the ulcer and I only do the dressing.

**Factor 3: Pressure Ulcer Prevention – Cronbach’s Alpha = 0.50**

On turning a resident I always check the resident’s pressure points for skin integrity.

I use pillows or foam to elevate the heels of bed-bound residents off the bed at every turn.

I always protect skin susceptible to shearing and friction with padding or a protective dressing

There is a nutritional program implemented for residents identified as having a nutritional deficit.

I rub the heels and buttocks of residents as a routine part of pressure area care that I provide.

The clustering of the statements and their wording offered insight into the meaning of the three factors. Factor 1 contained six statements that reflect the assessment process for pressure ulcer prediction and management (refer to Table 4.7, Factor 1). Factor 2 contained five statements that clearly reflect the inappropriate practice of pressure ulcer interventions (refer to Table 4.7, Factor 2). Lastly, Factor 3 contained five statements that represent pressure ulcer prevention (refer to Table 4.7, Factor 3). This three factor model reflects the underlying factor structure of the twenty three clinical practice statements. Therefore reducing the number of statements from twenty three to sixteen.

The internal consistency of Factor 1 and Factor 2 were both high with Cronbach’s Alpha of 0.89 and 0.75 respectively. The Cronbach’s Alpha for Factor 3 was 0.50, which suggests a low internal consistency, that is, the five statements in Factor 3 may not all measure the same construct. To increase the internal consistency the statement ‘I rub the heels and buttocks of residents as a routine part of pressure area care that I provide’ was removed. Conceptually the removal of this statement was a ‘good fit’ as the statement was included in the questionnaire as a negative statement representing ‘inappropriate practice’

and therefore does not conceptually fit in this factor. When this statement was removed the Cronbach's Alpha was 0.78, which suggested an increase in the internal consistency for Factor 3 (refer to Appendix F for an in depth discussion and tables relating to this activity). Therefore as a result of this process Factor 3 consisted of four statements instead of the initial five statements (see Table 4.8 for Factor 3, reviewed).

**Table 4.8** 'Clinical Management' Factor 3 (reviewed)

**Factor 3: Pressure Ulcer Prevention - Cronbach's Alpha 0.78**

On turning a resident I always check the resident's pressure points for skin integrity.

I use pillows or foam to elevate the heels of bed-bound residents off the bed at every turn.

I always protect skin susceptible to shearing and friction with padding or a protective dressing

There is a nutritional program implemented for residents identified as having a nutritional deficit.

The questionnaire was designed to investigate key constructs relating to both the organisational and clinical domains of pressure ulcer care. The constructs of the questionnaire were explored through the statistical process of a Factor Analysis resulting in five factors. The first two factors represent the prediction and prevention of pressure ulcers from an organisational perspective (refer to Table 4.5). The remaining three factors signify the clinical management of pressure ulcers in relation to assessment, prevention and inappropriate practice (refer to Tables 4.7 and 4.8). The five factors provide a platform for the analysis of the research questions.

### **4.3 RESEARCH QUESTION ONE:**

**Are aged care organisations using evidence-based guidelines and standards to strategically implement PUP & M strategies?**

The exploration of organisational strategies for pressure ulcer prediction and prevention was based around three strategies: the existence of supporting organisational policies and procedures; the availability of resources to enable guideline implementation; and the provision of educational opportunities for direct care staff members. The survey results were analysed and presented using the two 'Organisational' factors, which incorporated

these strategies (see Table 4.5). The level of agreement to the statements was measured on a five point Likert scale, where 1 = strongly agree; 2 = agree; 3 = neither agree nor disagree; 4 = disagree; and 5 = strongly disagree.

### **4.3.1 Survey results**

New dependent variables were computed using the associated factor items. The first dependent variable, identified as ‘Organisational Pressure Ulcer Prevention’ included items from Factor 1 (statements 10, 11, 12, 13, 14, 15, 17, 18, 19 & 20). The fundamental subjects embedded in this new dependent variable were organisational education and organisational resources for pressure ulcer prevention. The second variable, titled ‘Organisational Pressure Ulcer Prediction’ incorporated the items from Factor 2 (statements 1, 2, 3, 4, 5, 6, 7 & 8). The topics fundamental to this dependent variable were the existence of pressure ulcer policies and procedures, and the auditing of pressure ulcer prediction and prevention strategies (see Table 4.5).

The correlation between ‘Organisational Pressure Ulcer Prediction’ and ‘Organisational Pressure Ulcer Prevention’ was positive and statistically significant ( $r = 0.691, p < 0.001$ ). This signifies that participants who agree that the organisation employing them has PUP & M policy and procedures also agree that the organisation provides education and resources for PUP & M. Conversely, the participants who disagree on one variable also disagree on the other.

***Organisational Pressure Ulcer Prevention:*** The majority of participants agreed that the organisation employing them provided strategies for the prevention of pressure ulcers (mean 2.10; SD 0.66). The participant’s employment status and aged care experience did not have a significant effect on the level of agreement to the variable. However, the aged

care facility and time since last attending education on PUP & M had a significant effect (see Table 4.9).

**Table 4.9** Analysis of variance between ‘Organisational Pressure Ulcer Prevention’ and participant variables

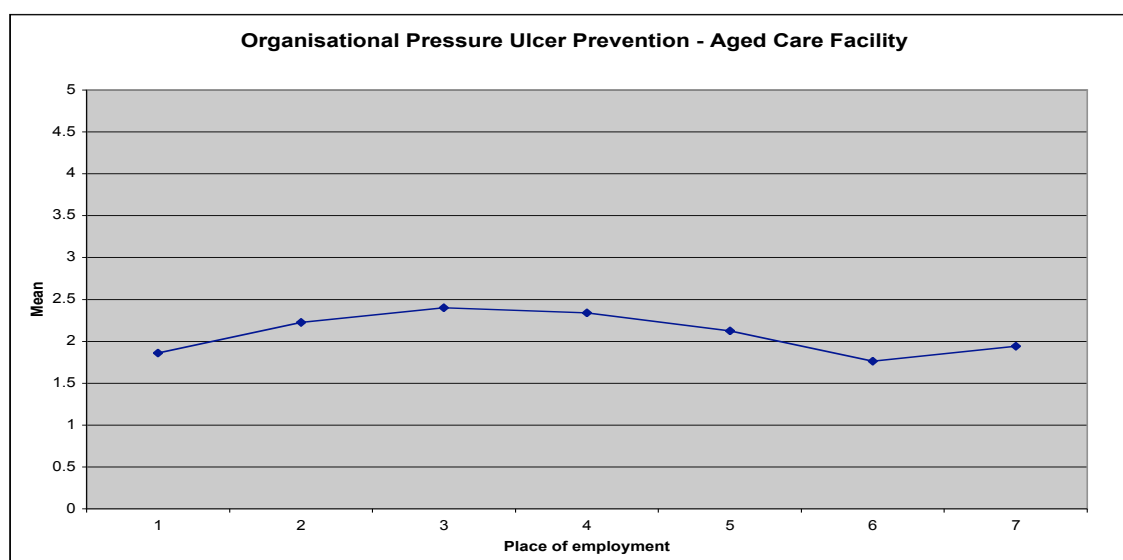
<b>Variable</b>	<b>df</b>	<b>F</b>	<b>p value</b>
Aged Care Facility	(6,105)	2.306	0.039
Employment Status	(5,106)	0.817	0.540
PUP & M Education	(4,106)	2.822	0.029
Aged Care Experience	(3,108)	0.124	0.946

A Post Hoc comparison on the independent variable ‘Aged Care Facility’ indicated that the overall difference occurred between facilities one, six and seven and facilities two, three and four (see Table 4.10).

**Table 4.10** Significant comparisons on the dependent variable ‘Organisational Pressure Ulcer Prevention’ regarding the independent variable ‘Aged Care Facility’

<b>Aged Care Facility</b>	<b>Mean Difference (95% CI)</b>	<b>p value</b>
Facility 3-Facility 1	0.54 (0.10 – 0.98)	0.016
Facility 3-Facility 6	0.64 (0.16 – 1.11)	0.009
Facility 3-Facility 7	0.46 (0.05 – 0.90)	0.048
Facility 4-Facility 1	0.50 (0.05 - 0.90)	0.028
Facility 4-Facility 6	0.58 (0.11 - 1.04)	0.016
Facility 2-Facility 6	0.47 (0.01 - 0.91)	0.043

The means suggest that the agreement level is more robust in facilities one, six and seven and less robust in facilities two, three, four and five (see Figure 4.1).



**Figure 4.1** Mean result for 'Organisational Pressure Ulcer Prevention' and place of employment (1 = strongly agree, 2 = agree, 3 = neither agree nor disagree, 4 = disagree, 5 = strongly disagree).

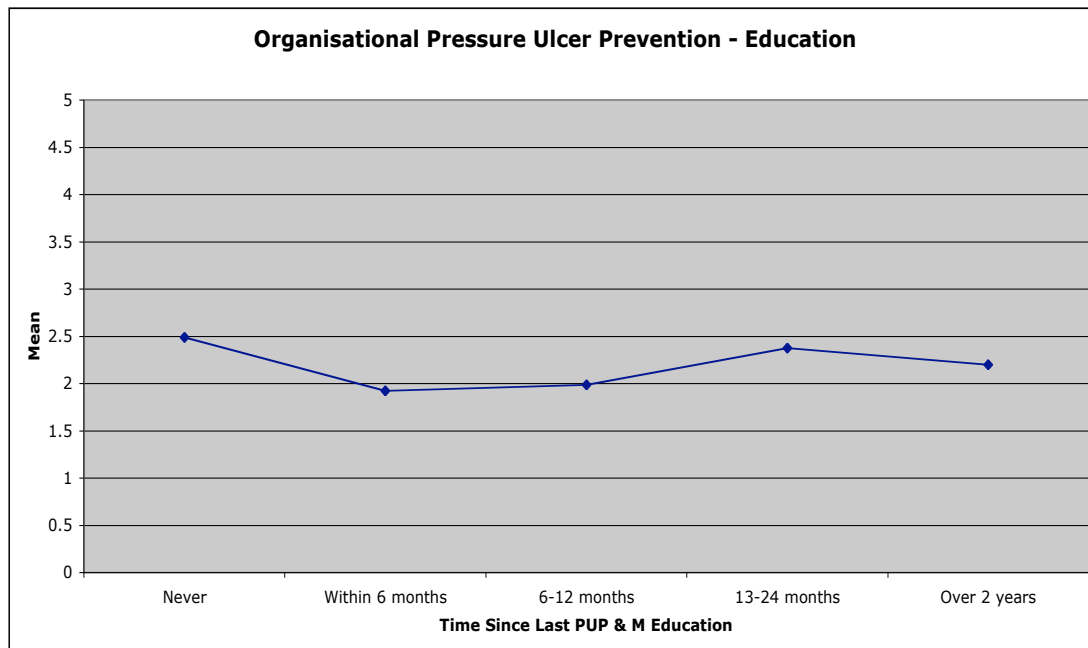
Table 4.11 presents the significant mean differences revealed by a Post Hoc comparison on the independent variable 'PUP & M Education'. There is a significant difference in results between participants who attend education at shorter time interval as opposed to never attending or attending at a longer time interval.

**Table 4.11** Significant comparisons on the dependent variable 'Organisational Pressure Ulcer Prevention' regarding the independent variable 'PUP & M education'

<i><b>PUP &amp; M Education</b></i>	<i><b>Mean Difference (95% CI)</b></i>	<i><b>p value</b></i>
Never*Within 6 months	0.57 (0.10 – 1.00)	0.017
Never*6-12 months	0.50 (0.03 – 1.00)	0.037
13-24 months*within 6 months	0.46 (0.10 – 0.80)	0.013
13-24 months*6-12 months	0.40 (0.02 - 0.80)	0.037

The plotted means (see Figure 4.2) suggest that the greater the time interval since last attending PUP & M education, the more participants were non-committal to the organisational implementation strategies for the prevention of pressure ulcers.





**Figure 4.2** Mean result for ‘Organisational Pressure Ulcer Prevention’ and PUP & M education (1 = strongly agree, 2 = agree, 3 = neither agree nor disagree, 4 = disagree, 5 = strongly disagree).

In summary, the results for the dependent variable ‘Organisational Pressure Ulcer Prevention’ indicated that the majority of participants agreed that the organisation they worked in used strategies to implement pressure ulcer prevention. However, the level of agreement differed significantly regarding the aged care facility the participant was employed in and the time interval that the participant last attended education on PUP & M.

**Organisational Pressure Ulcer Prediction:** The findings for this dependent variable were similar to ‘Organisational Pressure Ulcer Prevention’. The majority of participants agreed that the organisation employing them used strategies for the prediction of pressure ulcers (Mean 2.14; SD 0.72). Furthermore, there was no significant effect established from years of experience in aged care or the status of employment. However, a significant effect on the dependent variable was established regarding the aged care facility the participant was employed in and the time since last attending PUP & M education (see Table 4.12).

**Table 4.12** Analysis of variance between ‘Organisational Pressure Ulcer Prediction’ and participant variables

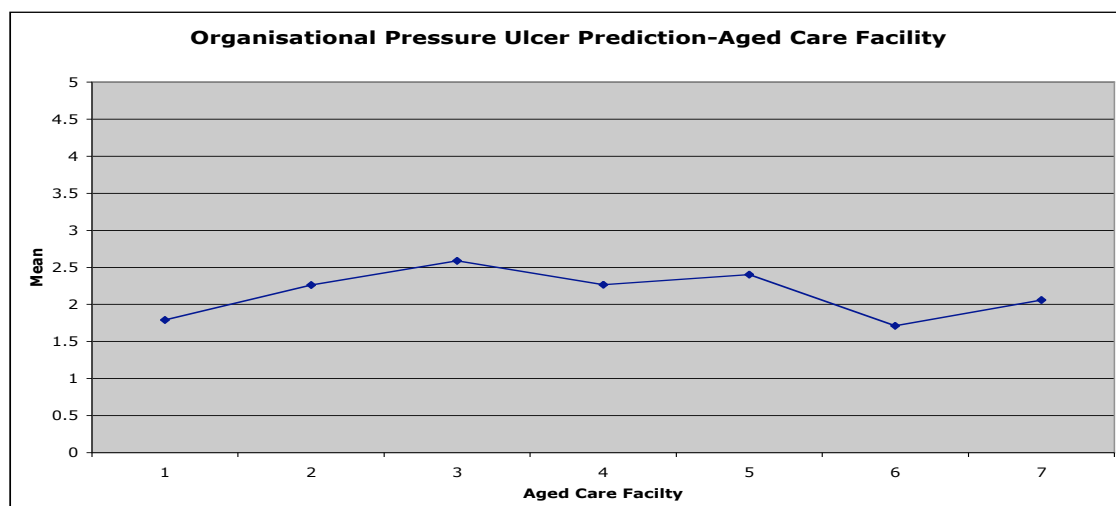
<b>Variable</b>	<b>df</b>	<b>F</b>	<b><i>p</i> value</b>
Aged Care Facility	(6,108)	3.660	0.002
Employment Status	(5,109)	1.684	0.144
PUP & M Education	(4,108)	5.667	0.000
Aged Care Experience	(3,111)	0.926	0.431

A Post Hoc comparison revealed that facilities one and six differed significantly from facilities two, three, four and five and, facility seven differed significantly from facility three (see Table 4.13).

**Table 4.13** Significant comparisons on the dependent variable ‘Organisational Pressure Ulcer Prediction’ regarding the independent variable ‘Aged Care Facility’

<b>Aged Care Facility</b>	<b>Mean Difference (95% CI)</b>	<b><i>p</i> value</b>
Facility 1 – Facility 2	0.47 (0.05 – 0.90)	0.029
Facility 1 – Facility 3	0.80 (0.34 – 1.26)	0.001
Facility 1 – Facility 4	0.48 (0.03 – 0.92)	0.037
Facility 1 – Facility 5	0.61 (0.15 – 1.08)	0.010
Facility 6 – Facility 2	0.55 (0.09 – 1.01)	0.019
Facility 6 – Facility 3	0.88 (0.39 – 1.34)	0.001
Facility 6 – Facility 4	0.55 (0.08 – 1.04)	0.024
Facility 6 – Facility 5	0.69 (0.19 – 1.19)	0.007
Facility 3 – Facility 7	0.53 (0.05 – 1.01)	0.031

Furthermore, Figure 4.3 reveals that the level of agreement for facility one, six and seven was more robust.



**Figure 4.3** Mean result for ‘Organisational Pressure Ulcer Prediction’ and aged care facilities (1 = strongly agree, 2 = agree, 3 = neither agree nor disagree, 4 = disagree, 5 = strongly disagree).

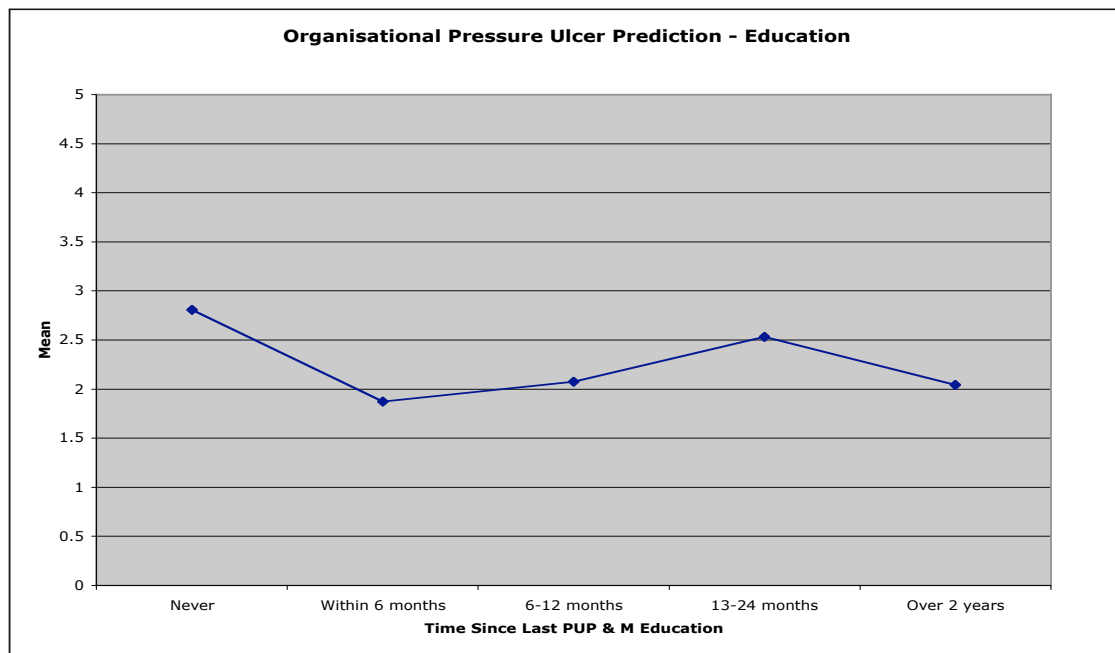
The difference in agreement level between participants who had never attended PUP & M education and participants who had attended PUP & M education within six months was highly significant. Furthermore, as with ‘Organisational Pressure Ulcer Prevention’, there is a significant difference in results between participants who attend education at shorter time intervals as opposed to never attending or attending at longer time intervals (see Table 4.14).

**Table 4.14** Significant comparisons on the dependent variable ‘Organisational Pressure Ulcer Prediction’ regarding the independent variable ‘PUP & M education’

PUP & M Education	Mean Difference (95% CI)	<i>p</i> value
Never*Within 6 months	0.94 (0.45 – 1.40)	0.000
Never*6-12 months	0.73 (0.24 – 1.23)	0.004
Never*Over 2 years	0.76 (0.18 – 1.34)	0.010
13-24 months*within 6 months	0.66 (0.30 – 1.03)	0.001
13-24 months*6-12 months	0.46 (0.08 – 0.84)	0.017
13-24 months*Over 2 years	0.50 (0.01 – 0.98)	0.047

The mean results (see Figure 4.4) suggest that when participants had never attended PUP & M education, or it was 13 to 24 months since they last attended, the more non-committal

the response to the organisational implementation strategies for the prediction of pressure ulcers.



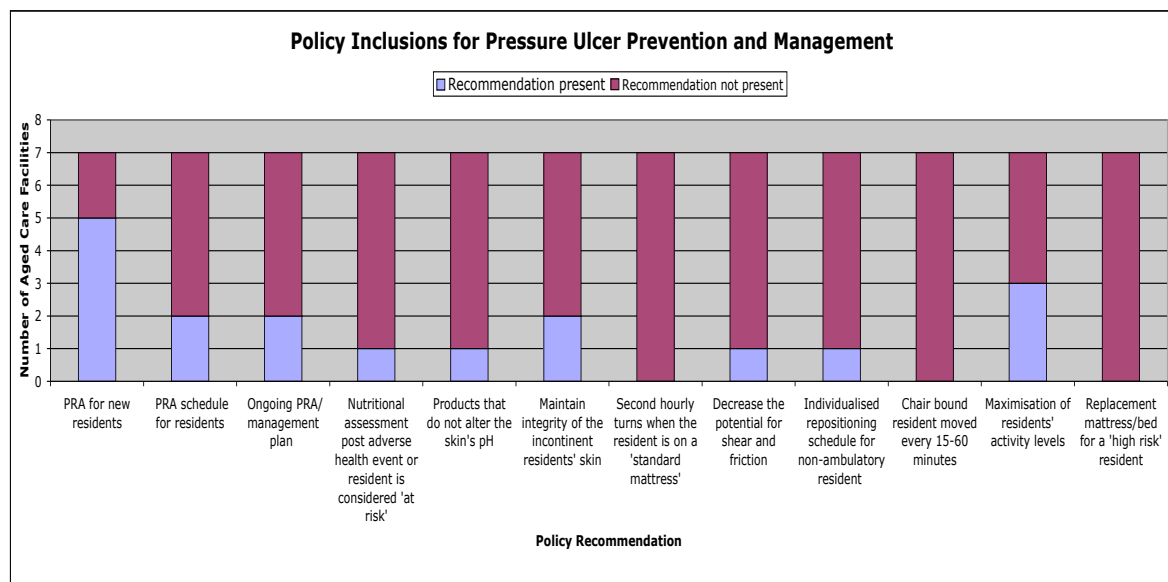
**Figure 4.4** Mean result for ‘Organisational Pressure Ulcer Prediction’ and PUP & M education (1 = strongly agree, 2 = agree, 3 = neither agree nor disagree, 4 = disagree, 5 = strongly disagree).

In summary, as previously established with the ‘Organisational Pressure Ulcer Prevention’ variable, the results for the dependent variable ‘Organisational Pressure Ulcer Prediction’ indicate that the majority of participants agreed that the organisation they worked in used strategies to implement pressure ulcer prediction guidelines. However, the level of agreement varied somewhat according to the aged care facility the participant was employed in and the time interval the participant last attended education on PUP &M. The employment status and years of experience of the participant revealed no significant effect.

### 4.3.2 Audit results

**Implementation strategies - policies and procedures:** The majority of facilities (6/7) did not have an identifiable PUP & M policy or PUP & M auditing process. Furthermore, elements of a PUP & M policy were infrequently identified within policies for other

clinical subjects. For example, the requirement for a nutritional assessment in an adverse health event was included in only one aged care facility's nutritional policy. Figure 4.5 illustrates the PUP & M recommendations included in the facility policies. In the main, PUP & M recommendations were not located within policies. The only exception was the directive for a pressure risk assessment (PRA). The admission policy of five facilities stated that a PRA was to be established for every resident on admission. Furthermore, although a skin care policy was identified in all facilities, the policy seldom included pressure ulcer guidelines associated with skin care (AWMA 2001).



**Figure 4.5** The inclusion of pressure ulcer prediction and prevention recommendations within policies.

There was no inclusion of a daily moisturising regime. Furthermore, a daily skin inspection was included in only two facility policies. One policy contained a reference to the utilisation of products that are conducive to the skin's pH level, with skin care for the resident with incontinence featuring in two facility policies. There were no inclusions for the movement of chair bound residents or a second hourly turning regime for residents being cared for on a 'basic mattress' (see Figure 4.5). However, a manual handling policy did exist in all facilities.

Six of the aged care facilities utilised a 'no lift' manual handling policy and moreover, a system to ensure every resident had an up-to-date manual-handling plan was identified in all facilities. However, only one policy included the importance of 'individualised' measures to decrease shear and friction. A recommendation for the application of dressings, padding or sheepskin over bony prominences and positioning techniques of residents to reduce the risk of shear and friction was not identified through the audit process in any facility.

Policies relating specifically to wound management were identified in four aged care facilities. All the identified policies complied with legislation, codes of practice and clinical guidelines and were kept in a central location accessible to staff. However, none of the wound management policies contained a reference to an interdisciplinary or collaborative approach to wound management.

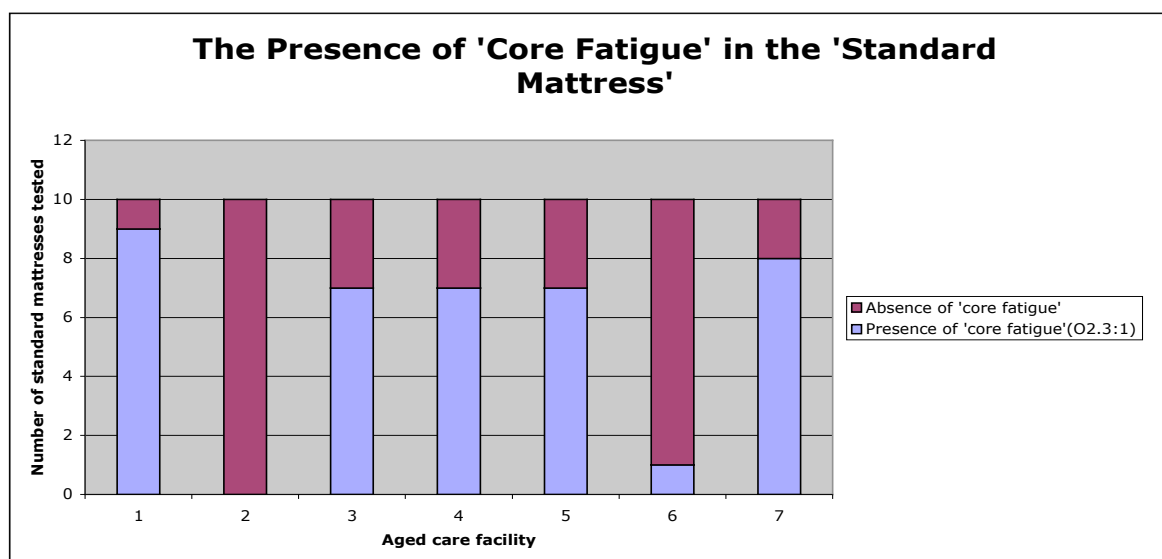
An overt assessment process and individualised plan of care was advocated in only two of the facility's wound management policies. Nevertheless, the format of the wound management chart (as opposed to policy), in six facilities did provide for a comprehensive wound assessment. The assessment incorporated the risk of wounding, the healing environment, and an area to record an interval for review. The literature review process established that the availability of guidelines (in the form of policies) does not necessarily ensure their use in clinical practice.

***Implementation strategies - resources:*** The organisational provision of equipment and products used in PUP & M is a fundamental implementation strategy. It is logical that if there is a lack of PUP & M resources then these resources cannot be used in the prevention and management of pressure ulcers. Ultimately this implies that associated pressure ulcer guideline recommendations cannot be instigated. The following section explores the

provision of PUP & M resources by the organisations and, furthermore includes the maintenance of these resources.

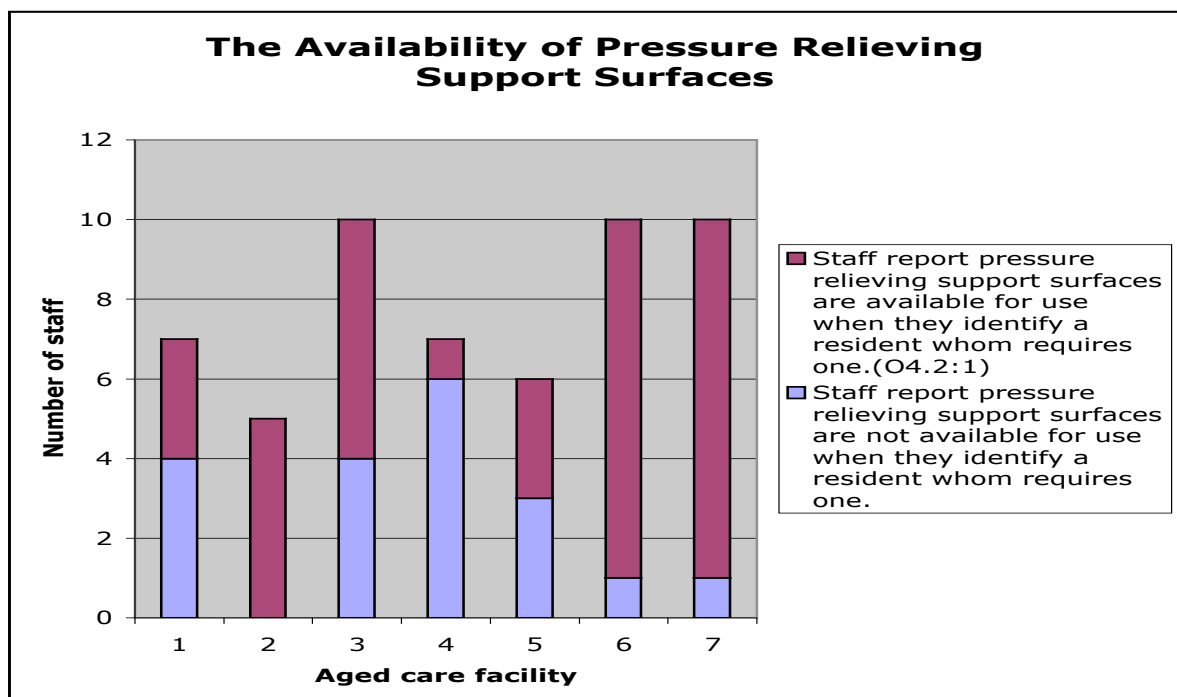
*Skin care products:* All facilities supplied basic skin care products and all products were conducive to the skin's pH. For the resident with incontinence, the medical record audit established that 98 percent (55/56) were supplied incontinence pads.

*The basic mattress:* The AWMA (2001, p. 27) guidelines contain a test to confirm the presence of core fatigue. This test was adopted during the audit process. Figure 4.6 demonstrates that of the seventy mattresses randomly assessed for core fatigue, over half (56%; 39/70) had core fatigue. The majority of mattresses that did not display core fatigue (61%; 19/31) were within two aged care facilities. These two facilities consisted of a newly established aged care facility and a government-administered facility. This finding indicates that at least 39 residents had the area of maximal weight (commonly the trochanter or sacrum) resting on the base of the bed. There was no evidence that a 'basic mattress' replacement program existed in any of the facilities, either from the review of policies or the audit of staff members. This suggests that the basic mattress is not being replaced at regular intervals in compliance with manufacturer's recommendations.



**Figure 4.6** The presence of 'core fatigue' in the 'basic mattress'.

*Pressure relieving support surfaces:* Fifty five percent (36/65) of staff reported that pressure relieving support surfaces were available when required. Furthermore, four out of seven of the aged care facilities acknowledged an annual budget for the maintenance and purchase of pressure relieving support mattresses. Interestingly, Figure 4.7 illustrates that the majority of staff working in facilities with an annual budget for the maintenance and purchase of pressure relieving support surfaces (Facility 2, 3, 6 and 7) believe that equipment was available when required (29/35; 83%). This belief is not repeated as strongly in the facilities without an annual budget for maintenance and purchasing of pressure relieving support surfaces. Only seven out of twenty (35%) staff members in these facilities (1, 4 & 5) report the availability of pressure relieving support surfaces when required. This suggests that an organisational budget for the maintenance and purchase of pressure relieving support surfaces improves the availability of these surfaces.



**Figure 4.7** Staff member perspective on the availability of pressure relieving support surfaces.

*Manual handling equipment:* When asked if manual-handling equipment was available when required, 84 percent (52/62) of staff audited answered in the affirmative.



Furthermore, 97 percent (60/62) of staff suggested that manual handling equipment was in working order when required. Six out of the seven facility managers were able to identify an equipment replacement and maintenance program, however, only four facility managers could produce a documented record of the process.

*Protective dressings, padding or sheepskin:* The audit process established that only two aged care facilities included friction reduction devices in the annual budget and furthermore, less than a quarter (14/62; 22.5%) of the staff audited believed that these products were unavailable when required.

*Wound management products:* All aged care facilities audited provided contemporary moist wound management products. However, only two facilities supplied products that protected the peri wound. The range and quantity of moist wound management products were sufficient for the management of pressure ulcers (stages 1 to 4) in all facilities. The aged care facilities (7/7) stored dressings correctly, ensuring the dressings' integrity. However, once the dressing was opened, 61 percent (20/33) of LHCWs reported that they return the unused portion of the dressing to the dressing trolley for storage and furthermore, used this on whichever resident required it.

***Implementation strategies - education:*** Only four out of the seven aged care organisations provided staff education on PUP & M within the previous year. Furthermore, PUP & M education was not included in any of the aged care facilities orientation programs. Six out of seven aged care facilities provided staff with access to current evidenced based material, with the most common methods being the Internet and textbooks.

There was no evidence, across all facilities that education or general information on PUP & M was provided for the resident or their carer. There was no educational material

available for educating the individual and/or carer in wound prevention and management and none of the fifty five wound management plans randomly audited contained documented evidence of the provision of education.

### **4.3.3 Question one: the synopsis**

The survey findings suggest that the majority of aged care staff members agree that the organisation they are employed in use strategies (policies, resources and education) for the implementation of pressure ulcer prediction and prevention guidelines. There was, however, a significant effect on the agreement level depending on the aged care facility and the time since last attending PUP & M education. Participants from facilities one, six and seven had a more robust agreement level than the remaining facilities and participants who had attended education on PUP & M within the past two years agreed more strongly than those who had never attended PUP & M education.

The audit findings, however, suggested that the majority of facilities did not have an identifiable PUP & M policy nor did existing policies substantially contain pressure ulcer guideline recommendations. Moreover, the only guideline that was largely identified was the recommendation for a PRA on admission to the facility. Manual handling and wound management resources were mostly available for use within facilities. The condition of the basic mattress and the availability of support surfaces were generally inadequate. Finally, the provision of PUP & M education by the organisation was modest and furthermore, there was no evidence to suggest that education for the resident occurred at all.

## **4.4 RESEARCH QUESTION TWO:**

**To what extent is the LHCW and UHCW utilising recommended guidelines and standards for the prevention and management of pressure ulcers in the aged care sector?**

The primary aim in the discipline of pressure ulcer care is to preserve the individual's skin integrity, thus inhibiting skin breakdown. The aim is, potentially, accomplished by implementing prediction and prevention strategies throughout a healthcare organisation. However, merely implementing strategies at an organisational level does not necessarily imply that the strategies are utilised at the bedside. Therefore, this question examines the utilisation of pressure ulcer prediction and a prevention strategy in the aged care environment and achieves this by exploring the clinical practices of the aged care nurse. The concepts used to explore the direct care practices of both LHCWs and UHCWs were: assessment and management; pressure ulcer prevention procedures; and unsupported PUP & M traditions. The survey results are presented initially followed by the applicable findings from the audit.

The survey results were analysed using the three 'Clinical Management' factors (see Table 4.7 & 4.8). New dependent variables were computed using the associated factor items. The first dependent variable, identified as 'Assessment' included items from Factor 1 (statements 1, 2, 3, 4, 19 & 20). The fundamental subject of this new dependent variable was assessment and included assessment of the pressure risk, nutritional status and the wound (see Table 4.7). The second dependent variable, titled 'Pressure Ulcer Prevention' integrated the items from Factor 3 (statements 6, 7, 10 & 11). The major topic fundamental to this dependent variable was clinical practices used to prevent pressure ulcers (see Table 4.8). The third and final dependent variable, 'Inappropriate Practice', incorporated the items from Factor 2 (statements 5, 9, 13, 23 & 21), and as the name suggests, this variable included unsupported PUP & M procedures (see Table 4.7). The correlation between the 'Organisational' statements and the 'Clinical Management' statements was positive and highly significant ( $r = 0.702, p < 0.001$ ). This suggests that the participants who agreed with the 'Organisational' statements also agreed with the 'Clinical Management'

statements and conversely, that the participants who disagreed with the ‘Organisational’ statements also disagreed with the ‘Clinical Management’ statements. The following section utilises the three new ‘Clinical Management’ dependent variables to explore the clinical practice of the aged care nurse.

#### 4.4.1 Clinical practice and ‘Assessment’

The correlation between ‘Assessment’ and ‘Pressure Ulcer Prevention’ was positive and statistically significant ( $r = 0.485, p < 0.001$ ). This signifies that participants who agree that they assess the pressure risk, nutritional status and the wound also agree that they practice preventative pressure ulcer procedures. Conversely, the participants who disagree on one variable also disagree on the other. There was no significant correlation between ‘Assessment’ and ‘Inappropriate Practice’ or ‘Pressure Ulcer Prevention’ and ‘Inappropriate Practice’.

**Survey Results:** The mean (2.4) and standard deviation (0.8) indicate that the majority of participants agree with the statements underlying the ‘Assessment’ variable. However, there was an element of non-commitment. A significant effect on the dependent variable was established regarding the participant’s place of employment, employment status and, to a lesser extent, time since attending PUP & M education. The participant’s experience in the aged care environment had no significant effect (see Table 4.15).

**Table 4.15** Analysis of variance between ‘Assessment’ and participant variables

Variable	df	F	p value
Aged Care Facility	(6,98)	5.071	0.000
Employment Status	(5,99)	70494	0.000
PUP & M Education	(4,98)	2.513	0.046
Aged Care Experience	(3,101)	2.121	0.102

A Post Hoc comparison established that there was a strong significant mean difference between facility three and facilities one, six and seven. Furthermore, to a lesser extent, facility three significantly differed from facilities two and four (see Table 4.16 for further significant differences).

Table 4.16 Significant comparisons on the dependent variable ‘Assessment’ regarding the independent variable ‘Aged Care Facility’

<b>Aged Care Facility</b>	<b>Mean Difference (95% CI)</b>	<b><i>p</i> value</b>
Facility 2-Facility 1	0.50 (0.06 – 0.95)	0.028
Facility 2-Facility 6	0.61 (0.11 – 1.11)	0.018
Facility 3-Facility 1	1.06 (0.60 – 1.53)	0.000
Facility 3-Facility 2	0.55 (0.06 – 1.04)	0.027
Facility 3-Facility 4	0.72 (0.21 – 1.25)	0.007
Facility 3-Facility 6	1.20 (0.64 – 1.70)	0.000
Facility 3-Facility 7	0.90 (0.42 – 1.40)	0.000
Facility 5-Facility 1	0.66 (0.15 – 1.17)	0.012
Facility 5-Facility 6	0.76 (0.20 – 1.32)	0.008

The plotted means illustrates that the participants in facilities two, three, four and five were more likely to be non-committal to the independent variable ‘Assessment’ than facilities one, six and seven (see Figure 4.8).



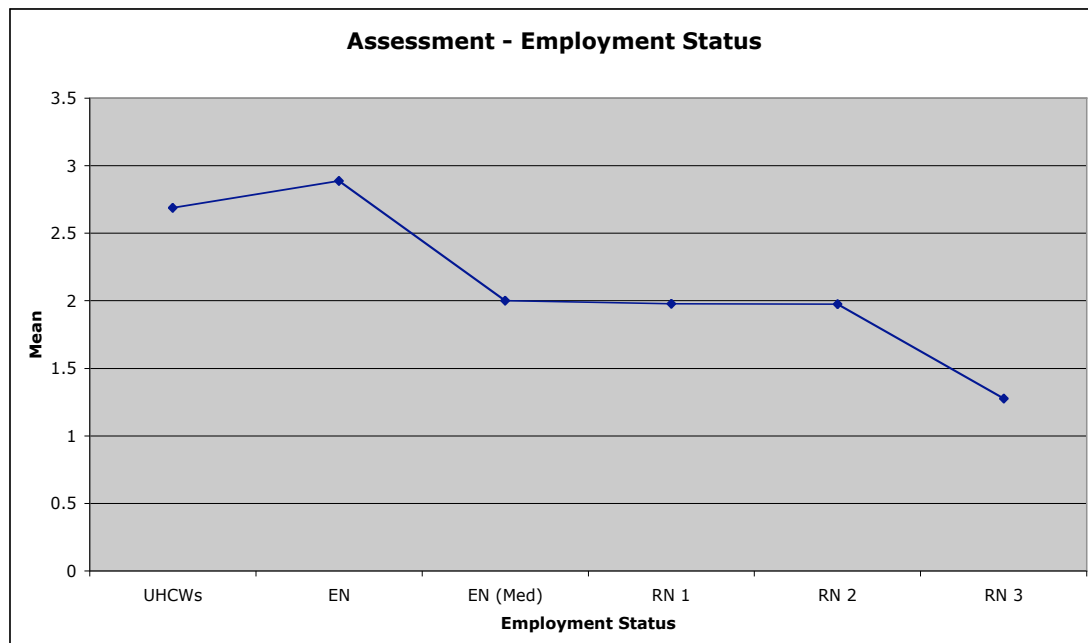
**Figure 4.8** Mean result for 'Assessment' and place of employment (1 = strongly agree, 2 = agree, 3 = neither agree nor disagree, 4 = disagree, 5 = strongly disagree).

Table 4.17 illustrates the Post Hoc comparisons of the participants' employment status and reveals that UHCWs and ENs agreement level was significantly different to other participants. Furthermore the difference in response between UHCWs and RN level 1 is highly significant.

**Table 4.17** Significant comparisons on the dependent variable 'Assessment' regarding the independent variable 'Employment status'

Employment Status	Mean Difference (95% CI)	<i>p</i> value
UHCWs*EN (Med)	0.69 (0.07 – 1.30)	0.029
UHCWs*RN 1	0.71 (0.41 – 1.00)	0.000
UHCWs*RN 2	0.71 (0.18 – 1.24)	0.009
UHCWs*RN 3	1.41 (0.63 – 2.20)	0.001
EN*RN 1	0.90 (0.11 – 1.71)	0.026
EN*RN 2	0.92 (0.01 – 1.82)	0.049
EN*RN 3	1.60 (0.54 – 2.70)	0.004

The plotted means (see Figure 4.9) show that UHCWs and ENs have a significantly stronger non-committal response than other participants.



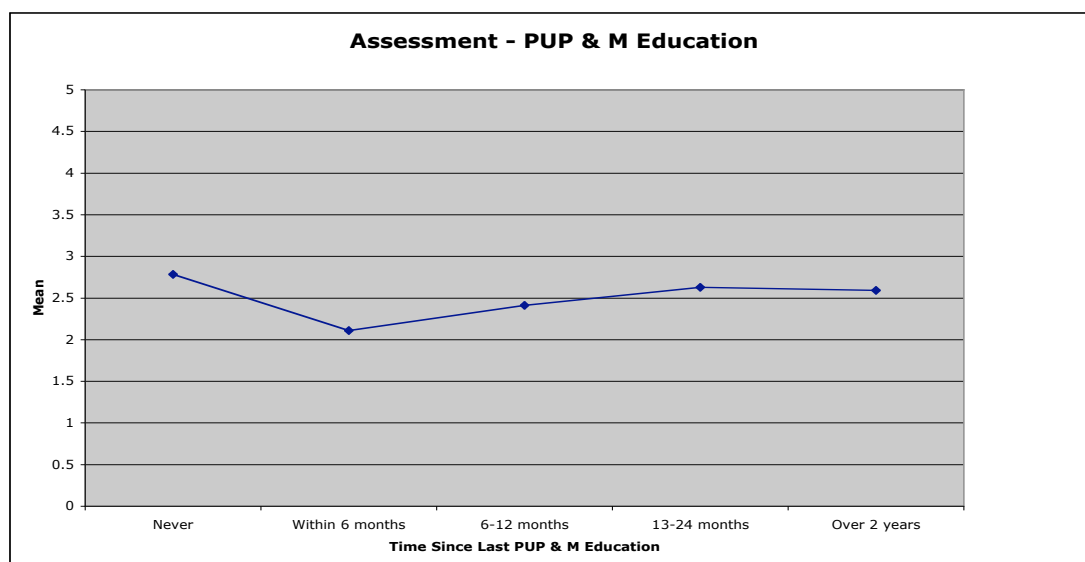
**Figure 4.9** Mean result for 'Assessment and Management' and employment status (1 = strongly agree, 2 = agree, 3 = neither agree nor disagree, 4 = disagree, 5 = strongly disagree).

Participants who had never attended PUP & M education significantly differed in their agreement level compared to participants who had attended PUP & M education within the last six months (see Table 4.18).

**Table 4.18** Significant comparisons on the dependent variable 'Assessment' regarding the independent variable 'PUP & M Education'

PUP & M education	Mean Difference (95% CI)	<i>p</i> value
Never*Within 6 months	0.70 (0.08 – 1.30)	0.027
13-24 months*Within 6 months	0.52 (0.10 – 0.94)	0.016

The plotted mean reveals that participants who had attended PUP & M education within six months had a significantly stronger agreement to this variable than participants who had never attended PUP & M education. There were no significant differences between other time intervals (see Figure 4.10).

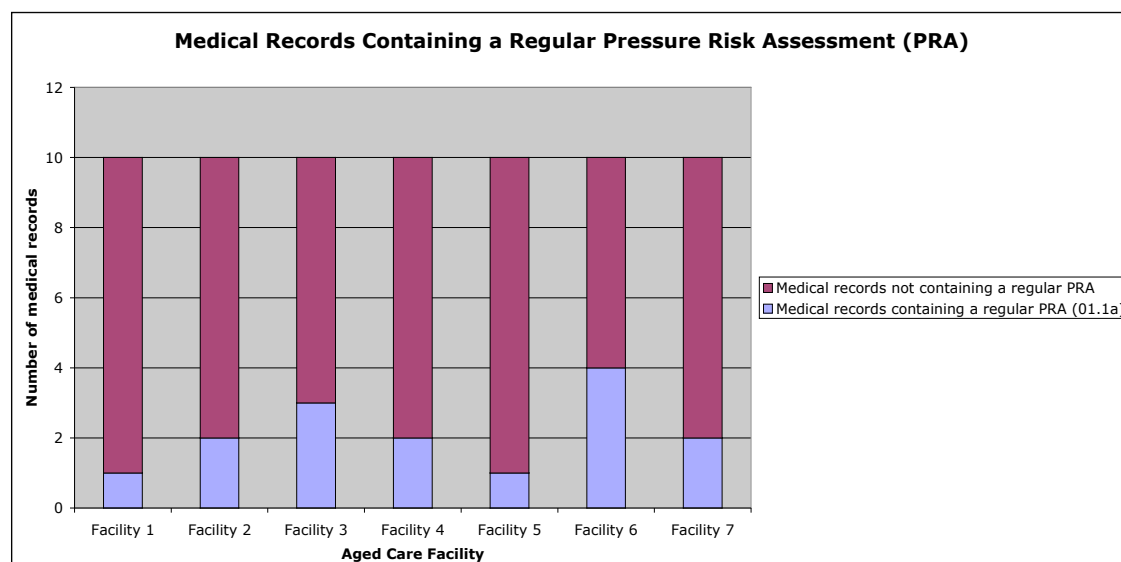


**Figure 4.10** Mean result for 'Assessment and Management' and PUP & M education (1 = strongly agree, 2 = agree, 3 = neither agree nor disagree, 4 = disagree, 5 = strongly disagree).

**Audit results:** The audit considered the veracity of four assessment processes: pressure risk assessment; nutritional; manual handling; and the wound. The following section includes the findings associated with these four procedures.

**Pressure risk assessment:** The audit revealed that of the 70 randomly audited medical records, 69 (99%) contained evidence of a PRA on admission to the aged care facility. However, only 37 (53%) included confirmation of a regular, ongoing PRA. Furthermore, 79 percent (55/70) of the PRAs (either on admission or ongoing) did not contain an individualised identification of risk factors nor a pressure risk management plan (see Figure 4.11). Staff members were asked to identify the PRA procedures for new residents and 33 percent (21/62) of staff involved in the audit were not aware of PRA procedures for new residents. However, the majority of staff members (18/21; 86%) were UHCWs whose scope of practice did not include assessment of the resident.





**Figure 4.11** Medical records containing a regular PRA that includes an individualised identification of the risks and an individualised management plan to control the identified risks.

*Nutritional assessment:* All facilities had an existing administrative pathway facilitating dietician involvement in the nutritional care of the resident. However, approximately a quarter of the medical records did not contain a nutritional assessment (16/70; 23%). Moreover, an identifiable nutritional management plan was not included in the medical record of 15 (n = 68; 22%) ‘at risk’ residents.

*Manual handling assessment:* All randomly audited medical records (70/70, 100%) contained an individualised manual-handling plan. However, only four (6%) records identified activities that may potentially cause shear and friction for the resident within their unique context. There was also no evidence of an associated management strategy to prevent the potential effects of these activities.

*Wound assessment:* Less than half (23/55; 42%) of the wound management charts randomly audited contained evidence of a wound assessment (see Figure 4.12). Furthermore, Figure 4.12 illustrates that two of the aged care facilities had no evidence that a comprehensive wound assessment was being carried out on existing wounds. In the majority of aged care facilities (6/7), UHCWs were not involved in wound assessment or

the management of wounds, although anecdotally UHCWs reported that they would remove the dressing.



**Figure 4.12** Inclusion of a comprehensive wound assessment that includes the risk of wounding and the healing environment.

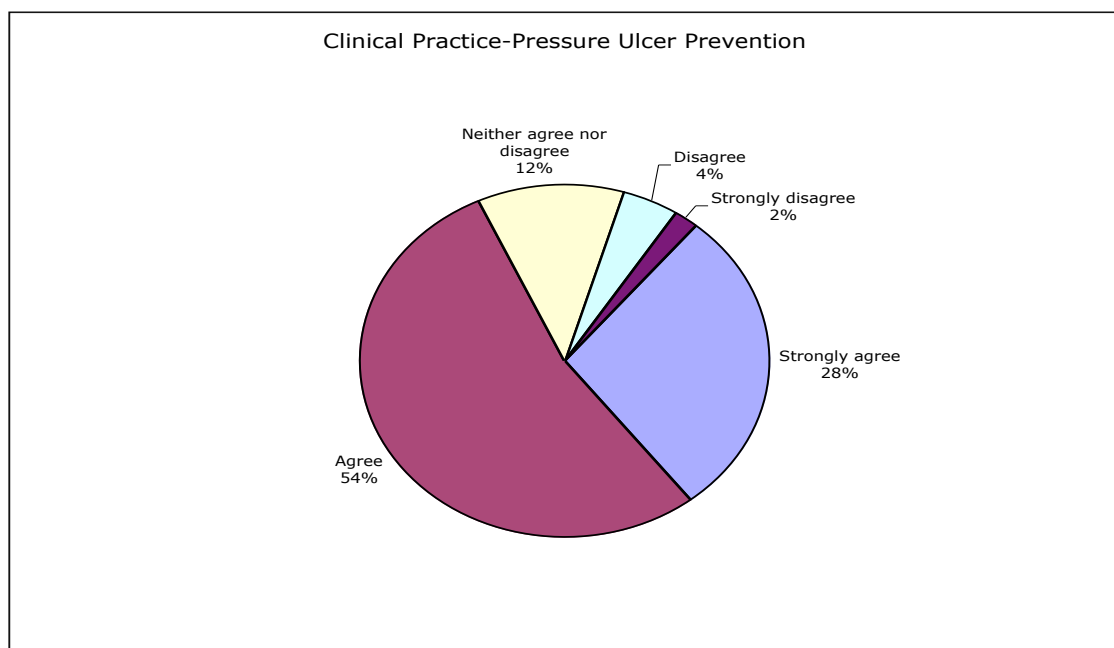
#### 4.4.2 Clinical practice and ‘Pressure Ulcer Prevention’

**Survey results:** The ‘Pressure Ulcer Prevention’ variable explored the clinical procedures aged care staff members used to prevent a resident acquiring a pressure ulcer. The procedures included: skin integrity inspection; positioning strategies; and nutritional maintenance. The mean (2.0) and standard deviation (0.7) revealed an overall agreement to the variable. There was no significant effect on the dependent variable regarding the participant’s place of employment, employment status, time since attending PUP & M education or experience in the aged care environment (see Table 4.19).

**Table 4.19** Analysis of variance between ‘Pressure Ulcer Prevention’ and participant variables

Variable	df	F	p value
Aged Care Facility	(6,107)	1.297	0.265
Employment Status	(5,108)	0.667	0.650
PUP & M Education	(4,107)	2.470	0.758
Aged Care Experience	(3,110)	0.075	0.973

Figure 4.13 illustrates that disagreement with this variable was low. However, every time a participant chooses to disagree with a statement it suggests that a respondent does not utilise the recommended clinical practice for the prevention of pressure ulcers. For example, 29 (n = 462; 6%) responses to this variable were in disagreement, therefore there were 29 incidences out of 462 where a respondent did not agree that they always follow clinical practice guidelines for the prevention of pressure ulcers. Furthermore, if the 'neither agree nor disagree' responses are considered a negative response then this increases to 83 incidences out of 462 (18%) where a respondent does not agree that they always follow clinical practice guidelines for the prevention of pressure ulcers (see Figure 4.13).



**Figure 4.13** Percentage for the Clinical Practice variable 'Pressure Ulcer Prevention'.

**Audit results:** The clinical practices of aged care nurses were included in the audit process. This inclusion was, in the main, an outcome indicator for organisational pressure ulcer prediction and prevention systems. An example to assist in clarifying this relationship is located in Chapter Three (see Figure 3.2). The following is an account of

the pressure ulcer preventative practices of aged care nurses established through the staff and medical record audit.

*Use of pillows or foams between bony prominences:* Fifty nine (n = 62, 95%) staff members identified the routine use of pillows or foams between bony prominences. However, of the 61 medical records randomly audited on bed-confined residents, only six (10%) incorporated this risk management strategy for the resident.

*Utilisation of a repositioning and turning schedule:* Just over half (31/53; 58%) of the bedside charts of non-ambulatory resident's had incorporated an individualised repositioning schedule. The auditor observed that the norm for the recording of the repositioning of residents occurred on a single sheet for multiple residents throughout each shift. This record was then kept in a storage file and disposed of after a set period. The period differed according to the facility.

The AWMA (2001, p. 22) pressure ulcer prediction and prevention clinical guidelines recommend a turning schedule that does not exceed two hours for people who are on a basic mattress. The majority of staff members (58/62, 94%) were able to identify the recommended turning schedule for a resident who is cared for on a basic mattress. However, the medical record audit revealed that 31 percent (18/59) of residents identified as being cared for on a 'basic mattress' had no individualised turning schedule documented.

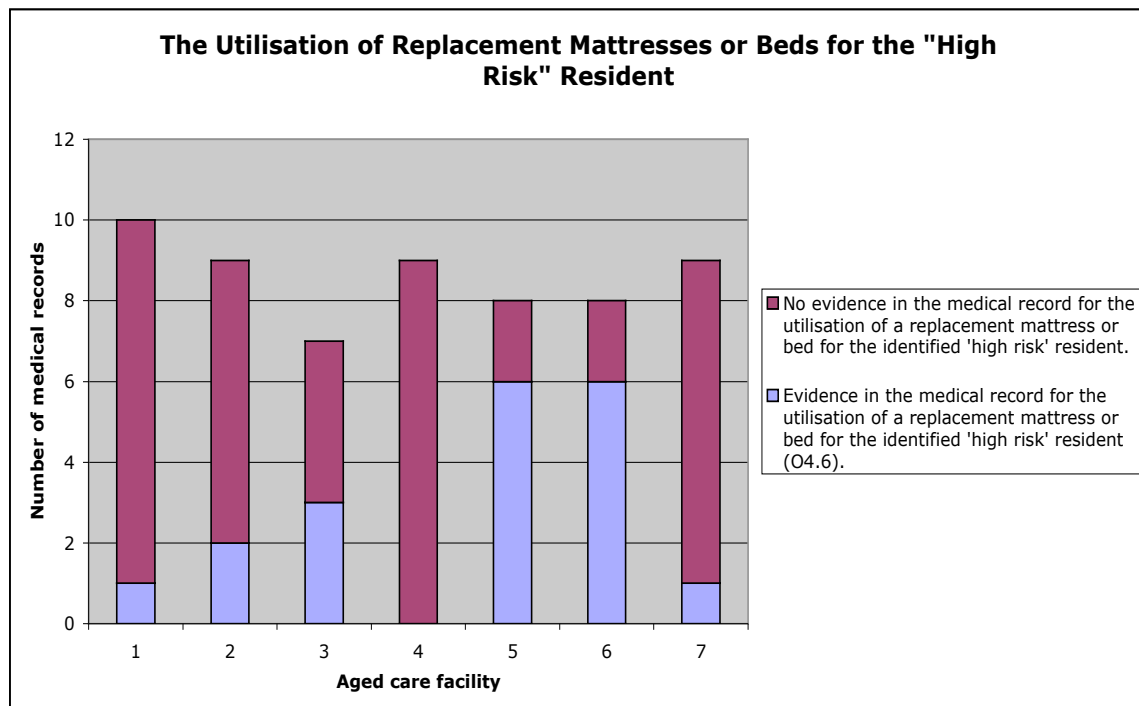
*Repositioning of the chair bound resident:* The medical record audit established evidence in only one record (n = 42; 2%) that a chair bound resident was repositioned at least hourly. Furthermore, of the seventy medical records audited only ten (14%) contained a movement schedule, which included the last activity.

*Repositioning according to the skins' tolerance to pressure:* Sixty five out of the 70 medical records audited established that the resident necessitated a repositioning schedule. From these medical records it was identified that only 22 (34%) residents had a repositioning regime instigated according to their skins' tolerance to pressure.

*Mobilisation and maximisation of resident activity levels:* The establishment of a mobilisation and activity record was identified in a third of the (3/9; 33%) medical records audited on ambulatory residents.

*Utilisation of pressure relieving support surfaces:* Over three quarters (47/62; 76%) of the staff identified that a resident requiring a more frequent turning schedule than every two hours was supported on a pressure relieving surface. However, staff conferred that the foam overlay (egg shell) was the main support surface utilised.

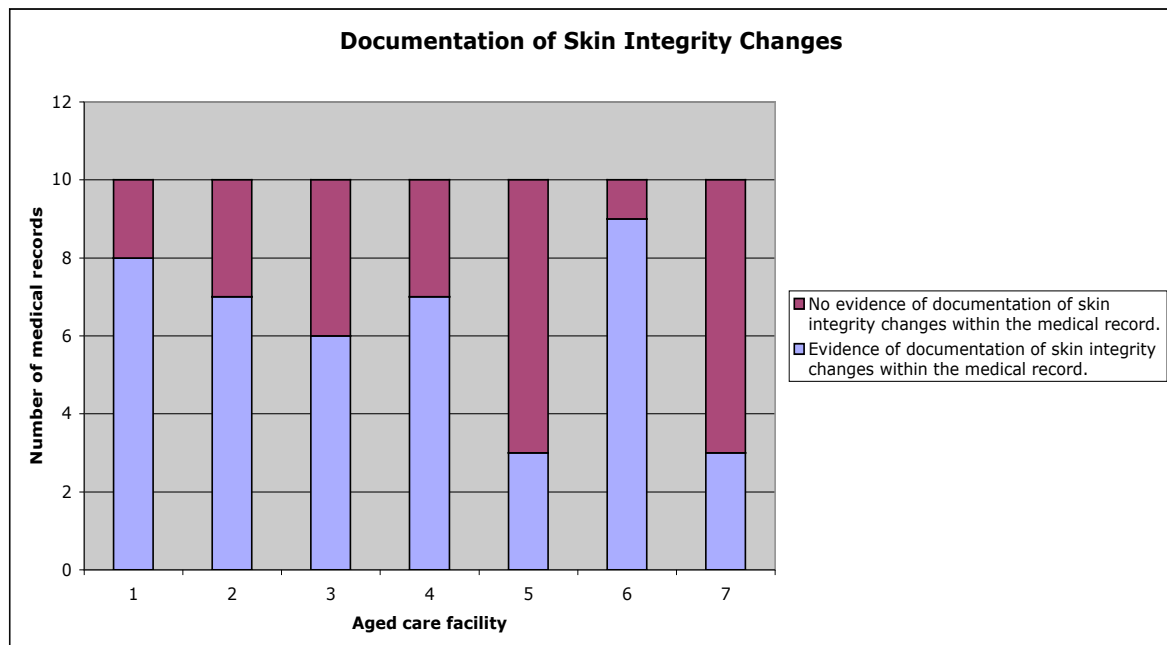
*Replacement mattress or bed utilised for residents who are 'high risk' of developing a pressure ulcer:* Thirty two percent (19/60) of medical records contained evidence that a replacement mattress was utilised for a resident considered 'high risk' of developing a pressure ulcer (see Figure 4.14). This suggests that over two thirds of residents, considered a 'high risk' of developing a pressure ulcer, were not cared for on a replacement mattress or bed.



**Figure 4.14** The medical record audit for the utilisation of replacement mattresses or beds for a resident who have been identified as a ‘high risk’ of a pressure ulcer.

*Total relief of pressure from heels:* Forty eight (n = 62, 77%) staff members acknowledged that they routinely elevated the heels of non-ambulatory residents off the bed.

*Skin care practices:* Fifty seven (n = 62, 92%) staff members identified that they exclusively utilise products that support the skins’ pH and furthermore 54 (n = 62, 87%) staff members apply moisturiser at least daily to the resident’s skin. The medical record audit revealed that only 61 percent (43/70) of records included in the audit process had a documented identification of the resident’s skin integrity changes. This was not constant across all facilities (see Figure 4.15).



**Figure 4.15** Medical record audit result for the documentation of skin integrity changes.

*The utilisation of protective dressings, foam and sheepskins:* Eighty one percent (50/62) of staff members reported regularly utilising these products in their clinical practice.

*Positioning to decrease shear and friction:* The AWMA (2001, p. 24) clinical guidelines state that ‘when an individual is unable to support their own body weight or move independently, the force of shear can be reduced by elevating the foot of the bed by 10 to 20 degrees’ and maintaining the head of the bed at the ‘lowest possible elevation consistent with the individuals medical condition and comfort’. Sixty eight percent (42/62) of the staff members audited correctly identified how they could position a resident to decrease slippage with the remaining 32 percent (20/62) unable to propose an answer.

*Pressure ulcer wound management practices:* All the LHCWs (n = 30, 100%) audited acknowledged the central role of the resident in wound management and furthermore, twenty seven (n = 30, 77%) recognised the importance of acquiring informed consent prior to proceeding with a dressing.

### 4.4.3 Clinical practice and ‘Inappropriate Practice’

The ‘Inappropriate Practice’ variable explored non-evidence based procedures potentially utilised by aged care staff. The subjects covered in the five statements were repositioning of non-ambulatory residents, wound assessment, PRA and pressure ulcer wound management (see Table 4.7).

Non-evidence based procedures were included within the questionnaire format for two purposes. Firstly, to explore the use of clinical procedures that were out dated and not recommended in the evidence-based, ‘Clinical Practice Guidelines for the Prediction and Prevention of Pressure Ulcers’ (AWMA 2001) and ‘Standards of Wound Management’ (AWMA 2002) and secondly, to assist with increasing the reliability of the questionnaire results.

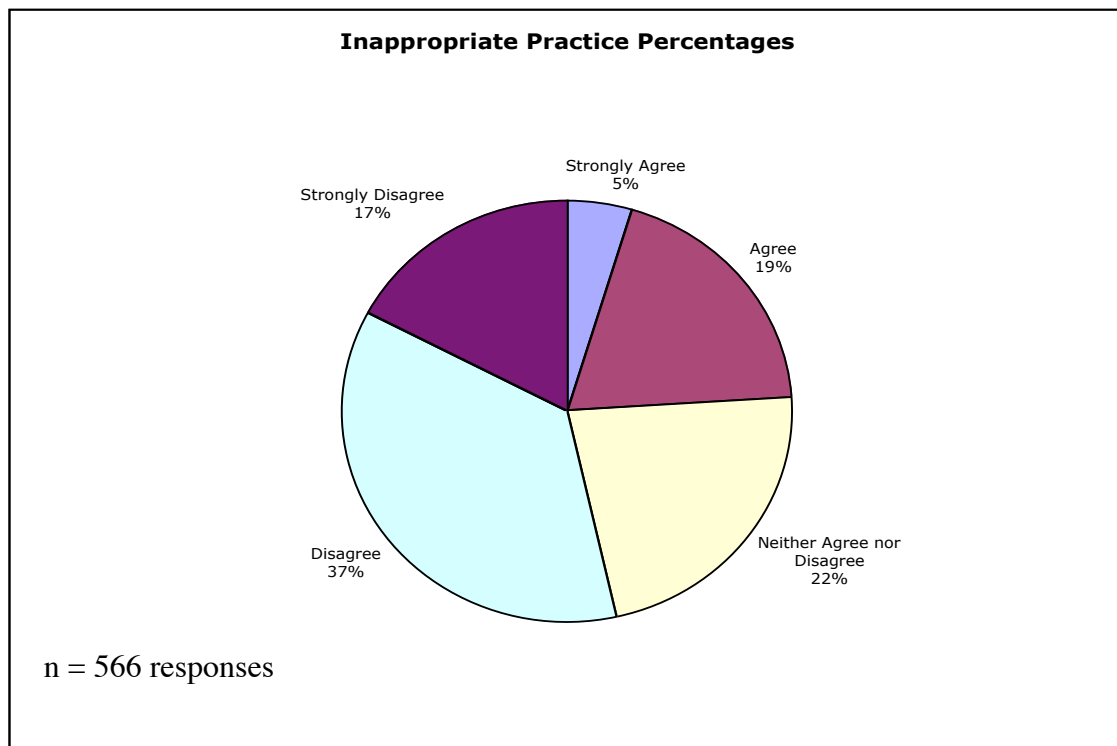
The mean (3.4) and standard deviation (0.8) suggest an element of uncertainty by participants in response to the variable. There was no significant effect on the agreement level regarding the participant’s place of employment, employment status, time since attending PUP & M education or experience in the aged care environment (see Figure 4.20).

**Table 4.20** Analysis of variance between ‘Inappropriate Practice’ and participant variables

<b>Variable</b>	<b>df</b>	<b>F</b>	<b><i>p value</i></b>
Aged Care Facility	(6,101)	1.565	0.165
Employment Status	(5,102)	1.817	0.116
PUP & M Education	(4,101)	0.448	0.774
Aged Care Experience	(3,104)	0.441	0.724

Twenty four percent (135/566) of responses to this variable were in agreement with the negative statements. Furthermore, on adding the non-committal response, almost a half (262/566; 46%) of the responses to these negative statements were not in disagreement (see Figure 4.16).





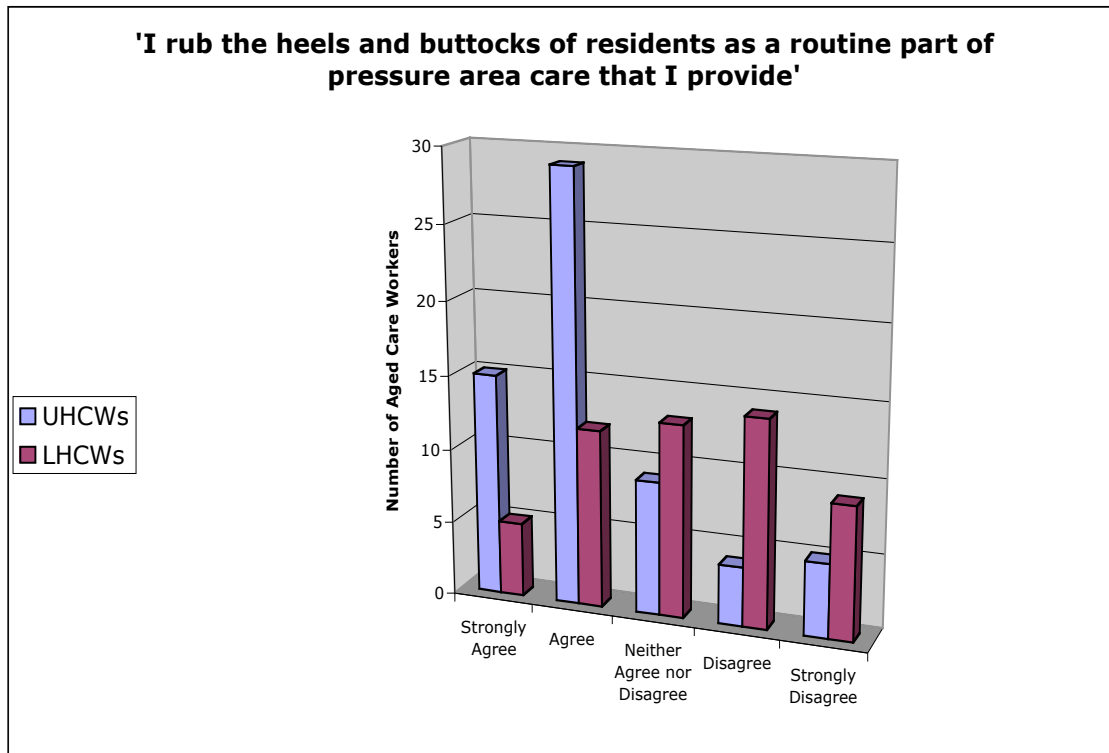
**Figure 4.16** Percentage of response to the 'Inappropriate Practice' variable.

This suggests that, to a certain degree, participants are incorporating procedures into their PUP & M practices that are not supported by the clinical guidelines and ultimately the evidence. Interestingly, however, participants did not identify statement 22 ('I rub the heels and buttocks of residents as a routine part of pressure area care that I provide') as an inappropriate practice.

#### **4.4.4 A Digression - the rubbing phenomenon**

Previously mentioned was the lack of identification of this statement as an inappropriate practice. Moreover, the findings from the Factor Analysis suggested that this statement correlated with the pressure ulcer prevention statements (see Table 4.7). Over half (61/115; 53%) the participants acknowledged that they rub the heels and buttocks routinely; this included twenty participants (17%) who strongly agreed with the statement. The most frequent response to this statement was 'agree' (mode 2) with the average response situated between 'agree' and 'neither agree nor disagree' (mean 2.7; SD 1.3).

There were a greater number of UHCWs agreeing with the statement (71%; 44/62) than LHCWs (43%; 23/53) (see Figure 4.17).



**Figure 4.17** Frequency table for the statement ' I rub the heels and buttocks of residents as a routine part of pressure area care that I provide'.

There was no significant effect on the dependent variable regarding the participant's place of employment, experience in the aged care environment and time since attending PUP & M education. However, the employment status had a highly significant effect on the agreement level for this variable (see Table 4.21).

**Table 4.21** Analysis of variance between 'I rub the heels and buttocks of residents as a routine part of pressure area care that I provide' and participant variables

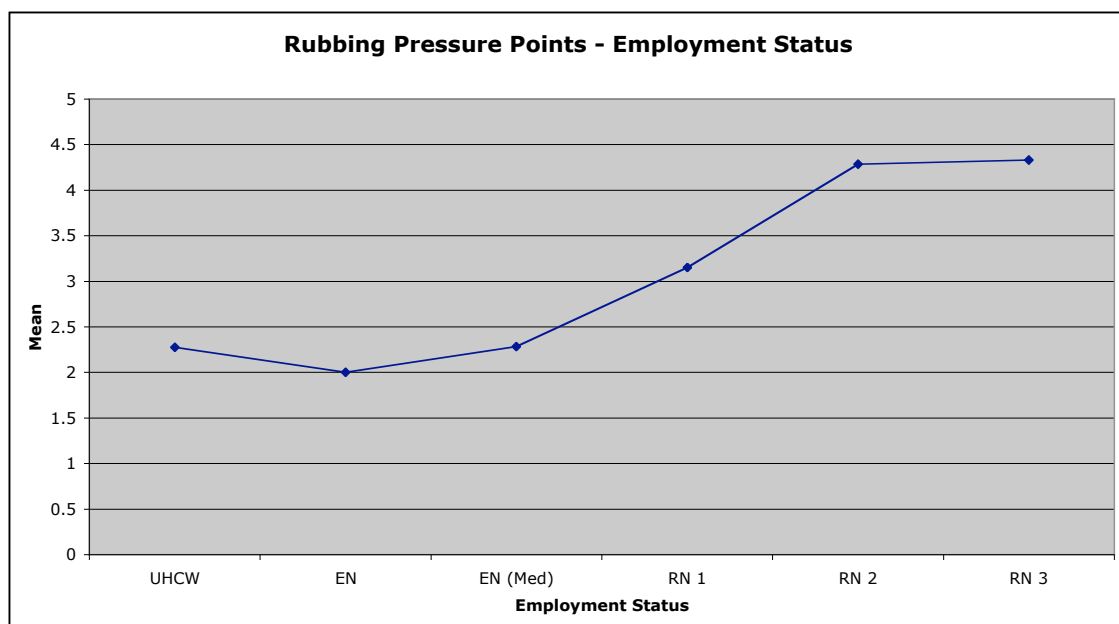
Variable	df	F	<i>p value</i>
Aged Care Facility	(6,108)	1.328	0.251
Employment Status	(5,109)	7.299	0.000
PUP & M Education	(4,107)	0.732	0.572
Aged Care Experience	(3,110)	1.187	0.318

A Post Hoc comparison revealed that the significant differences were between UHCWs and LHCWs, with highly significant differences between UHCWs and registered nurses both level one and two (see Table 4.22).

**Table 4.22** Significant comparisons on the dependent variable ‘I rub the heels and buttocks of residents as a routine part of pressure area care that I provide’ regarding the independent variable ‘Employment status’

Employment Status	Mean Difference (95% CI)	<i>p</i> value
RN 3*UHCWs	2.10 (0.74 – 2.90)	0.003
RN 3*EN	2.33 (0.51 – 4.20)	0.013
RN 3*EN (Med)	2.05 (0.51 – 3.60)	0.010
RN 2*UHCWs	2.00 (1.12 – 2.90)	0.000
RN 2*EN	2.30 (0.75 – 3.83)	0.004
RN 2*EN (Med)	2.00 (0.81 – 3.20)	0.001
RN 2*RN 1	1.13 (0.21 – 2.10)	0.017
RN1*UHCWs	0.88 (0.40 – 1.40)	0.000

Figure 4.18 illustrates that the higher the employment status the increasingly robust the disagreement level is to this procedure. This suggests that UHCWs are more liable to practice this procedure than LHCWs.



**Figure 4.18** Mean result for ‘I rub the heels and buttocks of residents as a routine part of pressure area care that I provide’ and employment status (1 = strongly agree, 2 = agree, 3 = neither agree nor disagree, 4 = disagree, 5 = strongly disagree).

#### **4.4.5 Question two: the synopsis**

The findings from the 'Clinical Management' component of the survey suggested that the participants, in general, agreed that they practice pressure ulcer recommendations incorporated in the AWMA Clinical Practice Guidelines for the Prediction and Prevention of Pressure Ulcers (2001). However, the response to the statements related to PUP & M clinical assessments (nutritional, pressure risk, manual handling and wound) was significantly effected by the employment status of the participant, the aged care facility the participant worked in and by the length of time since the participant last attended PUP & M education.

The characteristic disagreement to the 'Inappropriate Practice' statements was not as apparent as it may have been. There was a distinguishable element of uncertainty in the overall response to these statements suggesting that participants are, on occasions, using inappropriate PUP & M strategies. Moreover, rubbing of bony prominences was increasingly likely to be seen as an appropriate PUP & M strategy by UHCWs who are significantly more likely to acknowledge that they incorporate this strategy into their practice.

The audit results revealed that the majority of staff members report using pillows and foams between bony prominences, elevating the heels of bed bound residents off the bed, positioning of residents to decrease slippage, the central role of the resident in PUP & M, and the necessity of gaining informed consent before progressing with a dressing procedure. However, in general the medical record audit establishes minimal evidence of PUP & M practices. The key practice that was supported by the medical records audit was a PRA on admission to the facility, but an ongoing regular PRA was not as evident. The

following section explores the possible phenomena that may inhibit aged care nurses use of recommended PUP & M strategies.

## **4.5 RESEARCH QUESTION THREE:**

**What organisational factors enable or inhibit implementation of recommended guidelines and standards for the prevention and management of pressure ulcers in the aged care sector?**

The literature review process revealed the lack of time and lack of resources as two of the major barriers to the implementation of EBP and clinical guidelines. A section of the questionnaire was dedicated to identifying organisational factors that potentially hinder the utilisation of pressure ulcer guidelines. The participants were asked to select the organisational constraints, encountered within their employment setting, from four predetermined barriers. The predetermined barriers were lack of time, lack of resources, the resident's request and uncertainty as to what constitutes PUP & M strategies (refer to Appendix D, 'Demographics'). Furthermore, this question had an open-ended section where participants were able to record further perceived barriers.

### **4.5.1 Inhibiting factors**

**Lack of time:** Seventy one (n = 118; 60%) participants identified lack of time as a hindrance within their aged care facility. This was comparable across both LHCWs (33/54; 61%) and UHCWs (38/64; 59%). The participant variables with a significant association with lack of time were 'Place of Employment' and 'Experience in the Aged Care Environment' (see Table 4.23).

**Table 4.23** Pearson Chi-Square for the barrier ‘Lack of Time’ and participant variables

Variable	df	$\chi^2$	<i>p value</i>
Aged Care Facility	(6,118)	14.181	0.028
Employment Status	(5,118)	0.170	0.999
PUP & M Education	(4,115)	3.381	0.496
Aged Care Experience	(3,117)	15.622	0.001

Over 50 percent of participants from facility six identified that lack of time was not a barrier within their facility while more than 50 percent of participants from the remaining facilities alleged that lack of time was a hindrance to the implementation of appropriate PUP & M strategies (see Figure 4.19).

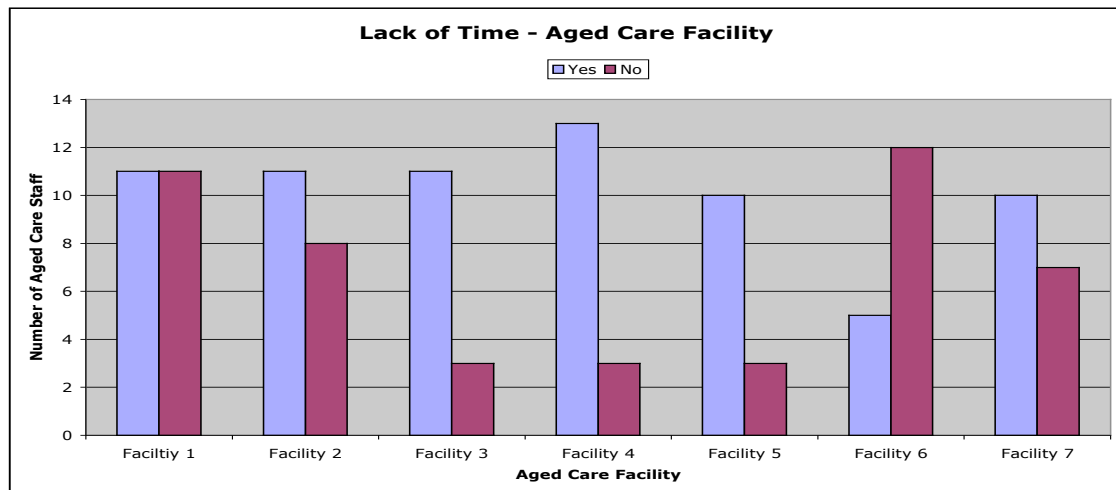
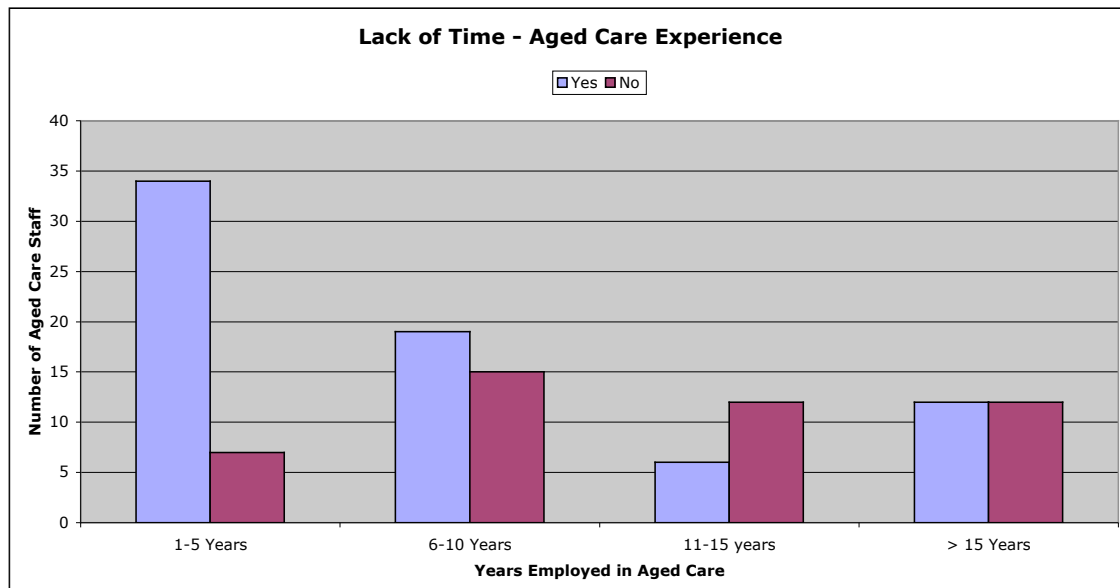
**Figure 4.19** Participant response to the guideline barrier ‘Lack of Time’ within aged care facilities.

Figure 4.20 illustrates that the majority of participants with less aged care experience (1-5 years) identified lack of time as a hindrance to the implementation of PUP & M strategies.



**Figure 4.20** Participant response to the guideline barrier 'Lack of Time' within aged care experience.

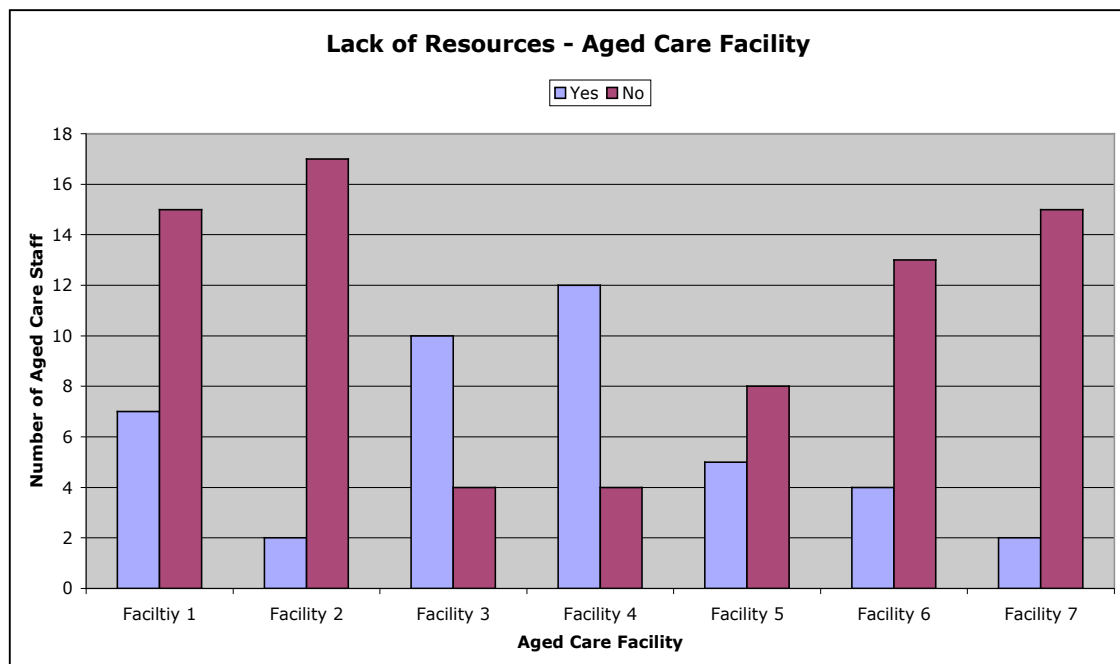
**Lack of resources:** As with time, the lack of resources is reported in the literature to be a hindrance to both evidence-based practice and clinical guideline implementation (Fink, Thompson, & Bonnes, 2005; Gerrish & Clayton 2004; McKenna, Ashton, & Keeney 2004; McSherry & Simmons 2002). An example of the effects of insufficient resources in the PUP & M arena was identified through the organisational audit. Previously established was that 35 percent (19/55) of staff audited reported that a replacement mattress was not available when required. Furthermore, anecdotally the staff testified that to combat this they would move a resident off a replacement mattress to ensure its availability for a resident with a perceived greater need.

The survey results reveal that 36 percent (42/118) of participants identified that the lack of resources are a hindrance to PUP & M within their facility. This was similar for UHCWs (23/51; 45%) and LHCWs (19/42; 45%). The only participant variable with an association with lack of resources was 'Place of Employment' (see Table 4.24).

**Table 4.24** Pearson Chi-Square for the barrier ‘Lack of Resources’ and participant variables

Variable	df	$\chi^2$	<i>p value</i>
Aged Care Facility	(6,118)	29.362	0.000
Employment Status	(5,118)	1.624	0.898
PUP & M Education	(4,115)	3.088	0.543
Aged Care Experience	(3,117)	7.418	0.060

The majority of participants from aged care facilities three and four identified lack of resources as a hindrance to implementing PUP & M strategies. The preponderance of participants from the remaining aged care facilities did not identify lack of resources as a hindrance (refer to Figure 4.21).

**Figure 4.21** Participant response to the guideline barrier ‘Lack of Resources’ within aged care facilities.

**The resident’s request:** Twenty participants (n = 118; 17%) identified that the request of the resident was a hindrance to the utilisation of appropriate PUP & M implementation strategies. The Pearson Chi-Square was not statistically significant for the participant variables. This suggests that the participant’s preference did not vary as a function of the



participant's place of employment, employment status, experience in aged care or time since last attending PUP & M education (see Table 4.25).

**Table 4.25** Pearson Chi-Square for the barrier 'The Resident's Request' and participant variables

Variable	df	$\chi^2$	<i>p value</i>
Aged Care Facility	(6,118)	8.287	0.218
Employment Status	(5,118)	3.019	0.697
PUP & M Education	(4,115)	3.218	0.512
Aged Care Experience	(3,117)	4.994	0.172

***Lack of understanding regarding PUP & M strategies:*** Only nine participants (n = 115; 8%) acknowledged that they were uncertain about what constituted appropriate PUP & M strategies. The number of participants unsure of PUP & M strategies was too small for a test of significance to be meaningful.

The majority of participants perceived the lack of time as a barrier to the implementation of PUP & M strategies. Furthermore, there was a significant association between the lack of time and the aged care facility the participant was employed in and the aged care experience of the participant. There were fewer participants who identified lack of resources as a hindrance to PUP & M implementation strategies. However, this barrier had a highly significant association with the aged care facility. The resident's request and uncertainty of what constitutes appropriate PUP & M strategies were identified, to a lesser extent, as implementation barriers. Nevertheless, there was a highly significant association between the participants uncertainty of PUP & M strategies and PUP & M education intervals.

***Respondent specific inhibitor:*** Table 4.26 includes the participant responses to the open-ended section of this question. This qualitative approach assisted in the identification and the exploration of the barriers as perceived by the participants. The responses in this section were thematically analysed. The raw data was initially considered in its entirety

and subsequently scrutinised for similar themes and placed into categories dependent on similarities. The outcome of this analytical process was that the data were grouped into four major paradigms: education; resources; quality of staff and communication.

**Table 4.26** Thematic representation of the responses to the barriers hindering implementation of PUP & M strategies (respondents words and phrases unaltered)

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***Barriers to the implementation of PUP & M Strategies***

**Education**

- Lack of education for untrained staff (UHCWs).
- Lack of regular education, particularly new staff.
- Lack of time to organise and run training for Certificate 3 staff (UHCWs).

**Insufficient resources**

- Poor skill mix (new staff, agency)
- Lack of staff to carry out prevention strategies. Nurses prioritise and cut corners every day.
- Lack of funds
- Lack of staff (3 responses)

**Quality of staff**

- Attitude of staff - some staff members are very task orientated and not 'resident' focused.
- Staff using 'what we always do' as a reason not to follow instructions.
- Inconsistent pressure area care (By staff).
- Laziness from other team members 'Couldn't give a damn attitude'.
- Staff refusing to help you.
- Lack of knowledge of some staff.
- Late detection of possible pressure areas.
- Staff disagree over treatment, implementation of treatments and consistency or application of treatment.

**Communication**

- Information is not passed onto registered nurses (RN) when doing activities of daily living on each resident, on the condition of any pressure area that requires a dressing change.
  - Staff not reporting breaks or redness to RN as soon as possible.
  - The registered nurses not listening to my opinions.
- 

The major issues underpinning education were the lack of time for organising educational sessions and the lack of regular education, particularly for new staff members and UHCWs (see Table 4.26). The main theme to evolve from the insufficient resource paradigm is the perceived unavailability (quantity and quality) of staff for the provision of PUP & M strategies. The quality of staff is an identifiable issue for a number of participants. Negative, out-dated attitudes, laziness and the inability to agree on management strategies are a few of the acknowledged barriers to PUP & M implementation. The communication paradigm contained three facets regarding barriers to the transfer of information. The first facet was the lack of communication between the LHCW and UHCW. Secondly, the

belated transfer of information between the UHCW and LHCW and lastly, the LHCWs unwillingness to listen to the UHCWs opinion. In addition to the hindrances to the implementation of PUP & M strategies, there are enablers to the implementation of PUP & M strategies. The following section explores the enablers of PUP & M implementation.

### 4.5.2 Enabling factors

An equivalent process was utilised to explore the factors that potentially facilitate the implementation of PUP & M strategies as was used to explore the barriers to the implementation of PUP & M strategies. The participants were asked to select the organisational enablers encountered within their employment setting, from three predetermined factors. The predetermined facilitative factors were regular education, a wound management nurse role and organisational PUP & M policies and procedures. (Refer to Appendix D, ‘Demographics’). Furthermore, this question had an open-ended section where participants were able to record further perceived enablers.

**Education:** The majority of participants (97/118; 82%) identified education as a facilitative factor in the implementation of PUP & M strategies within their employment setting. The Pearson Chi-Square was not statistically significant for all participant variables (see Table 4.27).

**Table 4.27** Pearson Chi-Square for the enabler ‘Education’ and participant variables

Variable	df	$\chi^2$	<i>p value</i>
Aged Care Facility	(6,118)	7.373	0.288
Employment Status	(5,118)	1.792	0.877
PUP & M Education	(4,115)	6.027	0.197
Aged Care Experience	(3,117)	3.625	0.305

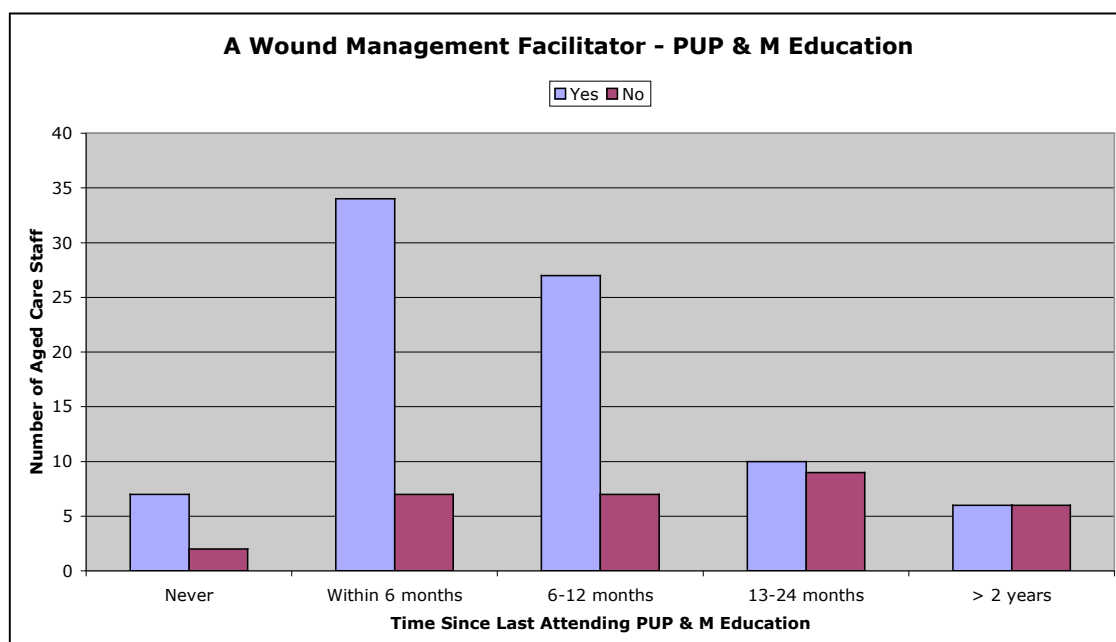
This suggests that preference for a positive response did not vary as a function of the participants place of employment, employment status, experience in aged care or time since last attending PUP & M education.

**A wound management nurse:** Eighty six participants (n = 118; 73%) agreed that a wound management nurse facilitates the implementation of PUP & M strategies within their employment setting. The Pearson Chi-Square was not statistically significant for the place of employment, employment status or years of experience, however, time since last attending education on PUP & M was significant (see Table 4.28).

**Table 4.28** Pearson Chi-Square for the enabler 'A Wound Management Nurse' and participant variables

Variable	df	$\chi^2$	p value
Aged Care Facility	(6,118)	6.938	0.327
Employment Status	(5,118)	3.028	0.696
PUP & M Education	(4,115)	10.093	0.039
Aged Care Experience	(3,117)	2.210	0.530

This suggests that the positive response to this question varied as a response to the participant's last attendance at PUP & M education. In Figure 4.22 it is seen that approximately half (17/40; 43%) of the participants who had not attended PUP & M education for more than a year did not agree that a wound management nurse augments the implementation of PUP & M strategies. Whereas a majority of participants (61/75; 81%) who had attended PUP & M education in the last year did agree that a wound management champion improved the implementation of PUP & M strategies.



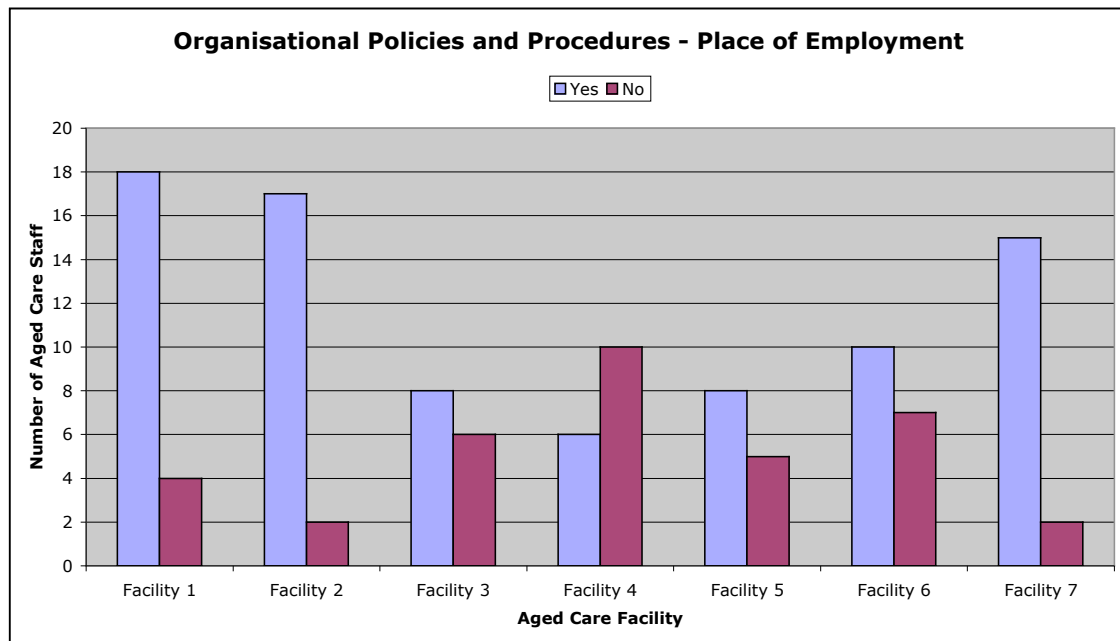
**Figure 4.22** Participant response to the guideline enabler 'A Wound Management Nurse' within 'PUP & M Education'.

**Organisational policies and procedures:** Eighty two participants (n = 118; 70%) agreed that organisational policies and procedures facilitate the implementation of PUP & M strategies within their employment setting. The Pearson Chi-Square was not statistically significant for employment status, time since attending PUP & M education or years of experience, however, the place of employment was significant (see Table 4.29).

**Table 4.29** Pearson Chi-Square for the enabler 'Organisational Policies and Procedures' and participant variables

Variable	df	$\chi^2$	p value
Aged Care Facility	(6,118)	18.004	0.006
Employment Status	(5,118)	4.276	0.510
PUP & M Education	(4,115)	7.767	0.100
Aged Care Experience	(3,117)	1.449	0.694

Figure 4.23 illustrates that the majority of participants from facilities one, two and seven agreed that organisational policies and procedures facilitate the implementation of PUP & M strategies within their employment setting. However, the agreement in the remaining facilities was not as convincing and moreover, facility four had more participants disagreeing than agreeing.



**Figure 4.23** Participant response to the guideline enabler ‘Organisational Policies and Procedures’ within ‘Place of Employment’.

***Respondent specific enablers:*** Table 4.30 contains the responses to the open-ended component of this question. The thematic process for analysing this section was equivalent to the process adopted for analysing the perceived barriers to the implementation of PUP & M strategies. The result of this analytical process was that three major paradigms were established, which included organisational characteristics, staff characteristics and procedures.

**Table 4.30** Thematic representation of the responses to the enablers for the implementation of PUP & M strategies (respondents words and phrases unaltered)

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***Enablers of the Implementation of PUP & M strategies***

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**Organisational characteristics**

- Culture and willingness of management to prioritise and resource ulcer prevention strategies.
- More staff
- Provision of adequate preventative equipment
- Equipment
- 12 monthly education for staff.
- A form that RNs sign to say they have discussed pressure area care with unlicensed health care workers.

**Staff characteristics**

- Culture of workplace, that is, staff prioritises ulcer prevention as part of daily program for residents.
- Caring staff that are there not just for the money but also for the love of life and for the residents.
- Common Sense (2 respondents)
- Aged care like all professions depends on the quality of staff and time available to supervise those that aren't conscientious and simply don't care.
- Staff confident in methods of treatment.
- Empathy as opposed to apathy
- Empowerment of all staff to educate new/casual staff.
- Registered nurses
- Talking to the RN on duty.

**Procedures**

- Checking residents daily and reporting any redness or breaks to RN.
  - Using 2 hourly turns
  - Positioning of residents
  - Observation and reporting (2 respondents)
  - All pressure and sore spots reported to RN and make residents as comfortable as possible until assessed.
  - Write in progress notes and on handover sheets.
  - Practical information provided to residents so that they prompt staff as well.
  - Use of pressure relieving equipment.
- 

The essence of the paradigm 'Organisational Characteristics' is captured in the first response where, a respondent has identified that the 'culture and willingness' of an organisation to prioritise and resource PUP & M strategies will in fact facilitate the implementation of these PUP & M strategies. The remaining responses advocate that the respondents believe that organisational resources facilitate implementation and include equipment, provision of education and increased staffing (see Table 4.30).

There were several personal characteristics identified as enablers for the implementation of PUP & M strategies. These included caring, empathy, common sense and confidence. In addition, a respondent identified the readiness of staff members to prioritise pressure ulcer prevention as a part of their daily practice. The practices that were considered

congruent to the implementation of PUP & M strategies are daily skin inspection, frequent position changes, reporting and documenting changes in skin integrity, provision of information for the resident and the use of pressure relieving equipment (refer to Table 4.30).

### **4.5.3 Question three: the synopsis**

The major barrier to the implementation of appropriate PUP & M strategies was insufficient time. The facility the participant worked in significantly affected the participant's perception of this barrier, with some facilities performing better than others. The remaining three barriers were considered by the minority to be a hindrance to the implementation of PUP & M strategies, however, insufficient resources were considered a greater hindrance depending on the facility that employed the participant. In addition, insufficient resources (specifically, lack of staff and lack of funds) were one of the four barrier paradigms acknowledged by participants. The remaining paradigms included barriers associated with education, quality of staff and communication.

The majority of participants agreed that education, a wound management nurse, and organisational policies and procedures enhance the implementation of PUP & M strategies within their place of employment. Moreover, there were three additional facilitative paradigms identified, including both organisational and staff characteristics and PUP & M procedures.

## **4.6 CONCLUSION**

Chapter Four presented the findings of the survey phase and the audit phase of this study. A preliminary Factor Analysis reduced the 43 questionnaire statements to five intercorrelated factors. Subsequently these five factors were used to analyse the data



related to the research questions. Pressure ulcer prediction and prevention practices were established from an organisational and clinical management perspective. Associations with participant variables were further identified. Additionally, the barriers and enablers were investigated utilising a quantitative and qualitative approach. The significance of these findings is considered in comparison to previous research and the focus group data in the subsequent chapter.

## **Chapter 5 : DISCUSSION**

A discussion on the study results outlined in the previous chapter is the premise for this Chapter. The literature is incorporated to validate and compare the findings, and focus group responses are utilised to provide support and clarity to the line of reasoning. The first part of this chapter will examine the contextual issues within the aged care environment. Secondly, consideration of the relationship between organisational PUP & M strategies and the nurses PUP & M practices is deliberated, followed by a discussion regarding the inhibitors and enablers of PUP & M.

### **5.1 CONTEXT**

This mixed method study explored the utilisation of pressure ulcer prediction and prevention guidelines in the aged care sector of Southern Queensland. To appreciate the PUP & M practices, of both the aged care organisation and the aged care nurse, it is necessary to delineate the contextual issues. The findings of this study, together with a review of literature, suggest that political and economical drivers within the aged care sector are a determinant in the provision of PUP & M.

#### **5.1.1 Political and economical drivers**

The effect of the political and economical drivers on the aged care sector is distinguishable within the results of this study. For an aged care facility to be eligible for continued government fiscal support, it must demonstrate that the four Aged Care Standards are championed within the facility (Attorney-General's Department 2008). PUP & M is not a specific aged care standard, however, the 'Health and Personal Care' Standard (see

Appendix A) contains service criteria associated with PUP & M. These service criteria include skin care, manual handling, continence maintenance and nutrition.

Audit results for these service criteria reveal that, in the main, they were well supported on an organisational and facility level. For example, skin care products conducive to the skin's pH were available in all facilities and pathways were identified in all facilities for the involvement of a dietician in the resident's nutritional care. However, organisational support for PUP & M strategies, not specifically associated with the Government Service Criteria, was not as evident. For example, there was no evidence that a basic mattress replacement program existed in any of the facilities and furthermore, core fatigue was found in over half of the basic mattresses tested.

The obvious disparity between the practices involved with the aged care service criteria and practices that are not, imply that there is a relationship between economical and political drivers and organisational PUP & M within the aged care sector. The findings of Grol and Grimshaw's (2003) systematic review support the conclusion that financial interventions facilitate the implementation of clinical guidelines. Moreover, that changes in clinical practice are only partly within a person's control as both the professional and organisational culture regarding 'quality' determines the outcome (Grol and Grimshaw 2003, p. 1228). Within the aged care sector, *The Aged Care Act 1997* stipulates the fundamental 'quality' ethos, which is predominantly the Aged Care Standards and Service Criterion (Attorney-General's Department 2009a). Therefore, based on the results of this study, when PUP & M is specifically incorporated within the Aged Care Standards, such as nutrition, the implementation of PUP & M strategies will improve.

## **5.2 THE ORGANISATION AND CLINICAL PRACTICE**

The relationship between the aged care organisation and the aged care nurses' clinical practice is dialectic. This dialectic relationship implies that without the organisation, clinical practice does not exist and without clinical practice the organisation does not exist. Therefore, in the context of this study it is not feasible to consider the clinical practice of providing PUP & M devoid from the aged care organisational PUP & M strategies.

The questionnaire data, which was established utilising evidence based pressure ulcer guidelines, confirmed a significant positive relationship between organisational PUP & M strategies and the aged care nurses' clinical practice. Therefore, based on the questionnaire data, when the PUP & M organisational strategies are evidence based, clinical practice is increasingly likely to be evidence based. Conversely, when the PUP & M organisational strategies are not based on evidence, then clinical practice is less likely to be evidence based.

The association between evidence based organisational strategies and evidence based clinical practice is demonstrated in numerous studies. Three Australian examples are: Doherty et al. (2007) found that when the organisation implemented EBP asthma management strategies, the clinical practice in asthma management improved. Dover et al. (2006) had a similar outcome when introducing organisational falls intervention strategies based on EBP. In the aged care arena the implementation of EBP in pressure ulcer prediction and prevention decreased pressure ulcer prevalence (Ellis et al. 2006). The researcher suggests that this association challenges aged care managers to re-examine the foundations of PUP & M strategies within their organisation, as organisational strategies influence the nurses' clinical practice.

The impetus for the aged care organisation to ensure that clinical practice is founded on pressure ulcer guidelines is multidimensional. Osborne and Webster (2005) purport that EBP improves efficiency and leads to increase in CE, and Goudberg Lockhart (2002) suggests it positions the organisation as a quality institute, which is less likely to attract litigation. Furthermore, the nurse and the health consumer have the reassurance that clinical practice is based on the best available evidence. The following section considers the aged care nurses' clinical practice in the prevention and management of pressure ulcers.

### **5.2.1 Assessment**

One of the main findings from the questionnaire was that there is a degree of non-commitment to assessment processes. However, LHCWs were more committed to always conducting assessment procedures than UHCWs. This is understandable, as the literature suggests that the role of an UHCW does not include assessment procedures (Chandler 2003), whereas this is the primary role of the LHCW. Furthermore, the results suggest that although LHCWs agree they perform assessment procedures, the majority were not ardent about 'always' conducting assessments related to PUP & M. The questionnaire participants identified three major assessment tasks associated with PUP & M: Pressure risk assessment; nutritional assessment; and wound assessment (see Table 4.7, Factor 1).

***Pressure risk assessment:*** Two Australian interventional studies identified that the majority of LHCWs in the tertiary sector did not utilise a PRA tool to assess the individual's pressure risk factors (Prentice 2007; Sharp et al. 2000). Furthermore, Saliba et al. (2003, p. 59) reported that 39 percent of individuals admitted into aged care facilities did not have a PRA and 83 percent did not have a regular reassessment of their pressure ulcer risk. This study establishes an improvement on the findings of Sharp et al. (2000),

Prentice (2007) and Saliba et al. (2003). The PRA conducted as a function of organisational routine, such as on admission (99%) and predetermined intervals (53%), were supported. However, the implementation of a PRA based on the resident's individualised health status, was not identified. The improvement in routine PRA processes is encouraging. Nevertheless, there is opportunity for continued progress, particularly in the area of ongoing PRAs based primarily on the resident's physical condition. Santamaria et al's (2005) study discovered significant associations between the development of a pressure ulcer and the resident's co morbidity level and went on to recommend that the co morbidity level be included as a component of a risk assessment. This process may assist in improving the regularity at which PRAs are reviewed.

***Nutritional assessment:*** The literature suggests that the assessment of an individual's nutritional status is an important aspect of PUP & M as there is some evidence that malnutrition is positively correlated with pressure ulcer incidence and severity (Langer et al. 2003). Furthermore, the management of identified nutritional deficiencies should be considered as previous research suggests nutritional supplements improve nutritional deficiencies (Langer et al. 2003). Therefore, it is important that a balanced diet is maintained and regularly assessed (AWMA 2001, p. 22). The medical record audit established that less than a quarter of residents had an identifiable nutritional assessment recorded, however, 78 percent of records did contain a nutritional management plan. This is abstruse, as typically an assessment precedes the management plan, as the findings from the assessment assist in establishing the plan. It is suggested that the anomaly exists, either because the nutritional assessment is conducted but not recorded or that on many occasions a nutritional management plan is instigated without an individualised assessment. The researcher suggests that the concern with both these possibilities is that

there is no written assessment for ongoing comparisons regarding the resident's nutritional status. A similar outcome was ascertained regarding the wound assessment processes.

**Wound assessment:** Evidence of a wound assessment was identified in less than half of the wound management charts. Furthermore, two of the aged care facilities did not have wound assessment records at all (see Figure 4.12). The consensus that a comprehensive wound assessment process should occur at every dressing change was supported within four focus groups. The main motivator for conducting a wound assessment being: '*we have to look at it [the wound] to see if it is worse*' (LHCW). However, the following dialogue from a specific conversation between two LHCWs demonstrates the controversy within this topic:

*The first person does the assessment and then you don't reassess, you do the dressing on a daily basis as per that assessment unless that wound [dressing] is due for changing then you can reassess at the time whether you continue to use that dressing or change. No they wouldn't assess it every time they would just do the dressing. (LHCW)*

*Yeh you see I find that difficult because I figure I assess a wound every time I take it down and have a look at it. I may not formally assess it and write it down but I do assess it. (LHCW)*

This conversation, between two LHCWs, illustrates both the lack of documentation and the omission of a wound assessment. The contextual issue affecting the wound assessment process in the aged care environment is the willingness of management to permit UHCWs to perform a simple wound dressing. An UHCW explains the system underlying this practice:

*...when they [LHCW] assess it there is one person who assesses it and so they actually see the wound so they direct how it is going to be done. If it's a third daily dressing you [UHCW] will do it and you will know what it looks like because you will have been with the assessor [LHCW]. If you have any concerns you would bring the assessor back in.*

Anecdotally, during the audit process, both managers and staff of the aged care facilities acknowledged that the practice of using UHCWs to complete simple dressings was strengthening. Furthermore, this support is principally as a response to the increase in the reliance on UHCWs for the provision of care for the elderly. Lankshear, Sheldon and Maynard's (2005) systematic review suggests that a skill mix that has fewer UHCWs to every LHCW is associated with improved outcomes. Therefore, further research into the role of the UHCW in the aged care sector is required. Particularly as the majority of aged care staff in Australia purport an inadequacy in skill mix (Hegney et al. 2006).

The purpose of an assessment, in whatever context it is performed, is to make an evaluation based on an understanding of the situation. A PRA evaluates the individual's pressure risk factors to identify the 'at risk' individual (AWMA 2001; Carville 2005; Dealey 1999), the nutritional assessment appraises the individual's nutritional status to identify a potential nutritional deficiency (Carville 2005; Dealey 1999) and a wound assessment evaluates the wound and the appearance of the wound and peri wound to ascertain if the wound is progressing towards healing (AWMA 2002). These assessments are performed to assist in the planning and management of nursing care, to ultimately prevent pressure ulcers, but also for the management of existing pressure ulcers. When assessment processes do not exist, whether they are performed and not documented or just not performed, planning and management strategies are unsupported.

### **5.2.2 Prevention**

The uncertainty of questionnaire participants, described previously in the clinical practice of PUP & M assessment, is not seen in the clinical practices associated with pressure ulcer prevention strategies. LHCWs and UHCWs across all aged care facilities agreed that they always provide evidence based preventative interventions associated with positioning and



skin care (see Table 4.7). Furthermore, only six percent of the combined (n = 462) responses were in disagreement. Possibly, the most notable finding was that the questionnaire statements investigating the utilisation of pressure relieving support surfaces (statements 14 & 15) did not correlate highly with the preventative strategies. Therefore the respondents did not identify a strong correlation between the use of pressure relieving support surfaces for pressure ulcer prevention and the underlying dimensions of this factor which were predominantly activities involving skin care and mechanical loading (see Table 4.8).

***Skin care:*** Skin care for the elderly is a necessary, assiduous practice, for as people age skin becomes thinner, less elastic and drier requiring greater nurturing (Carville 2005; Dealey 1999). This study determined that the aged care nurse applies a moisturiser conducive to the skin's pH at least daily. However, evidence of a comprehensive skin assessment was less apparent. This result was not as robust as the findings from Saliba et al's (2003) study. Saliba et al. (2003) purported a substantial adherence (94%) to at least a daily skin inspection. The early detection of skin damage is essential for the planning and evaluation of pressure ulcer preventative interventions (AWMA 2001). Without regular skin inspections the nurse relies solely on the resident to report skin damage, often in the form of pain or discomfort. Therefore, the lack of a daily skin assessment and inspection of the skin over bony prominences at every turn, potentially results in the delayed detection of pressure damage, particularly in a resident who is unable to communicate effectively or unable to alter their own body position (AWMA 2001). When a resident is unable to independently alter their body position the risk of skin damage, associated with mechanical loading over bony prominences, increases (AWMA 2001, p. 10).

***Mechanical Loading:*** As mentioned previously, the fundamental practices involved in the prevention of pressure ulcers is the identification of risk factors and an associated individualised risk management strategy (AWMA 2001, p. 22). The lack of pressure ulcer management plans suggests that the UHCW, whose role incorporates the provision of PUP & M preventative procedures (Australian Nursing Federation 2006; Chandler 2003), does not have a formal management strategy to guide their preventative practices for the resident. This lack of formal direction for preventative care impels the UHCW to rely on facility routines, their own understanding or the verbal direction of the LHCW.

Grol and Grimshaw (2003) describe working routines as a potential barrier to the implementation of EBP. Aged care facility routines revolve around the resident's activities of daily living, particularly the activity of repositioning. The focus group participants report a reliance on set rounds for pressure area care:

*In the evening and night you tend to do it on rounds. In the day because they are up and down more it is more just when you feel the time is OK.*  
(UHCW)

There was mention in one focus group regarding the way turning schedules should be established: *'Well they are individually assessed on when they should be turned. So they have got an individual turning time'* (LHCW). However, the UHCWs within this group were not in agreement with the existence of an individual turning schedule.

Understanding pertaining to movement of chair bound residents was also poor:

*That is [chair bound resident] probably something that is not looked at as much as the bed bound people. People who are sitting in a lounge chair or in a wheel chair would be low priority.* (UHCW)

Furthermore, the medical record audit confirmed that only one out of the 42 chair bound residents were repositioned according to pressure ulcer guideline recommendations.

The scarcity of understanding pertaining to chair bound residents was not the sole deficit. The audit established that the staff's knowledge of pressure ulcer preventative practices varied. There was a greater acknowledgment of the utilisation of pillows and foams to avoid contact between bony prominences and a lesser awareness of the position utilised to reduce shear and friction forces. Limited knowledge has been reported by a number of studies as a barrier to the implementation of EBP and clinical guidelines (see Tables 2. 2 & 2.17). However, the researcher suggests that the variation across care practices indicate that systematic adoption of guidelines has not occurred. Furthermore, the inconsistencies in knowledge and a lack of formal individualised management plans exposes the potential for an 'evidence-practice' gap.

A gap between what best evidence reveals should be done and what is actually done is a possibility under these conditions. When a PUP & M plan is non-existent the UHCW, with limited training, may not realise (Koehn & Lehman 2008) the appropriate preventative practices for specific risk factors. Furthermore, without a formal management plan the UHCW will be required to frequently seek direction from the LHCW, which is not ideal in a time poor environment (Hegney et al. 2006). The solution for this situation is ultimately the domain of both the LHCW and the aged care organisation. The LHCW is responsible for assessment and care planning for residents (Australian Nursing Federation 2006; Chandler 2003). However, the aged care organisation supports the LHCW by ensuring discrete PUP & M policies and procedures are available and disseminated. These organisational PUP & M policies and procedures guide the clinical decision-making of the LHCW (Courtney 2005, p. 184). The PRIME trial is a good example of where an integrated PU prediction, prevention and management system produced positive outcome measures. The prevalence of PUs in the participating aged care facilities significantly decreased from 25.8 percent to 16.6 percent (Ellis et al. 2006).

### **5.2.3 Practices not supported in the literature**

Clinical practice guidelines, which are based on the best available evidence, embody the gold standard of care (Boon & Tan 2006). It is therefore reasonable to presuppose that a nurses' clinical practice incorporates guideline recommendations. There are two ways that incorporation of recommendations into practice may not occur. Firstly, the nurse could omit a recommendation from practice, as discussed previously, and secondly, the nurse may use a practice that is not recommended.

PUP & M is a multifarious domain. Recommended PUP & M involve practices associated with the assessment of risk, skin care, mechanical loading and support surfaces, documentation and wound management (AWMA 2001, 2002). The outcomes of including unsupported activities in the daily provision of PUP & M are potentially deleterious for both the individual and the organisation (Bennett, Dealey, & Posnett 2004; Coble Voss et al. 2005; Redelings, Nolan & Sorvillo 2005). Consequently, it is essential that the LHCW and UHCW possess a comprehensive knowledge of recommended practices within the PUP & M domain.

The 'evidence-practice' gap (what is known and what is done) is a real issue in the endeavour to ensure EBP within the health sector (Schuster, McGlynn, & Brook 1998). However, when organisational management is aware that an 'evidence practice' gap exists they have the capacity to strategically plan to negate that gap (Olade 2004). Conversely, when there is minimal awareness of the individual's clinical practice, there is a potential barrier to EBP and guideline implementation (Foy, Walker, & Penney 2001). Research conducted by Sharp et al. (2000) and Prentice (2007) established that registered nurses' PUP & M practices were not always evidence based. The results of this study support these findings as regardless of the facility, employment status, PUP & M education or

years of experience of the participant, approximately half of the responses to the inappropriate practice statements were in agreement.

The practice of rubbing or massage for the prevention of pressure ulcers has received particular attention in academic literature. There is professional conjecture as to the appropriateness of this practice and as of this date there is no research evidence that reveals its appropriateness or inappropriateness (Duimel-Peeters 2005). However, the literature reveals that, in the main, the professional opinion regarding the rubbing of bony prominences as part of PUP & M is incredulous and moreover, there is no recommendation for this practice in national or international pressure ulcer guidelines (AWMA 2001; European Pressure Ulcer Advisory Panel 1998; The Joanna Briggs Institute 2008c; Queensland Health 2004; Registered Nurses Association of Ontario 2005). Furthermore, there is the conjecture that, in individuals with an increased pressure ulcer risk, massage or rubbing may lead to deeper tissue trauma through the forces of shear and friction (AWMA 2001; Duimel-Peeters et al. 2006).

Qualitative research by Buss et al. (2004) presents a familiar description of the health professional's lack of enthusiasm to implement pressure ulcer clinical practice guidelines, particularly the cessation of rubbing bony prominences as part of the PUP & M strategies. The same reluctance was found through this study. More than half of the questionnaire participants agreed that they routinely rub bony prominences as part of PUP & M. Furthermore, UHCWs were significantly more likely to practice this procedure than LHCWs.

The focus group highlights this discrepancy. A few focus group participants were adamant that they no longer rub as part of PUP & M. However, the vast majority identified the utilisation of rubbing of bony prominences as part of their PUP & M practices: *'I'm guilty*

*I rub! I was trained to rub' (UHCW); 'I would for bedfast [residents] I certainly would be giving the heels a little rub' (UHCW) and 'I see a red heel and I just want to rub it' (UHCW). Focus group participants believed the benefits of rubbing were to increase the circulation and provide touch. One participant was so adamant on the benefit of touch she stated with conviction that: 'this is the only time you get to touch them [resident] and they need that and I will continue to do it [rub]' (UHCW).*

The major theme to emanate from the focus group discussions on rubbing of bony prominences was the identification of rubbing as a traditional practice:

*I can remember using old metho [Methylated spirits]. I tell you, you would do their cares and turn them and then rub the metho in. You didn't have many pressure areas. I'm telling you now. (LHCW)*

*Some people still do this and I think it is more habit. Yeh! I think it is, its something that has been inbred its something that you have always done. Even though we say just stand them up, don't rub just flick like that [demonstrated how to flick] to increase circulation but don't rub just sit them down. (LHCW)*

Skinner's (1948) 'Superstition Theory' is offered as an explanation for the continued practice in relation to rubbing of bony prominences. Skinner's research demonstrated that behaviour is established by positive outcomes originating from that behaviour. Furthermore, once this behaviour is determined it will persist despite numerous 'unreinforced [sic] instances' (Skinner 1948, p. 168). Although the rubbing of bony prominences is not a recommended practice the ritual and traditions continue today. A LHCW summed it up this way:

*If you have a mind set from previous things and new things come out you often think this is the way we have done it forever and ever and there was nothing wrong with it then. (LHCW)*

The practice of rubbing as part of PUP & M has endured the conception and establishment of EBP. Furthermore, the researcher suggests, until there is an improvement in the quality

of research, the rubbing phenomenon will potentially remain a robust tradition. However, improving the quality of research in this practice domain may prove to be an ethical challenge. The motivations for incorporating unsupported practice into daily PUP & M routines are varied and complex, and in the main, beyond the scope of this study. However, identifying inhibitors to the implementation of PUP & M from both a clinical practice and an organisational perspective was a major focus of this study.

### **5.3 INHIBITING FACTORS**

Guideline implementation research has established numerous hindrances to the implementation process (see Table 2.7). These hindrances were utilised to investigate the potential barriers to the implementation of evidence based PUP & M strategies within the aged care setting. Previously discussions included the connection between the organisational commitment to PUP & M and the propensity of a nurses' clinical practice. This section considers how identified organisational barriers influence clinical practice and conversely, how identified clinical practice barriers influence the aged care organisation.

The survey and audit findings identified lack of organisational support (PUP & M policies, time, PUP & M resources and education) and the attitude of staff as salient barriers to the implementation of recommended PUP & M strategies within the aged care environment.

#### **5.3.1 Organisational support**

***PUP & M policies:*** National pressure ulcer guidelines have been readily available for utilisation by healthcare organisations since 1997 (The Joanna Briggs Institute 2008c). Furthermore, during 2004 the Queensland Health Department (Queensland Health 2004) commenced the process of disseminating pressure ulcer guidelines throughout Queensland. These Queensland PUP & M guidelines are both readily available and cost

neutral for all healthcare organisations. However, of the seven aged care facilities, only the government administered facility provided access to these guidelines.

The availability of guidelines does not necessarily mean the guideline will be implemented (Grol & Grimshaw 2003). The initial barrier within the aged care sector, identified through the audit process, was the lack of clinical direction in PUP & M by the aged care organisation. This was particularly recognisable in the deficiency of organisational PUP & M policies and procedures. Nevertheless, the questionnaire participants agreed that PUP & M policies existed in the aged care facility employing them. The robustness of this agreement was dependent on the aged care facility and the participant's education regarding PUP & M. The availability of PUP & M policies was a topic discussed by the focus group participants.

LHCWs and UHCWs were asked if the aged care facility employing them provided a PUP & M policy. No further understanding of PUP & M policies existed other than the use of a PRA tool and its relationship to the utilisation of a support surface:

*Depending on the score, if someone is a 'very high risk' then we put them on a special mattress. If someone is a 'low risk' we make sure we follow the guidelines by putting on an eggshell mattress. (LHCW)*

This level of understanding was similar throughout all focus groups. The comment suggests that PUP & M policies may be poorly understood. A single PUP & M practice (a PRA) represents, in the participant's understanding, a pressure ulcer policy in its entirety. Viewing a PRA as a PUP & M policy is akin to viewing the taking of vital signs as the totality of nursing care.

Boon and Tan (2006) recommend that to increase guideline compliance, the organisation must emphasise the importance of the guideline and furthermore, effectively disseminate



the guideline. A significant finding from this study was that the aged care organisations do not utilise a formal, systematic process for the implementation of pressure ulcer guidelines. This was evident by the dearth of organisational PUP & M policies and procedures, including the limited assessment of organisational performance in PUP & M, and the mediocre endeavour by some of the organisations to provide resources.

Following an investigation into the effective implementation of change in patients' care, Grol and Grimshaw (2003, p. 1228) concluded that the prevailing organisational culture towards quality has a major effect on clinical practice. Therefore, the organisation's failure to implement pressure ulcer guidelines may be considered by staff to be a lack of organisational direction or commitment to PUP & M or, more insidiously, facilitate a perception of inconsequence amongst the staff.

**Time:** The greatest resource in PUP & M is that of time. Limited time denotes the necessity to prioritise, which in essence means to order PUP & M strategies in terms of importance:

*We haven't got enough time because you don't know what is going to happen in the day. There are some things you have got to put priority on, so someone misses out. (LHCW)*

The literature reveals that the majority of nurses identify that they are unable to complete their work within the allotted time (Hegney et al. 2006). Furthermore, aged care nurses find it more difficult than nurses in the acute care sector to complete their job to their satisfaction (Hegney et al. 2006). The data from this study is in accord with Hegney et al. (2006) findings. Over half of the questionnaire participants identified that insufficient time limited the implementation of PUP & M strategies. However, fewer staff from the

government administered aged care facility identified lack of time as a hindrance to PUP & M (see Figure 4.19).

Australian research establishes that nurses consider workloads, skill mix and nurse morale as the major workforce issues in Queensland, particularly within the aged care environment (Hegney et al. 2006). Furthermore, managers and policy makers have the authority and influence to address these issues (Foy, Walker, & Penney 2001), therefore the researcher proposes that the relationship between lack of time and organisational administration warrants consideration.

Participants of the study were not asked to identify the major reason for the lack of time in PUP & M. However, from proffered comments and the audit results, it is anticipated that staff workloads were the main explanation. The involvedness of the resident was similar across aged care facilities, as all provide high care placements. The audit identified skill mix as potentially uniform across facilities. Furthermore, the availability of PUP & M resources, although influenced by the aged care facility, was no more superior in the government administered facility than several of the privately administered facilities (see Figure 4.21). In addition, previous research indicates that the majority of aged care nurses believe that staff numbers are insufficient to meet resident needs (Hegney et al. 2006, p. 1529). Therefore, it is reasonable to assume that the staff from the government administered facility had an increase in the manageability of their workload due to a higher staff to resident ratio. Furthermore, the staff of the government administered aged care facility acknowledged the higher staff member to resident ratio: *'I think we are probably luckier than most, staff wise'* (UHCW); *'we've got more staff'* (LHCW).

The majority of focus group participants identified that lack of time was an issue for them. Further exploration revealed how aged care staff members attempt to manage PUP & M within the perceived limited time.

*We have care plans to follow and someone has been assessed and they're a two to four hourly turn and there are things you do on a day at set times. That's just a given that you do those things. (UHCW)*

*We used to shower everybody every day, now we have second daily showers and things like that so you don't have to shower everybody everyday, you can work your day around and work your time. (UHCW)*

In the context of the discussions these statements reflect that facility routines and the modification of the way care is delivered assist in ensuring the availability of time for PUP & M. However, the literature reveals that facility schedules and usual routines are also a potential hindrance to EBP and guideline implementation (Foy, Walker, & Penney 2001; Grol & Grimshaw 2003).

The operation of a health care facility requires a certain degree of routine underpinning the activities of daily living. Simultaneously, there should be a degree of flexibility based on the individual's particular requirements. The goal of PUP & M is not so much about the routine of providing the same predictive and preventative care for every individual. Fundamentally, it is the utilisation of the cyclic nursing process (assessing-planning-implementing-evaluating) to tailor specific management for the individual (AWMA 2001, p. 1). However, as discussed previously, this process is threatened by time constraints:

*It gets hard because it is such a time limited job that people do get so task orientated, it will always happen but I don't know how we can change it. (LHCW)*

The study participants acknowledged the existence of task nursing as a function of a time poor environment: 'I go into task mode to try and get it done' (UHCW). The fundamentals of task orientation is the task at hand and getting the job done: 'people say OK, we have

*got this many things [tasks] to do and that person is not thought of until they're done'* (UHCW). However, the emphasis on the individual and their care needs was considered by some to be improving: *'I think the production line mould is being broken, slowly'* (UHCW).

The lack of time is not a new issue. There are numerous implementation studies that identify lack of time as a major concern (see Table 2.7). How to negate this barrier is complex and there has been little offered through existing research on this subject. However, as with all barriers, identification is the key, followed by the implementation of tailored, multifaceted interventions (Davies et al. 2008; Doherty et al. 2007; Foy, Walker, & Penney 2001).

**Resources:** The audit and questionnaire results reveal that the quantity and quality of resources, particularly pressure relieving support surfaces and the basic mattress, is an inhibitor to the implementation of PUP & M strategies in several aged care facilities (see Figure 4.6 & 4.7). The unavailability of support surfaces and the poor quality of the basic mattress has a deleterious effect on the resident at 'high risk' of developing a pressure ulcer. Not only are they not being cared for on a support surface but the basic mattress is potentially allowing the bony prominences to rest on the base of the bed. Santamaria et al. (2005) identified a significant ( $p = 0.00$ ) relationship between the development of a PU and the lack of appropriate equipment. The results of the audit established that only a third of the residents identified by the audit's stratified sampling technique as being 'at risk' of pressure ulcers were cared for on a support mattress and approximately half the basic mattresses randomly tested were in less than ideal condition.

Participants of the focus groups identified the deficiency of support surfaces as a hindrance to providing PUP & M. One participant explained how the staff managed the lack of support surfaces:

*We have a lack of equipment and you have to prioritise. We have to look at who's got a mattress on, who doesn't need it as much and move it around. (LHCW)*

This argument was dominant in the majority of the focus groups. However, when staff members were asked how they prioritise for support surfaces, the following was proffered: 'A lot of time [we] wait until they have a pressure ulcer before they get a mattress' (UHCW). The medical record audit established that 'high risk' was the dominant pressure risk score for residents in the aged care facilities involved in the study. Therefore, the requirement for PUP & M resources is at its premium within this setting.

The combination of lack of time and deficiency of resources may have a synergistic effect on the pressure ulcer guideline implementation process (Boon & Tan 2006). For example, according to the AWMA (2001) pressure ulcer guidelines, the individual considered at 'high risk' for developing a pressure ulcer should be cared for on a replacement mattress (level of evidence I). The lack of support surfaces signifies that residents who are assessed as 'high risk' cannot all be positioned on the recommended replacement mattress and therefore, are cared for on a basic mattress. To ensure skin breakdown does not occur it is recommended that the individual is repositioned as frequently as their skin tolerance to pressure dictates (AWMA 2001). Therefore, when 'high risk' residents are unable to be positioned on a replacement mattress they require more frequent repositioning, which in turn requires increased staff time.

Fundamentally, a deficiency in time and resources emanate from a lack of organisational commitment to the guideline subject (Boon & Tan 2006; Brazil et al. 2008; Clarke et al. 2005; Davies et al. 2008; Doherty et al. 2007; Flottorp et al. 2002; Foy, Walker, & Penney 2001). Furthermore, Miller and Kearney (2003) propose that healthcare organisations should make a corporate decision to commit to required resources and protect the time of the individuals involved.

**Education:** The literature reveals that education significantly improves knowledge (Cheater & Closs 1997) and improves the uptake of evidence into practice (Clarke et al. 2005; Doherty et al. 2007). Furthermore, one type of educational strategy is no more effective than another but repeated exposure may be of greater significance (Cheater & Closs 1997). The results of this study support these findings. Approximately twenty percent of aged care staff had not attended PUP & M education within a two year period. Moreover, a greater percentage of UHCWs had never attended PUP & M education compared to LHCWs. The LHCW and UHCW who had never attended PUP & M education were significantly more non-committal to the statements that investigated the organisational implementation strategies for the prevention and prediction of pressure ulcers. This suggests that a lack of knowledge in PUP & M has an effect on the aged care staff member's perception of the organisations pressure ulcer implementation strategies.

The majority of aged care staff, regardless of employment status, recognised the benefits of regular education in facilitating PUP & M strategies into practice. The main findings from the focus group data regarding PUP & M education were that most of the participants agreed that education was important. The main type of education, expressed within every focus group, was education between two or more staff members whilst in the process of providing care: *'Its good that the girls feel comfortable in coming to me for advice. We*

*always talk about it and pass ideas around'* (LHCW); *'you learn every day, don't you? By your work mates, by experience'* (UHCW); *'you're always asking questions and someone's got the answer'* (UHCW); *'we get education all the time by our work mates'* (UHCW). Furthermore, a response from a LHCW summarised the main theme arising from the discussion on the types of organisational PUP & M education:

*I think the best way we do education here is informally. I will walk through the ward and someone will say have a look at such and such foot, what do you think? We will have a chat about it and we will say lets do this. What do you think about this? and it is an informal education session but she has taken away all this information. So it's informal but its one on one and I think it is more effective rather than making people sit down in a classroom. I think they get more out of it because you are actually there and you are doing hands on. (LHCW)*

Interestingly, there was minimal inclusion of more structured PUP & M education emanating from the focus group data. The focus group participants did, however, mention two major issues regarding PUP & M education: the lack of training of staff; and the inability of UHCWs to apply knowledge in a skilful manner. Comparable issues emerged from the qualitative questionnaire data and the audit data. Several questionnaire participants acknowledged the lack of education for both new staff members and UHCWs as barriers to the implementation of PUP & M strategies (see Table 4.26). In addition, the audit data revealed that PUP & M education had been provided in just over half of the aged care facilities within the previous year. However, none of the facilities included PUP & M education within the orientation program for new staff.

Koehn and Lehman (2008) reported that nurses themselves believe that the lack of knowledge is one of the greatest hindrances to EBP. This lack of knowledge may arise from the inability to access best evidence, both through the inept searching skills of a clinician (Grol & Grimshaw 2003; Newhouse et al. 2005) or the unavailability of information sources (Gerrish et al. 2008; Olade 2004). The seven aged care facilities

within this study were provided with information sources in the form of either Internet access or relevant up-to-date nursing texts. However, the ability of the UHCW to access or understand the information would be questionable as the majority of UHCWs lack an academic degree (Nilsson Kajermo et al. 2008). Higgs, Burn and Jones (2001, p. 484) maintain that although clinicians need evidence on a daily basis, they usually fail to obtain it and as a consequence both their up-to-date knowledge and their clinical performance deteriorate over time.

Cognitive theorists propose that the lack of understanding or knowledge in a subject is associated with a lack of adherence to EBP within the subject and that improved information about the evidence base of that subject may promote better adherence (Grol & Grimshaw 2003, p. 1226). This advocates the requirement for regular PUP & M education for all staff members involved in the nursing care of the resident. Furthermore, the aged care organisation has a regulatory requirement, under the *Quality of Care Principles 1997*, to ensure management and staff members have appropriate knowledge and skills to perform their roles (Attorney-General's Department 2008) and PUP & M is a major proportion of an aged care nurses' role, particularly the UHCW.

The incorporation of best evidence into clinical practice is foundational to the EBP process (Closs & Cheater 1999). Gerrish et al. (2008) established that nurses rely heavily on personal experience and communication with colleagues for information rather than formal sources of knowledge. The results of this study suggest a lack of formal PUP & M education and a dominance of informal education within the aged care facilities, that is, education occurs between staff members while caring for the resident. The quality of the information passed on from colleague to colleague is only as good as the individual's knowledge on the subject. Therefore, if the individual's knowledge on the subject is



incorrect, out of dated or merely lacking, there is an increased potential for poor decision-making (Grol & Grimshaw 2003).

### **5.3.2 Attitude of staff**

The major underlying premise to the 'Quality of Staff' paradigm (see Table 4.26) is that some staff members are disinclined to provide recommended preventative pressure ulcer care. Furthermore, the reason for this disinclination, according to questionnaire participants, is threefold: a task orientated mindset, tradition and indolence. The focus group data provides support for the existence of this disinclination: *'You get your good ones [staff] and your bad ones [staff]'* (LHCW). However, *'Thankfully they're in the minority'* (UHCW).

There is evidence in the literature that the characteristics of the individual inhibit the utilisation of clinical guidelines. However, these studies were predominantly focused in the medical arena and therefore, on the physician's practice (Boon & Tan 2006; Davies et al. 2008; Foy, Walker & Penney 2001). Nevertheless, the study findings reveal that the individual's unsupportive attitudes, beliefs and behaviours hinder the implementation of clinical practice guidelines. The solution to this hindrance, according to focus group participants, is to do it yourself: *'you pick up what they haven't done.... You just go in and do it'* (UHCW), *'if you want something done you might as well just go do it yourself'* (UHCW) and:

*You find that those people aren't put on the roster very often so you just cop that you only have to work with them every now and then and wear it on the chin.* (UHCW)

Reactive solutions, such as these, seldom produce sustainable change. Foy, Walker and Penney (2001, p.167) suggest that the active involvement and support of educators, trainers and management has the greatest potential to overcome the characteristics of the individual

that hinder the implementation of EBP. However, this change in practice is only beneficial if the changes are focused on positive patient outcomes, established through research.

The major barriers to the implementation of pressure ulcer guidelines incorporate characteristics of the organisation and characteristics of the individual (Foy, Walker, & Penney 2001). The results of this study supported this finding. However, aged care nurses perceived the characteristics of the organisation as the most influential barrier in the aged care environment. The utilisation of multifaceted interventions to negate predefined contextual barriers and therefore facilitate implementation of guidelines is a prominent process in the literature (see Table 2.6) and many of the outcomes from research utilising this process are positive (Doherty et al. 2007). However, fundamentally the process for the implementation of EBP starts with 'hardwiring' a culture of excellence throughout the organisation and this process begins with managers (Studer 2003).

## **5.4 ENABLING FACTORS**

Guideline implementation research has established numerous enablers to the implementation process (see Table 2.6). These enablers were utilised to investigate the potential facilitative factors for the implementation of evidence based PUP & M strategies within the aged care setting. The survey findings identified organisational support, and incentives as salient facilitative factors when implementing recommended PUP & M strategies.

### **5.4.1 Organisational support**

The complex interaction between inhibitors and enablers of EBP implementation is discernible in previous research (see Tables 2.2 & 2.3). An example in the literature of this complexity is the organisation's ability to be both a hindrance to EBP and an enabler of

EBP (Boon & Tan 2006). Upton and Upton (2005) established that a single rigid strategy, such as providing resources, is not always effective in ensuring a change in practice throughout an organisation. Therefore, the essence of organisational support is, as a questionnaire participant put it: '[The] *culture and willingness of management to prioritise and resource ulcer prevention strategies*' (see Table 4. 13).

Studer (2003, p. 45) suggests that this begins with a firm and measurable organisational commitment to excellence and defines excellence as, '...employees feeling valued, physicians believing their patients are receiving great care and patients feeling the service and care they receive is extraordinary'. Linking the pressure ulcer guideline objectives to the strategic plan of the organisation is the initial step in achieving excellence in care (Curry 2000, p. 41S). Therefore, the challenge for the aged care organisation is to discern and activate a system for the strategic implementation of pressure ulcer guidelines. The PRIME trial is an example of where this approach has worked towards achieving positive outcomes (Ellis et al 2006; Santamaria et al. 2005).

An organisation whose goals, strategic plan, mission statement and management personnel are committed to the prevention of pressure ulcers is fundamental to the facilitation of EBP in PUP & M (Fink, Thompson, & Bonnes 2005; Miller & Kearney 2004; Olade 2004; Studer 2003; Thompson, Chau, & Lopez 2006). Santamaria et al's (2005) finding of 25.9 percent pressure ulcer prevalence in a predominantly 'high risk' population, suggests that the fiscal cost of managing existing pressure ulcers is considerable (Bennett, Dealey, & Posnett 2004; Harding, Cutting, & Price 2000; Studer 2003). However, this cost does not take into consideration the potential cost associated with litigation (Coble Voss et al. 2005; Tingle 1997) and adverse public opinion (Studer 2003).

Litigation and adverse public opinion are a genuine risk to health care organisations and aged care organisations are not immune to this risk (Coble Voss et al. 2005). The majority of aged care facilities in Australia are administered by private organisations (Braithwait 2001) and therefore have a degree of dependence on the public utilisation of the aged care facility. When the public perceive a decrease in the care standard of a facility the potential is that they may not use the facility. This potentially has a negative financial effect on the private organisation (Studer 2003). Therefore, the aged care organisation's commitment to the prevention of pressure ulcers is not just a humanitarian decision, although this in itself is admirable, but also a positive administrative determination (Studer 2003).

The organisational prioritising of PUP & M remains a passive strategy until top line and middle management take up the mantra and plan to activate the strategies (Miller & Kearney, 2004; Richens, Rycroft-Malone, & Morrell 2004). An organisation that has prioritised PUP & M may use an organisational specific EBP implementation model to establish PUP & M EBP throughout its aged care facilities (Funk, Tornquist, & Champagne 1989; Olade 2004; Rycroft-Malone 2004; Studer 2003; Titler et al. 2001). These models provide a structured framework that engages the organisation in the translation of EBP into the nurses' clinical practice.

Sonnad's (1998) implementation process asserts that organisational priority, sufficient and appropriate resources, delineated outcomes and continual auditing are important elements when implementing pressure ulcer guidelines into daily practice. This study established mediocre evidence of these processes in the participating aged care organisations. Moreover, that which was ascertained was ad hoc with nominal formal foundations. This situation can be rectified, organisational policy makers and managers have the ability to

overcome hindrances to these courses of actions and can therefore commence the process of strategically implementing pressure ulcer guidelines (Foy, Walker & Penney 2001).

One of the major findings of this research is that the aged care organisation is able to affect the clinical practice of its staff. Therefore, aged care managers are in a premiere position to operate as change agents in PUP & M. Utilising Rogers' (1983, p. 312) 'Diffusion of Innovations' theory. The manager has the ability to develop the need for change by formulating and reviewing organisational policies (Davies et al. 2008) and furthermore, promoting the importance of EBP in PUP & M amongst middle management and ward staff (Miller & Kearney 2004), disseminating material on EBP and PUP & M (Cheater and Closs 1997) and actively promoting the utilisation of clinical guidelines in PUP & M throughout associated aged care facilities (Cheater & Closs 1997).

The manager establishes multi level information-exchange relationships when they enlist assistance from outside sources, such as academic personnel or healthcare associations (Grol & Grimshaw 2003; Richens, Rycroft-Malone & Morrell 2004) and identify key opinion leaders within each facility and include them in the change activities (Cheater & Closs 1997; Grol & Grimshaw 2003). The first step in 'diagnosing the problem' begins with establishing the extent of pressure ulcer prevalence and the associated cost in all aged care facilities (Davis & Taylor-Vaisey 1997; Doherty et al. 2007; Grol & Grimshaw 2003). Secondly, number and condition of existing PUP & M resources, including the basic mattress needs to be determined and finally identifying context specific barriers to change (Davies et al. 2008; Doherty et al. 2007; Miller & Kearney 2004). Once the problem is established the next step in Rogers' (1983, p. 312) 'Diffusion of Innovations' theory is to 'create intent to change'.

There are several organisational activities involved in creating intent: dissemination of the finding of the prevalence surveys (Davis & Taylor-Vaisey 1997; Doherty et al. 2007; Grol & Grimshaw 2003); writing PUP & M into the organisational strategic plan and goals (Studer 2003); strategising enablers for the barriers identified when diagnosing the problem (Miller & Kearney 2004); and preparation of key opinion leaders to assist in creating intent to change and 'translating this intent into action'. At this stage the organisation provides resources for the facilities according to the information collected whilst diagnosing the problem. If the organisation is unable to resource adequately then they plan for a progressive addition to the resources. The key opinion leaders have a vital role during this stage as they support staff in implementing the changes into their clinical practice (Rogers 1983).

'Stabilising the adoption and preventing discontinuances' is the next challenge in diffusing the innovation. Regular PUP & M audits and feedback, and prevalence surveys assist in this process accompanied by continued multifaceted interventions (Grol & Grimshaw 2003; Richens, Rycroft-Malone & Morrell 2004). The effectiveness of multifaceted interventions depend on the contextual barriers, however, they may include education, opinion leaders and reminders (Cheater & Closs 1997; Grol & Grimshaw 2003; Miller & Kearney 2004). The overall aim, and the last step of the 'Diffusion of Innovation Theory' is to achieve a 'terminal relationship' (Rogers 1983). In this context, this is where the aged care organisation managers relinquish PUP & M monitoring to the aged care facility managers. However, before this occurs an administrative feedback process should be instigated.

Roger's (1983, p. 271) suggests that a vital component of this change process is the role of an opinion leader, or in this context a LHCW with an interest in wound management. As a

member of staff, the LHCW is in an ideal position to serve as a social model for PUP & M. However, the ability of the opinion leader to affect the behaviour of other staff is associated with the desire of the staff member to imitate the opinion leader (Rogers, 1983). The aged care nurses acknowledged the facilitative role of a wound management nurse in implementing PUP & M.

The wound management nurse role was predominantly an informal position whereby a LHCW, with an interest in wound care, would consult with staff on the management of existing wounds. The focus group participants who worked in a facility with a wound management nurse spoke positively about the outcomes:

*I think it works really well for us here because, as Jean [pseudonym] says, she's not an expert in wound care but it doesn't matter as long as we have somebody coordinating and stopping the constant dressing changes. Jean doesn't have to be an expert in it [wound management] she just coordinates it and makes sure we are doing what's right, what works.*  
(UHCW)

The coordination and continuity were dominant positive outcomes of a wound management nurse position: *'I think the wound management here has improved ten fold because we have a wound nurse. It gets continuity'* (LHCW). With the positive attitudes towards the position of a wound management nurse and the literature revealing the beneficial role of an opinion leader in facilitating guidelines into practice (Davies et al. 2008; Grol & Grimshaw 2003; Richens, Rycroft-Malone, & Morrell 2004), it is recommended that aged care organisations consider instigating this PUP & M strategy as part of a multifaceted approach to barrier removal. A further method of utilising champions to implement guidelines into practice is the position of a visiting private wound management professional.

In today's political and economical climate, the position of a private wound management professional funded through the Medicare system, who consults on wound management

therapies, is worthy of consideration. This is already realised in allied health, where individuals with chronic conditions and complex needs are able to access a funded multidisciplinary approach to health through the Australian Medicare system (Department of Health and Ageing 2008). Furthermore, the provision of multidisciplinary healthcare is a principle of the aged care standards and therefore associated with the aged care accreditation process and organisational funding (Attorney-General's Department 2007). However, politics and wound management are uneasy companions and a fifteen-year history of lobbying the Australian Federal Government to improve access to wound management therapies has had limited success (Ellis 2008). Therefore, there remains today no Medicare funding for the services of a wound management professional and a 'user pays' system exists.

The 'user pays' system disadvantages those who are less financial, which is very often the elderly (Australian Institute of Health and Welfare 2007). Furthermore, aged care administrators are left toiling with the challenges of financing wound management consultations. This indicates that the wounded potentially do not receive the wound management care required to heal their wounds. Case studies from the AWMA's 'Elephant in the Room' wound awareness campaign illustrate this argument (AWMA n.d.).

This situation is unfortunate as the benefits of a wound management professional servicing an aged care facility is not merely the treatment of one resident but also the dissemination and implementation of evidence based wound management practices throughout that facility (AWMA n.d.). Moreover, the aged care staff members, through mentorship, support and clinical championing, have the opportunity to access the most recent evidence and to incorporate this evidence into their own clinical practice, thus increasing evidence



based PUP & M at the bedside (Gerrish et al. 2008; Gerrish & Clayton 2004; Henderson, Davies, & Willet 2006; Mazurek Melnyk et al. 2004; Newhouse et al. 2005; Nilsson Kajermo et al. 2008).

Moving the desire to improve pressure ulcer prevention from the managerial level to the bedside is multifactorial, yet essential. Empowering staff in their pressure ulcer preventative efforts is outworked through a combination of both organisational support and incentives (see Table 2.6). Discussed previously were the diverse aspects of organisational support which included setting goals for change, using policies and procedures to support goal achievement, identification of context specific barriers, the utilisations of ‘champions’ (wound resource nurse position and private wound management consultant) and provision of resources. The following section considers the incentives for pressure ulcer prevention.

### **5.4.2 Incentives**

Studer (2003, p. 22) suggests that people work in health care because it gives them a chance to make a difference in the lives of others and unquestionably, since Nightingale’s era, the mantra of the nursing profession has been the ‘caring for others’ (Madsen 2005). This mantra was evident within all focus groups and audit activities. There was a strong undertone of respect and fondness for the residents ‘*you love them for all different reasons*’ (UHCW). Therefore it is acceptable to assume that one of the greatest rewards for nurses is the prevention of harm for the resident. With the knowledge that approximately half the individuals who sustained a pressure ulcer experience preventable harm (Wakefield 2008), the prevention of pressure ulcers is a strong motive.

A principal method of identifying a decrease in pressure ulcer prevalence and an increase in the utilisation of pressure ulcer preventative measures is the audit and feedback process.

Miller and Kearney (2004) found that audit and evaluation systems were a key element in the successful implementation of guidelines into practice. The results from this study established that the majority of aged care facilities did not have an audit process for the identification of pressure ulcer prevalence nor pressure ulcer clinical practices. Without an audit there is no measurement to gauge progress and therefore it is difficult to hold the individual accountable for their clinical practice, good or poor (Studer 2003, p. 61).

Accountability for practice is not a new concept, with nurse registering authorities throughout Australia requiring LHCWs to be accountable for their actions as nurses (Queensland Nursing Council, 2009). However, accountability for practice for the UHCW remains an ambiguous issue. The UHCW is required to practice under the supervision and direction of a LHCW (Edwards 1997), nevertheless the LHCW cannot be expected to be accountable for the individual decision-making of the numerous (very often more than four) UHCWs within the team. Accountability must remain with the UHCW, the organisation and the LHCW. The organisation is accountable for ensuring the untrained UHCW has knowledge to practice without causing harm to a resident, the LHCW must not delegate beyond the UHCW's knowledge and skill set and the UHCW is responsible for only practicing within their capabilities.

## **5.5 CONCLUSION**

Data from the questionnaire, audit and focus groups reveal that there is scope for improvement, particularly from an organisational perspective, but also from an individual practice standpoint. The requirement for organisational management to step forward and embrace a perspective of pressure ulcer prevention is crucial for the implementation of evidence based PUP & M practices. This denotes that the aged care organisation must be willing to release funds for resources (education, new nurse positions and equipment) in

the knowledge that a systems approach, in the long term, will decrease expenditure in PUP & M by improving resident outcomes (Prentice 2007; Ellis et al. 2006; Studer 2003).

The necessity for the aged care nurse to take responsibility for their practices has never been greater. Good quality practice evidence is increasing in availability, therefore unsupported practice has a decreasing foundation. The researcher suggests that the aged care nurses' challenge is to move on from old traditions and take up the mantra of EBP, which incorporates individualised care. However, the increasing employment of UHCWs in aged care does place pressure on this change process, as UHCWs are not trained to access and critique research. This is where good quality clinical guidelines and management plans (constructed by the LHCW and based on a comprehensive assessment of the individual) excel. Although the aged care organisation and the aged care nurse have individual challenges in the implementation of PUP & M strategies, the genuine motivation for change occurs when the organisation and the aged care nurse are united in their resolve and the rewards for change are sizeable.

The rewards for improvement in PUP & M practices are numerous. Suffering is negated for the resident, the nurse is satisfied in the knowledge of best practice outcomes and the organisation avoids increased expenditure, litigation and public disquiet. Therefore, strategic implementation of PUP & M in aged care facilities is essential and the findings from this study indicate a need for a comprehensive organisational approach to removal of the identified PUP & M barriers.

## **Chapter 6 : CONCLUSION**

EBP has become the foundation for healthcare (Miller & Kearney 2004). It is now widely accepted that both the organisational strategic plans and the individual's clinical practice should be founded on the best available evidence and not on unsupported traditions and out-of-date practices (Haines & Donald 1998; Rycroft-Malone et al. 2004). Furthermore, rigorously constructed clinical guidelines provide evidence-based recommendations that can be utilised for the implementation of best practice, both for the organisation and the individual (Osborne & Webster 2005). However, the results of this study raise concerns regarding the aged care organisation's implementation of these PUP & M guidelines and the potential effect this has on the clinical practice of the healthcare employee (licensed and unlicensed). The purpose of this chapter is to present the research limitations and recommendations. The recommendations are in relation to the aged care sector. However, the researcher suggests that the proposals may be advantageous in all healthcare sectors.

### **6.1 LIMITATIONS AND BENEFITS OF THE RESEARCH.**

This study had a number of limitations, which potentially influence the findings and therefore should be taken into consideration. The limitations of this research relate to the sampling techniques and questionnaire response rate. However, utilising the mixed method research design, termed by Creswell (2003, p. 215) as the 'Sequential Explanatory Strategy', assisted in offsetting the limitations and achieving the studies objectives. The following section considers the research limitations and benefits in greater detail.

### 6.1.1 Research design and tools

The benefit of the 'Sequential Explanatory Strategy' is that it provided a means of proving or refuting the questionnaire findings regarding PUP & M in the aged care sector, thereby improving the validity and generalisability of these findings. The 'Sequential Explanatory Strategy's' uncomplicated, systematic design (Creswell 2003) supported a rigorous examination of the multifarious PUP & M implementation strategies. However, the main limitation was the length of time involved in the collection of data. The demands of time meant that the number of aged care facilities involved in the study was restricted to a manageable number. Nevertheless, utilising three data collection methods assisted in overcoming this limitation.

A further limitation was the inclusion of only one public sector aged care facility. This decreases the generalisability of the findings from the data comparing the public and private aged care sector PUP & M strategies. Therefore, generalising these findings to a greater population should be undertaken with caution.

**Audit:** The aged care facility pressure ulcer audit, although methodically constructed and executed, had not undergone a previous trial. Despite this, the tool was deemed to be comprehensive and unproblematic in its application by the researcher. Minor modifications will improve the administration of the tool for subsequent studies. Sarantakos (2005, pp. 298-299) purports that a major strength of a document study is the high quality of information obtained by dealing with first hand original data. However, conversely a weakness is that some documents may not be complete or up-to-date. This study identified minor disparities between the questionnaire data and the medical record data. The failure of nursing staff to adequately document care in the resident's medical

record may be one reason for these inconsistencies and therefore, should be considered when considering the study findings.

**Survey:** The strength of the nursing staff survey was the eliciting of the aged care nurses' views (Sarantakos 2005, p. 263) regarding the organisation they work in and their own clinical practice in PUP & M management. Chapter Three elucidated the administrative processes undertaken to increase the response rate to the questionnaire and although these were applied, a response rate of only 25 percent was achieved. However, all of the returned questionnaires were deemed suitable for analysis. This response rate was adequately robust to guarantee statistical power for the data analysis, particularly the Factor Analysis (Ho 2006). The Factor Analysis provided an opportunity to decrease the number of statements while maintaining the PUP & M fact-finding capabilities of the questionnaire. The future development of the questionnaire includes the testing of the reliability of the altered questionnaire across diverse healthcare settings and within larger study samples.

**Focus group:** The focus group methods provided an opportunity for exploring results from the questionnaire and organisational audit. Normally it is a potential hazard to generalise the subjective findings from a focus group to a greater population. Nevertheless, as the topics emerged from the quantitative data, the researcher is confident that the attitudes and beliefs of the focus group participants were congruent with the study sample as a whole. However, generalising to the greater population should be undertaken with caution.

### **6.1.2 Sampling techniques and bias**

The simple stratified sampling technique used to identify both government and privately administered aged care facilities, in its self, is a robust probability sampling technique

(Sarantakos 2005). However, the possibility of sample bias within this research study cannot be ruled out. During the enlisting processes for this study the researcher observed that some of the aged care facilities were more willing to be involved in the study than others. The facilities that were motivated towards research and therefore keen to allow an independent researcher access to their administrative processes and staff, appeared to be more accepting of the study. The consequence of this is that the aged care facilities in this study may be more motivated than other aged care facilities towards implementing PUP & M research. Therefore, the PUP & M findings of this study are potentially the best PUP & M practices within the aged care sector. Nevertheless, the results suggest that there are areas for improvement from an organisational perspective and an individual practice standpoint.

## **6.2 THE RELATIONSHIP BETWEEN THE ORGANISATION AND THE AGED CARE NURSES' CLINICAL PRACTICE**

Bridging the 'evidence-practice' gap is not as simple as it may at first appear. The literature and the findings of this study reveal that although the body of evidence is increasing, the incorporation of non-recommended practices in PUP & M remains (Buss et al. 2004; Sharp et al. 2000). Furthermore, in some cases, such as rubbing bony prominences, the resolve by the aged care nurse, particularly the UHCW, to continue is strong (Buss et al. 2004). However, it is not only the use of unsupported practices that raise concern, but also the poor utilisation of a number of recommended PUP & M practices. The progress made in PUP & M, particularly in the acute care sector, is encouraging. Nevertheless, there is scope for improvement.

The findings of this study have empirically established a relationship between the aged care organisation's PUP & M implementation strategies and the PUP & M practices of the

aged care nurse. This relationship is a significant motivator for change as organisational management has confidence that the implementation of organisational PUP & M strategies positively influences the aged care nurses' PUP & M interventions. The researcher suggests that it is imperative that both the organisation and the nurse do not lose sight of the benefits that stem from the utilisation of EBP in PUP & M. For it is the knowledge that best practice interventions provide positive outcomes for the resident, clinician and the organisation that create and sustain the impetus for change.

Change is not always a simple process (Rogers 1983, p. 1), nevertheless in many instances it is necessary. The variances established both in the aged care nurses' PUP & M practice and the aged care organisation's PUP & M implementation strategies suggest that change is essential. The aim in PUP & M, as in healthcare in general, is not to be good, but to be excellent (Studer 2003, p. 45). In this example the difference between good and excellent PUP & M practices is the potential reduction in pressure ulcer incidents and therefore, potential litigation (Coble Voss et al. 2005) and resident suffering (Gunes 2008). The researcher suggests that the following recommendations will assist to increase EBP in PUP & M and therefore, achieve improved PUP & M outcomes within the aged care sector.

### **6.3 RECOMMENDATIONS**

The subsequent recommendations concern three categories of people that are potential enablers of change in PUP & M: the Australian Governments, the aged care organisation/management and the aged care nurse.



### **6.3.1 Australian Governments**

- A revision of the Aged Care Standards and Service Criteria to ensure that contents reflect discrete PUP & M practices. The linking of PUP & M practices to aged care funding will promote EBP across the aged care organisation.
- Augment consultative processes with the national wound care associations concerning how as a nation we can best relieve the burden of chronic wounds, such as pressure ulcers, for the elderly.
- Earnestly consider subsidising the private Wound Management Nurse, as already exists with allied health, when consulting with the wounded elderly.
- Commence pressure ulcer reporting across the private aged care organisations so as to increase accountability and also to highlight the extent of pressure ulcer prevalence in this sector.
- Increase the exposure of pressure ulcer prevalence by ensuring PUP & M research in the private aged care sector is a priority.

### **6.3.2 Aged care organisations/management**

- Formally incorporate evidence based PUP & M in the goals and objectives of the organisation.
- Ensure all-inclusive and discrete evidence based PUP & M policies and procedures exist and are disseminated to all aged care facilities.
- Plan to be a 'Change Agent' and utilise a strategic implementation process to ensure PUP & M policies are instigated across all aged care facilities.

- Evaluate the initial and ongoing resources (including staffing levels) required for evidence based PUP & M. Furthermore, strategise and plan how to provide these requirements.
- Instigate comprehensive audits involving PUP & M strategies. Furthermore, utilise the findings of these audits to direct resources, funding and improvements.
- Consider funding six monthly to yearly PUP & M education sessions for all staff members at the coalface.
- Structure orientation programs for staff members at the coalface to include PUP & M and the organisation's expectations in this domain.
- Implement a yearly competency for UHCWs in pressure ulcer preventative procedures and documentation.
- Increase the LHCWs accountability by implementing a yearly competency in pressure ulcer assessment, management and documentation.
- Improve PUP & M documentation by providing PUP & M pathways that are quick and easy to instigate. Predefined procedures requiring a tick for confirmation could be considered.
- Implement the funded position of a wound care resource nurse available throughout all associated aged care facilities.
- Seek to utilise a private Wound Care Nurse for wound consultations, particularly for the more difficult to heal wounds, and education purposes.

- Consider how the increase in UHCWs and the decrease in LHCWs will affect PUP & M practices within aged care facilities. Furthermore, plan to maintain evidence based PUP & M under these circumstances.

### **6.3.3 The aged care nurse**

- Utilise the nursing process when implementing PUP & M strategies.
- Take responsibility for ensuring PUP & M practices are evidence based. Attending education sessions, consulting with wound care champions or joining a wound care association can achieve this.
- Take on the mantra of a wound care ‘champion’. In this role utilise EBP in wound management to petition colleagues and aged care management to review and change unsupported PUP & M practices.

The main expectations that emerge from this study are that the Australian Governments step up and ensure PUP & M is a priority for the aged care sector by including it in the Aged Care Service Criteria. In addition, aged care management need to incorporate PUP & M in the goals and objectives of the organisation, ensuring evidence based PUP & M is strategically implemented throughout the associated aged care facilities.

## **6.4 CONCLUSION**

Pressure ulcers are a real concern. They cause endless pain, they isolate and they are costly (Bennett, Dealey & Posnett 2004; Hopkins et al. 2006). Therefore, it is necessary for healthcare organisations and individuals to do whatever it takes to prevent pressure ulcers. Australia’s elderly population is increasing and with increasing age comes an increased risk of pressure ulcer incidence (Carville 2005; Dealey 1999). This study has established

the varied PUP & M practices across seven aged care facilities in Southern Queensland, including the barriers and enablers to evidence based PUP & M. However, perhaps more significantly, a positive relationship between the aged care organisational PUP & M strategies and the aged care nurses' practice was revealed. With this knowledge organisations can now have some assurance that evidence based PUP & M strategies will achieve evidence based PUP & M at the coalface.

The challenges for the aged care organisation is to identify implementation strategies that negate the inhibitors of evidence based PUP & M and enable best practice. The recommendations emerging from this study will assist the aged care organisation to achieve this. In 1781 Benjamin Franklin (cited in Rogers 1983) identified the enormity of this change process:

To get the bad customs of a country changed and new ones, though better, introduced, it is necessary first to remove the prejudices of the people, enlighten their ignorance, and convince them that their interests will be promoted by the proposed changes; and this is not the work of a day.

However, for all the aged care residents, it is essential to begin.

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## Appendix A: The Aged Care Standards and Service Criteria

Standard	Service Criteria
1. Management Systems, Staffing and Organisational Development.	1.1 Continuous Improvement 1.2 Regulatory Compliance 1.3 Education and Staff Development 1.4 Comments and Complaints 1.5 Planning and Leadership 1.6 Human Resource Management 1.7 Inventory and Equipment 1.8 Information Systems 1.9 External Services
2. Health and Personal Care	2.1 Continuous Improvement 2.2 Regulatory Compliance 2.3 Education and Staff Development 2.4 Clinical Care 2.5 Specialised Nursing Care Needs 2.6 Other Health and Related Services 2.7 Medication Management 2.8 Pain Management 2.9 Palliative Care 2.10 Nutrition and Hydration 2.11 Skin Care 2.12 Continence Management 2.13 Behavioural Management 2.14 Mobility, Dexterity and Rehabilitation 2.15 Oral and Dental Care 2.16 Sensory Loss 2.17 Sleep
3. Resident Lifestyle	3.1 Continuous Improvement 3.2 Regulatory Compliance 3.3 Education and Staff Development 3.4 Emotional Support 3.5 Independence 3.6 Privacy and Dignity 3.7 Leisure, Interests and Activities 3.8 Cultural and Spiritual Life 3.9 Choice and Decision-Making 3.10 Resident Security of Tenure and Responsibilities
4. Physical Environment and Safe Systems	4.1 Continuous Improvement 4.2 Regulatory Compliance 4.3 Education and Staff Development 4.4 Living Environment 4.5 Occupational, Health and Safety 4.6 Fire, Security and Other Emergencies 4.7 Infection Control 4.8 Catering, Cleaning and Laundry Services

Department of Health and Aging 2008. Residential Care Manual  
<http://www.health.gov.au/internet/main/publishing.nsf/Content/ageing-manuals-rcm-rcmindx1.htm~ageing-manuals-rcm-rcmindx112.htm>

## Appendix B: CQUniversity and The Royal Brisbane and Women's Hospital & Health Service District ethical approval

MEMORANDUM  
From the Office of Research



Secretary, Human Research Ethics Committee  
Ph: 07 4922 2603  
Fax: 07 4922 2600  
Email: [ethics@cqu.edu.au](mailto:ethics@cqu.edu.au)

28 July 2006

Debra Harcourt  
67 Figbird Cres  
Buderim 4556

Dear Ms Harcourt,

HUMAN RESEARCH ETHICS COMMITTEE  
ETHICAL APPROVAL  
PROJECT: H06/04-31, *THE EVALUATION OF ADHERANCE TO THE  
RECOMMENDED PRESSURE ULCER GUIDELINES WITHIN THE AGED CARE  
SECTOR.*

The Human Research Ethics Committee is an approved institutional ethics committee constituted in accord with guidelines formulated by the National Health and Medical Research Council (NHMRC) and governed by policies and procedures consistent with principles as contained in publications such as the joint Australian Vice-Chancellors' Committee and NHMRC *Statement and Guidelines on Research Practice*.

On 28 July 2006 the Human Research Ethics Committee of Central Queensland University acknowledged your compliance to the conditions placed on your ethics approval for the research project *The evaluation of adherence to the recommended pressure ulcer guidelines within the aged care sector*.

The Committee notes that you are still awaiting approval from RBWH. Please advise the HREC Secretary of the outcome of your approval application and provide a copy of that approval for your file.

The period of ethics approval is 28 July 2006 to 31 January 2007. The approval number is H06/04-31, please quote this number in all dealings with the Committee.

The standard conditions of approval for this research project are that:

- (a) you conduct the research project strictly in accordance with the proposal submitted and granted ethics approval, including any amendments required to be made to the proposal by the Human Research Ethics Committee;
- (b) you report immediately anything which may warrant review of ethics approval of the project, including:
  - (i) serious or unexpected adverse effects on participants;
  - (ii) proposed changes in the protocol;
  - (iii) unforeseen events that might affect continued ethical acceptability of the project;

(A written report detailing the adverse occurrence or unforeseen event must be submitted to the Committee Chair within one working day after the event.)

- (c) you provide the Human Research Ethics Committee with a written “Annual Report” by no later than 28 February each calendar year and “Final Report” by no later than one (1) month after the approval expiry date;

(A copy of the reporting pro formas may be obtained from the Human Research Ethics Committee Secretary, Sharyn Mitchell please contact at the telephone or email given on the first page.)

- (d) if the research project is discontinued, advise the Committee in writing within five (5) working days of the discontinuation;
- (e) you make submission to the Human Research Ethics Committee for approval of any proposed variations or modifications to the approved project before making any such changes;
- (f) you comply with each and all of the above conditions of approval and any additional conditions or any modification of conditions which may be made subsequently by the Human Research Ethics Committee;
- (f) you advise the Human Research Ethics Committee (email: [ethics@cqu.edu.au](mailto:ethics@cqu.edu.au)) immediately if any complaints are made, or expressions of concern are raised, in relation to the project.

Please note that failure to comply with the conditions of approval and the *National Statement on Ethical Conduct in Research Involving Humans* may result in withdrawal of approval for the project.

You are required to advise the Secretary in writing within five (5) working days if this project does not proceed for any reason. In the event that you require an extension of ethics approval for this project, please make written application in advance of the end-date of this approval. The research cannot continue beyond the end date of approval unless the Committee has granted an extension of ethics approval. Extensions of approval cannot be granted retrospectively. Should you need an extension but not apply for this before the end-date of the approval then a full new application for approval must be submitted to the Secretary for the Committee to consider.

The Human Research Ethics Committee wishes to support researchers in achieving positive research outcomes. If you have issues where the Human Research Ethics Committee may be of assistance please do not hesitate to contact the Secretary, Sharyn Mitchell or myself.

Yours sincerely,



Associate Professor Ken Purnell  
Chair, Human Research Ethics Committee

Cc: Project File  
Wendy Madsen, Kerry Reid-Searl

Category A



**Queensland  
Government**

**Royal Brisbane & Women's Hospital & Health Service District  
Office of the Human Research Ethics Committees**

25 August 2006

Mrs Debra Harcourt  
67 Figbird Crescent  
BUDERIM QLD 4556

Dear Mrs Harcourt

**PROTOCOL 2006/082: THE EVALUATION OF THE ADHERENCE TO THE RECOMMENDED  
PRESSURE ULCER GUIDELINES WITHIN THE AGED CARE SECTOR**

At a meeting of the Royal Brisbane & Women's Hospital Human Research Ethics Committee held on 19 June 2006, the Committee reviewed the above Protocol. The Royal Brisbane & Women's Hospital Human Research Ethics Committee is duly constituted, and operates and complies with the National Health and Medical Research Council's 'National Statement on Ethical Conduct in Research Involving Humans and Supplementary Notes, 1999'. The Chairperson of the HREC reviewed your further correspondence on 25 August 2006.

The RBWH Human Research Ethics Committee now recommends approval of the following documents:

- **Protocol (Module 1) dated 10 April 2006**
- **Research Proposal Version 1**
- **Focus Group Information Letter dated 13 July 2006**
- **Audit Information Letter dated 24 August 2006**
- **Focus Group Flyer**
- **Questionnaire Information Letter dated 10 July 2006**
- **Staff Questionnaire Version 1 dated 30 March 2006**
- **Audit document Version 1 dated 3 April 2006**
- **Clinical Guidelines for Prevention and Management of Pressure Ulcers Version 1 dated 29 March 2006**
- **Audit Indicators for the Prevention and Management of Pressure Ulcers Version 1 dated 29 March 2006**
- **Pressure Risk Attachment Version 1 dated 29 March 2006**
- **Summary - Pressure Risk Attachment Version 1 dated 3 April 2006**

During the conduct of the study you are required to adhere to the following conditions:

- If recruitment has not commenced within 12 months, please advise the Coordinator, HREC.
- Prior to commencing the research, you must obtain approval from the District Manager of the Sunshine Coast Health Service District. To facilitate this, please take the attached memorandum and a copy of the protocol and related documents to the District Manager's office. Once the memorandum is signed all documents will be returned to you so that you will have a record of the District Manager's approval on your file. Could you please then send a copy of the signed memorandum to this office for our records.
- The enclosed Approval Package contains a number of forms you will be required to use when submitting reports to the Committee.

Office	Postal	Phone	Fax
Herston Rd Herston Q 4029	Post Office Herston Queensland 4029 Australia	07 3636 5490 ISD + 61 7 3636 5490	07 3636 7800



- All investigations must be carried out according to the "Declaration of Helsinki 2000" as subsequently modified and the latest statement by the National Health and Medical Research Council on Human Experiments and on Scientific Practice. Should a copy of the 'Declaration of Helsinki 2000' as subsequently modified be required, please request a copy from the Coordinator, Human Research Ethics Committee.
- All forms required when submitting reports to the HREC are accessible on the Herston Intranet. In the first instance please access the Commencement Form and return to this office when the study commences. Please contact the Coordinator if you do not have access to this site.
- You are required to provide a report on any pilot study and the outcome of the study at the completion of the trial or **annually** if the trial continues for more than 12 months.
- If any subsequent change/amendment is made to the protocol it will be necessary for you to obtain approval from the Human Research Ethics Committee. In addition a summary of the amendments and a comment is required from the Principal Investigator. All amended documents must contain revised version numbers, version dates and page numbers. Changes must be highlighted using Microsoft Word "Track Changes" or similar. Please contact the HREC Coordinator if assistance is required.
- Serious Adverse Events must be notified to the Committee as soon as possible. In addition the Investigator must provide a summary of the adverse events, in the specified format, including a comment as to suspected causality and whether changes are required to the Patient Information and Consent Form.
- If the results of your protocol are to be published, an appropriate acknowledgment of the Hospital should be contained in the article. Copies of all publications resulting from the study should be submitted to the Human Research Ethics Committee.
- Please ensure that a copy of any publication that results from this protocol is also forwarded to the Herston Medical Library for future reference.
- The Hospital administration and the Human Research Ethics Committee may inquire into the conduct of any research or purported research, whether approved or not and regardless of the source of funding, being conducted on hospital premises or claiming any association with the Hospital; or which the Committee has approved if conducted outside the Royal Brisbane & Women's Hospital Health Service District. This may include consultation with the Principal Investigator and/or a visit to the research site by a member of the HREC and/or Coordinator of the HREC.

Should you have any problems, please liaise directly with the Chairperson of the Human Research Ethics Committee early in your program.

We wish you every success in undertaking this research.

Yours faithfully

*Terhi Lake*

for **Clinical CEO**

Royal Brisbane and Women's Hospital  
Health Service District

I wish to acknowledge receipt of approval to undertake the abovementioned trial subject to all the above conditions as stated being met.

*[Signature]*

SIGNATURE

*28.8.06*

DATE

Please return one signed copy to: The Coordinator, HREC, Level 7, Block 7, RBWH

c.c. Ms Wendy Madsen, Locked Bag 3333, Bundaberg QLD 4670

Office	Postal	Phone	Fax
Herston Rd Herston Q 4029	Post Office Herston Queensland 4029 Australia	07 3636 5490 ISD + 61 7 3636 5490	07 3636 7800

## Appendix C: Information Letters and Consent Forms for the Questionnaire, Focus Group and Audit



### **The Evaluation of the Adherence to the Recommended Pressure Ulcer Guidelines within the Aged Care Sector.**

#### **Questionnaire Information Letter**

Principal Researcher: Debra Harcourt (Ph: 0400 56 1943)

---

This Participant Information and Consent Form is a **4**-page document. Please make sure you have all the pages. **Please return the last page with the questionnaire.**

#### **Your Consent**

You are invited to take part in this research project. This Participant Information contains detailed information about the research project. Its purpose is to explain to you as openly and clearly as possible all the procedures involved in this project before you decide whether or not to take part in it.

Please read this participant information carefully. Feel free to ask questions about any information in the document. You may also wish to discuss the project with a relative or friend or your mentor. Feel free to do this.

Once you understand what the project is about and if you agree to take part in it, you will be asked to sign the Consent Form. By signing the Consent Form, you indicate that you understand the information and that you give your consent to participate in the survey.

#### **Purposes and Background**

The purpose of this project is to establish a process of adherence by staff to the recommended pressure ulcer prevention and management guidelines in aged care facilities. A total of 450 people will be invited to participate in this stage of the project. Previous research has shown that characteristics of implementation strategies for clinical guidelines can facilitate or inhibit staff implementing these guidelines. The objectives of this study are:

- To identify the guidelines and tools the aged care organisations use in pressure ulcer management.
- To evaluate the current use of these guidelines.
- To gain an understanding of current, individual pressure ulcer prevention and management practices.
- To establish the barriers that inhibits the implementation of pressure ulcer prevention and management guidelines.



This study will form the research component of the post-graduate degree of Debra Harcourt.

### **Procedures**

Participation in this project will involve completing a four-page questionnaire on pressure ulcer prevention and management. The questionnaire is divided into 3 sections; the first section contains questions that explore the procedures and protocols for prevention and management of pressure ulcers within aged care facilities. The second section explores your practice in pressure ulcer prevention and management and the third section contains demographic questions. It is important for this research to be useful that you fill in all questions. The first and second sections require you to choose if you agree or disagree with the statement. This is achieved by placing a tick in the circle, which best represents your opinion. The third section contains multiple-choice questions.

It is envisaged that it will take between **20 to 30 mins** to complete. When you have completed the questionnaire please place the last page of the consent form and the questionnaire in the envelope provided and mail at your earliest convenience. All aged care staff involved with the nursing care of residents in four aged care organisations on the Sunshine Coast of Queensland were invited to be part in this research project.

### **Possible Benefits**

- The identification of current pressure ulcer prevention and management practices within the aged care sector.
- The identification of factors that facilitate or hinder the implementation of guidelines.
- Documentation of a framework for clinical guideline implementation.

### **Possible Risks**

The possible risk associated with this study is that you may reflect on a personal experience in which a negative experience was associated with pressure ulcer prevention or management. This may cause you personal distress. You can suspend or end participation in the survey at any point if distress occurs.

In the event that you do experience personal distress and require counselling please contact the principal researcher (0400 56 1943).

### **Privacy, Confidentiality and Disclosure of Information**

Any information obtained in connection with this project and that can identify you will remain confidential. It will only be disclosed with your permission. If you give us your permission by signing the Consent Form, we plan to publish the results with leading international and national medical journals. The points following outline how hard copy information will be stored to ensure privacy and confidentiality.

Consent forms and completed questionnaires will be kept in a locked filing cabinet in the research investigators office for a period of five years and is only available to the research investigator. After five years these will be destroyed.

No identifying information about individual participants will be disclosed.

Participants will be de-identified in any reports including the dissemination of results.

Should direct quotes be included, pseudonyms will be used. Any demographic data collected from participants who are not selected for the study will be destroyed.

On entering data into the statistical program participants will be de-identified.

## **Results of Project**

Outcomes will be forwarded for publishing to leading International and National journals. Attempts will be made to present research and findings at the National Wound Conference.

A section is attached to the consent form that you may fill in if you wish to receive a copy of the results. This will then be secured separately from the consent form. A plain English copy of the results will be delivered to you at the completion of the study.

## **Further Information or Any Problems**

If you require further information or if you have any problems concerning this project you can contact the principal researcher. The researcher responsible for this project is Debra Harcourt (Tel: 0400 56 1943)

## **Other Issues**

If you have any complaints about any aspect of the project, the way it is being conducted or any questions about your rights as a research participant, then you may contact

Name: Wendy Madsen (BA, RN, MHSc)

Position: Primary Supervisor Telephone: 07 41507031

Or CQUniversity's Office of Research (Tel 07 4923 2607)

You will need to tell them the name of the researcher and project title.

## **Participation is Voluntary**

Participation in any research project is voluntary. If you do not wish to take part you are not obliged to. If you decide to take part and later change your mind, you are free to withdraw from the project at any stage.

Your decision whether to take part or not to take part, or to take part and then withdraw, will not affect your relationship with your employer.

Before you make your decision, Debra Harcourt will be available to answer any questions you have about the research project. You can ask for any information you want. You can contact Debra Harcourt on 0400 56 1943. Sign the Consent Form only after you have had a chance to ask your questions and have received satisfactory answers.

## **Ethical Guidelines**

This project will be carried out according to the *National Statement on Ethical Conduct in Research Involving Humans* (June 1999) produced by the National Health and Medical Research Council of Australia. The Human Research Ethics Committee of CQU has approved the ethical aspects of this research project.

## QUESTIONNAIRE CONSENT FORM

### **‘The Evaluation of the Adherence to the Recommended Pressure Ulcer Guidelines within the Aged Care Sector’**

*Principal Researcher: Debra Harcourt 0400 56 1943*

I hereby agree to participate in a research project explained to me by the researcher in an introductory letter. I understand that I am to participate in a questionnaire in which my experiences in pressure ulcer prevention and management within the aged care setting will be sought. I acknowledge that my privacy will be protected and that I am free to withdraw from the study at anytime.

I understand that:

- any information that I provide will not be made public in any form that could reveal my identity to an outside party i.e. I remain anonymous.
- I am free to withdraw my consent at any time during the study without penalty or prejudice.
- I have had the opportunity to discuss this study and I am satisfied with the answers I have been given.
- I know who to contact if I have any questions about the study.

*If you have any concerns about the way in which this research has been conducted please contact CQUniversity's Office of Research (Tel 07 4923 2607).*

Name.....Date    /    /2006

Participant's signature.....

---

If you would like to obtain a copy of the outcomes of this project please fill out your contact details below:

Name.....

Mailing Address.....

**OR**

E-mail:.....

# Focus Group

## **Dear Colleague**

The next stage of this research is to gain ideas and opinions on pressure ulcer prevention and management from the people who are caring for residents within aged care facilities. By taking the key points highlighted in the questionnaire data and discussing these within a focus group format I hope to achieve this. It is envisaged that focus groups will run for approximately 30 minutes.

If you are interested in talking with the principal researcher about taking part in a focus group please return this page with your questionnaire. Alternatively you can contact the principal researcher on 0400561943.

By expressing interest in this process the principal researcher will contact you for further discussions.

My contact telephone number or email address is: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

***Thank you.***

*Debra Harcourt (Principal researcher).*

# **The Evaluation of the Adherence to the Recommended Pressure Ulcer Guidelines within the Aged Care Sector.**

## **Focus Group Information Letter**

Principal Researcher: Debra Harcourt (Ph: 0400 56 1943)

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This Participant Information and Consent Form is a **4**-page document. Please make sure you have all the pages.

### **Your Consent**

You are invited to take part in this research project. This Participant Information contains detailed information about the research project. Its purpose is to explain to you as openly and clearly as possible all the procedures involved in this project before you decide whether or not to take part in it.

Please read this Participant Information carefully. Feel free to ask questions about any information in the document. You may also wish to discuss the project with a relative or friend or your mentor. Feel free to do this.

Once you understand what the project is about and if you agree to take part in it, you will be asked to sign the Consent Form. By signing the Consent Form, you indicate that you understand the information and that you give your consent to participate in the focus group.

### **Purposes and Background**

The purpose of this project is to establish a process of adherence by staff to the recommended pressure ulcer prevention and management guidelines in aged care facilities. A total of 42 people will participate in this project.

Previous research has shown that characteristics of implementation strategies for clinical guidelines can facilitate or inhibit staff implementing these guidelines. The objectives of this study are:

- To identify the guidelines and tools the aged care organisations use in pressure ulcer management.
- To evaluate the current use of these guidelines.
- To gain an understanding of current, individual pressure ulcer management practices.
- To establish the barriers that inhibits the implementation of pressure ulcer management guidelines.

This study will form the research component of the post-graduate degree of Debra Harcourt.

### **Procedures**

You would have already completed a four-page questionnaire on pressure ulcer prevention and management. The next part of this research is to gain ideas and opinions on pressure ulcer prevention and management from the people who are caring for residents within aged care facilities. Taking the key points highlighted in the questionnaire data and discussing these within a focus group format will achieve this. It is envisaged that focus groups will run for 30-60 minutes. The conversations will be audio taped and these

audiotapes will be analysed looking for areas of agreement and disagreement with the questionnaire results.

### **Possible Benefits**

- The identification of current pressure ulcer prevention and management practices within the aged care sector.
- The identification of factors that facilitate or hinder the implementation of guidelines.
- Documentation of a framework for clinical guideline implementation.

### **Possible Risks**

The possible risk associated with this study is that you may reflect on a personal experience in which a negative experience was associated with pressure ulcer prevention or management. This may cause you personal distress. You can suspend or end participation in the focus group at any point if distress occurs.

In the event that you do experience personal distress and require counselling please contact the principal researcher and a recognised counsellor will provide counselling. There may be additional unforeseen or unknown risks.

### **Privacy, Confidentiality and Disclosure of Information**

Any information obtained in connection with this project and that can identify you will remain confidential and will only be disclosed with your permission. If you give us your permission by signing the Consent Form, we plan to publish the results with leading international and national medical journals. The points following outline how hard copy information will be stored to ensure privacy and confidentiality.

Audiotapes and consent forms will be kept in a locked filing cabinet in the principal researchers office for a period of five years and will only be available to the principal researcher. After five years these will be destroyed.

No identifying information about individual participants will be disclosed.

Participants will be de-identified in any reports including the dissemination of results.

Should direct quotes be included, pseudonyms will be used.

Any demographic data collected from participants who are not selected for the study will be destroyed.

### **Results of Project**

Outcomes will be forwarded for publishing to leading international and national journals. Attempts will be made to present research and findings at the AWMA National Wound Conference.

### **Further Information or Any Problems**

If you require further information or if you have any problems concerning this project you can contact the principal researcher. The researcher responsible for this project is Debra Harcourt (Tel: 0400 56 1943)

### **Other Issues**

Should you wish to discuss the study with someone not directly involved, in particular in relation to matters concerning policies, information about the conduct of the study or your rights as a participant, or should you wish to make an independent complaint, you may contact in the first instance the Coordinator, Royal Brisbane and Women's Hospital Human Research Ethics Committee, Butterfield Street, Herston Queensland 4029 or telephone (07) 3636 5490 or email [RBWH-Ethics@health.qld.gov.au](mailto:RBWH-Ethics@health.qld.gov.au) <<mailto:RBWH-Ethics@health.qld.gov.au>>

You will need to tell them the name of the researcher and project title.

### **Participation is Voluntary**

Participation in this research project is voluntary. If you do not wish to take part you are not obliged to. If you decide to take part and later change your mind, you are free to withdraw from the project at any stage.

Your decision whether to take part or not to take part, or to take part and then withdraw, will not affect your relationship with your employer.

Before you make your decision, Debra Harcourt is available to answer any questions you have about the research project. You can ask for any information you want. Sign the Consent Form only after you have had a chance to ask your questions and have received satisfactory answers. If you decide to withdraw from this project, please notify Debra Harcourt (0400 56 1943).

### **Ethical Guidelines**

This project will be carried out according to the *National Statement on Ethical Conduct in Research Involving Humans* (June 1999) produced by the National Health and Medical Research Council of Australia. This statement has been developed to protect the interests of people who agree to participate in human research studies.

The Human Research Ethics Committee of RBWH and CQU have reviewed and approved the ethical aspects of this research project.

# CONSENT FORM

## Focus Group

### **‘The Evaluation of the Adherence to the Recommended Pressure Ulcer Guidelines within the Aged Care Sector’**

Principal Researcher: Debra Harcourt (0400 56 1943)

I hereby agree to participate in this research project explained to me by the researcher. I understand that I am to participate in a focus group in which my experiences in pressure ulcer prevention and management within the aged care setting will be sought and that an audiotape of the focus group discussion will be made. I acknowledge that my privacy will be protected and that I am free to withdraw from the study at anytime.

I understand that:

- Any information that I provide will not be made public in any form that could reveal my identity to an outside party i.e. I remain anonymous.
- I am free to withdraw my consent at any time during the focus group without penalty or prejudice.
- I have had the opportunity to discuss this study and I am satisfied with the answers I have been given.
- I know who to contact if I have any questions about the study.
- I agree that all information obtained or discussed within the focus group will remain confidential and not be discussed or disclosed outside of this focus group.

*If you have any concerns about the way in which this research has been conducted please contact Royal Brisbane and Women’s Hospital Human Research Ethics Committee, Butterfield Street, Herston Queensland 4029 or telephone (07) 3636 5490 or email [RBWH-Ethics@health.qld.gov.au](mailto:RBWH-Ethics@health.qld.gov.au) <<mailto:RBWH-Ethics@health.qld.gov.au>>*

Name.....Date / /2006

Participant’s signature.....



# **The Evaluation of the Adherence to the Recommended Pressure Ulcer Guidelines within the Aged Care Sector.**

## **Audit Information Letter**

Principal Researcher: Debra Harcourt (Ph: 0400 56 1943)

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This Participant Information and Consent Form is a **4**-page document. Please make sure you have all the pages.

### **Your Consent**

You are invited to take part in this research project. This Participant Information contains detailed information about the research project. Its purpose is to explain to you as openly and clearly as possible all the procedures involved in this project before you decide whether or not to take part in it.

Please read this Participant Information carefully. Feel free to ask questions about any information in the document. You may also wish to discuss the project with a relative or friend or your local health worker. Feel free to do this.

Once you understand what the project is about and if you agree to take part in it, you will be asked to sign the Consent Form. By signing the Consent Form, you indicate that you understand the information and that you give your consent to participate in the research project.

### **Purposes and Background**

The purpose of this project is to establish a process of adherence by staff to the recommended pressure ulcer prevention and management guidelines in aged care facilities. A total of 10 residents at each of the seven aged care facilities will be invited to participate in this stage of the project. Previous research has shown that characteristics of implementation strategies for clinical guidelines can facilitate or inhibit staff implementing these guidelines. The objectives of this study are:

- To identify the guidelines and tools the aged care organisations use in pressure ulcer management.
- To evaluate the current use of these guidelines.
- To gain an understanding of current, individual pressure ulcer prevention and management practices.
- To establish the barriers that inhibits the implementation of pressure ulcer prevention and management guidelines.

This study will form the research component of the post-graduate degree of Debra Harcourt.

### **Procedures**

Participation in this project will involve completing a consent form, which will give permission for Debra Harcourt (Principal researcher) to use your medical records in an audit process.

### **Possible Benefits**

- The identification of current pressure ulcer prevention and management practices within the aged care sector.
- The identification of factors that facilitate or hinder the implementation of guidelines.
- Documentation of a framework for clinical guideline implementation.

### **Possible Risks**

It is unlikely that any harm can occur from auditing of medical records but there may be unforeseen or unknown risks.

You can suspend or end participation in the audit at any point if distress occurs.

### **Privacy, Confidentiality and Disclosure of Information**

Any information obtained in connection with this project and that can identify you will remain confidential. It will only be disclosed with your permission, except as required by law. If you give us your permission by signing the Consent Form, we plan to publish the results with leading international and national medical journals. The points following outline how hard copy information will be stored to ensure privacy and confidentiality.

Consent forms and completed audits will be kept in a locked filing cabinet in the research investigators office for a period of five years and are only available to the research investigator. After five years these will be destroyed.

No identifying information about individual participants will be disclosed.

Participants will be de-identified in any reports including the dissemination of results.

Should direct quotes be included, pseudonyms will be used. Any demographic data collected from participants who are not selected for the study will be destroyed.

On entering data into the statistical program participants will be de-identified.

### **Results of Project**

Outcomes will be forwarded for publishing to leading international and national journals. Attempts will be made to present research and findings at the AWMA National Wound Conference.

### **Further Information or Any Problems**

If you require further information or if you have any problems concerning this project you can contact the principal researcher. The researcher responsible for this project is Debra Harcourt (Tel: 0400 56 1943)

### **Other Issues**

Should you wish to discuss the study with someone not directly involved, in particular in relation to matters concerning policies, information about the conduct of the study or your rights as a participant, or should you wish to make an independent complaint, you may contact in the first instance the Coordinator, Royal Brisbane and Women's Hospital Human Research Ethics Committee, Butterfield Street, Herston Queensland 4029 or telephone (07) 3636 5490 or email [RBWH-Ethics@health.qld.gov.au](mailto:RBWH-Ethics@health.qld.gov.au) <<mailto:RBWH-Ethics@health.qld.gov.au>>

You will need to tell them the name of the researcher and project title.

### **Participation is Voluntary**

Participation in any research project is voluntary. If you do not wish to take part you are not obliged to. If you decide to take part and later change your mind, you are free to withdraw from the project at any stage.

Your decision whether to take part or not to take part, or to take part and then withdraw, will not affect your routine treatment, your relationship with those treating you or your relationship with your employer.

Before you make your decision, Debra Harcourt will be available to answer any questions you have about the research project. You can ask for any information you want. Sign the Consent Form only after you have had a chance to ask your questions and have received satisfactory answers.

If you decide to withdraw from this project, please notify Debra Harcourt (0400 56 1943).

### **Ethical Guidelines**

This project will be carried out according to the *National Statement on Ethical Conduct in Research Involving Humans* (June 1999) produced by the National Health and Medical Research Council of Australia. This statement has been developed to protect the interests of people who agree to participate in human research studies.

The Human Research Ethics Committee of RBWH and CQU has reviewed and approved the ethical aspects of this research project.

AUDIT CONSENT FORM

**‘The Evaluation of the Adherence to the Recommended Pressure Ulcer Guidelines  
within the Aged Care Sector’**

*Principal Researcher: Debra Harcourt 0400 56 1943*

I hereby agree to participate in a research project explained to me by the researcher in an introductory letter. I understand that I am to participate in an audit in which my medical record will be viewed. I acknowledge that my privacy will be protected and that I am free to withdraw from the study at anytime.

I understand that:

- any information that I provide will not be made public in any form that could reveal my identity to an outside party i.e. I remain anonymous.
- I am free to withdraw my consent at any time during the study without penalty or prejudice.
- I have had the opportunity to discuss this study and I am satisfied with the answers I have been given.
- I know who to contact if I have any questions about the study.

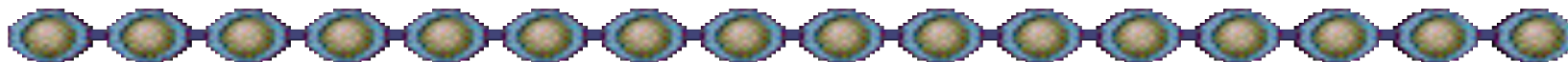
*If you have any concerns about the way in which this research has been conducted please contact Royal Brisbane and Women’s Hospital Human Research Ethics Committee, Butterfield Street, Herston Queensland 4029 or telephone (07) 3636 5490 or email [RBWH-Ethics@health.qld.gov.au](mailto:RBWH-Ethics@health.qld.gov.au) <<mailto:RBWH-Ethics@health.qld.gov.au>>*

Name.....Date    /    /2006

Participant’s signature.....

## Appendix D: Questionnaire Tool

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### **The Evaluation of the Adherence to the Recommended Pressure Ulcer Guidelines within the Aged Care Sector.**



#### **Aged care: ‘Staff Questionnaire’**



#### **Instructions**

- This questionnaire is divided into three sections. Please complete all sections.
- Answer questions by placing a √ in the circle that best describes your opinion of the statement. Tick one circle per question.
- When all questions are answered please place questionnaire and consent form in the envelope provided.

**Thank you for completing this questionnaire.**

Adapted from Prentice, J ‘An Evaluation of Clinical Practice Guidelines for the Prediction and Prevention of Pressure Ulcers’, PhD Project, UWA, 2001.

Debra Harcourt 2009

## Section 1: Organisational

To what extent do you agree or disagree with each of the following statements as far as your place of employment is concerned?		Strongly Agree	Agree	Neither Agree or Disagree	Disagree	Strongly disagree
1	Guidelines for the prediction and prevention of pressure ulcers are available in your facility.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2	These guidelines are always accessible in your facility.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3	It is your facility's policy to conduct a pressure ulcer risk assessment on all new residents.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4	It is your facility's policy to evaluate the pressure ulcer risk to your existing residents on a regular basis as deemed appropriate for each individual.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5	You are provided with a pressure risk assessment tool/form to assist in predicting and preventing pressure ulcers.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6	Your facility audits the use of these pressure ulcer tools in a timely manner.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7	You are provided with results of these pressure ulcer tool audits.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8	Protocols for the treatment of all stages of pressure ulcers are always available to you.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9	There is a designated wound management resource person for your facility.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10	Your facility provides you with the pressure relieving/reducing equipment needed to assist in preventing pressure ulcers.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
11	Your facility has established repositioning protocols for residents at risk of pressure.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
12	There is enough time during a shift to provide pressure area care for all residents who require this.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
13	At the end of each shift you know all preventative skin and pressure reducing / relieving strategies required for residents in your care has been attended.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
14	Your facility requires you to report the occurrence of a pressure ulcer in a written format or report it to a nurse who does this.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
15	It is your facility's policy to accept new research findings in pressure ulcer prevention and treatment, implementing research findings at the ward level.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
16	Appropriate moist wound healing dressings are available to treat stage 3 and 4 pressure ulcers.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
17	If a resident develops a pressure ulcer your facility provides appropriate pressure relieving/reducing equipment for managing the ulcer.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
18	Your facility has a mattress maintenance and replacement program in place.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
19	Your facility has a manual handling education program that teaches staff how to move residents to avoid skin damage from the forces of shear and friction.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
20	Your facility provides education on the prediction, prevention and management of pressure ulcers for all staff involved in the residents care. (Licensed and unlicensed staff).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

## Section 2: Clinical Management

To what extent do you agree or disagree with each of the following statements as far as your nursing practice/care is concerned?		Strongly Agree	Agree	Neither Agree or Disagree	Disagree	Strongly disagree
1	I always use a pressure risk assessment tool to assess the pressure risk to a resident.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2	I find the pressure risk assessment form easy to use.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3	I always use a standard tool/form to assess the nutritional status of a new resident.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4	If a resident has a pressure ulcer I always assess their nutritional status.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5	I assist residents to move in their chair or bed upon their request only.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6	There is a nutritional program implemented for residents identified as having a nutritional deficit.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7	On turning a resident I always check the resident's pressure points for skin integrity.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8	When planning a repositioning regime I always consider the resident's skin tolerance to pressure.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9	All residents are repositioned according to a set facility schedule.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10	I use pillows or foam to elevate the heels of bed-bound residents off the bed at every turn.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
11	I always protect skin susceptible to shearing and friction with padding or a protective dressing.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
12	I tilt the foot and elevate the head of a resident's bed to relieve heel pressure.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
13	I often replace a dressing on a pressure ulcer without completing an assessment of the wound.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
14	All residents considered to be at risk of pressure ulcers are on a pressure-relieving surface.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
15	I always use pressure-relieving devices on chairs for those who sit out for extended periods of time.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
16	I always document when and how I provide pressure care for a resident.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
17	I encourage ambulatory residents to mobilise on a regular basis.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
18	I educate residents on the importance of mobilising and frequent position changes.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
19	I regularly consult with a wound management specialist on the management of a pressure ulcer.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
20	When a resident has a pressure ulcer I assess the wound and surrounding skin before continuing with a dressing regime.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
21	The resident's doctor decides on the treatment of the ulcer and I only do the dressing.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
22	I rub the heels and buttocks of residents as a routine part of pressure area care that I provide.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
23	I only use my intuition and nursing experience to identify residents at risk of pressure ulcers.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

### Section 3: Demographics

1. What is your designation? ☐ Unlicensed aged care worker   ☐ EN   ☐ EN (Med)   ☐ RN level 1.   ☐ RN level 2.   ☐ RN level 3.  
(eg. AIN, PC)
2. How many years have you been working in aged care? ☐ 1-5yrs   ☐ 6-10yrs   ☐ 11-15yrs   ☐ over 15yrs
3. When was the last time you undertook education on pressure ulcer prevention and management?
- ☐ Never   ☐ Within 6 months   ☐ 6-12 months   ☐ 13-24 months   ☐ Over 2 years
4. Within your employment setting what constraints do you think *hinder* implementing of appropriate pressure ulcer prevention and management strategies? (Please tick all applicable responses)
- ☐ Lack of time
- ☐ Lack of resources (eg dressings, pressure reduction devices)
- ☐ The resident's request
- ☐ I am not sure what appropriate pressure ulcer prevention and management strategies are.
- ☐ Other (Please state) \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
5. Within your employment setting what do you think *facilitates* implementation of appropriate ulcer prevention and management strategies? (Please tick all applicable responses)
- ☐ Regular education
- ☐ A wound management facilitator
- ☐ Organisational procedures and policies
- ☐ Other (Please state) \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_

Thank you for participating in this survey. Your assistance will make a significant difference to the body of knowledge that exists regarding the prevention and management of pressure ulcers in aged care facilities.

Adapted from Prentice, J 'An Evaluation of Clinical Practice Guidelines for the Prediction and Prevention of Pressure Ulcers', PhD Project, UWA, 2001.



## Appendix E: Audit Tool

# Audit

**Facility** \_\_\_\_\_

**Audit topic:** Pressure Ulcer Prevention and Management.

**Date** \_\_\_\_\_

### Related standards:

- Clinical Practice Guidelines for the Prediction and Prevention of Pressure Ulcers, Australian Wound Management Association, 2001.
- Standards for Wound Management, Australian Wound Management Association, 2002.

**Audit objective:** To evaluate the systems aged care facilities use to prevent and manage pressure ulcers.

**Rationale:** Evaluation of pressure ulcer prevention and management systems will direct and guide the move towards best practice at the bedside.

**AUDITOR:** \_\_\_\_\_

**Section 1: Guidelines and audit indicators (page 203)**  
**Section 2: Audit indicators, activities and results (page 205)**  
**Section 3: Summary (page 223)**

**SIGNATURE:** \_\_\_\_\_

## Section 1: Guidelines and audit indicators

Clinical Guideline	Audit Indicators
A pressure risk assessment should be performed on admission, at regular intervals and following a change in health circumstances.	<p><b>1.0</b> 100% of new residents will have a pressure risk assessment.</p> <p><b>1.1</b> 100% of residents that experience an adverse health event or are considered 'at risk' of a pressure ulcer have a regular pressure risk assessment.</p> <p><b>1.2</b> 100% of residents who experience an adverse health event or are considered 'at risk' of a pressure ulcer have a regular nutritional assessment.</p>
All residents have a skin care management plan that aims to improve and maintain their tissues' tolerance to pressure.	<p><b>2.0</b> 100% usage of products that do not alter the skin's pH.</p> <p><b>2.1</b> 100% application of a daily moisturiser.</p> <p><b>2.2</b> 100% usage of interventions to encourage continence.</p> <p><b>2.3</b> 100% compliance to two hourly turning schedules for residents on a basic mattress.</p> <p><b>2.4</b> 100% skin inspection at least daily for 'at risk' residents.</p>
Elimination of shear and friction over bony prominences.	<p><b>3.0</b> 100% compliance to correct manual handling techniques.</p> <p><b>3.1</b> 100% application of protective dressings, padding or sheepskins to bony prominences.</p> <p><b>3.2</b> 100% of residents considered 'at risk' of a pressure ulcer will have the foot of their bed elevated 20 degrees when sitting and the head of their bed at the lowest possible position according to comfort and their medical condition.</p>
A resident who is assessed to be at risk' of developing pressure ulcers should be repositioned as frequently as their skin's tolerance to pressure indicates.	<p><b>4.0</b> 100% use of pillows and foams between bony prominences.</p> <p><b>4.1</b> 100% use of an individualised repositioning and turning schedule.</p> <p><b>4.2</b> 100% use of a pressure relieving support surfaces will be used for residents who are unable to tolerate a frequent turning regime or where two hourly turning regimes are inadequate.</p> <p><b>4.3</b> 100% of chair bound residents are moved every 15 to 60 minutes.</p> <p><b>4.4</b> 100% of resident considered 'at risk' of pressure ulcers are repositioned as frequently as their skin's tolerance to pressure dictates.</p> <p><b>4.5</b> 100% encouragement of residents to maximise their activity and mobilisation consistent with their medical condition and energy levels.</p> <p><b>4.6</b> 100% usage of a replacement mattress or bed for residents who are assessed at 'high risk' of developing a pressure ulcer.</p> <p><b>4.7</b> 100% of residents who are bed bound or have immobilised lower extremities will have total relief of pressure from their heels.</p>

<p>The resident who has a pressure ulcer will be managed according to the Australian <i>Standards for Wound Management</i> (AWMA 2002).</p>	<p><b>5.0</b> 100% of residents will have optimal healing of a wound or potential wound promoted by a collaborative and interdisciplinary approach to wound management.</p> <p><b>5.1</b> 100% of clinical practice in wound management will respect and comply with legislation, codes of practice, clinical guidelines and organisational policies.</p> <p><b>5.2</b> 100% of residents will have optimal wound healing of a wound or potential wound facilitated by an ongoing process of clinical decision-making in order to determine the risk of wounding, wound aetiology and wound healing responses.</p> <p><b>5.3</b> 100% of staff practice wound management according to the best available evidence for optimising healing in acute or chronic wounds.</p> <p><b>5.4</b> 100% of documentation in the resident's record or management plan must facilitate communication and continuity of care between interdisciplinary team members and fulfil legal requirements.</p> <p><b>5.5</b> 100% of education provided for the resident and their carer should facilitate better health seeking behaviours and the clinician maximises opportunities for advancing self-knowledge and skills in wound management.</p> <p><b>5.6</b> 100% of staff members understand the research process and the significance it has for their clinical practice.</p>
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## Section 2: Audit indicators, activities and results

**Audit indicator Key:** S = Structure; P = Process; O = Outcome

**Document Key:** PRA = Pressure risk assessment; LHCW = Licensed health care worker; UHCW = Unlicensed health care worker; PUP & M = Pressure ulcer prevention and management; WMP = Wound management policy.

Criteria		Audit Activity	Findings and Comments	Compliance	
<b>Pressure Risk Assessment</b>					
<b>Audit indicator 1.0:</b> 100% of new residents will have a pressure risk assessment. (AWMA, 'Clinical Practice Guidelines for the Prediction and Prevention of Pressure Ulcers'. Consensus statement 1, Page 18.)					
				<i>Achieved</i>	<i>Expected</i>
<b>S1.0</b>	Admission policy indicates a PRA to be performed on all new residents on admission to facility.	Review organisational admission policy for the inclusion of a PRA for all new residents.			Yes
<b>P1.0</b>	A validated and reliable PRA tool is available.	Review PRA tools utilised within the organisation.			Yes
<b>O1.0</b>	Residents at risk of pressure ulcers are identified on admission.	Randomly reviewed 10 medical records to ascertain if their risk status was identified on admission.	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>		100%
<b>P1.0: 1</b>	Organisational staff orientation program includes the importance of a PRA for all new residents.	Review staff orientation program for the inclusion of PUP & M.			Yes
<b>O1.0: 1</b>	Staff members are aware of the PRA procedure for new residents.	Ask staff what the procedure is for the PRA of new residents.	<div>UHCW<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div></div> <div>LHCW<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div></div>		100%
<b>Audit indicator 1.1:</b> 100%of residents that experience an adverse health event or are considered 'at risk' of a pressure ulcer will have a regular pressure risk assessment. (AWMA, 'Clinical Practice Guidelines for the Prediction and Prevention of Pressure Ulcers'. Consensus statement 1, Pages 18 & 36.)					

<b>S1.1: 1</b>	The PUP & M policy indicates a PRA schedule for residents either 'at risk' of a pressure ulcer or have experienced an adverse health event.	Review organisational PUP & M policy to ascertain if a policy exists for a PRA schedule.			Yes
<b>P1.1</b>	A pathway is available on the nursing care plan stating the time frame for a PRA process.	Review nursing care plan structure for the inclusion of a time frame for a PRA process.			Yes
<b>O1.1</b>	A regular PRA is performed leading to early detection of the 'at risk' resident.	Randomly review 10 medical records to see if a regular PRA has been completed.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>		100%
<b>P1.1: 1</b>	There is an organisational audit process to identify adherence to PRA time frames.	Review the facilities audit processes for PUP & M activities.			Yes
<b>O1.1: 1</b>	The organisation is aware of staff compliance in completing regular PRAs.	Review of the facilities audit processes for PUP & M activities.	Same as P1.1: 1		Yes
<b>P1.1: 2</b>	Organisational orientation programs contain education for new staff in regards to organisational PUP & M policies.	Review the orientation program for the inclusion of PUP & M policy information.			Yes
<b>O1.1: 2</b>	All new staff members are aware of organisational PUP & M policies at the commencement of employment.	Ask staff if they are aware of existing PUP & M policies.	UHCW <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	LHCW <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	100%
<b>P1.1: 3</b>	Regular education programs are provided by the organisation to update staff on current PUP & M strategies.	Ask management if an education program is provided by the organisation to update staff on current PUP & M strategies.			Yes
<b>O1.1: 3</b>	All staff attend annual education on PUP & M.	Ask staff if they have attended formalised education on PUP & M within the previous year.	UHCW <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	LHCW <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	100%
<b>S1.1a</b>	PUP & M policy states that residents will have the following documented in their medical record on an ongoing basis: Risk assessment status (low, med, high) and a management plan.	Review organisational PUP & M policy for inclusion of a regular risk assessment and management plan.			Yes
<b>O1.1a</b>	Every resident will have a current PRA, which includes an individualised identification of risk factors and a management plan.	Randomly review 10 medical records to identify an individualised identification of risk factors and management plan.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>		100%

**Audit indicator 1.2:** 100% of residents who experience an adverse health event or are considered 'at risk' of a pressure ulcer have a regular nutritional assessment.

(AWMA, 'Clinical Practice Guidelines for the Prediction and Prevention of Pressure Ulcers'. Consensus statement 4, Page 22.)

<b>S1.2</b>	The PUP & M policy indicates a reassessment of the nutritional status is required when there has been an adverse health event or a resident is considered 'at risk' of a pressure ulcer.	Review the organisation's PUP & M policy to ascertain if there is a recommendation for 'at risk' residents to have a reassessment of their nutritional status when experiencing an adverse health event.			Yes
<b>P1.2</b>	A nutritional assessment tool is available.	Ask management if a nutritional assessment tool is utilised within the facility.			Yes

<b>O1.2</b>	Malnutrition is identified.	Randomly review 10 medical records for the inclusion of a nutritional assessment.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>		100%
<b>P1.2: 1</b>	A pathway is available for organising a consult with a dietician.	Ask management to identify an accessible pathway for involving a dietician in the resident's nutritional care.			Yes
<b>O1.2: 1</b>	The maintenance of an adequate nutritional status for PUP & M for all 'at risk' residents.	Randomly review 10 medical records to ascertain if the resident's nutritional status has been identified and actions taken to rectify any deficiencies.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>		100%

### **Skin Integrity**

**Audit indicator 2.0:** 100% usage of products that do not alter the skin's pH.

(AWMA, 'Clinical Practice Guidelines for the Prediction and Prevention of Pressure Ulcers'. Consensus statement 2 & 3, Page 22.)

<b>S2.0</b>	Organisational PUP & M policies indicate the use of products that do not alter the skin's pH.	Review PUP & M policies for a reference to skin care products that do not alter the skin's pH.			Yes
<b>P2.0</b>	Skin products are available that are conducive with the skin's pH.	Review skin care products that are available on the ward for appropriate pH value.			Yes
<b>O2.0</b>	Only products that are conducive with the skin's pH are utilised.	Ask staff what skin products they use caring for the resident's skin.	UHCW <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> LHCW <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>		100%

<b>Audit indicator 2.1: 100% application of a daily moisturiser.</b> (AWMA, 'Clinical Practice Guidelines for the Prediction and Prevention of Pressure Ulcers'. Consensus statements 2 & 3, Page 22.)					
<b>S2.1</b>	Policies include daily moisturising of the resident's skin.	Review organisational policies to see if there is an inclusion for moisturising the skin daily.			Yes
<b>P2.1</b>	Appropriate moisturisers are readily available at ward level.	Observed for the availability of appropriate moisturisers.			Yes
<b>O2.1</b>	Moisturiser is applied to resident's skin daily.	Ask staff if they apply moisturiser at least daily to the resident's skin.	UHCW <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	LHCW <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	100%
<b>Audit indicator 2.2: 100% usage of interventions to encourage continence.</b> (AWMA, 'Clinical Practice Guidelines for the Prediction and Prevention of Pressure Ulcers'. Consensus statement 3, Page 22.)					
<b>S2.2</b>	Organisational PUP & M policies contain management guidelines for maintenance of the incontinent residents skin.	Review organisational PUP & M policies for inclusion of procedures to maintain the skin integrity of the incontinent resident.			Yes
<b>P2.2</b>	Incontinence pads are available.	Observed for availability of incontinence pads.			Yes
<b>P2.2:1</b>	Barrier cream is available for protection against urine and faeces.	Observe for the availability of barrier cream.			Yes
<b>O2.2</b>	Skin is not in contact with urine and faeces for sustained periods.	Randomly review 10 medical records to see if pads are used and changed frequently.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>		100%
<b>Audit indicator 2.3: 100% compliance to two hourly turning schedules for residents on a basic mattress.</b> (AWMA, 'Clinical Practice Guidelines for the Prediction and Prevention of Pressure Ulcers'. Consensus statement 5, Page 22.)					
<b>S2.3</b>	Organisational PUP & M policies clearly state the need for second hourly turning when the resident is on a basic mattress.	Review the organisation's PUP & M policy to see if there is reference to second hourly turns for residents on a basic mattress.			Yes
<b>P2.3</b>	There is an individual turning schedule for every bed-confined resident.	Randomly review 10 medical records to see if an individual turning schedule has been recommended.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>		100%
<b>O2.3</b>	Nursing staff members are aware of the 'basic mattress' capability in regards to pressure reduction.	Ask staff how frequently they turned a resident who is being nursed on a 'basic mattress'.	UHCW <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	LHCW <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	100%

<b>P2.3: 1</b>	A 'basic mattress' replacement policy exists.	Review the organisation's PUP & M policy for inclusion of a 'basic mattress' replacement schedule.			Yes
<b>O2.3: 1</b>	A resident is not on a mattress that exhibits core fatigue.	Randomly check 10 'basic mattresses' to assess for 'core fatigue'.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>		0%
<b>Audit indicator 2.4:</b> 100% skin inspection at least daily for residents. (AWMA, 'Clinical Practice Guidelines for the Prediction and Prevention of Pressure Ulcers'. Consensus statement 1, Page 21.)					
<b>S2.4</b>	Organisational PUP & M policies state the need for a daily skin inspection for all residents.	Review the organisation's PUP & M policy for the inclusion of a daily skin inspection for all residents.			Yes
<b>P2.4</b>	Bedside charts have an area for the reporting and management of anomalies in the skin's integrity.	Review the bedside chart for an identifiable area to report management of anomalies in the skin's integrity.			Yes
<b>O2.4</b>	Adverse changes in the skin's integrity are identified.	Randomly review 10 medical records to see if there is an identification of skin integrity changes.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>		100%

### ***Shear and Friction***

<b>Audit indicator 3.0:</b> 100% compliance to correct manual handling techniques. (AWMA, 'Clinical Practice Guidelines for the Prediction and Prevention of Pressure Ulcers'. Consensus statement 5, Page 33.)					
<b>S3.0</b>	There is a 'no lift' policy within the organisation.	Review the organisation's manual handling policy for inclusion of 'no lift'.			Yes
<b>P3.0</b>	Annual manual handling education and assessment is required for all staff.	Ask management if there is annual manual handling education and assessment for all staff.			Yes
<b>O3.0</b>	All staff members are aware of correct lifting techniques to reduce shear and friction.	Ask staff if they attended manual handling education within the previous year.	UHCW <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> LHCW <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>		100%
<b>P3.0: 1</b>	Manual handling equipment is available for use.	Ask staff if manual-handling equipment is available when they require it.	UHCW <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> LHCW <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>		100%
<b>O3.0: 1</b>	Staff members use manual handling equipment.	Ask staff how they move a bed bound resident.	UHCW <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> LHCW <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>		100%



<b>S3.0a</b>	There is a maintenance program for manual handling equipment.	Ask management if a maintenance program for manual handling equipment exists.			Yes
<b>P3.0a</b>	A record is kept of manual handling equipment purchase date, maintenance details and expected replacement date.	Ask management if there is a record of purchases, maintenance details and expected replacement dates for manual handling equipment.			Yes
<b>O3.0a</b>	Manual handling equipment is kept in working order.	Ask staff if manual handling equipment is kept in working order.	UHCW <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> LHCW <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>		100%
<b>S3.0b</b>	Organisational PUP & M policies include guidelines for decreasing the potential of shear and friction.	Review the organisation's PUP & M policy for inclusion of procedures to decrease shear and friction.			Yes
<b>P3.0b</b>	There is an individualised manual handling care plan for every resident.	Randomly review 10 medical records for the incorporation of an individualised manual handling management plan.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>		100%
<b>O3.0b</b>	An individualised manual handling plan potentially reduces the effects of shear and friction.	Randomly review 10 medical records to see if the manual handling plan identified the potential actions that may cause shear and friction for the resident.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>		100%
<b>Audit indicator 3.1:</b> 100% application of protective dressings, padding or sheepskins to bony prominences. (AWMA, 'Clinical Practice Guidelines for the Prediction and Prevention of Pressure Ulcers'. Consensus statement 5, Page 33.)					
<b>S3.1</b>	Organisational PUP & M policies clearly advocate the application of protective dressings, padding and sheepskins for the reduction of shear and friction forces.	Review the organisation's PUP & M policies to see if they advocate the application of dressings, padding and/or sheepskins for the reduction of shear and friction forces.			Yes
<b>P3.1</b>	Staff members are educated on the PUP & M protocols that encompass the reduction of shear and friction forces over bony prominences.	Ask staff when they last attended education on PUP & M. (As in O1.1: 3)	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>		100%
<b>O3.1</b>	Staff members are aware of PUP & M protocols that reduce the potential of shear and friction forces.	Ask staff if they use dressings padding or sheepskins as a regular practice to decrease shear and friction.	UHCW <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> LHCW <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>		100%
<b>P3.1: 1</b>	There is a budget allocation for devices that reduce shear and friction.	Ask management if there is an annual budget allocation for devices that reduce shear and friction.			Yes

<b>O3.1: 1</b>	Dressings, padding and/or sheepskins are readily available.	Ask staff if dressings, padding and/or sheepskins are available when required.	UHCW <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> LHCW <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>		100%
<b>Audit indicator 3.2:</b> 100% of residents considered 'at risk' of pressure ulcers will have the foot of their bed elevated 20 degrees when sitting and the head of their bed at the lowest possible position according to comfort and their medical condition. (AWMA, 'Clinical Practice Guidelines for the Prediction and Prevention of Pressure Ulcers'. Consensus statement 5, Page 33.)					
<b>S3.2</b>	Organisational PUP & M policies advocate the correct positioning of residents to decrease shear and friction.	Review the organisation's PUP & M policies to see if they include correct positioning of resident to decrease shear and friction.			Yes
<b>P3.2</b>	Staff members are educated on PUP & M policy requirements for the correct positioning of residents to decrease shear and friction.	Ask staff if they have attended formalised education on PUP & M within the previous year. (As in O1.1: 3)	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>		100%
<b>O3.2</b>	Staff members are aware of how to position residents to decrease the risk of shear and friction.	Ask staff how they position residents to decrease shear and friction.	UHCW <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> LHCW <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>		100%

### ***Positioning and Repositioning***

<b>Audit indicator 4.0:</b> 100% use of pillows or foams between bony prominences. (AWMA, 'Clinical Practice Guidelines for the Prediction and Prevention of Pressure Ulcers'. Consensus statement 3, Page 32.)					
<b>S4.0</b>	Organisational PUP & M policies advocate the use of pillows and foams between bony prominences.	Review the organisation's PUP & M policies to see if they include the use of pillows and foams between bony prominences.			Yes
<b>P4.0</b>	PUP & M plans include the use of pillows and foams between bony prominences.	Randomly review 10 medical records to see if the PUP & M plan includes the use of pillows and foams between bony prominences.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>		100%
<b>O4.0</b>	Staff members are aware of the use of pillows and foams between bony prominences.	Ask staff if they always use pillows and foams between bony prominences.	UHCW <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> LHCW <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>		100%
<b>Audit indicator 4.1:</b> 100% use of individualised repositioning and turning schedule. (AWMA, 'Clinical Practice Guidelines for the Prediction and Prevention of Pressure Ulcers'. Recommendation statement 1, Page 33.)					

<b>S4.1</b>	PUP & M policies advocate an individualised repositioning schedule for all non-ambulatory residents.	Review the organisation's PUP & M policy for the inclusion of an individualised repositioning schedule for all non-ambulatory residents.			Yes
<b>P4.1</b>	Bedside charts include provision for an individualised repositioning schedule.	Review the format of the bedside chart to see if it provides an area to document an individualised repositioning schedule.			Yes
<b>O4.1</b>	Bedside documentation of the non-ambulatory resident contains an individualised repositioning schedule.	Randomly reviewed 10 bedside charts for non-ambulatory residents to see if they have an individualised repositioning schedule documented.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>		100%
<b>Audit indicator 4.2:</b> 100% use of pressure relieving support surfaces will be used for residents who are unable to tolerate a frequent turning regime or where two hourly regimes are inadequate. (AWMA, 'Clinical Practice Guidelines for the Prediction and Prevention of Pressure Ulcers'. Consensus statement 1, Page 32.)					
<b>S4.2</b>	PUP & M policies state clearly that residents who are unable to tolerate a frequent repositioning regime or where two hourly regimes are inadequate will be nursed on a pressure relieving support surface.	Review the organisation's PUP & M policy to see if they include the use of a pressure relieving support surface for residents who are unable to tolerate frequent repositioning regime or where a two hourly regime is inadequate.			Yes
<b>P4.2</b>	Care pathways for PUP & M require the application of a pressure relieving support surface for residents who require repositioning more often than every two hours.	Review format of care pathways for the inclusion of a pressure relieving support surface for residents who require repositioning more often than every two hours.			Yes
<b>O4.2</b>	All residents who are unable to tolerate a frequent repositioning regime or where two hourly regimes are inadequate will be nursed on a pressure relieving support surface.	Ask staff if there are residents who require a more frequent repositioning regime than second hourly? Identify if these residents are being nursed on a pressure relieving support surface.	UHCW                      LHCW <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>		100%
<b>P4.2: 1</b>	The organisational budget contains an allocation of funds for maintenance and purchase of pressure relieving support surfaces.	Ask management if there is an annual budget for the maintenance and purchase of pressure relieving support surfaces.			Yes
<b>O4.2: 1</b>	Pressure relieving support surfaces are available for utilisation when required.	Ask staff if pressure relieving support surfaces are available for use when they identify a resident that requires one.	UHCW                      LHCW <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>		100%

<b>Audit indicator 4.3:</b> 100% of chair bound residents are moved every 15 to 60 minutes. (AWMA, 'Clinical Practice Guidelines for the Prediction and Prevention of Pressure Ulcers'. Consensus statement 4, Page 32.)					
<b>S4.3</b>	Organisational PUP & M policies state that residents who are chair bound are to be moved every 15 to 60 minutes.	Review the organisation's PUP & M policy to see if it states that a chair bound resident are to be moved every 15 to 60 minutes.			Yes
<b>P4.3</b>	PUP & M pathways advocate that chair bound residents are moved every 15-60 minutes.	Review PUP & M pathways to see if they require the chair bound resident to have a 15-60 minute movement schedule.			Yes
<b>O4.3</b>	Staff members are aware of PUP & M policies relating to movement of chair bound residents.	Randomly review 10 medical records to see if chair bound residents are being moved at least every 60 minutes.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>		100%
<b>P4.3: 1</b>	The resident's care plan records a movement schedule and indicates time of the last activity.	Randomly review 10 medical records to see if there is a movement schedule that included the last activity.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>		100%
<b>O4.3: 1</b>	Staff members have access to the current movement record of chair bound residents.	Ask staff if they have access to a current movement record of chair bound residents.	UHCW <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> LHCW <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>		100%

**Audit indicator 4.4:** 100% of residents considered 'at risk' of pressure ulcers are repositioned as frequently as their skin's tolerance to pressure dictates.

(AWMA, 'Clinical Practice Guidelines for the Prediction and Prevention of Pressure Ulcers'. Recommendation statement 1, Page 33.)

<b>S4.4</b>	An individualised repositioning regime is instigated at ward level, which takes into consideration the resident's skin tolerance to pressure.	Randomly review 10 medical records to see if a repositioning regime has been instigated that consider the residents skin tolerance to pressure.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>		100%
<b>P4.4</b>	A PUP & M pathway is utilised at ward level to determine the repositioning schedule.	Ask management if a PUP & M pathway is used to determine the repositioning schedule of a resident.			Yes
<b>O4.4</b>	Residents repositioning needs are considered on an individual basis.	Ask management if there are individualised variances to this set pathway.			Yes

**Audit indicator 4.5:** 100% encouragement of residents to maximise their activity and mobilisation consistent with their medical condition and energy levels.

(AWMA, 'Clinical Practice Guidelines for the Prediction and Prevention of Pressure Ulcers'. Consensus statement 7, Page 33.)

<b>S4.5</b>	Organisational PUP & M policies state the need for maximisation of the resident's activity and mobilisation.	Review organisational PUP & M policy to see if it includes recommendations for maximisation of activity and mobilisation.			Yes
<b>P4.5</b>	Bedside charts record the resident's activity and mobilisation for each 24-hour period.	Review the format of the bedside chart to see if it includes a section for recording the ambulatory resident's activity.			Yes
<b>O4.5</b>	Staff record regular activity and mobilisation throughout a 24-hour period.	Randomly review 10 medical records to see if their mobilisation and activity have been recorded.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>		100%
<b>Audit indicator 4.6:</b> 100% usage of a replacement mattress or bed for residents who are assessed at 'high risk' of developing a pressure ulcer. (AWMA, 'Clinical Practice Guidelines for the Prediction and Prevention of Pressure Ulcers'. Recommendation statement 2, Page 33.)					
<b>S4.6</b>	Organisational PUP & M policies state the use of a replacement mattress or bed for residents assessed at 'high risk' of developing a pressure ulcer.	Review the organisation's PUP & M policy to see if they recommend a replacement mattress or bed for 'high risk' residents.			Yes
<b>P4.6</b>	Sufficient replacement mattresses and beds are available for use as required.	Ask staff if replacement mattresses and beds are available when required. (As in O4.2: 1)	UHCW <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	LHCW <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	100%
<b>O4.6</b>	Staff members use a replacement mattress or bed when the PRA indicates a resident is at 'high risk' of a pressure ulcer.	Randomly review 10 medical records of residents identified at 'high risk' of a pressure ulcer to see if they are on a replacement mattress or bed.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>		100%
<b>Audit indicator 4.7:</b> 100% of residents who are bed bound or have immobilised lower extremities will have total relief of pressure from their heels. (AWMA, 'Clinical Practice Guidelines for the Prediction and Prevention of Pressure Ulcers'. Consensus statement 6, Page 33.)					
<b>S4.7</b>	Organisational PUP & M policies state that pillows and or foams are to be utilised to relieve pressure from resident's heels.	Review the organisation's PUP & M policy to see if it recommends that heels should be elevated off the mattress and also provides instructions for how to achieve this.			Yes
<b>P4.7</b>	PUP & M pathways reflect the use of pillows and foams to relieve pressure from resident's heels.	Reviewed ward pathways to see if they advocate the use of pillows and foams to elevate resident's heels off all surfaces.			Yes

<b>O4.7</b>	Residents who are confined to bed do not have their heels resting on a surface.	Ask staff if the residents always have their heels elevated off the bed.	<div>UHCW</div> <div> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> </div> <div>LHCW</div> <div> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> </div>		100%
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### Wound Management

**Audit indicator 5.0:** 100% of residents will have optimal healing of a wound, or potential wound, promoted by a collaborative and interdisciplinary approach to wound management.  
(AWMA 'Standards for Wound Management'. Standard 1, page 2.)

<b>S5.0</b>	The organisation's WMP encourages an interdisciplinary wound management approach.	Review the WMP to see if it includes interdisciplinary wound management principles.			Yes
<b>P5.0</b>	The organisation's wound management pathways include the interdisciplinary team.	Review wound management pathways for the inclusion of an interdisciplinary team approach.			Yes
<b>O5.0</b>	There will be an underpinning of collaborative practice throughout the organisation.	Ask staff if they are involved in the assessment and management of wounds.	<div>UHCW</div> <div> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> </div> <div>LHCW</div> <div> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> </div>		100%
<b>O5.0a</b>	Staff acknowledge the central role of the resident in wound management.	Ask staff about the role the resident holds in wound management.	<div>UHCW</div> <div> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> </div> <div>LHCW</div> <div> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> </div>		100%

**Audit indicator 5.1:** 100% of clinical practice in wound management will respect and comply with legislation, codes of practice, clinical guidelines and organisational policies.  
(AWMA 'Standards for Wound Management'. Standard 2, page 4.)

<b>S5.1</b>	The organisation WMP is formulated respecting and complying with legislation, code of practice and standards.	Review the WMP to see if it complies with legislation, code of practice and standards.			Yes
<b>P5.1</b>	Organisational WMPs are available for all staff to use.	WMPs are kept in a central position where all staff can access them.			Yes

<b>O5.1</b>	The staff members wound management practice complies with legislation, codes of practice and clinical practice guidelines.	Randomly review 10 wound management plans to see if they comply with legislation, codes of practice and clinical practice guidelines.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>		100%
<b>S5.1a</b>	Staff members remain informed of evidence based wound management.	Ask staff if they consider it important to be informed of current evidenced based wound management.	UHCW <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> LHCW <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>		100%
<b>P5.1a</b>	Staff members are required by the organisation to keep a portfolio reflecting education attended.	Ask management if it is a requirement of the organisation for staff to keep a portfolio of education attended.			Yes
<b>O5.1a</b>	The organisation and staff member have a record of professional development.	Ask staff if they keep a portfolio of education attended.	UHCW <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> LHCW <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>		100%
<b>S5.1b</b>	The organisation encourages staff to be evidence based practice clinicians.	Reviewed organisational systems to see if there is provision for staff to obtain current evidenced based material. (E.g. Internet access, library access.)			Yes
<b>P5.1b</b>	The organisation provides wound management education.	Ask management if in the previous 12 months education calendar wound management was included.			Yes
<b>O5.1b</b>	Staff will question non-evidence based practice.	Ask staff if they would question non-evidenced based wound management.	UHCW <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> LHCW <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>		100%
<b>S5.1c</b>	There is an organisational culture that embraces clinical research.	Ask management if the organisation's values and goals contain a commitment to research.			Yes
<b>P5.1c</b>	The organisation encourages contribution to the advancement of the body of evidence in wound management by being involved in research.	Ask management if there are any wound management research studies that the organisation is involved in.			Yes

<b>O5.1c</b>	Staff will be aware of the research process and its importance to furthering evidence based practice.	Ask staff if they are aware of the research process and its importance to their clinical practice.	UHCW <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	LHCW <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>		100%
<b>S5.1d</b>	The organisation has systems to manage wound management resources effectively and efficiently.	Ask management if the organisational systems used to manage wound management resources are effective and efficient.				Yes
<b>P5.1d</b>	Modern wound management products are stored on each ward.	View ward stores to see if modern wound management products are available.				Yes
<b>O5.1d</b>	The appropriate wound management product is accessible.	Review ward supply of wound management products to evaluate if range and quantities are sufficient.				Yes
<b>P5.1d: 1</b>	Education is provided on wound management products and devices.	Ask staff if they have attended education on wound management products and devices in the past year.	UHCW <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	LHCW <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>		100%
<b>O5.1d: 1</b>	Staff members are aware of the correct use of wound management products and devices.	Randomly review 10 wound management plans to see if an appropriate dressing is used to achieve identified outcomes.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>			100%
<b>Audit indicator 5.2:</b> 100% of residents will have optimal wound healing of a wound or potential wound facilitated by an ongoing process of clinical decision-making in order to determine the risk of wounding, wound aetiology and wound healing responses. (AWMA 'Standards for Wound Management'. Standard 3, page 7.)						
<b>S5.2</b>	The WMP requires a comprehensive wound assessment, ongoing assessment of the wound healing process and an individualised plan of care.	Review the WMP to see if there is instruction for an assessment process and an individualised plan of care.				Yes
<b>P5.2</b>	Wound care pathways incorporate a comprehensive assessment of the resident, their wound, their risk of wounding and healing environment.	Reviewed wound management chart format to see if it contains a comprehensive assessment including the risk of wounding and the healing environment.				Yes
<b>O5.2</b>	A full comprehensive assessment is completed.	Randomly review 10 wound management plans to see if there is a comprehensive assessment, including risk of wounding and healing environment.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>			100%



<b>P5.2a</b>	The wound care pathway indicates the time interval for the follow up assessment.	Review the wound management chart format to see if it has provision for the time interval for a follow up assessment.			Yes
<b>O5.2a</b>	Wound care pathways are completed initially and at regular intervals.	Randomly reviewed 10 wound management plans to see if they are being completed at regular intervals.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>		100%
<b>P5.2b</b>	The organisation audits wound care pathways at regular intervals.	Ask management if there is an audit process established for wound care pathways.			Yes
<b>O5.2b</b>	The audit highlights the effectiveness of the wound care pathways.	Review the audit procedure for wound care pathways to see if it is designed to maximise its fact-finding capabilities.			Yes
<b>Audit indicator 5.3:</b> 100% of staff practice wound management according to the best available evidence for optimising healing in acute or chronic wounds. (AWMA 'Standards for Wound Management'. Standard 4, page 9.)					
<b>S5.3</b>	The organisation's WMP contains evidence based wound management standards.	Reviewed the WMP to see if it contains evidence based wound management standards.			Yes
<b>P5.3</b>	WMP are readily available for staff to access.	Located WMP to ascertain if it is kept within easy access for staff.			Yes
<b>O5.3</b>	Staff has access to evidence based wound management standards.	Ask management if access is provided to evidence based wound management standards.			Yes
<b>P5.3a</b>	Education is provided to update staff on evidence based wound management.	Review education content over last 12 months to see if it contains updates on evidence based wound management.	Same as P5.1b		
<b>O5.3a</b>	Staff members are aware of evidence based wound management practices.	Ask staff if they are aware of changes in wound management practices due to new evidence.	UHCW <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	LHCW <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	100%
<b>P5.3b</b>	Moist wound healing products are available for use.	Review each wards storeroom to see if moist wound healing products are available.	Same as O5.1d		
<b>O5.3b</b>	Staff use moist wound healing products except where the clinical goal is to maintain eschar.	Randomly review 10 wound management plans to see if moist wound healing products are used.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>		100%

<b>P5.3c</b>	Ward protocols clearly state that wound management practices must consider maintaining wounds at normal body temperature.	Review ward protocols to see if there is reference to maintaining wounds at normal body temperature.			Yes
<b>O5.3c</b>	Staff members avoid exposing wounds to cooling temperatures, leaving wound exposed for lengthy periods and using cold cleaning fluids.	Ask staff what they do to stop the wound from cooling to below body temperature.	UHCW <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	LHCW	100%
<b>P5.3d</b>	Products required to practice infection control are readily available on wards.	Review each ward for the adequate supply of gloves, aprons, hand washing solutions and basins.			Yes
<b>O5.3d</b>	Staff members observe infection control principles.	Ask staff if they use an aseptic/wound field technique when conducting a wound dressing.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>		100%
<b>P5.3e</b>	Products that protect the fragile wound and peri wound are available.	Review each wards storeroom for availability of products that protect the wound and peri wound.			Yes
<b>O5.3e</b>	Staff members use practices that endeavour to protect the fragile wound environment.	Ask staff what measures they use to protect the fragile wound environment when attending a dressing.	UHCW <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	LHCW	100%
<b>P5.3f</b>	Staff members are educated on the correct storage of dressings.	Ask staff if they can explain about the storage of dressings, including once they are open.	UHCW <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	LHCW	100%
<b>O5.3f</b>	Dressings are stored according to manufacturers instructions.	Review each wards storeroom for the storage of dressings.			Yes
<b>P5.3g</b>	Staff members are aware of the requirements of the Therapeutic Goods Administration endorsement.	Ask staff if they can explain the legislation that supports the choice of materials placed in or on a wound.	UHCW <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	LHCW	100%
<b>O5.3g</b>	Staff members are using wound management products, devices and pharmaceuticals within the Therapeutic Goods Administration endorsement.	Randomly review 10 wound management plans to see if wound management products, devices and pharmaceuticals are used within the Therapeutic Goods Administration endorsement.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>		100%

**Audit indicator 5.4:** 100% of documentation in the resident's record or management plan must facilitate communication and continuity of care between interdisciplinary team members and fulfil legal requirements.

(AWMA 'Standards for Wound Management'. Standard 5, page 13.)

<b>S5.4</b>	The WMP state that informed consent is required from the resident (relative) before wound management practices are initiated.	Review the WMP to see if there is reference to obtaining informed consent before proceeding with wound management.			Yes
<b>P5.4</b>	The WMP is easily accessed at ward level.	Identified where WMP are kept and the ease of access for staff.	Same as P5.3		Yes
<b>O5.4</b>	Staff members explain the wound management procedure to the resident and gain consent before proceeding.	Ask staff to identify when they would not proceed with a dressing procedure. (Consent)	UHCW                      LHCW <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>		100%
<b>S5.4</b>	The WMP states that a wound assessment and management plan is documented in the medical records on an ongoing basis until the wound heals.	Review the WMP to see if there is a requirement for a wound assessment and management plan to be recorded on an ongoing basis until the wound is healed.			Yes
<b>P5.4a</b>	The organisation provides a wound assessment and management form.	Ask management if there is a wound assessment and management form.			Yes
<b>O5.4a</b>	Residents will have a wound assessment and management plan documented in their medical record on an ongoing basis until their wound heals.	Randomly review 10 wound management plans to see if there has been a wound assessment and management plan recorded.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>		100%

**Audit indicator: 5.5** 100% of education provided for the resident and their carer should facilitate better health seeking behaviours and the clinician maximises opportunities for advancing self-knowledge and skills in wound management.

(AWMA 'Standards for Wound Management'. Standard 6, page 14.)

<b>S5.5</b>	The WMP advocates the information transfer from staff to residents in regards to wound management.	Review the WMP to see if it advocates information transfer from staff to resident in regards to their wound management.			Yes
<b>P5.5</b>	Material to assist in resident education in wound management is available.	Ask management if there is material available for educating residents and relatives in wound management products/procedures.			Yes

<b>O5.5</b>	Staff members actively educate residents in wound management practices and encourage residents to be involved in the management of their wound.	Randomly reviewed 10 wound management plans to see if there is a record of resident education in relation to wound management.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>		100%
<b>S5.5a</b>	Staff recognise their own learning needs and maximise opportunities for advancing their knowledge and skills in wound management.	Ask staff if they have attended or were involved in ward based wound management education within the past 12 months.	UHCW <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>		100%
<b>P5.5a</b>	Ward based education programs are implemented.	Ask management if they have a ward based education program operating.			Yes
<b>O5.5a</b>	All staff are involved in ward based education programs.	Ask staff if they had the opportunity to be involved in the running of ward based education.	UHCW <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>		100%
<b>P5.5a: 1</b>	An annual professional development program is utilised.	Ask management if they have an annual professional development program for staff.			Yes
<b>O5.5a: 1</b>	An annual professional development program provides staff with an opportunity to formally consider their education requirements for the year and facilitates goal setting.	Ask staff if they have had an opportunity to formally consider their educational requirements and if they have set goals for the next 12 months.	UHCW <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>		100%
<b>Audit indicator 5.6:</b> 100% of staff understand the research process and the significance it has for their clinical practice. (AWMA 'Standards for Wound Management'. Standard 7, page 16.)					
<b>S5.6</b>	The organisation encourages an understanding of the research process and EBP for all staff by identifying potential wound management research projects.	Ask management if there are research projects being carried out within the organisation or supported by the organisation.			Yes
<b>P5.6</b>	Quality improvement activities include wound management projects.	Ask management if there are quality improvement projects either completed or in progress that involve improving wound management.			Yes
<b>O5.6</b>	Staff members are encouraged to be involved in the research process.	Ask staff if they have been involved in research or quality improvement projects in the past 12 months.	UHCW <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>		100%

<b>P5.6: 1</b>	There is Internet support that allows easy access to relevant clinical studies and information.	Ask management if Internet access is available for all staff involved in resident care.			Yes
<b>O5.6: 1</b>	All staff will have access to current wound management research and findings.	Ask staff if they have access to current wound management research. (E.g. Internet, libraries)	UHCW <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	LHCW <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	100%
<b>P5.6: 2</b>	Education is provided in varying forms to encourage staff to correctly critique relevant studies and implement these findings into their clinical practice.	Ask management if there has been education on how to critique research.			Yes
<b>O5.6: 2</b>	Staff members are able to identify quality research and know the process for utilising these findings in their clinical practice.	Ask staff if they are aware of how to identify quality research and how to utilise new findings into their clinical practice.	UHCW <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	LHCW <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	100%
<b>P5.6: 3</b>	When it is identified that change is required to wound management policies and procedures there is a pathway for implementing these changes across the organisation.	Ask staff if they are aware of how they can implement a change to clinical practice when new evidence reveals it is necessary.	UHCW <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	LHCW <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	100%
<b>O5.6: 3</b>	Required wound management changes will be made across the organisation.	Ask management if there have been any changes to wound management implemented within the past two years across the organisation.			Yes

Section 3: Summary

**Pressure Risk Assessment:** (Clinical indicators 1.0-1.2)

**Summary:** \_\_\_\_\_  
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**Comments:** \_\_\_\_\_  
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***Skin Integrity:*** (Clinical Indicators 2.0-2.4)

**Summary:** \_\_\_\_\_  
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**Comments:** \_\_\_\_\_  
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***Shear and Friction:*** (Clinical indicators 3.0-3.2)

**Summary:** \_\_\_\_\_

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**Comments:** \_\_\_\_\_

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***Positioning and Repositioning:*** (Clinical Indicators 4.0-4.7)

**Summary:** \_\_\_\_\_

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**Comments:** \_\_\_\_\_

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***Wound Management:*** (Clinical Indicators 5.0-5.6)

**Summary:** \_\_\_\_\_

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**Comments:** \_\_\_\_\_

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## **Appendix F: The Factor Analysis Additions**

### **Section One: Organisational utilisation of pressure ulcer prediction and prevention guidelines**

The first section of the survey contains twenty statements written to reflect the individual's perception of the organisation's PUP & M strategies (refer to Appendix D, 'Section 1: Organisational').

Principal Components Extraction, followed by Oblimin Rotation with Kaiser Normalisation was employed to investigate the factor structure of the twenty statements. Missing values were managed by excluding cases pairwise. Factor loadings with values less than 0.33 were suppressed, thus ensuring approximately 10 percent or more of the variance in the item is accounted for by its common factor (Ho 2006). The first run was conducted using the Eigenvalues greater than one criterion.

The Bartlett's Test of Sphericity yielded a Chi-Square of 1738.80, and an associated level of significance smaller than 0.001. Thus the hypothesis that the correlation matrix is an identity matrix is rejected, therefore the correlation matrix has significant correlations among at least some of the variables. Using the Eigenvalues of one or greater criterion, four factors were retained for rotation. These four factors accounted for 48.75%, 9.074%, 6.849% and 6.099% of the total variance, respectively, for a total of 70.767%.

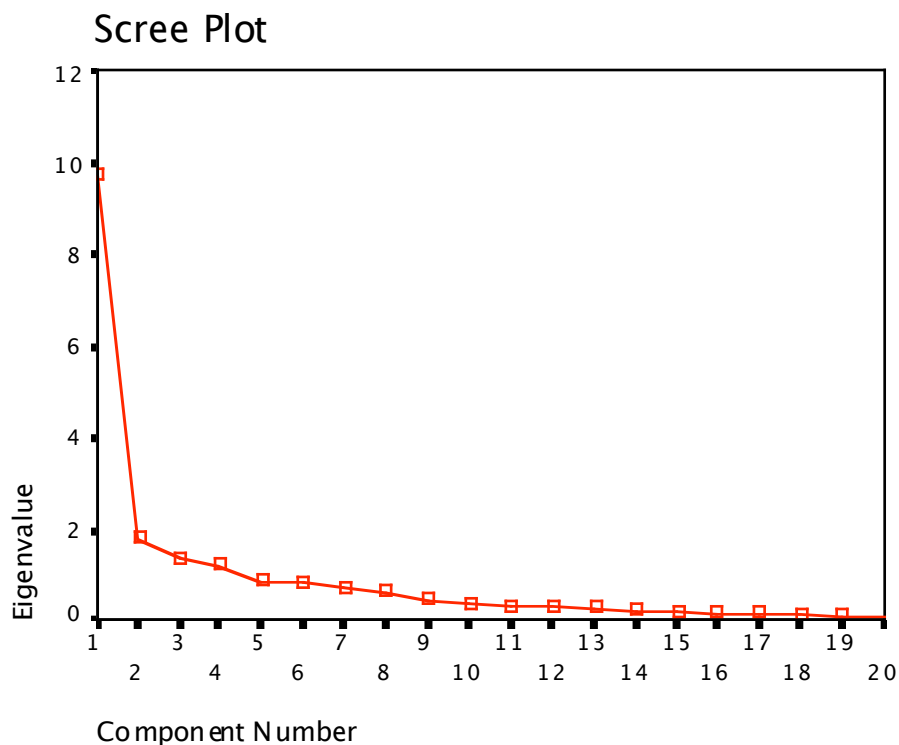
The Pattern Matrix (see Table 1) presents the four factors after Oblimin Rotation. The interpretation of these factors is difficult due to cross loadings and the minimal loading of items on factor four. The Scree Plot (refer to Figure 1) suggests a two or three factor outcome therefore the Factor Analysis was executed stipulating both a three and two factor extraction.

**Table 1:** Pattern Matrix for the Eigenvalues greater than one criterion, post Oblimin Rotation for 'Organisational'

Item	Factors			
	1	2	3	4
Guidelines for the prediction and prevention of pressure ulcers are available in your facility.			0.376	-0.634
These guidelines are always accessible in your facility.				-0.642
It is your facility's policy to conduct a pressure ulcer risk assessment on all new residents.		-0.792		
It is your facility's policy to evaluate the pressure ulcer risk to your existing residents on a regular basis as deemed appropriate for each individual.		-0.558		
You are provided with a pressure risk assessment tool/form to assist in predicting and preventing pressure ulcers.		-0.910		
Your facility audits the use of these pressure ulcer tools in a timely manner.		-0.543		
You are provided with results of these pressure ulcer tool audits.		-0.436		-0.458
Protocols for the treatment of all stages of pressure ulcers are always available to you.				-0.705
There is a designated wound management resource person for your facility.			0.374	
Your facility provides you with the pressure relieving/reducing equipment needed to assist in preventing pressure ulcers.	0.745			
Your facility has established repositioning protocols for residents at risk of pressure.			0.742	
There is enough time during a shift to provide pressure area care for all residents who require this.	0.422			-0.493
At the end of each shift you know all preventative skin and pressure reducing / relieving strategies required for residents in your care has been attended.	.0349	0.410	0.333	-0.519
Your facility requires you to report the occurrence of a pressure ulcer in a written format or report it to a nurse who does this.			0.858	
It is your facility's policy to accept new research findings in pressure ulcer prevention and treatment, implementing research findings at the ward level.	0.697			
Appropriate moist wound healing dressings are available to treat stage 3 and 4 pressure ulcers.	0.491			
If a resident develops a pressure ulcer your facility provides appropriate pressure relieving/reducing equipment for managing the ulcer.	0.843			

Your facility has a mattress maintenance and replacement program in place.	0.829			
Your facility has a manual handling education program that teaches staff how to move residents to avoid skin damage from the forces of shear and friction.			0.817	
Your facility provides education on the prediction, prevention and management of pressure ulcers for all staff involved in the residents care. (Licensed and unlicensed staff).	0.639			

(Note: cross loadings are highlighted in grey)



**Figure 1:** Scree Plot for ‘Organisational’ Factor Analysis.

The three-factor extraction (see Table 2) remains ambiguous as to what constructs the items represent. Factor 3 in the three-factor extraction appears to contain items that best fit conceptually within Factor 1 and two. For example, ‘Your facility has a manual handling education program that teaches staff how to move residents to avoid skin damage from the forces of shear and friction.’ conceptually has a better fit with ‘Your facility provides education on the prediction, prevention and management of pressure ulcers for all staff involved in the residents care. (LHCWs and UHCWs).’ Both these statements were written to support the construct of pressure ulcer prevention. On consulting the two-factor extraction it is seen that these two items are loaded onto the same factor (refer to Table 2).

The two-factor extraction is therefore considered the extraction that best supports an interpretation of factors.

**Table 2:** Pattern Matrix for the three-factor extraction, post Oblimin Rotation for ‘Organisational’

Item	Factors		
	1	2	3
Guidelines for the prediction and prevention of pressure ulcers are available in your facility.		-0.491	0.503
These guidelines are always accessible in your facility.		-0.562	0.395
It is your facility’s policy to conduct a pressure ulcer risk assessment on all new residents.		-0.786	
It is your facility’s policy to evaluate the pressure ulcer risk to your existing residents on a regular basis as deemed appropriate for each individual.		-0.677	
You are provided with a pressure risk assessment tool/form to assist in predicting and preventing pressure ulcers.		-0.933	
Your facility audits the use of these pressure ulcer tools in a timely manner.		-0.697	
You are provided with results of these pressure ulcer tool audits.		-0.664	
Protocols for the treatment of all stages of pressure ulcers are always available to you.		-0.665	
There is a designated wound management resource person for your facility.			0.431
Your facility provides you with the pressure relieving/reducing equipment needed to assist in preventing pressure ulcers.	0.715		
Your facility has established repositioning protocols for residents at risk of pressure.			0.730
There is enough time during a shift to provide pressure area care for all residents who require this.	0.534		
At the end of each shift you know all preventative skin and pressure reducing / relieving strategies required for residents in your care has been attended.	0.496		0.476
Your facility requires you to report the occurrence of a pressure ulcer in a written format or report it to a nurse who does this.			0.850
It is your facility’s policy to accept new research findings in pressure ulcer prevention and treatment, implementing research findings at the ward level.	0.771		
Appropriate moist wound healing dressings are available to treat stage 3 and 4 pressure ulcers.	0.535	-0.382	

If a resident develops a pressure ulcer your facility provides appropriate pressure relieving/reducing equipment for managing the ulcer.	0.829		
Your facility has a mattress maintenance and replacement program in place.	0.869		
Your facility has a manual handling education program that teaches staff how to move residents to avoid skin damage from the forces of shear and friction.			0.770
Your facility provides education on the prediction, prevention and management of pressure ulcers for all staff involved in the residents care. (Licensed and unlicensed staff).	0.764		

(Note: cross loadings are highlighted in grey)

A two-factor extraction has improved the clarity conceptually for both factors. The two factors account for 48.745% and 9.074% of the total variance, respectively, for a total of 57.819%. There was one cross loading and once this, along with the item that failed to load, was removed the constructs that the two factors represented were interpretable (refer to Table 4.4).

### **Organisational: Reliability of the Questionnaire**

Cronbach's Alpha was utilised to test the internal consistency, and therefore the reliability of the questionnaire. The two factors (extracted from twenty statements) that represent organisational strategies are pressure ulcer prevention and pressure ulcer prediction (refer to Table 3 & Table 4 for a list of statements within these factors)

#### *Factor 1: Organisational pressure ulcer prevention*

Of the total sample (n=118), 112 were processed in the analysis. Adopting a pairwise exclusion five cases were ineligible for analysis due to missing values. Cronbach's Alpha was 0.9043, which supports a high overall internal consistency, that is, the ten statements in Factor 1 are highly likely to measure the same construct. All statements were retained for representation based on the 0.33 criterion. The 'Alpha if Item Deleted' column reveals that if any of the statements were to be deleted the overall reliability of the scale would

maintain a high internal consistency with the lowest alpha positioned at 0.8881 (refer to Table 3).

**Table 3:** Item-total statistics for Factor 1 (Organisational Pressure Ulcer Prevention)

Statement Number	Statement	Corrected Item-Total Correlation	Alpha if Item Deleted
10	Your facility provides you with the pressure relieving/reducing equipment needed to assist in preventing pressure ulcers.	0.7509	0.8894
11	Your facility has established repositioning protocols for residents at risk of pressure.	0.7206	0.8919
12	There is enough time during a shift to provide pressure area care for all residents who require this.	0.5461	0.9062
13	At the end of each shift you know all preventative skin and pressure reducing / relieving strategies required for residents in your care has been attended.	0.6489	0.8954
14	Your facility requires you to report the occurrence of a pressure ulcer in a written format or report it to a nurse who does this.	0.6044	0.8981
15	It is your facility's policy to accept new research findings in pressure ulcer prevention and treatment, implementing research findings at the ward level.	0.6781	0.8938
17	If a resident develops a pressure ulcer your facility provides appropriate pressure relieving/reducing equipment for managing the ulcer.	0.7715	0.8881
18	Your facility has a mattress maintenance and replacement program in place.	0.6132	0.8980
19	Your facility has a manual handling education program that teaches staff how to move residents to avoid skin damage from the forces of shear and friction.	0.6297	0.8967
20	Your facility provides education on the prediction, prevention and management of pressure ulcers for all staff involved in the residents care. (Licensed and unlicensed staff).	0.7312	0.8900
Cronbach's Alpha = 0.9043			



## *Factor 2: Organisational pressure ulcer prediction*

Of the total sample (n=118), 115 were processed in the analysis. Cronbach's Alpha was 0.9201, which supports a high overall internal consistency, that is, the eight statements in Factor 2 are highly likely to measure the same construct. As in Factor 1, all statements were retained for representation based on the 0.33 criterion. The 'Alpha if Item Deleted' column reveals that if any of the statements were to be deleted the overall reliability of the scale would maintain a high internal consistency with the lowest alpha positioned at 0.9053 (refer to Table 4).

**Table 4:** Item-total statistics for Factor 2 (Organisational Pressure Ulcer Prediction)

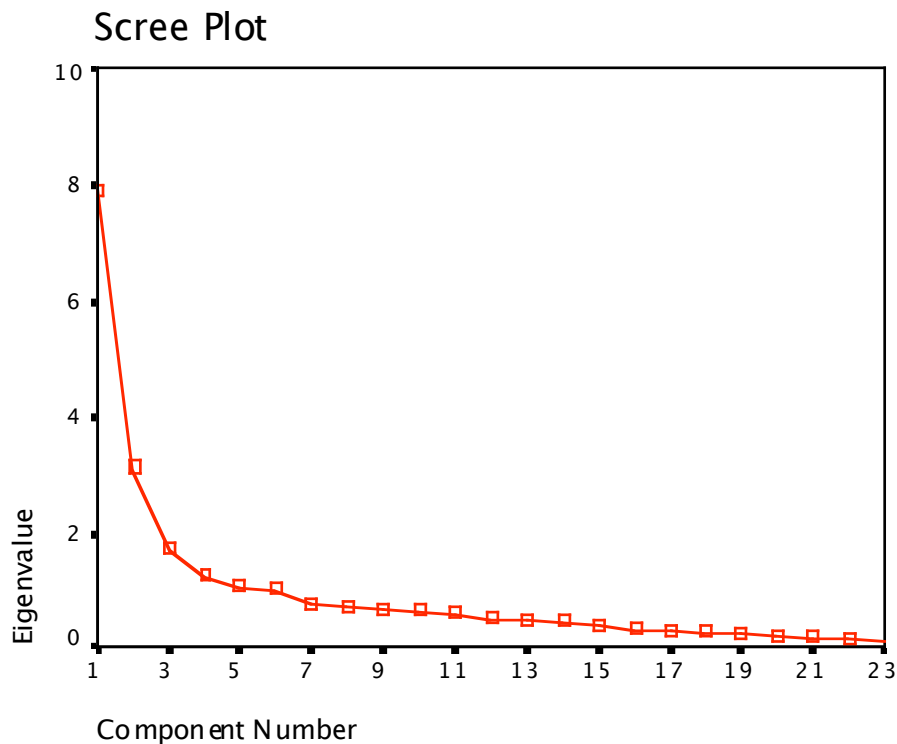
Statement Number	Statement	Corrected Item-Total Correlation	Alpha if Item Deleted
1	Guidelines for the prediction and prevention of pressure ulcers are available in your facility.	0.7169	0.9113
2	These guidelines are always accessible in your facility.	0.7541	0.9081
3	It is your facility's policy to conduct a pressure ulcer risk assessment on all new residents.	0.7072	0.9120
4	It is your facility's policy to evaluate the pressure ulcer risk to your existing residents on a regular basis as deemed appropriate for each individual.	0.7282	0.9105
5	You are provided with a pressure risk assessment tool/form to assist in predicting and preventing pressure ulcers.	0.6936	0.9137
6	Your facility audits the use of these pressure ulcer tools in a timely manner.	0.7874	0.9053
7	You are provided with results of these pressure ulcer tool audits.	0.7506	0.9086
8	Protocols for the treatment of all stages of pressure ulcers are always available to you.	0.7521	0.9083
Cronbach's Alpha = 0.9201			

In total eighteen organisational statements were retained. These statements support two factors; the first represents organisational pressure ulcer prediction strategies and the second, organisational pressure ulcer prevention strategies.

## **Section Two: Clinical utilisation of pressure ulcer prediction and prevention guidelines**

Principal Components Extraction, followed by Oblimin Rotation method with Kaiser Normalisation was employed to investigate the factor structure of the twenty three 'Clinical Management' statements (refer to Appendix D). Missing values were managed by excluding cases pairwise, and factor loadings with values less than 0.33 were suppressed.

The Bartlett's Test of Sphericity yielded a Chi-Square of 1360.50, and an associated level of significance smaller than 0.001. Thus the hypothesis that the correlation matrix is an identity matrix is rejected. Therefore the correlation matrix has significant correlations among at least some of the variables. Using the Eigenvalues of one or greater criterion, six factors were retained for rotation. These six factors accounted for 34.43%, 13.568%, 7.505%, 5.451%, 4.636% and 4.432% of the total variance, respectively, for a total of 70.023%. The Scree Plot however suggests a three-factor solution (see Figure 2).



**Figure 2:** Scree Plot for ‘Clinical Practice’ Factor Analysis.

The Pattern matrix (see Table 5) presents the six factors after Oblimin rotation. To interpret these six factors is difficult due to cross loadings and some factors containing only one or two items. However after removing the cross loadings from Factor 1 it is clear that this factor contains several items that hang together conceptually, clearly reflecting the assessment/prevention construct of pressure ulcer strategies. The remaining five factors are difficult to interpret. Further reruns occurred stipulating the numbers of factors to extract. Such an approach transpired until the factors became clearer for interpretation. This was, as suggested by the Scree Plot, at the three factor extraction. The Pattern Matrices for all runs have been included below (see Tables 5, 6, 7 & 8).

**Table 5:** Pattern Matrix for the Eigenvalues greater than one criterion, post Oblimin Rotation for 'Clinical Practice'

Item	Factors					
	1	2	3	4	5	6
I always use a standard tool/form to assess the nutritional status of a new resident.	0.804					
I find the pressure risk assessment form easy to use.	0.779					
If a resident has a pressure ulcer I always assess their nutritional status.	0.763					
I regularly consult with a wound management specialist on the management of a pressure ulcer.	0.750					
When a resident has a pressure ulcer I assess the wound and surrounding skin before continuing with a dressing regime.	0.681					
I always use a pressure risk assessment tool to assess the pressure risk to a resident.	0.670					
All residents are repositioned according to a set facility schedule.		0.839				
I assist residents to move in their chair or bed upon their request only.		0.806				
I tilt the foot and elevate the head of a resident's bed to relieve heel pressure.		0.457	-0.394			
On turning a resident I always check the resident's pressure points for skin integrity.			0.832			
There is a nutritional program implemented for residents identified as having a nutritional deficit.			0.705			
I use pillows or foam to elevate the heels of bed-bound residents off the bed at every turn.	-0.390		0.668			
When planning a repositioning regime I always consider the resident's skin tolerance to pressure.	0.344		0.648			
I always protect skin susceptible to shearing and friction with padding or a protective dressing			0.577			
I encourage ambulatory residents to mobilise on a regular basis.			0.524			
All residents considered to be at risk of pressure are on a pressure-relieving surface.				-0.777		
I always use pressure-relieving devices on chairs for those who sit out for extended periods of time.				-0.741		
I always document when and how I provide pressure care for a resident.				-0.533		
I educate residents on the importance of mobilising and frequent position changes.	0.353			-0.377		
I often replace a dressing on a pressure ulcer without completing an assessment of the wound.					-0.792	
The resident's doctor decides on the treatment of the ulcer and I only do the dressing.				0.399	-0.763	
I only use my intuition and nursing experience to identify residents at risk of pressure ulcers.		0.363			-0.432	
I rub the heels and buttocks of residents as a routine part of pressure area care that I provide.						0.902

(Note: cross loadings are highlighted in grey)

**Table 6:** Pattern Matrix for the five factor extraction, post Oblimin Rotation for ‘Clinical Practice’

Item	Factors				
	1	2	3	4	5
I find the pressure risk assessment form easy to use.	0.785				
I always use a standard tool/form to assess the nutritional status of a new resident.	0.721				
If a resident has a pressure ulcer I always assess their nutritional status.	0.702				
I always use a pressure risk assessment tool to assess the pressure risk to a resident.	0.669				
When a resident has a pressure ulcer I assess the wound and surrounding skin before continuing with a dressing regime.	0.656				
I regularly consult with a wound management specialist on the management of a pressure ulcer.	0.609	-0.380			
I rub the heels and buttocks of residents as a routine part of pressure area care that I provide.	0.422				
I assist residents to move in their chair or bed upon their request only.		0.810			
All residents are repositioned according to a set facility schedule.		0.764			
I tilt the foot and elevate the head of a resident’s bed to relieve heel pressure.		0.479	-0.416		
I only use my intuition and nursing experience to identify residents at risk of pressure ulcers.		0.434			-0.411
On turning a resident I always check the resident’s pressure points for skin integrity.			0.864		
There is a nutritional program implemented for residents identified as having a nutritional deficit.			0.745		
When planning a repositioning regime I always consider the resident’s skin tolerance to pressure.			0.689		
I use pillows or foam to elevate the heels of bed-bound residents off the bed at every turn.	-0.367		0.660		
I always protect skin susceptible to shearing and friction with padding or a protective dressing			0.602		
I encourage ambulatory residents to mobilise on a regular basis.			0.569	-0.336	
I always use pressure-relieving devices on chairs for those who sit out for extended periods of time.				-0.737	
I always document when and how I provide pressure care for a resident.				-0.687	
All residents considered to be at risk of pressure are on a pressure-relieving surface.				-0.618	
I educate residents on the importance of mobilising and frequent position changes.				-0.534	
The resident’s doctor decides on the treatment of the ulcer and I only do the dressing.				0.438	-0.768
I often replace a dressing on a pressure ulcer without completing an assessment of the wound.					-0.766

(Note: cross loadings are highlighted in grey)

**Table 7:** Pattern Matrix for the four factor extraction, post Oblimin Rotation for ‘Clinical Practice’

Item	Factors			
	1	2	3	4
I find the pressure risk assessment form easy to use.	0.801			
If a resident has a pressure ulcer I always assess their nutritional status.	0.799			
I always use a standard tool/form to assess the nutritional status of a new resident.	0.779			
I always use a pressure risk assessment tool to assess the pressure risk to a resident.	0.719			
I regularly consult with a wound management specialist on the management of a pressure ulcer.	0.701			
When a resident has a pressure ulcer I assess the wound and surrounding skin before continuing with a dressing regime.	0.670			
I rub the heels and buttocks of residents as a routine part of pressure area care that I provide.	0.358			
I assist residents to move in their chair or bed upon their request only.		0.792		
All residents are repositioned according to a set facility schedule.		0.714		
I often replace a dressing on a pressure ulcer without completing an assessment of the wound.		0.690		
I only use my intuition and nursing experience to identify residents at risk of pressure ulcers.		0.660		
I tilt the foot and elevate the head of a resident’s bed to relieve heel pressure.		0.509	-0.436	
On turning a resident I always check the resident’s pressure points for skin integrity.			.796	
There is a nutritional program implemented for residents identified as having a nutritional deficit.	0.332		0.713	
I use pillows or foam to elevate the heels of bed-bound residents off the bed at every turn.			.700	
When planning a repositioning regime I always consider the resident’s skin tolerance to pressure.	0.347		0.665	
I always protect skin susceptible to shearing and friction with padding or a protective dressing			0.660	
I encourage ambulatory residents to mobilise on a regular basis.			0.584	
I always use pressure-relieving devices on chairs for those who sit out for extended periods of time.				-0.657
The resident’s doctor decides on the treatment of the ulcer and I only do the dressing.		0.486		0.615
All residents considered to be at risk of pressure are on a pressure-relieving surface.				-0.599
I always document when and how I provide pressure care for a resident.				-0.583
I educate residents on the importance of mobilising and frequent position changes.	0.335		0.371	-0.404

(Note: cross loadings are highlighted in grey)

**Table 8:** Pattern Matrix for the three factor extraction, post Oblimin Rotation for 'Clinical Practice'

Item	Factors		
	1	2	3
I find the pressure risk assessment form easy to use.	0.833		
If a resident has a pressure ulcer I always assess their nutritional status.	.0813		
I always use a pressure risk assessment tool to assess the pressure risk to a resident.	0.798		
I always use a standard tool/form to assess the nutritional status of a new resident.	0.786		
When a resident has a pressure ulcer I assess the wound and surrounding skin before continuing with a dressing regime.	0.739		
I regularly consult with a wound management specialist on the management of a pressure ulcer.	0.738		
I always document when and how I provide pressure care for a resident.	0.460		0.361
I assist residents to move in their chair or bed upon their request only.		0.804	
All residents are repositioned according to a set facility schedule.		0.708	
I often replace a dressing on a pressure ulcer without completing an assessment of the wound.		0.680	
I only use my intuition and nursing experience to identify residents at risk of pressure ulcers.		0.661	
The resident's doctor decides on the treatment of the ulcer and I only do the dressing.		0.594	
I tilt the foot and elevate the head of a resident's bed to relieve heel pressure.		0.476	-0.368
On turning a resident I always check the resident's pressure points for skin integrity.			0.801
I use pillows or foam to elevate the heels of bed-bound residents off the bed at every turn.			0.745
I always protect skin susceptible to shearing and friction with padding or a protective dressing			0.715
I encourage ambulatory residents to mobilise on a regular basis.	0.356		0.654
When planning a repositioning regime I always consider the resident's skin tolerance to pressure.	.363		.599
There is a nutritional program implemented for residents identified as having a nutritional deficit.			.572
I educate residents on the importance of mobilising and frequent position changes.	0.461		0.502
All residents considered to be at risk of pressure are on a pressure-relieving surface.	0.368		0.426
I always use pressure-relieving devices on chairs for those who sit out for extended periods of time.	0.391		0.422
I rub the heels and buttocks of residents as a routine part of pressure area care that I provide.			-0.421
<b>Factor Correlations</b>			
Factor 1	--		
Factor 2	6.839E-20	--	
Factor 3	0.349	-0.205	--

A two-factor extraction was conducted but this added little to the interpretation of factors and in effect appeared to increase the complexity of the analysis. The Scree Plot (see Figure 2) was utilised to support the decision to interpret a three-factor extraction. The resulting three factors accounted for 34.43%, 13.568%, and 7.505% of the total variance, respectively, for a total of 55.503%. The statements that loaded on to more than one factor were deleted (refer to Table 4. 7 for the clean factors). As with the 'Organisational' factors, the next phase in the Factor Analysis process is to test the reliability of the three factors.

### **Clinical Practice: Reliability of the Questionnaire**

As in section one, the Cronbach's Alpha was utilised to test the internal consistency, and hence the reliability of the questionnaire. The data set used for this was the data after reverse scoring of the negative statements (n = 118). The three factors (extracted from twenty three statements) that represent clinical practice are pressure ulcer assessment, inappropriate procedures and prevention (refer to Table 4.7 for the list of statements contained in the three factors).

#### *Factor1: Assessment process for pressure ulcer prediction and management*

Of the total sample of 118 cases, 105 were analysed. Adopting a pairwise exclusion thirteen cases were ineligible for analysis due to missing values. Cronbach's Alpha is 0.89, which supports a high overall internal consistency, that is, the six statements in Factor 1 are highly likely to measure the same construct. All statements were retained for representation based on the 0.33 criterion (refer to Table 5.14).



**Table 9:** Item-total statistics for Factor 1 (Assessment)

Statement Number	Statement	Corrected Item-Total Correlation	Alpha if Item Deleted
2	I find the pressure risk assessment form easy to use.	0.7653	0.8584
4	If a resident has a pressure ulcer I always assess their nutritional status.	0.7661	0.8584
19	I regularly consult with a wound management specialist on the management of a pressure ulcer.	0.6327	0.8811
20	When a resident has a pressure ulcer I assess the wound and surrounding skin before continuing with a dressing regime.	0.6400	0.8789
3	I always use a standard tool/form to assess the nutritional status of a new resident.	0.7119	0.8674
1	I always use a pressure risk assessment tool to assess the pressure risk to a resident.	0.7200	0.8660
Cronbach's Alpha = 0.8879			

*Factor 2: Inappropriate practice.*

A total of 108 cases were processed in the analysis once pairwise exclusion of missing cases was utilised. Cronbach's Alpha was 0.7477, which supports a good overall internal consistency. Therefore all statements were retained for representation of the factor (refer to Table 10).

**Table 10:** Item-total statistics for Factor 2 (Inappropriate Practice)

Statement Number	Statement	Corrected Item-Total Correlation	Alpha if Item Deleted
5	I assist residents to move in their chair or bed upon their request only.	0.5990	0.6738
9	All residents are repositioned according to a set facility schedule.	0.5181	0.7023
13	I often replace a dressing on a pressure ulcer without completing an assessment of the wound.	0.4934	0.7100
23	I only use my intuition and nursing experience to identify residents at risk of pressure ulcers.	0.4199	0.7343
21	The resident's doctor decides on the treatment of the ulcer and I only do the dressing.	0.5433	0.6918
Cronbach's Alpha = 0.7477			

*Factor 3:Pressure Ulcer Prevention.*

A total of 113 cases were processed in the analysis once pairwise exclusion of missing cases was utilised. Cronbach's Alpha was 0.5, which supports a low internal consistency, that is, the five statements in Factor 2 may not all measure the same construct. To increase the internal consistency the statement 'I rub the heels and buttocks of residents as a routine part of pressure area care that I provide' was removed. Conceptually this was a 'good fit' as the statement was included in the questionnaire, as a negative statement therefore representing 'not recommended practice' and doesn't conceptually fit in this factor. It fits conceptually in Factor 2. The 'Alpha if Item Deleted' is 0.78 providing an increase in the internal consistency of Factor 3 (refer to Table 11). On deletion of this statement four statements now represent Factor 3 (see Table 4.8 for reviewed factor).

**Table 11:** Item-total statistics for Factor 3 (Pressure Ulcer Prevention)

Statement Number	Statement	Corrected Item-Total Correlation	Alpha if Item Deleted
7	On turning a resident I always check the resident's pressure points for skin integrity.	0.5472	0.3024
10	I use pillows or foam to elevate the heels of bed-bound residents off the bed at every turn.	0.3310	0.4025
11	I always protect skin susceptible to shearing and friction with padding or a protective dressing.	0.5078	0.2933
6	There is a nutritional program implemented for residents identified as having a nutritional deficit.	0.5127	0.2838
22	I rub the heels and buttocks of residents as a routine part of pressure area care that I provide.	-0.1695	0.7823
Cronbach's Alpha = 0.4974			