



Pressure Ulcer Risk Assessment and Prevention

Report of a national audit pilot project

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Funded by



Acknowledgements

This report presents findings from a national audit pilot project managed and co-ordinated by the Quality Improvement Programme, Royal College of Nursing Institute. The aim of the project was to improve pressure ulcer risk assessment and prevention, through dissemination and implementation of the RCN guideline 'Risk Assessment and Prevention of Pressure Ulcers' (RCN 2001a), and a baseline and follow up audit of practice using specifically developed audit tools. The project was funded by Huntleigh Healthcare.

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Executive summary

“The human and financial costs of pressure ulcers, together with a variation in practice across the UK and a growing body of knowledge about effectiveness, have highlighted the need for recommendations for practice. In response, the NHS Executive commissioned the Royal College of Nursing (RCN) to produce an evidence-linked clinical guideline on risk assessment and prevention of pressure ulcers.” (RCN 2001a)

UK studies published during the last decade have reported pressure ulcer prevalence ranging from 10% to 33%, the wide range in prevalence probably arising from use of different patient populations, health care settings, study methodologies and assessment tools. The direct and indirect costs to patients, their carers and the health services of pressure ulcer development are considered to be significant, although few studies have collected data on health service costs or quality of life outcomes. One study that did estimate the financial cost to the health service of providing intensive nursing, special equipment and extended hospital stays for managing patients with pressure ulcers reported this to be at least £750 million per annum (West and Priestly 1994). Current costs are likely to be much higher.

This report presents findings from an 18 month national audit pilot project, the aim of which was to improve pressure ulcer risk assessment and prevention to reflect the recommendations for best practice presented in the RCN guideline (RCN 2001a). The project was funded by Huntleigh Healthcare and co-ordinated by the Quality Improvement Programme, Royal College of Nursing. The model for the project was one of local ownership and national co-ordination, representing a number of principles that underpin previous RCN work on quality improvement, including devolving decision-making to clinical level, ensuring the commitment of the organisation to quality improvement and ensuring active patient/carer involvement (Morrell 2001).

There were several objectives:

- To develop a dissemination and implementation strategy to accompany the RCN guideline, including an evidence-based resource pack for health professionals.

- To audit care in pressure ulcer risk assessment and prevention, using criteria based on the RCN guideline, through the development of audit tools that could be used nationally
- To establish networks to enable benchmarking and sharing of experiences
- To make recommendations for future research and audit

Undertaking audit would not enable a direct comparison of practice before and after implementation of the RCN guideline, nevertheless it would enable an assessment of whether the dissemination and implementation strategy had influenced an improvement in care.

Two audit tools were developed, one for the patient and one for the clinical area they were admitted to. The patient tool included twelve audit criteria, which reflected guideline recommendations for risk assessment that should be documented in the patient record, as well as need for equipment provision and timely review of this, and ensuring the information needs of patients and carers were met. Education and training for health care professionals, availability of local guidelines and evidence of current audit practice within the clinical area were reflected in three criteria included in the second audit tool.

Six sites, including NHS trusts and nursing care homes, took part in the study. Link nurses for each site and each clinical area selected within the sites (including medical, orthopaedic and care of older people), liaised with the project team, and assisted with the audits.

Providing clinical staff with guidelines alone will not change practice, and an important part of the project was to develop a dissemination and implementation strategy that reflected evidence based recommendations to enhance health care provision. There were several components to the strategy, including support materials for all staff involved, the provision of education sessions and the development of an evidence-based resource pack, which included information on how to implement guideline recommendations. After undertaking a baseline audit of practice (Audit 1),

education sessions were undertaken at each site. The sessions included information on the importance of pressure ulcer risk assessment and prevention, a description of the background to the development of the RCN guideline and the role of audit in quality improvement. A second audit of practice (Audit 2) was then undertaken at each site.

All audit data were entered into a database using the Microsoft Excel package and comparative analysis undertaken to compare practice at Audit 1 and 2. Analysis showed an improvement in practice in terms of compliance with many of the audit criteria at Audit 2. More patients had their pressure ulcer risk assessment completed within 24 hours of admission to the clinical area and were more likely to have their nutrition, continence and hygiene needs assessed. Review of mattress and overlay provision was more likely to be documented in the patient records and patients who may have benefited from cushion provision were more likely to have had one provided. More patients had a repositioning schedule, movement and handling assessment and length of time seated in a chair documented.

The audit of the clinical area showed the number of sites that produced local guidelines that reflected the RCN guideline recommendations increased, but only three sites had introduced patient information leaflets. The need to increase provision of staff training in pressure ulcer risk assessment and prevention across all sites was highlighted.

Chapter 1

Introduction and background

1.1. Introduction

This report describes an eighteen-month pilot project to disseminate and implement the Royal College of Nursing guideline Pressure Ulcer Risk Assessment and Prevention (RCN 2001a)¹ and audit to assess change in practice. The project was funded by Huntleigh Healthcare and managed and co-ordinated by the Quality Improvement Programme, Royal College of Nursing Institute, Oxford.

The report includes four chapters. Chapter 1 describes the background to the work, the burden of disease to patients, carers and the health service, and the project aims and objectives. Chapter 2 describes the project methodology, including data entry and analysis. Results, including recruitment of sites and audit findings are presented in Chapter 3, and Chapter 4 discusses findings, makes recommendations for practice and highlights areas for primary research.

1.2. Background

The development of pressure ulcers and debate over how best to prevent occurrence are not modern phenomena, and appear to have presented considerable problems for sufferers and their carers for centuries. In 1593, Fabricius Hildanus, a surgeon from the Netherlands described the characteristics of a pressure ulcer as “*natural and supernatural, an interruption of the supply of pneuma, blood and nutrients*” (cited DeFloor 1999). Possible risk factors for pressure ulcers were also identified several centuries ago, for example in 1722 a French surgeon, de la Motte, documented his observation that the extrinsic factor of pressure appeared to be directly related to the occurrence of a breakdown in skin and tissue (cited DeFloor 1999).

¹ The RCN guideline was also published as Inherited Guideline B (NICE 2001)

Risk factors for the development of pressure ulcers are now understood to be multifactorial, although localised damage to the skin and underlying tissue is still primarily considered to be the trigger for development. Damage can be caused by pressure, shear and/or friction (Allman 1997), combined with the effects of intrinsic and extrinsic factors, such as the patient’s physical and psychological well-being and care environment (Collier 1996). Pressure ulcers are reported across all health care settings, affect all age groups, including infants and neonates, and are costly in terms of quality of life for those who sustain tissue damage, and in terms of demands on health service resources (European Pressure Ulcer Advisory Panel 1998). Pressure ulcers are chronic, debilitating wounds, which continue to be significant and challenging clinical problems.

1.2.1. Prevalence

Studies over the last decade undertaken in a variety of different UK health care settings have reported a pressure ulcer prevalence of 7% - 33% (prevalence is the proportion of a defined group of patients with a pressure ulcer at a defined point in time). This variation is in part due to use of different assessment tools, patient groups, health care settings and data collection methods. Comparisons between settings are thus difficult to make, and pressure ulcer prevalence in some of the studies undertaken in a specific health care setting are shown in Table 1.

Table 1. Pressure ulcer prevalence in different health care settings

Setting	Reported prevalence
Acute hospitals	7-19% (Dealey, 1993, O’Dea 1993)
Nursing home	7.5% (Roberts 1994)
Community	0-15% (Hanson 1997)
Hospice	21-33% (Chaplin 1999)

1.2.2. Cost to the NHS

Despite pressure ulcers being reported across all health settings and patient groups, there is a dearth of economic data to inform policy makers. West and Priestly (1994) in a paper explaining the rationale behind costings for pressure ulcer treatment used by the Department of Health, estimated direct costs of providing intensive nursing,

specialist equipment and extended length of hospital stay for patients with pressure ulcers to be around £750 million per annum. Collier (1999) estimated both direct and indirect costs of treating a patient with a grade 4 pressure ulcer (the most severe form of ulcer, based on the Stirling Scale), as approximately £40,000; this was in addition to the cost of the treatment for which the patient was originally admitted. Costs to the health services are likely to be higher today. A recent paper assessing the quantitative and qualitative effects of chronic wounds described these, for both patients and carers, as immeasurable due to reduced quality of life, changing roles, altered lifestyles and financial burden (Frank 2001).

Health care resources have increased not only in relation to direct treatment costs but also as a consequence of legal judgements made against health care providers that require financial settlement. Tingle (1997) reviewed a number of legal cases and highlighted several themes common to all cases and across all health care settings, most significantly the lack of risk assessment to prevent pressure ulcers. Poor communication, incomplete documentation and non-reflective practice were also identified as common factors contributing to poor quality of patient care. The health care providers were required to make payments to complainants of between £4,500 and £12,500 to compensate for pain, suffering and inadequate risk assessment to prevent occurrence. These and other similar legal cases highlight the need for, and importance of, appropriate pressure ulcer risk assessment and prevention.

1.2.3. Variation in practice

The occurrence of pressure ulcers is anecdotally viewed as an indicator of ineffective clinical care, with lower rates seen as a consequence of a better quality of care. There is presumed to be a wide variation in practice across the UK, both between trusts and between wards in the same trust, although as there are currently no national databases of pressure ulcer incidence or prevalence, it is difficult to confirm or refute this. Fletcher (2001) suggested in a discussion paper it was *'impossible to determine any real change in frequency (of pressure ulcer development) due to the lack of a consistent, systematic and valid approach to data collection'* (p311).

A large number of studies and case reports have been published in the nursing, medical and allied health professional press on interventions to reduce the incidence and prevalence of pressure ulcers. Despite this, literature reviews have consistently highlighted the need for further research because of a lack of valid and generalisable data and there continue to be few examples of how to improve risk assessment and prevention in this important area (Gould et al 2000).

1.3. The evidence base

Rapid advances in health technology mean that decisions about treatment options are becoming more complicated for patients, carers and health professionals. The potential efficacy and effect of treatment options also have to be weighed against a background of limited health care resources, competing priorities and variation in practice (Duff et al 2000), as well as issues related to the impact on the patient's quality of life. Given this complexity, there is increasing interest in clinical guidelines as a way of assisting decision-making. Clinical guidelines are developed using systematic reviews of the available evidence, which classify research studies according to their design and evaluate the reliability and validity of their findings. This evidence is then linked to recommendations for practice, which are increasingly also reflecting the views and preferences of patients. The recently issued Nursing and Midwifery Council code of professional conduct (NMC 2002) states that practitioners '*have a responsibility to deliver care based on current evidence, best practice and, where applicable, validated research when it is available*' (NMC 2002:8). The implementation of guidelines will assist with this.

1.3.1. The development of the RCN guideline

The RCN was commissioned by the Department of Health (DOH) to develop and publish a clinical guideline on pressure ulcer risk assessment and prevention (RCN 2001a). A multidisciplinary guideline development group was convened, and a rigorous review of the available evidence undertaken. Where the evidence base was weak, but the guideline development group considered a guideline recommendation was warranted, an innovative, multidisciplinary consensus approach was used

(Rycroft-Malone 2001). As a number of recommendations were all or in part based on consensus expert opinion, the guideline is described as evidence-linked, rather than evidence-based.

The establishment in 1999 of the National Institute for Clinical Excellence (NICE), which took over responsibility for developing guidelines on topics selected by the Department of Health and Welsh Assembly Government, led to the guideline being released as an inherited NICE guideline, to inform NHS care in England and Wales (NICE 2001). The evidence was also used to inform the 'Essence of Care' document (DOH 2001), which assists in the promotion of benchmarking core and essential aspects of care.

1.3.2. Implementing evidence into practice

Many primary and secondary research studies have been undertaken of strategies to facilitate the implementation of evidence in to practice. One recent systematic review of the available evidence showed that to achieve an improvement in clinical effectiveness, mechanisms had to be in place to enable individual and organisational change to occur (NHS Centre for Reviews and Dissemination 1999). The review also recommended that consideration be given to environmental factors within an organisation, the resource implications of introducing change in practice, as well as the importance of undertaking a baseline analysis to identify factors affecting change.

Duff et al (1996) in a paper that discussed the concept behind clinical guidelines identified techniques that can influence their uptake in to practice. These were:

- education on guideline content
- support for practitioners
- dissemination
- raising awareness among those expected to use the guideline
- reminders
- incentives

- audit and feedback of results
- organisational commitment

Research has shown dissemination of guidelines alone will not lead to a subsequent change in practice and the importance of using a variety of implementation strategies to facilitate change has been highlighted (Grimshaw & Russell 1993, Dunning et al 1998, Thomas et al 1998, NHS Centre for Reviews and Dissemination 1999).

The principles underpinning the work of previous national audit projects co-ordinated by the RCN Quality Improvement Programme (RCN 2001b) and research findings in relation to the effective dissemination and implementation of clinical guidelines described in this section informed the methodology developed for the current project.

1.4. Philosophy and principles

As with previous projects led by the RCN Quality Improvement Programme, the challenge was to develop a methodology for the current project that was nationally co-ordinated but also locally owned, by incorporating the principles of quality improvement presented in Figure 1. These principles have been developed and refined over a number of years of work in the field. Creating a sense of local ownership among health professionals, patients and carers most likely to be affected by the guideline, involves applying the principles at every stage of the project.

Figure 1: The principles of quality improvement

- Decision-making is devolved to clinical level.
- The organisation is committed to quality improvement.
- There is active patient/carer involvement.
- Standards are based on the best possible evidence.
- Leadership, collaboration and teamwork are central.
- Implementation takes place through facilitation.

The support and commitment of employing organisations is essential if health professionals are to successfully implement guideline recommendations, which may mean time away from the clinical area, the purchase of new equipment or provision of administrative support. Responsibilities for decision-making should also be devolved to ensure those leading the work have the authority to act on behalf of the organisation.

To be successful, quality improvement initiatives should include all those affected by the subject under review, with genuine consultation so all involved feel they are valued team members (Morrell et al 1997). Those likely to be affected by implementation of a guideline, for example, support staff, managers, clinical audit staff and patients should be advised and consulted (Kelson 1998). The establishment of a local audit group that includes representation from all relevant groups would be particularly supportive, particularly if a trained facilitator was used to guide the group, both in the process of working together and completing the project (Morrell and Harvey 1999).

1.5. The project team

The project was co-ordinated and managed by a Project Manager and Senior Research and Development Fellow, RCN Quality Improvement Programme. The Quality Improvement Programme leads the RCN's work on guideline development and implementation, provision of information services to RCN members, audit and clinical governance initiatives.

1.5.1. Advisory panel

During the initial phase of the project, key stakeholders were identified to ensure appropriate representation from specialists in tissue viability, guideline development, dissemination, implementation and audit. An advisory panel, that comprised national and international experts in these areas, was formed to provide the relevant guidance and expertise (Appendix 1). The panel undertook critical review of the resources developed for the project and formulated recommendations for future work.

1.5.2. Site link nurse

At each of the sites a link nurse was recruited to assist the facilitation of the project in to practice. Not only were they pivotal to support the dissemination and implementation strategy within the site, but also to assist with the audit of practice and provide feedback on the strategy to the RCN project management team.

1.6. Project aims and objectives

The aim of the project was to improve pressure ulcer risk assessment and prevention to reflect the recommendations in the RCN guideline. The objectives were:

- To develop a dissemination and implementation strategy to accompany the RCN guideline, including an evidence-based resource pack for health professionals
- To audit care in pressure ulcer risk assessment and prevention, using criteria based on the RCN guideline, through the development of audit tools that could be used nationally
- To establish networks to enable benchmarking and sharing of experiences
- To make recommendations for future work, support and audit

Undertaking audit would not enable a direct comparison of practice before and after implementation of the RCN guideline, nevertheless it would enable an assessment of whether the dissemination and implementation strategy had influenced an improvement in care.

1.6.1. To develop a dissemination and implementation strategy

One important objective was to develop a dissemination and implementation strategy to enable the transfer of the guideline recommendations for risk assessment and prevention of pressure ulcers in to local practice. It was important that the strategy reflected current evidence in relation to improving care.

A recent Cochrane Library systematic review of interventions to implement preventive activities for a range of medical conditions in primary care that included 55 studies, concluded that there was currently no basis for assuming one particular intervention or package of interventions was effective in increasing preventive activities (Hulscher et al 2003). However, tailoring interventions to address specific barriers to change in a particular setting was probably important. Two-thirds of studies included in the review focused on an intervention for prevention informed by guideline recommendations. The strategy for prevention developed for this project is described in more detail in Chapter 2.

1.6.2. To develop audit tools for use nationally

The National Institute for Clinical Excellence (NICE) endorses the following definition of the clinical audit process:

‘Clinical audit is a quality improvement process that seeks to improve patient care and outcomes through systematic review of care against explicit criteria and the implementation of change. Aspects of the structure, processes, and outcomes of care are selected and systematically evaluated against explicit criteria. Where indicated, changes are implemented at an individual, team or service level and further monitoring is used to confirm improvement in health delivery’

(From: Principles for Best Practice Audit. National Institute for Clinical Excellence, 2002. Oxford. Radcliffe Medical Press. Page 1)

Recent NHS policy statements including A First Class Service (Department of Health 1998) and recommendations of the Bristol Royal Infirmary report, have highlighted the need for all health professionals to participate in audit and for the organisations within which they work to support them in audit initiatives (NICE 2002). The development of audit tools was therefore an essential part of the project to enable health professionals to evaluate current care against ‘best practice’ described in the guideline and increase their participation in audit activities. The following chapter describes the audit tool development.

1.6.3. To establish networks to enable benchmarking and sharing of experiences

Similar clinical settings were to be selected across the recruited sites. It was hoped that by focusing on areas with similar patient numbers and equivalent clinical settings, greater comparison across units would be possible and peer support amongst the link staff involved would assist the momentum for change.

1.6.4. To make recommendations for future work, support and audit

The clinical topic of this project, as with previous RCN work, is a priority for the NHS (as evidenced by the development of guidelines by the National Institute for Clinical Excellence) and the independent care sector. Recommendations for further research and audit as a result of this project are made in Chapter 4.

Chapter 2

Methodology

As described in Chapter 1, the aim of the pilot project was to improve practice in line with the recommendations of the RCN guideline on the risk assessment and prevention of pressure ulcers (RCN 2001a). There were several stages to the project:

- Recruitment of pilot sites and link nurses
- The development of a strategy to facilitate the dissemination and implementation of the guideline
- The development of audit tools to assess compliance with the guideline recommendations before and after implementation
- Provision of ongoing support to each site
- Data analysis

2.1. Recruitment of pilot sites and link nurses

As the project had to be completed within 18 months, a decision was made after consulting with the advisory panel and Quality Improvement Programme colleagues, that 4-6 sites providing care to a pre-specified patient population (see below) would provide a sufficient sample size to enable feedback on the usefulness of the audit tools. Based on bed occupancy within the pre-specified clinical areas of NHS trusts and independent sector nursing homes, approximately 55 - 65 patients from each site would be included in each audit. All patients resident within the clinical area on the day of audit would be eligible for inclusion.

Site recruitment was initiated through publications to special interest groups and professional tissue viability forums. As the RCN guideline was developed to inform nursing care in a range of settings, including nursing homes, inclusion was not restricted to NHS trusts, but was also open to the independent sector. Sites were to be

included if they provided care to medical patients, orthopaedic patients or older people, as these groups were considered to have a higher risk of pressure ulcer development and were consequently more likely to have risk factors documented if health professionals were complying with the guideline recommendations. It was anticipated that selecting similar clinical areas would enable comparison of data from audit 1 and audit 2 to be undertaken, as a result of case mix and dependency of patient groups. It is acknowledged that pressure ulcer prevention and management is important in all health care settings, including paediatrics and obstetrics, however time and funding constraints precluded their inclusion.

Following registration of interest, the Tissue Viability Nurse (TVN) at each trust and managers of nursing homes were contacted to confirm interest in being a project site and also to ask if they would be prepared to act as the site link nurses.

It was anticipated that sites may face difficulties participating in each stage of the project, given competing priorities in the health care environment, therefore the support of the senior nurse manager was also sought. Following a positive response from the site link nurse, a letter was sent to the Director of Nursing at each trust or to the nursing home manager, describing the aims and objectives of the project and need for organisational support to facilitate change in practice. The Directors and managers were also asked if they wished to meet with the RCN team to discuss the project, however only one Director asked for a meeting, although all sites agreed to be involved in the audit, as described in Chapter 3.

Permission to undertake the audit within the clinical areas identified was sought, as was advice on whether the trust required ethics committee permission for audit. On request from the Director of Nursing at one trust, advice was sought from their regional Medical Research and Ethics Committee. The opinion of the Committee was that as this was an audit project and as long as local data were anonymised, ethics committee approval was not required. The other Directors of Nursing were satisfied that as this was an audit project, their trusts did not require approval from their regional ethics committees.

2.2. The development of a tailored dissemination and implementation strategy

The strategy for dissemination and implementation was informed by research described in Chapter 1, and by previous projects undertaken by the Quality Improvement Programme. In addition, the site link nurses and staff working in the clinical areas to be audited, were consulted as to the most appropriate method to disseminate the guideline recommendations and facilitate change in their local area. The strategy thus reflected best available evidence in relation to facilitate change in practice, as well as encouraging ‘local ownership’ of the RCN guideline and involvement of all relevant staff in a quality improvement initiative.

2.2.1. Dissemination

Dissemination of the guideline recommendations, the background to the project and importance of undertaking audit was essential if the aims and objectives were to be achieved, therefore a range of interventions were developed by the project team to achieve this. Advice was sought from the link nurses as to the most appropriate method of dissemination for each site. After taking this advice, it was decided by the project team that the project proposal and introductory newsletter (see 2.4.1) should be circulated to each NHS trust ward and nursing home to inform staff about the project. A nurse was also to be recruited from each clinical area who could discuss the project with the staff and act as a resource for staff, and assist with the audits. Staff interested in tissue viability who had also cared for patients to be included in the audit, were asked to take part. Sites were also encouraged to include information on the project in their local newsletters, if these were available. Site link nurses were asked to visit the clinical areas and discuss the project, answering any questions, or referring these back to the RCN Project Manager if further information was required. The guideline recommendations were disseminated through the use of an evidence-based resource pack (see 2.2.2) and on-going support for staff (described in Section 2.4) ensured dissemination continued throughout the project.

2.2.2. Implementation

The strategy for implementation focused on the development of an evidence-based resource pack devised by the project team and colleagues from the Quality Improvement Programme and provision of education sessions by the Project Manager for all relevant staff (see 2.3). The resource pack was given to each senior member of staff in the clinical area to be audited, the site link nurses and Directors of Nursing, and included information pertaining to the needs of the individual practitioner, as well as the organisation, when introducing guidelines in to practice.

The resource pack contained:

- A copy of the guideline summary recommendations
- An implementation guide. This was updated and abridged from a previous RCN publication to facilitate implementation of guidelines for the management of venous leg ulcers (Duff et al, 2000). The guide takes the user through a series of evidence-based steps to achieve implementation. These include: preparing to implement a guideline; identifying techniques to assist; action planning; and audit and evaluation. Case histories and local initiatives to improve pressure ulcer care submitted by practitioners working in different care settings from across the UK were included to illustrate how others were attempting to enhance patient care in this area.
- A questionnaire to be completed by the individual practitioner that elicited their knowledge of evidence-based practice in pressure ulcer risk assessment and prevention
- Slides of presentations given by the Project Manager during education sessions at each site
- The audit tools
- A copy of a patient information leaflet developed by the project team for patients who would be included in the audit, explaining what was being done and why and what would happen if they wished to take part. The leaflet also explained that if a patient did not wish to take part, their care would not be affected in any way.

A revised version of the implementation guide including the audit tools and patient information will be available from RCN Publishing and on the RCN website from November 2003.

2.2.3. The education sessions

The provision of education sessions for health professionals was found in a recent Cochrane Library systematic review to have some effect on the successful implementation of evidence in to practice (Thomson O'Brien et al 2003). Thirty-six studies fulfilled review inclusion criteria with a combined total of 2995 health professionals, however only four studies focused on education sessions for nursing staff, and no studies focused on education sessions in relation to improving pressure ulcer risk assessment and prevention. The RCN Project Manager arranged and led education sessions at each site, with the assistance of the site link nurse, following Audit 1. The sessions were attended by nursing staff from the clinical areas to be audited, senior nurses and/or ward managers. The content of each session focused on a description of evidence-based practice and clinical guideline development; the development and recommendations of the RCN guideline on pressure ulcer risk assessment and prevention (RCN 2001a); an outline of the project and site specific feedback from Audit 1. Attendees were also asked to complete and mark an individual self-assessment questionnaire to enable them to identify their learning needs in relation to pressure ulcer risk assessment and prevention. A discussion followed on local implementation (including perceived local barriers to change) of the RCN guideline recommendations, using the audit results for the site to identify areas for further support and education that could be provided by the Project Manager and/or link nurse.

Sessions were designed to last for approximately 1.5 to 2 hours. Each attendee received:

- the RCN summary guideline recommendations
- the individual self assessment questionnaire and answer sheet
- the slide presentation given by the Project Manager at the session

- a project newsletter
- a reading list and useful websites in the field of tissue viability
- a form to elicit views of participation in an audit project

2.3. The development of audit tools

One of the most important components of the project was the development of the audit tools. The audit criteria were developed from the RCN guideline statements or recommendations to enable objective evidence about performance to be compared with explicit recommendations for best practice. Two audit tools were developed; one for the individual patient and one for the clinical area in which they were receiving their care.

The aim was to produce audit tools acceptable to, and usable by, health professionals working in a range of health care settings. The tools were developed utilising recommendations for audit criteria proposed by Baker and Fraser (1995), which included the following:

- Criteria should be based on evidence where possible
- Criteria should be prioritised according to the strength of the evidence and impact on patient outcome
- Criteria should be measurable and appropriate to the clinical setting.

2.3.1. Identification of the key elements of care

Recommendations based on critical review of the available evidence and expert consensus opinion had been used to define the audit criteria presented in the RCN guideline. All recommendations were equally endorsed and none regarded as optional. Preliminary discussions with members of the advisory panel and colleagues within the Quality Improvement Programme concluded that key areas for inclusion in the audit tools developed for the project should be based on the guideline's 'summary of recommendations'. These were:

- Identifying individuals at risk with an assessment by appropriately trained personnel, within a defined time scale. Changes in the patient's condition should trigger reassessment.
- The use of risk assessment scales should be used in conjunction with clinical judgement as an *aide memoire*.
- Risk factors both intrinsic (physical or psychological well-being) and extrinsic (environmental) should be considered alongside other factors, for example, the medication a patient is taking and their continence status.
- Skin inspection should occur regularly, the timing related to the individual's physical and psychological health. Vulnerable areas on the body should be identified, taking into account the effects of pressure, shear and friction. Those patients who can self inspect should be encouraged to do so following appropriate education.
- Pressure redistributing devices and their use should be based on the overall individual patient risk assessment. Those individuals identified as being at high risk should not be placed on a standard foam mattress, whilst those identified as being at very high risk should be placed on alternating pressure mattresses or similar redistribution systems. Repositioning should continue with the use of any equipment.
- The use of aids such as water filled gloves and doughnut type devices should be avoided.
- Positioning and repositioning should be based on the results of skin inspection, and the individual's needs and condition. Patients identified as being at acute risk of developing pressure ulcers should restrict chair sitting to two hours in every twenty-four until their condition improves. Manual handling devices should be used as appropriate, and patients who are willing and able, encouraged to reposition themselves.
- Seating assessments should be undertaken by appropriately trained assessors. Expertise should be sought regarding correct seating position. No seat cushion has been shown to out perform another, but use must be considered for patients identified to be at risk.

- Education and training in pressure ulcer risk assessment and prevention should be available for health professionals on an inter-disciplinary basis. This training should reflect all the recommendations for enhancing care in the area. Patient and carer education and information should be provided.

Audit criteria are used to judge the quality of care and should concentrate on aspects of care likely to have the greatest impact on individual patient outcome (NICE 2002). Criteria should be based on valid research evidence or the consensus of experts in the field (including patients and carers) in areas where evidence is lacking. In the RCN guideline the less robust evidence related to what are termed ‘the essentials of care’, nutrition, continence and personal hygiene (RCN 2001a). However, the advisory panel and project team considered these were important to include as audit criteria to establish an overall picture of the quality of care provided for patients who may be at risk of pressure ulcer development.

Fifteen audit criteria were developed, based on the RCN guideline (Table 2.1), twelve of which were patient specific and three specific to the clinical area. Guideline recommendations pertinent to patients undergoing surgery and postoperative care were not included as audit criteria, as these clinical areas were not selected for inclusion in the pilot study.

One of the guideline recommendations is that a first nursing assessment should take place within six hours of a patient’s admission to a clinical area, including assessment of their risk of developing a pressure ulcer. However, after consulting with the site link nurses, it was decided that as time of assessment was not routinely recorded on the patient’s notes, evidence should be sought that it took place on the day of admission or within 24 hours if a late evening admission had occurred. Another recommendation is that risk assessment should be undertaken by a practitioner who has received appropriate and adequate training. For the purposes of the audit, it was decided to collect data on the grade of nurse who performed the assessment, based on the assumption that qualified staff should be trained to undertake this aspect of care.

The criteria were presented in a clear and measurable format. Each criterion specified the type of information required and where it would be found (for example, from the nursing documentation for each patient). A protocol that described step by step how the audit should be undertaken was developed to accompany each audit tool, copies of which are included in Appendix 2. Members of the advisory panel, the site link nurses and colleagues in the Quality Improvement Programme were asked to comment on each draft of the audit tools, to verify clarity of each criterion and relevance to the aims and objectives of the project.

2.3.2. The audit plan

Following consultation with members of the advisory panel, site link nurses and Quality Improvement Programme colleagues it was agreed that:

- The audit would be a retrospective review of patient documentation and include an assessment of the patient's skin to verify accuracy of recording of any tissue damage
- The patient group would comprise all patients resident on the identified wards or nursing homes on the day of audit
- The audit tools would be completed by the RCN Project Manager, the site link nurse and a link nurse identified from each clinical area (clinical area link nurse)

Table 2.1 Summary of audit criteria included in the project audit tools

The individual patient

1. The patient documentation shows the first nursing assessment was undertaken within 24 hours of admission.
2. The patient documentation shows the first nursing assessment included a pressure ulcer risk assessment undertaken by a practitioner with appropriate and adequate training, using a risk assessment tool as an *aide memoire*.
3. The patient documentation shows the first nursing assessment included assessment of the patient's nutritional, continence and personal hygiene status.
4. The patient documentation shows the first assessment included skin inspection and identification and grading of any identified pressure ulcers.
5. The patient documentation shows reviews of pressure ulcer risk status as a result of a change in patient's condition.
6. The patient documentation shows skin inspection is planned, implemented and where applicable reviewed.
7. The patient documentation shows appropriate type of support surface in use for 'at risk' and 'high risk' patients, and where applicable, review of use.
8. The patient documentation shows other equipment used to relieve pressure. These should not include water-filled gloves, synthetic or genuine sheepskins or doughnut shaped devices.
9. The patient documentation shows that for patients identified 'at risk' of pressure ulcer development, repositioning, based on results of skin inspection and individual need, is implemented as part of their care plan. This may include a repositioning schedule for those patients unable to reposition themselves.
10. The patient documentation shows that for patients identified at acute risk, length of time seated is limited to 2 hours in every 24.
11. For patients requiring special aids and equipment for seating, the patient documentation shows an appropriately trained professional (e.g. physiotherapist or occupational therapist) performed the assessment.
12. The patient documentation shows evidence of education and/or information, whether verbal or written is given to patients and their carers.

The clinical area

13. The training and education records of health professionals shows evidence of training on pressure ulcer risk assessment and prevention, including implementation of guideline recommendations.
14. There is evidence that local guidelines, updated to include the RCN guideline recommendations, are available to health professionals and patients in all clinical areas.
15. There is evidence of regular audit of clinical effectiveness across all clinical settings.

As the patient audit tool was to include a section on skin inspection and retrospective review of their nursing record, patients were asked to give verbal consent for this to take place. A patient information leaflet, which described why the audit was being undertaken, was translated into Welsh, Urdu, and Bengali, the most commonly spoken languages at the sites after English (Appendix 3). All audit data collected for each

patient were anonymised and no names were used. To ensure standardisation of pressure ulcer grading (which differs from assessment of risk factors) for the purposes of the audit, the European Pressure Ulcer Advisory Panel (EPUAP) tool was used by the project team. The tool grades ulcers on a scale of 1 – 4, where 1 indicates non blanchable erythema of intact skin and 4 indicates damage extending through all layers of skin, muscle and underlying fascia. To assist with grading, photographic examples of each grade of ulcer are presented and the tool provides a clear description of what each grade represents.

Reduction in pressure ulcer prevalence was not an objective of the pilot project, due to the time constraints and difficulties documenting and analysing all possible contributory factors. Nevertheless, it was considered useful to assess prevalence at both audits.

The audit tools and protocols were discussed at initial project meetings with the site link nurses, which enabled them to ask questions and comment on these aspects of the project. Each site was asked to identify ward or patient areas that met the inclusion criteria and dates were arranged for the RCN project manager to return to each site to undertake the baseline audit (Audit 1). Copies of the audit tools, protocols, patient information leaflets and consent forms, were sent to the site link nurses in advance of the planned audit days, to enable them to familiarise themselves with the tools and process for data collection. The site link nurse arranged time in the clinical area for the audit to take place and for a member of staff working within the area (the clinical area link nurse) to assist with the audit.

Audit 2 commenced at each site five to six months after the education sessions that took place following Audit 1 (see 2.3). The process followed replicated that for Audit 1. Data from Audit 2 were to be compared with Audit 1, with results fed back to each site within three months of completing the audit. As described in Section 2.2.3, each site received a feedback presentation, specific to their site comparing results against those of the other pilot sites in an anonymised form.

2.4. Provision of ongoing support

The provision of ongoing support was considered important not only to enhance dissemination, but also ensure site link nurses, clinical area link nurses and other staff working in the area to be audited felt any concerns or needs related to the audit were identified and discussed with the project team. It was also anticipated that the provision of support, together with individual site feedback following each audit, would encourage local ownership of the guideline to improve pressure ulcer care and the process to audit care. Several support approaches were used, which are described in more detail below.

2.4.1. Project newsletter

A newsletter published quarterly whilst the project was running, aimed to keep sites up to date with progress, preliminary findings and next stages. It also provided information on work related to the management of patients with existing pressure ulcers or at risk of pressure ulcer development, undertaken in other national and international centres, as well as sources of help/information, recent publications, study days and conferences. The circulation of the newsletter expanded over the course of the project to include tissue viability groups, RCN Forums and regional offices, industry, individual practitioners and educational institutions.

2.4.2. National workshop

A day was organised for the site link nurses, clinical area link nurses and other staff from the clinical areas audited, to feedback to the project team and project funders, their experiences of taking part in the project. The principles of the project were outlined again and the RCN Project Manager provided overall anonymised feedback from Audit 1 allowing individual sites to benchmark themselves against other sites. Discussions covered their experience, views of the support provided by the project team and site link nurses, the timescale between the implementation workshops and Audit 2 and the sharing of good practice. It provided an opportunity for all staff involved to network with colleagues working within different care environments and to learn from each other's experiences.

2.4.3. National tissue viability conferences

The Clinical Education Department of Huntleigh Healthcare organise two annual conferences for nurses working in tissue viability. It was considered appropriate to present the progress of the project at these events, as they would present an excellent opportunity to network with the health care professionals who have expertise in the area of tissue viability. The RCN Project Manager and site link nurses from one Trust and one nursing home updated on the progress of the project and highlighted the importance of the work at each of the events.

2.5. Data entry and analysis

The RCN Project Manager coded and entered data from both audits. Data were entered onto a spreadsheet using the Microsoft Excel package. To validate accuracy of data entry, data from three sites were re-entered by the Senior Research and Development Fellow.

Results were collated in an anonymised form using simple descriptive statistics, to enable comparative data analysis to take place and allow individual teams to benchmark their performance against other sites. Where information was obtained using an open format, thematic content analysis was undertaken using a series of steps involving both qualitative and quantitative methods.

2.6. Summary

The table below summarises the 18 month project time frame.

July 2001	RCN Project Manager in post
December 2001	Six pilot sites recruited
Feb-April 2002	Audit 1
June – July 2002	Education and feedback sessions
July 2002	National workshop
Sept-October 2002	Audit 2
December 2002	Final site feedback sessions and preparation of project report

Chapter 3

Results

3.1. Recruitment

3.1.1. Recruitment of pilot sites and link nurses

Representatives from sites were asked to register interest in participation with the RCN project team between September and December 2001. Of ten sites that expressed interest, one withdrew due to long-term illness of the identified site link nurse; two were primary care sites and, following discussions with the sites and members of the advisory panel, it was decided that undertaking the audit in a community setting would not be feasible due to time constraints; and one site registered interest too late to be included.

The six sites able to participate were based across England and Wales and included NHS trusts (n=4) and independent nursing care homes (n=2). A total of 14 clinical areas were selected from the sites for inclusion in the audit; three orthopaedic wards, six medical wards, three care of older people wards and two nursing care homes (each defined as one clinical area). At three trusts, medical, care of older people and orthopaedic wards were selected. At the fourth trust, only medical wards were included due to an ongoing audit project within the orthopaedic department and absence of wards providing care for older people. All residents in the nursing care homes, including younger disabled patients resident at the time of the audits, were included.

The six recruited sites were:

- Barham House Care Home, Kent
- East Kent Hospitals NHS Trust

- Conwy and Denbighshire NHS Trust. Ymddiriedolaeth Gig Siroedd Conwy a Dinbych
- Preswylfa Care Home, Denbighshire
- Royal Free Hampstead NHS Trust, London.
- Royal Gwent Healthcare NHS Trust. Ymddiriedolaeth Gig Gofal Iechyd Gwent

Each stage of the project was completed at all six sites.

Six site link nurses were recruited, one from each site (Appendix 4), four tissue viability nurses (from the trusts) and two nurse managers (from the nursing care homes). Nurses from each clinical area were asked if they wished to participate as the link for the clinical area and 14 (one for each clinical area) agreed to do this. These nurses were all D or E grades, other than one ward and one nursing care home, where a G grade nursing sister asked to be the link for the area.

3.2. The dissemination and implementation strategy

At each site, the dissemination strategy described in Chapter 2 was adhered to. At the commencement of the project, the project proposal and introductory newsletter were circulated to staff working in each clinical area, followed by discussions with the site link nurse. Ongoing support from the RCN project team, including the circulation of a quarterly newsletter, was provided for the duration of the project.

The number of education sessions held at each site varied from one to three: in both nursing homes and two trusts, one session was held. In the other trusts, two or three sessions were held, the variation in number depending on the availability of staff able to attend one of the scheduled sessions. The number of attendees at each session ranged from 4 – 15.

The evidence-based resource pack (described in section 2.2.2) was given to all relevant staff, and attendees at each education session received copies of the support materials. Forty-two completed the self-assessment questionnaire at the sessions to

identify their learning needs in relation to pressure ulcer risk assessment and prevention, 36 of whom considered this to be a useful tool when findings were discussed at the session. Six staff who were all based at the same site, reported that they did not find the tool useful.

A total of 20 forms to elicit views of participation in an audit project were returned following the education sessions and themes identified using content analysis. Themes related to positive (n = 10) and negative aspects of participation in the audit project (n = 4). Many comments were made by more than one person (Table 3.1).

Table 3.1. Views of participation in the national pilot audit project

<p>Positive aspects</p> <ul style="list-style-type: none">• Credibility of being part of a national RCN project• Raised profile of pressure ulcer risk assessment and prevention amongst health professionals and the organisation• Increased awareness of national recommendations and need for local implementation• Reinforced evidence-linked practice• Raised profile of tissue viability nurse and link nurse system.• Increased awareness of need for comprehensive and timely documentation• Prompted development and introduction of local guidelines, patient information leaflets and documentation to assist the process• Increased awareness of need for a structured, comprehensive education and assessment programme• Provided opportunity to benchmark practice across and within sites• Provided opportunity to meet staff from other sites, enabling sharing of good practice <p>Negative aspects</p> <ul style="list-style-type: none">• the time frames of the project were too tight• the additional time required by site link nurses and clinical area link nurses to feed back and support staff to implement the recommendations• the self assessment tool exercise undermined confidence• the unsuitability of the audit protocol for the community setting.

3.3. Audits 1 and 2

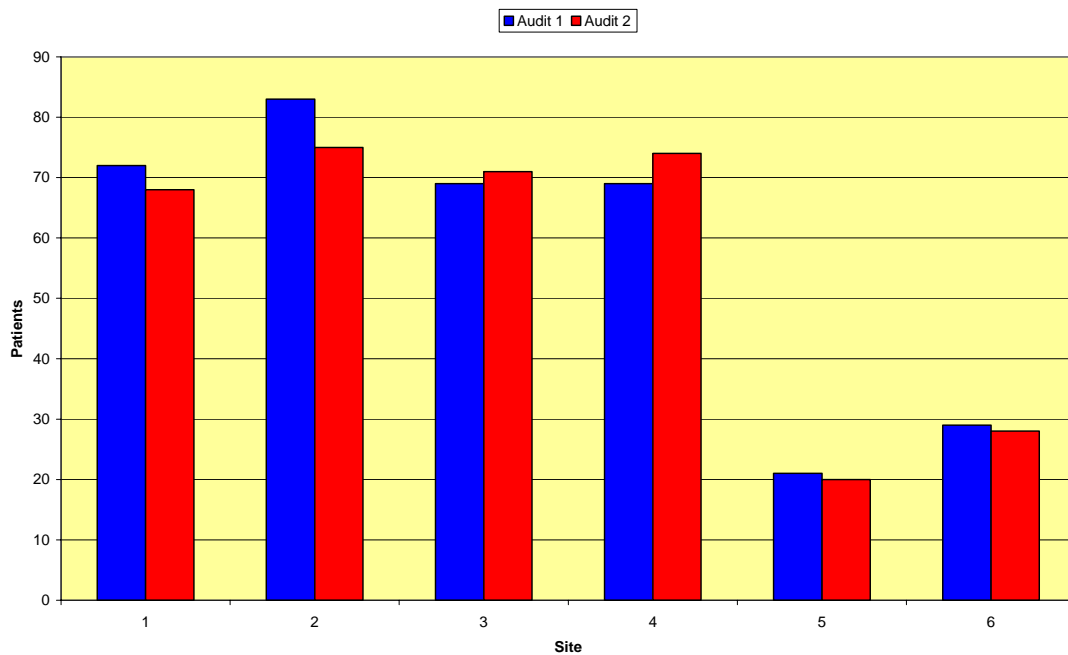
This section describes the results of Audits 1 and 2 which occurred before and after implementation of the RCN guideline. The first half presents the findings from the audits of individual patients, and the second presents findings from the audits of the clinical area.

3.3.1. Characteristics of the sample

As discussed in Chapter 2, the audit was undertaken in clinical areas that admitted patients who, anecdotally, are considered more vulnerable to development of pressure ulcers as a result of their physical condition and/or lack of mobility (e.g., orthopaedic, older people and medical). The numbers of patients audited in each hospital or nursing care home varied according to the size of the unit and bed occupancy on the day of each audit.

A similar number of patients from each site were included at Audits 1 and 2. Individual audit forms were completed for a total of 342 patients in Audit 1 and 337 in Audit 2. On the advice of the nursing staff, a total of 7 patients for the two audit periods were not included, however all other patients agreed to take part, including giving their verbal consent for the auditors to undertake a skin inspection. The number of forms completed at each site is presented in Figure 3.1.

Figure 3.1. Number of patient data forms completed



3.3.2. Age and gender

The age range of the patients included in the audits was 16 to 104 years, with a mean of 73.6 (SD 16.6). The mean age of the patients in Audit 1 was 75.7 (SD 16.1) and in Audit 2, 72.2 (SD 17.1). More female patients were included at both audits, as shown in Table 3.2.

Table 3.2. Number of male and female patients

Gender	Audit 1 No (%) patients	Audit 2 No (%) patients
Female	198 (57.9)	187 (55.5)
Male	144 (42.1)	150 (44.5)
Total	342	337

3.3.3. Reason for admission to clinical area

The main reasons for admission to the clinical area are listed in Table 3.3. Many patients had multiple diagnoses. More commonly patients were admitted with cardiac, circulatory, cerebral or respiratory problems. In Audit 1, 167 (49%) patients and in Audit 2, 151 (42%) patients were admitted with one of these conditions. More

patients in Audit 2 were admitted for ‘other’ reasons, which included fractures of the ankle or pelvis, treatment for cancer and cracked ribs.

Table 3.3. Main reason for admission to clinical area

Reason for admission	Audit 1 No. (%) patients	Audit 2 No. (%) patients
Heart/circulatory problem	64 (18.7)	48 (14.2)
Cerebral/nervous system	52 (15.2)	46 (13.6)
Respiratory	51 (14.9)	46 (13.6)
Collapse/fall	31 (9.1)	24 (7.1)
Fractured femur/hip	26 (7.6)	25 (7.4)
Gastrointestinal problems	19 (5.5)	30 (8.9)
Knee problems	11 (3.2)	7 (2.1)
Skin problems	11 (3.2)	9 (2.7)
Renal problems	10 (2.9)	11 (3.3)
Dementia/confusion	10 (2.9)	8 (2.4)
Diabetes	9 (2.6)	10 (3.0)
Fractured lower leg	8 (2.3)	5 (1.5)
Arthritis	7 (2.0)	7 (2.1)
Fractured arm/hand	7 (2.0)	9 (2.7)
Social/reduced mobility	6 (1.7)	8 (2.4)
Other problems	20 (5.8)	44 (13.1)
Total	342	337

3.4. The audit of patient care

3.4.1. Pressure ulcer risk assessment

Pressure ulcer risk assessment was undertaken by clinical assessment and use of a tool to obtain a risk assessment score. The risk assessment score for each patient was reviewed by the auditors and recorded on the audit tool. All but one site used the Waterlow Pressure Ulcer Risk Assessment tool, the remaining site using the Maelor Scale. At each site the same risk assessment scale was in use across the organisation.

In Audit 1 the risk score range in the five sites that used the Waterlow risk assessment tool, was 2 - 35 with a median of 14.90. In Audit 2 the risk score ranged from 2 - 36

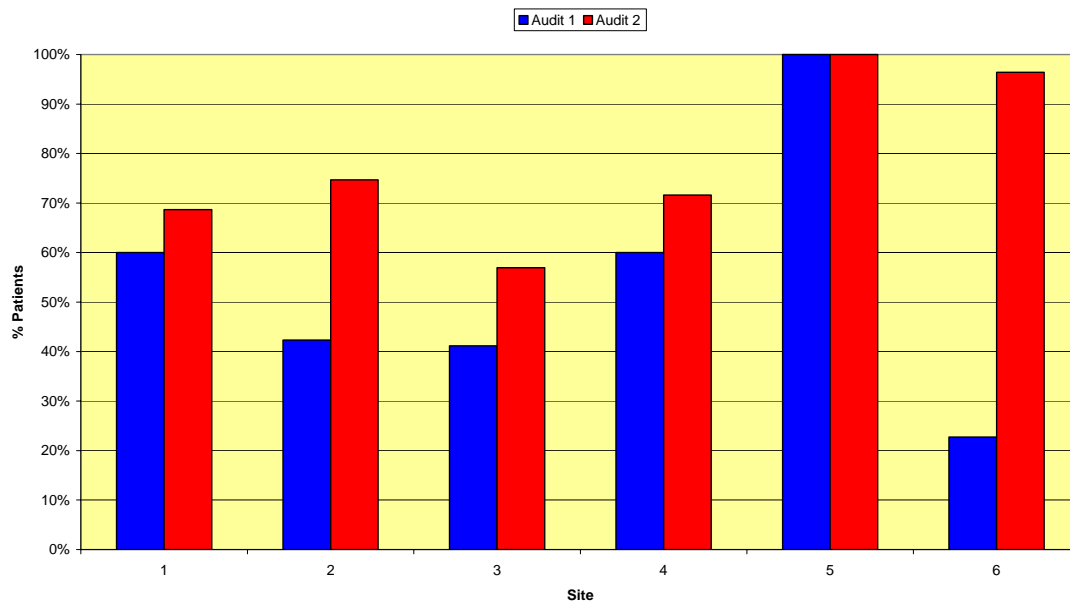
with a median of 14.89. In the one site using the Maelor tool, scores ranged from 4 - 35 with a median of 20.67 in Audit 1, and from 27 - 35 with a median of 19.17 at Audit 2.

The guideline recommends all patients have a first nursing assessment of their physical and psychological well-being within six hours of admission to the clinical area. As described in Chapter 2, for the purposes of the pilot audit project, evidence was sought that this had taken place within 24 hours of admission. The majority of patients at Audits 1 and 2 had initial nursing assessments completed within 24 hours, although a small proportion of patients at both audits 13/342 (3.8%) at Audit 1 and 13/337 (3.9%) at Audit 2 had no first nursing assessment documented.

As part of the initial assessment a patient's risk of developing a pressure ulcer should also be documented, although it could be undertaken outside of this. The difference in days on which a first pressure ulcer risk assessment took place and day of admission to the clinical area varied from 0-37 days in Audit 1 and 0-27 days in Audit 2.

Figure 3.2 shows the number of patients by site who had pressure ulcer risk assessment within and after 24 hours of admission. At Audit 1, 235 (69%) patients had a pressure ulcer risk assessment within 24 hours, a slightly higher proportion, 244 (72%) patients receiving an assessment within 24 hours at Audit 2, a difference accounted for by improvement in practice at two sites. Of the 107 (37%) patients in Audit 1 not assessed within 24 hours of admission, 27 (9%) had a risk assessment on the day after admission, 17 (5%) on the second day following admission and 43 (13%) had assessments performed between 3-37 days of their admission. Twenty (6%) patients had no risk assessment. Of the 93 (28%) patients not assessed within 24 hours at Audit 2, 24 (7%) were assessed on the day after admission and 15 (4%) on the second day after admission. The remaining 47 (14%) patients had assessments undertaken between 3-27 days of their admission, a reduction in range of days when compared with Audit 1. Seven (2%) patients had no assessment, a lower proportion than noted at Audit 1.

Figure 3.2. Patient assessments within 24 hours of admission



3.4.2. Grade of nurse undertaking assessment

The audit criterion was that a practitioner with ‘appropriate and adequate’ training should undertake pressure ulcer risk assessment and all assessments should be documented. For the purposes of the audit, the grade of nurse who performed the assessment was recorded (Table 3.4). A higher proportion of assessments were undertaken by E grade nurses at Audit 2, and fewer undertaken by D grade nurses. 57 (17%) completed risk assessments noted at Audit 1 and 27 (8%) at Audit 2 had an illegible or unrecognised signature or were not signed.

Table 3.4. Grade of nurse completing pressure ulcer risk assessment

Nursing grade	Audit 1 No (%) patients	Audit 2 No (%) patients
G/H	54 (15.8)	52 (15.4)
F	13 (3.8)	10 (3.0)
E	51 (14.9)	126 (37.3)
D	130 (38.0)	108 (32.0)
A/B	3 (0.9)	4 (1.2)
Student	13 (3.8)	3 (0.9)
Not known	58 (17.0)	27 (8.0)
No risk assessment	20 (5.8)	7 (2.1)
Total	342	337

3.4.3. Pressure ulcer prevalence

At Audit 1, pressure ulcer prevalence was 15%; 50 patients had one or more pressure ulcers, 43 (86%) of whom had a single ulcer and 7 (14%) had two or more. At Audit 2, pressure ulcer prevalence was 13%, with 42 patients having one or more pressure ulcers, 35 (83%) of whom had a single ulcer and 7 (17%) had two or more.

3.4.4. Pressure ulcer grade and location

The audit criteria included that any identified pressure ulcers should be graded. All sites used a scale to obtain a grade for the identified pressure ulcer. Three sites used the Torrance, two sites the Stirling and one the European Pressure Ulcer Advisory Panel (EPUAP) tool. At Audit 1, 22 (40%) ulcers were graded by the project team using the EPUAP tool as grade 1, 26 (47%) as grade 2, with the remainder (7/13%) graded as 3 or 4. At Audit 2, 18 (37%) ulcers were grade 1, 28 (57%) grade 2 and 3 (6%) as grade 3 or 4 (Table 3.5). At Audit 1, 16 (5%) patients found by the auditors to have pressure ulcers did not have this documented in their nursing records. This was in contrast to findings at Audit 2, when all pressure ulcers found during the audit were documented in the patients' notes in compliance with the audit criterion.

Table 3.5. Grade of pressure ulcer*

Grade	Audit 1 No. (%)	Audit 2 No. (%)
1	22 (40)	18 (37)
2	26 (47)	28 (57)
3	4 (7)	1 (2)
4	3 (6)	2 (4)
Total	55	49

** some patients had more than one pressure ulcer*

Table 3.6 shows the location of pressure ulcers present on patients included in the audits. At Audit 1, 22 (40%) pressure ulcers were found on the sacrum, 13 (24%) on heels, 11 (20%) on the buttocks or trochanters and 9 (16%) on other parts of the body. At Audit 2, a much higher proportion (30/61%) of pressure ulcers were on the sacrum, 8 (16%) on the heel, 8 (16%) on the buttocks, and 3 (7%) on other parts of the body.

Table 3.6. Location of pressure ulcers*

Location	Audit 1 No. (%)	Audit 2 No. (%)
Sacrum	22 (40)	30 (61)
Heel	13 (24)	8 (16)
Buttock/trochanter	11 (20)	8 (16)
Other	9 (16)	3 (7)
Total	55	49

** some patients had more than one pressure ulcer*

3.4.5. Review of risk status

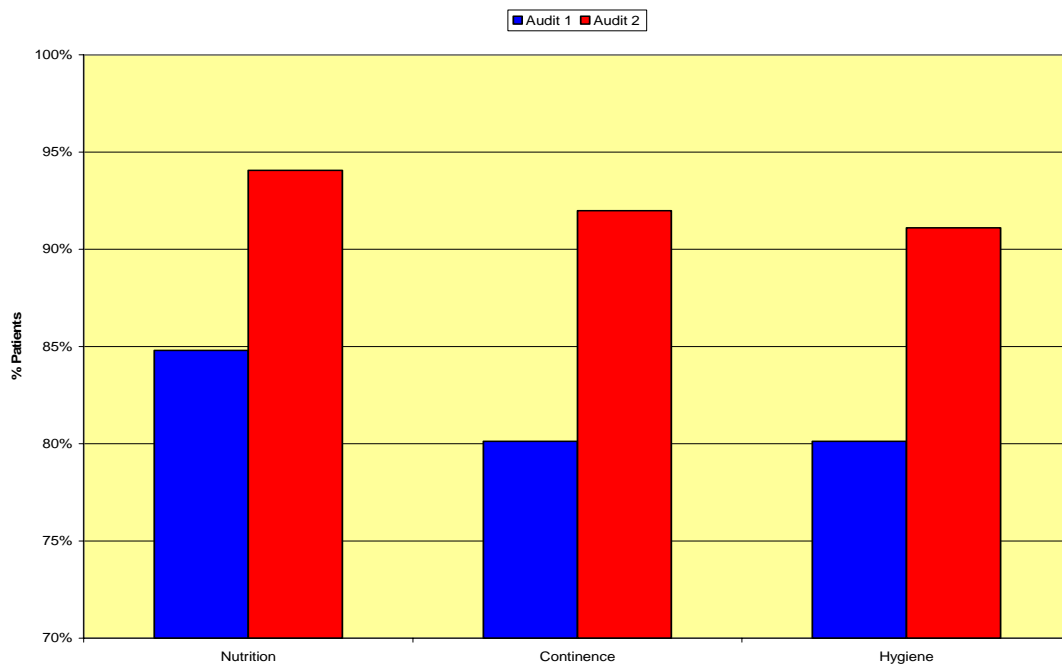
If there is a change in the health status of the individual, the RCN guideline recommends reassessment of pressure ulcer risk should be initiated and documented. At Audit 1, only three sites had written policies for reviewing an individual's risk status, however at Audit 2, all sites had a written reassessment policy based on the RCN guideline.

The number of patients for whom a documented review of risk status was undertaken because of a change in their condition was variable; in two sites reassessment occurred more frequently at Audit 1, there was no change at one site, and three sites showed an improvement at Audit 2. Of the 199 patients whose documentation showed evidence of review of risk status at Audit 1, 119 (60%) had their pressure ulcer risk reassessed weekly, 48 (24%) monthly, 19 (9%) daily, 6 (3%) on alternate days and 7 (3%) occasionally. At Audit 2, of 195 patients whose nursing records showed evidence of review, 99 (51%) patients had their pressure ulcer risk status reassessed weekly, 50 (27%) monthly, 21 (11%) daily, 8 (4%) on alternate days and 17 (9%) occasionally.

3.4.6. Essentials of care

Evidence of inclusion of each individual's nutrition, continence and personal hygiene status in documentation of their first nursing assessment was also included as an audit criterion. At Audit 1, 290 (85%) patients had their nutritional status assessed, 274 (80%) their continence status and 274 (80%) their personal hygiene needs assessed. At Audit 2, the proportions of patients having these documented increased when compared with Audit 1. 317 (94%) patients had their nutritional status assessed, 310 (92%) their continence status and 307 (91%) their personal hygiene needs.

Figure 3.3. Assessment of nutrition, continence status and hygiene needs



3.4.7. Support surface provision

3.4.7.1. Mattresses and overlays

All sites had a variety of mattress, overlay and cushion provision for patients identified as ‘at risk’ of developing pressure ulcers. The audit criterion, based on the guideline recommendations, was that these patients should not be nursed on standard hospital foam mattresses. Five sites provided standard pressure redistributing foam mattresses. At the sixth site provision of these mattresses was not standard, but four patients at Audit 1 and two at Audit 2, who were identified as ‘at risk’ were nursed on standard pressure redistributing foam mattresses in line with the audit criterion.

The RCN guideline also recommends patients at very high risk of pressure ulcer development are nursed on alternating or other high-tech pressure redistributing support surface. At Audit 1, 24 (7%) patients identified as at ‘very high risk’ had no alternating or other high tech surface on their bed and 10 (3%) patients identified as ‘at risk’, had inappropriate alternating provision. At Audit 2, fewer high risk patients (7/2%) required an alternating or other high tech surface on their bed, while two

patients (0.5%) could have had their equipment provision reduced due to a change in their pressure ulcer risk status.

3.4.7.2. Review of mattress and overlay provision

At Audit 1, 75 (22%) patients identified as requiring a review of mattress or overlay provision had this documented in their nursing notes, with one site (site 5) documenting all reviews in the patient records. This increased at Audit 2 for all other sites, with 176 (52%) patient records having a mattress and overlay provision review documented.

3.4.7.3. Use of other aids

No aids, such as water-filled gloves and sheepskins, were used to relieve pressure at any sites at Audit 1 and Audit 2.

3.4.7.4. Cushions and seating

No recommendation was made in the RCN guideline regarding type of cushion to use for pressure redistribution. For the purposes of the audit, the individual patient's assessed pressure ulcer risk (including skin inspection, health status and existing pressure ulcers), was used to identify patients who may have benefited from cushion provision. At Audit 1, 149 patients were identified as potentially benefiting from a cushion, 85 (57%) of whom had one provided. At Audit 2, more patients had a cushion provided; of 113 patients identified as benefiting from cushion provision, 82 (72%) had one in use.

3.4.8. Seating assessments

Seating assessments are required by some individuals to ensure they have appropriate equipment provided to prevent a pressure ulcer. The RCN guideline recommends trained assessors (physiotherapists or occupational therapists) should undertake seating assessments for aids and equipment. At Audits 1 and 2, 10 patients (3% at Audit 1 and 3% at Audit 2), all of whom were wheelchair users, had their seating requirements assessed by an occupational therapist.

The guideline recommends chair sitting should be reduced to less than two hours in every 24 hours for individual's at risk of pressure ulcer development and the benefits of a pressure-redistributing device should not be undermined by long periods of time sitting in a chair. At Audit 1, 67 (20%) patients were identified as benefiting from restricted seating time, 25 (37%) of whom had this documented in their care plan. At Audit 2, 53 (16%) patients were identified as requiring restricted sitting time, a higher number of whom (48/91%) had this documented in their notes.

3.4.9. Repositioning

The guideline recommends individuals 'at risk' of pressure ulcer development should be repositioned, the frequency determined by the outcome of skin inspection and the individual's assessed needs. At Audit 1, 102 (30%) patients were identified as requiring assistance with repositioning, 70 (69%) of whom had a repositioning schedule planned. At Audit 2, of 62 (18%) patients identified as requiring assistance with repositioning, a higher proportion (50/81%) had a repositioning schedule planned.

3.4.10. Patient and carer information

Audit 1 showed no sites had an information leaflet available for patients and/or carers. All information was given verbally by the nursing staff and details of information given were not documented in the patients' notes. Audit 2 showed one site had launched a patient/carer information leaflet in compliance with the audit criterion and two sites had leaflets in development. Two other sites were incorporating information on pressure ulcer risk and prevention in to their existing patient and carer leaflets. Audit 2 also showed that any information given verbally to patients and/or their carers continued to remain unrecorded in the patient documentation.

3.5. The audit of the clinical area

3.5.1. Staff training

Training for staff in pressure ulcer risk assessment and prevention was provided in all sites, although it was not mandatory or core training. In three sites, fewer staff had attended training at Audit 2 when compared with Audit 1. One trust encouraged attendance at training by occupational therapists, however other than the tissue viability nurse, the only other staff required to undertake further training were ward based tissue viability link nurses. No medical staff had attended training at either audit, although it was noted that some tissue viability nurses provided separate sessions for medical staff on an ad hoc basis.

No sites had a formal assessment process for assessing competency in pressure ulcer risk assessment, however in some cases with support from tissue viability link nurses or nurse managers, pressure ulcer documentation was used as a basis for clinical supervision.

3.5.2. Local clinical guidelines

Four sites had local guidelines in use at the time of Audit 1. Guidelines at two sites had been reviewed and updated to incorporate the RCN guideline recommendations; guidelines at a third site were awaiting implementation following review and at the fourth site, the guidelines were going through a review process. Of the two remaining sites one was in the process of finalising and launching their own clinical guideline, and one was to implement a locally agreed guideline developed externally to their organisation. At Audit 2, five sites had guidelines adapted in line with the RCN guideline, the remaining site being in the process of reviewing their own current guideline.

3.5.3. Local clinical audit processes

At Audit 1, all sites undertook prevalence audits, the NHS sites undertaking these annually and the care homes monthly. At Audit 2, the NHS sites were considering the introduction of incidence monitoring, three sites by reporting all hospital acquired pressure ulcers, and one site by reporting all grade 3 and grade 4 pressure ulcers.

Chapter 4

Discussion

4.1. Summary of main findings

A dissemination and implementation strategy was developed to facilitate the implementation of the RCN guideline on pressure ulcer risk assessment and prevention (RCN 2001a). Analysis of the pilot study data collected using the two audit tools specifically developed for the project showed compliance with the majority of audit criteria based on key guideline recommendations at Audit 2 and health professionals working at the included sites were able to network and benchmark practice against others.

Data from the audits showed that pressure ulcer risk assessment was completed within 24 hours of admission to the clinical area for more patients at Audit 2 and nutrition, continence and hygiene needs were more likely to be assessed. A date for review of mattress and overlay provision was more likely to be noted in patient records at Audit 2, and more patients had a repositioning schedule and length of time seated documented. All sites at Audit 2 had a written risk assessment review policy regarding change in a patient's condition, although documentation of individual patient's risk status to accord with this policy was variable across the sites. Although it was not an audit criterion, patients who may have benefited from cushion provision were more likely to have one provided at Audit 2. When the grade of staff undertaking risk assessment at each audit was compared, a higher proportion of assessments were undertaken by E grade nurses at the follow-up audit. The number of sites with local guidelines that incorporated the RCN guideline recommendations increased, but only three sites had introduced a patient information leaflet. Staff training at all sites in pressure ulcer risk assessment and prevention did not appear to be a high priority, although reasons for this were not sought.

4.2. Recruitment of pilot sites and link nurses

It was anticipated during the project planning stage that recruitment of 4 – 6 sites would provide sufficient patient numbers to enable an improvement in care between Audits 1 and 2 to be detected. The six sites that participated provided a total of 679 patients at the two audits, an adequate sample size to enable comparative data analysis to be undertaken. More sites registered interest in participation with the project team, however following discussion with members of the advisory panel and given the limitations of time, it was decided that it would not be appropriate to use community sites. The six sites that participated all provided clinical care to patients who had a similar higher risk of pressure ulcer development due to their physical condition. The decision to include medical, orthopaedic and older patients was deliberate, as it was considered that changes in documentation in line with the guideline recommendations may be easier to detect in these groups. As the audit was therefore only undertaken amongst specific groups in acute and long-term care sites, it is not possible to predict if the audit tool and protocols would be appropriate for use within the community setting and other patient groups.

The site link nurses and the clinical area link nurses provided valuable assistance to the project team and staff working within the clinical area. It was encouraging that in the majority of clinical areas, D and E grade nurses asked to be link nurses. These nurses are more likely to be providing direct patient care in areas that may wish to implement the RCN guideline (RCN 2001a) and/or use the project audit tools, in addition to acting as mentors in the clinical area for student nurses. It was also encouraging as it reflected one of the objectives of the dissemination and implementation strategy to encourage local ownership of the guideline.

4.3. The dissemination and implementation strategy

As this project used a variety of interventions to enhance the risk assessment and prevention of pressure ulcers between Audits 1 and 2, it is difficult to specify which were most likely to have improved care or postulate if a longer period of implementation would have had more impact on care. Nevertheless, the provision of a dissemination and implementation strategy included several elements that could have contributed to changing practice to reflect the guideline recommendations.

The educational aspect provided during sessions for staff following Audit 1 facilitated discussion of the need for the project, the background to the development of the RCN guideline and the importance of audit as a quality improvement initiative. That this was likely to have been a successful component of the implementation strategy would concur with the findings of the Cochrane Library review by Thomson O'Brien et al (2003). Regular reminders about the project, introduced by way of the quarterly newsletter and contact with the RCN Project Manager, site link nurse and clinical area link nurse, also appear to have been successful. The newsletter was useful not only to inform and update the project participants, it also enabled wider dissemination of the project. Interest in the project increased, as evidenced by the number of requests to be included on the list for circulation from academic, practice and other clinical departments throughout England and Wales. It is difficult to postulate why a small number of staff reported that they did not find the self-assessment questionnaire useful, and before this tool could be recommended for wider use, further evaluation would be required.

That the evidence-based resource pack incorporated several approaches to facilitate guideline implementation is therefore likely to account for the seemingly successful transfer of the RCN guideline recommendations into practice. This multi-faceted strategy resulted in very positive responses from staff involved with regard to being involved in an audit project. The implementation guide developed to accompany the guideline (RCN 2001a) and included in the evidence-based resource pack will be published shortly as a separate publication.

4.4. Audits 1 and 2

The results presented in Chapter 3 are audit data collected at two points in time and cannot be treated as before and after comparisons of practice following guideline implementation. Nevertheless, comparison of audit data showed improvements in the comprehensiveness of patient documentation at Audit 2 in line with the guideline recommendations.

4.4.1. The audit of patient care

Selecting pre-specified clinical areas appears to have been most appropriate for this project, with a similar number of patients included in both audits and comparatively similar reasons for admission to the clinical area. It was anticipated that the two nursing care homes may have had little variation in number of patients present during both audits, however this could not have been predicted with certainty for wards in the NHS trusts. Many nursing staff involved in Audit 1 were also involved in Audit 2, and in some sites, patients were included in both audits. However, as the aim of the audit was to assess compliance with initial *and* ongoing assessment and documentation of risk of pressure ulcer development, it is unlikely that their inclusion in both audits would have affected findings. That only seven patients were excluded from the audit indicates that findings are likely to be generalisable to other units providing care to a similar patient population.

The majority of patients at Audits 1 and 2 had a first nursing assessment of their physical and psychological well-being within 24 hours of admission to the clinical area, however a small proportion had no first assessment documented, reasons for which were not sought. It was reassuring to find the proportion of patients who had their pressure ulcer risk assessment completed within 24 hours of admission increased at Audit 2, however of concern that some did not receive their first risk assessment for several weeks following admission to the clinical area. There is a need to emphasise the importance of early assessment because of the potential implications for care during the subsequent inpatient episode. Clinical staff should consider undertaking a patient's pressure ulcer risk assessment as soon as possible following admission as

this could potentially reduce the need for additional care resources and adverse impact on patient well-being if an ulcer does develop. A small proportion of patients had no pressure ulcer risk assessment documented and although the audit included a relatively small sample of patients, if findings were extrapolated across the UK, large numbers of patients in the NHS and independent care sector are potentially being cared for with no regard for their pressure ulcer risk.

Reasons for the a difference in the grade of nurses undertaking pressure ulcer risk assessment, with a higher proportion of E grade nurses documented as performing the assessments at Audit 2 are unclear. It may reflect one inadvertent impact of guideline implementation being a perceived need for more senior nurses working in the clinical areas to undertake the assessments, although the guideline recommendation does not specify this. One area highlighted by the audit that is of concern, is the number of risk assessment forms either not signed or with illegible signatures, although fewer forms where this was apparent were identified at Audit 2. Given the potential legal consequences now facing many health care providers, following complaints about pressure ulcer care from patients and/or their carers, it is imperative that all nursing documentation is written legibly in order that it could be cited as evidence of care provided and by whom.

Prevalence was compatible with findings from other studies based in a range of UK health care settings. There was a small reduction in prevalence at Audit 2, however it is not appropriate to attribute this to participation in the audit project. With regard to pressure ulcer location, a much higher proportion of patients at Audit 2 had pressure ulcers on their sacral areas, but again reasons for this cannot be postulated. It was also of concern to note the proportion of patients who had two or more ulcers documented at both audit periods.

The improvement in documentation of the 'essentials of care' (nutrition, continence status and hygiene needs) at Audit 2, may reflect the implementation of the RCN guideline recommendations, but may also reflect the roll out of the 'Essence of Care' document in England (Department of Health 2001). These findings do suggest that increased attention was given to the more holistic aspects of patient care that could influence the risk of pressure ulcer development following Audit 1.

Support surface provision was one area of practice found to be in accordance with the guideline recommendations at Audit 1, and no inappropriate aids, such as water filled gloves or doughnut type devices, were in use at either audit. These findings were reassuring, and may indicate ready acceptance of research recommendations relating to unit wide equipment provision. The small improvement in practice for care of patients assessed to be at 'very high risk' of pressure ulcer development, indicated that increased attention was being given to prevention through appropriate revision of risk and equipment need.

Care planning for those patients who required nursing support to assist with repositioning was also found to have increased at Audit 2, although the increase was small. This was in contrast to the increase in the proportion of patients whose need for a restricted seating time was documented in their notes. Awareness of the need to ensure patients at risk of pressure ulcer development have appropriate seating provision and, if their condition requires, a restricted seating time, is as important as providing appropriate mattresses and overlays if pressure ulcer development is to be prevented.

It was disappointing to note that only three sites had produced a patient information leaflet and no sites requested details of information given verbally to be documented. Informing patients and carers on pressure ulcer risk assessment and prevention should be a priority, regardless of the environment in which care is provided. This would not only increase awareness of risk factors (which may reduce potential complaints about care), but also ensure patients and carers could actively contribute to measures

that may prevent occurrence, including appropriate nutrition and hygiene. Patient involvement has been at the forefront of recent NHS White Papers (NHS Plan 2000) and further work in the field of tissue viability to address this aspect of practice is required.

4.4.2. The audit of the clinical area

Multidisciplinary staff training in pressure ulcer risk assessment and prevention is essential if care is to improve, however the audits showed none of the sites provided pressure ulcer prevention education as mandatory, although all trained nursing staff were expected to undertake pressure ulcer risk assessments. Reasons for the reduction in the numbers of staff who had attended training at Audit 2 are unclear, but could be related to staff changes between the audit periods. It also suggests that pressure ulcer risk assessment and prevention training for staff working in a new clinical area may not be a priority. As mentioned throughout this report, there are several scales used to assess pressure ulcer risk and although these should be used in conjunction with clinical judgement, no sites assessed the competency of staff to undertake risk assessment accurately.

4.4.3. Audits 1 and 2 – issues for discussion

The aim of this project was to improve pressure ulcer risk assessment and prevention through the implementation of the RCN guideline recommendations, the majority of which related to the documentation of risk factors, review of risk factors and provision and review of appropriate equipment (RCN 2001a).

The audit tools did appear to achieve what they were designed to do – in other words they captured data on a range of aspects of patient care to enable comparison with best practice guideline recommendations for the risk assessment and prevention of pressure ulcers. One important consideration when undertaking audit is how to minimise the amount of missing data. The project team, advisory panel and colleagues in the RCN Quality Improvement Programme spent a considerable amount of time checking drafts of the audit tools to ensure their comprehensiveness and clarity, as well as whether the length of the data collection forms was appropriate. In

this project there were minimal quantities of missing data, due to data collection being completed by the RCN Project Manager, site link nurses and clinical area link nurses. If the audit were to be rolled out as a national audit, further consideration would have to be given with regard to which staff should undertake the audit and to their training needs.

Organisational support was sought for the project from each site and within the care home setting this was achieved. However in the NHS Trusts once permission to undertake the audit was given there was little support from senior nursing staff. Only ward staff attended the majority of feedback sessions, which managers were also invited to. Senior managers have an important role to support change in practice, and ways to enhance their involvement should be identified. Further work in the area of obtaining organisational support to sustain change in practice is required.

4.5. Recommendations for practice

- All nursing staff should be aware of the need to undertake and fully document initial assessments of pressure ulcer risk, including the date and time this took place
- The timing of the first pressure ulcer risk assessment in relation to a patient's admission to the clinical area needs to be considered
- It is essential that patients and their carers receive information on what pressure ulcers are, why they develop and what can be done to minimise occurrence
- Training for staff in pressure ulcer risk assessment and prevention should be a priority in all health care settings
- Assessment of competency to use risk assessment tools should be introduced
- Senior nurse managers need to be aware of their role in providing organisational support for implementation.

4.6. Recommendations for further audit and research

- A national audit project of risk assessment and prevention of pressure ulcers, should now be undertaken. This would enable both the dissemination and implementation strategy and audit tools to be evaluated across a range of health care settings.
- A national database to collate pressure ulcer incidence and prevalence should be established.
- In this small pilot project, no evaluation of health service resources was undertaken. Future research and audit projects should address resource use.
- Data on a patient's ethnic group were not collected as part of the audit. Further research is required to assess if the audit tools are appropriate to meet the needs of patients from different ethnic groups as presentation of skin changes may differ.

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Appendix 1. Advisory panel members

Jenny Prentice

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Madeleine Flanagan

Clare Morrell

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Appendix 2. Project Audit Tools and Protocols

RCN Pressure Ulcer Risk Assessment and Prevention Pilot Audit Instructions for Audit Forms

All forms should be completed either by placing a cross in the appropriate box or using free text where indicated.

Ward / nursing home / caseload audit form

Data collection – one form per ward, nursing home or district nursing caseload.

One form should be completed per ward, caseload or nursing home. All sections of the form should be completed as described below. The form requires information on bed occupancy, training and education, current guidelines and patient information.

Unit information

Questions 1 to 4 identify the unit and ward or district nursing caseload. Information is required on total bed occupancy or patients registered on the caseload on the day of the audit. This enables information to be identified on the numbers of patients at risk of and with pressure ulcers. Completion of the date of the audit form is required.

Training and education

Questions 5 to 11 are to find out about the training and education available to staff, both nursing, medical and professions allied to medicine in relation to pressure ulcer risk assessment and prevention. Numbers of nursing staff by grade (covering the 24 hour period) and their training, competency and updating is required.

Patient / carer information

Questions 12 and 13 seek information on patient and carer education and how this is provided.

Clinical guidelines

Questions 14 and 15 seek information on use of existing guidelines, their date of development/publication in the Trust and if they have been updated in line with the RCN clinical guideline Pressure ulcer risk assessment and prevention (RCN 2001).

Clinical effectiveness

Question 16 requires information on current methods used in the audit of pressure ulcers and whether data collected is presented as prevalence or incidence.

Prevalence – the proportion of individuals in a defined population who have a pressure ulcer at a given point in time.

Incidence – the proportion of individuals in a defined population who develop a pressure ulcer over defined period of time.

Collection of completed forms

Please ensure all items on the form are filled in. Once completed the form will be collected by the tissue viability specialist nurse or link nurse for data collection on the day of the audit. The ward may make photocopies of the completed form for use in future planning and development.

Patient audit form

Inclusion criteria for the audit

All patients resident on the ward; in the nursing home or registered on the district nursing caseload on the day of the audit. A patient information sheet should be given to each patient prior to undertaking the audit and verbal consent sought.

Data collection – one form per patient

One form should be used for each individual patient. All sections of the form should be completed as described below. The form requires patient information from the patient's nursing notes and skin inspection. 'Documentation' referred to in the audit tool means the patient's record.

Unit Information

Questions 1 to 4 identify the unit, ward and patient and include the date the audit is undertaken.

Patient information

Questions 5 to 8 require information on the patient relating to gender, age, reason for admission and date of initial nursing assessment following admission.

Pressure ulcer risk

Questions 9 to 14 require information on the risk assessment of the patient, if this has not occurred this needs to be noted. The date of the first pressure ulcer risk assessment, grade of nurse undertaking the assessment (where possible), the risk assessment scoring tool used and the most recently dated documented risk assessment score should be included, with date undertaken. The auditor should assess the patient, using the same risk assessment tool, and document their findings on the form. Evidence of other factors being taken into account in identifying risk may include previous history of pressure ulcers; existing ulcers, etc. should be included. Evidence of reassessments and their frequency should be included. This may not be applicable depending on the length of time elapsed since the patient's admission.

Skin inspection

Questions 15 to 17 require information from both the patient's notes and skin inspection by the auditor. This section requires identification of the pressure ulcer scoring tool used, the presence of any pressure ulcers and grading – both documented and actual, based on the auditor's inspection of the patient's skin. Further information is sought on planning, implementing and reviewing skin inspection as part of the nursing care plan. Again this will depend on the time elapsed since the patient's admission.

Equipment

Questions 18 and 19 look at the provision of equipment; the chart should be completed using the key (**I** – in use; **R** – requested, not arrived; **N** – not available) taking into account pressure redistributing or pressure relieving equipment provided. Reviews of the equipment provision should be included. NB. Basic hospital mattress refers to those without any pressure relieving/redistributing qualities.

Other aids

Question 20 requires information on other aids that are being used as 'pressure relieving/redistributing' devices. Any aids used other than those listed should be recorded on the form.

Repositioning / Moving and handling

Questions 21 and 22 require information from the nursing notes on planning, implementing and reviewing repositioning schedules and movement and handling procedures.

Seating

Questions 23 and 28 require information from the patient's notes of seating assessment, the assessor and length of time recommended in the documentation for patients to be seated, and information on implementation and review.

Completed forms

As the form is completed in conjunction with the tissue viability nurse specialist or link nurse, he/she will remove them for data analysis.

Appendix 2. Project Audit Tools and Protocols

RCN Pressure Ulcer Risk Assessment and Prevention Pilot Audit Patient Audit Form

Please refer to instructions for the completion of the audit tools. Complete all sections of this form by placing a cross in the appropriate box or using the free text sections as directed

Unit Information	
1.	Name of Trust/nursing home _____
2.	Ward/DN caseload _____
3.	Patient identifying numbers _____
4.	Date of Completion of audit form _____

Patient Information	
5.	Gender of Patient M <input type="checkbox"/> F <input type="checkbox"/>
6.	Age of patient on admission: _____ years
7.	Reason for admission _____ _____
8.	Date of initial nursing assessment following admission

Pressure Ulcer Risk																			
9.	First pressure ulcer risk assessment date _____																		
10.	Nursing grade of assessor (please tick)																		
	<table border="1"> <thead> <tr> <th>A</th> <th>B</th> <th>C</th> <th>D</th> <th>E</th> <th>F</th> <th>G</th> <th>H</th> <th>Other health professional, please specify</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>	A	B	C	D	E	F	G	H	Other health professional, please specify									
A	B	C	D	E	F	G	H	Other health professional, please specify											
11.	Risk assessment scale used: (please tick)																		
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Waterlow	Norton	Braden	Walsall	Medley /Maelor	Other, please specify														
12.	Risk score (number): _____ as documented (most recent) Date: _____ as assessed by auditor																		
13.	Is there evidence in the documentation of other risk factors for pressure ulcer development being taken into account in the assessment process? Nutritional status <input type="checkbox"/> Contenance management <input type="checkbox"/> Hygiene <input type="checkbox"/> Other, please specify: _____																		
14.	Within the documentation is there evidence of reassessments being undertaken Yes <input type="checkbox"/> No <input type="checkbox"/> Not applicable <input type="checkbox"/> Frequency: Daily <input type="checkbox"/> Weekly <input type="checkbox"/> Monthly <input type="checkbox"/> Other, please specify: _____																		

Skin Inspection																																																																																																																																																								
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16 a.	Location and grade of ulcer/s, if present (indicate number of ulcers of each grade in each area and left or right as appropriate):																																																																																																																																																							
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17. From the nursing documentation is there evidence that inspection is: Planned Yes No
 Implemented Yes No Reviewed Yes No

Equipment

18. Type of equipment on which patient is being nursed. **Key: I** – in use; **R** – requested, not arrived; **N** – requested, not available.

	Overlay	Mattress	Cushion/chair	Specialist bed
Basic hospital, eg. Contract NHS bed				
Foam pressure reducing				
Fibre / gel filled				
Static air overlay				
Alternating pressure device				
Low air loss device				
Air fluidised/ Fluidised bead				
Rotational device				
Electric bed frame				

Other aids

20. Are any of the following pieces of equipment in use for relieving/reducing pressure?

- Sheepskin sheet protector Pillow for seating Other (please specify: _____
 Water filled glove Pillow for 30° tilt _____
 Donut device None of the above _____

Repositioning / Moving and Handling

21. From the nursing documentation, is there evidence that repositioning schedules are:

- Planned Yes No
 Implemented Yes No
 Documented Yes No

22. From the nursing documentation, is there evidence that movement and handling procedures are:

- Assessed Yes No
 Planned Yes No
 Reviewed Yes No

Seating

23. Does the patient sit out of bed? Yes No

If yes:

24. Is there evidence within the patient record that a seating assessment has been undertaken? Yes No

25. Did an OT or physio complete the assessment? Yes No

26. Is the optimal length of time seated at any one time documented? Yes No

27. If yes, please indicate the time specified within the notes:

- Up to one hour one to two hours two to four hours over four hours

28. From the documentation is there evidence that the time seated is: Implemented Reviewed

Appendix 2. Project Audit Tools and Protocols

RCN Pressure Ulcer Risk Assessment and Prevention Pilot Audit Ward Audit Form

Please refer to instructions for completion. Complete all sections of this form either by placing a cross in the appropriate box or by using the free text sections as directed

<p>Unit Information</p> <p>1. Name of Trust/ nursing home _____</p> <p>2. Ward/DN caseload _____</p> <p>3. Total bed occupancy / total caseload number _____</p> <p>4. Date of completion of audit form _____</p>
--

<p>Patient / carer information</p> <p>5. 12. Is information/education given to patients/carers about pressure ulcer risk assessment and prevention documented? Yes <input type="checkbox"/> No <input type="checkbox"/></p> <p>6. 13. If yes, in what form is this information/education given? Leaflet/booklet <input type="checkbox"/> Teaching session <input type="checkbox"/> 7. Other, please specify: _____ _____ 8. _____</p>
--

No of staff on ward by grade								
No staff trained in pressure ulcer risk ass & prevention								
0-25%								
26-50%								
51-75%								
76-100%								

<p>9. Is nursing competence in Risk Assessment for pressure ulcers assessed? Yes <input type="checkbox"/> No <input type="checkbox"/></p> <p>10. Is regular updating provided on risk assessment and prevention? Yes <input type="checkbox"/> No <input type="checkbox"/> Frequency: Annually <input type="checkbox"/> Three Yearly <input type="checkbox"/> Other, please specify: _____</p> <p>11. If yes, please state how these updates are provided? _____</p>

*The completed form will be collected by
Thank you for your time in completing this audit*

Appendix 3. Patient Information Leaflet

**Royal College of Nursing
Pressure Ulcer Risk Assessment and Prevention
Audit Project**

Patient Information

Pressure ulcers, which have previously been known as pressure or bed sores, are areas of damage to the skin and deeper tissue and can affect all patients. They may cause discomfort and become infected or, in extreme cases, damage muscle and bone and can lead to a longer stay in hospital.

The Royal College of Nursing (RCN) is working with the staff on this ward (in this nursing home, etc.) to introduce recommendations for best practice to prevent patients from developing pressure ulcers. As part of this process we are looking at the care you receive.

To assist us to find out about practice we will look at how the care you are being given is written in your patient notes. We would also like to examine areas of your skin that are more likely to be at risk of developing a pressure ulcer, but we need your permission to do this.

If you **do not** feel you want to give your permission to the nurses who will be carrying out the audit project, this will not affect your care. Even if you do give your permission you can change your mind at a later date. We hope you will be able to help us in this very important project.

If you have any further questions you may contact Tissue Viability Nurse.

MREC approval not needed as audit, not research.

Appendix 4. Project Site Link Nurses

Dawn Levett
Barham House Nursing Care Home
Kent

Trudie Young
Conwy and Denbighshire NHS Trust.
Ymddiriedolaeth Gig Siroedd Conwy a Dinbych
Denbighshire

Fiona Coull
Royal Free and Hampstead NHS Trust
London

Helen Bater
Gwent Healthcare NHS Trust
Ymddiriedolaeth Gig Gofal Iechyd Gwent
Gwent

Dale Dobson
Preswylfa Care Home
Denbighshire

Elaine Gibson
East Kent Hospitals NHS Trust
Kent

