Development of the Context Assessment Index (CAI)

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Contents

Acknowledgements
Executive summary

Section 1: Introduction and background

Background to the study {7}

Section 2: Aims and objectives

Research aims {8}
Study sites {8}
Research team {8}

Section 3: Literature review

Prevalence of continence problems {9}
Management of continence problems {9}
Evidence-based practice {10}
The PARIHS framework {10}
Context {11}
Workplace culture {11}
Leadership {12}
Evaluation {12}

Section 4: Phase 1 Methodology and analysis process

Case-study methodology {13}
Data collection {13}
Data analysis {14}
Consent and ethical considerations {14}
Final analysis using the context framework {15}

Section 5: Phase 1 Findings from the analysis

Royal College of Physicians (RCP) audit scheme {17}
Facility audit {17}
Staff Knowledge Questionnaire {18}
Observation of practice {18}
Focus groups {19}
Final analysis using the context framework {20}
Discussion of findings {20}
Conclusions {21}

Section 6: Phase 2 Testing and developing the Context Assessment Index

Introduction {23}
Pre-pilot testing {23}
Pilot testing of face and content validity {24}
Large sample testing of validity {24}
Test–retest {30}
Modifications to the model {31}
Usability testing by telephone interview {33}
Summary of data collection and analysis {35}
Final revisions to the CAI {35}

Section 7: Discussion and recommendations

Discussion {36}
Conclusions {37}
Recommendations for future research {39}

References {40}
Appendices {43}

List of appendices

Appendix 1	Data collection instruments	{43}
Appendix 2	Focus group topics	{48}
Appendix 3	Extracts from analysis using context framework	{49}
Appendix 4	Feedback sheet for pre-pilot testing	{52}
Appendix 5	Feedback sheet pilot for pilot testing	{53}
Appendix 6	Interview schedule after reliability testing	{54}
Appendix 7	The Context Assessment Index (CAI) and the CAI Guide	{55}

List of tables and figures

Table 1	Context framework	{11}
Table 2	Summary of methods of data collection, sample and analysis	{15}
Table 3	Example of statement development	{16}
Table 4	Extract from data analysis using context framework	{21}
Table 5	Large sample validity test in Northern Ireland	{25}
Table 6	Large sample validity test in Republic of Ireland	{26}
Table 7	Items and corresponding factor scores for the contextual indicators questionnaire	{27}
Table 8	Correlation matrix of factors contained in the contextual indicators questionnaire	{28}
Table 9	Homogeneity of the six factors in the contextual indicators questionnaire	{30}
Table 10	Mean scores of each construct of the contextual indicators questionnaire	{30}
Table 11	Correlation of construct scores at times T1 and T2	{31}
Table 12	Correlation of amended construct scores at times T1 and T2	{32}
Table 13	Mapping of CAI elements to the context framework	{37}
Table 14	Revised context framework following organisation of data for analysis	{38
Figure 1	Scatter plot of responses from time T1 and time T2 with a line of best fit	{33}

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Executive summary

This report is the culmination of a two-year collaborative project between nursing research teams in the University of Ulster and University College Cork to develop a tool to assess the practice context in which continence is managed. The research was funded by the Northern Ireland Department of Health, Social Services and Public Safety (DHSSPS) R&D Office and the Republic of Ireland Health Research Board.

Background to the study

The significance of incontinence to the lives of older people and its effect on health and social care resources has led to continence becoming a national healthcare issue. The Chief Nurse for England stated that she expected nurses to give much more attention to continence as it is a 'fundamental aspect of nursing care' (DH 2001a). Despite major advancements in the evidence base underpinning continence promotion and the management of incontinence, there continues to be little emphasis on detailed and individualised assessment or on providing programs of treatment. The predominant approach to management is conservative, involving costly reliance on containment with the use of continence pads. Lack of adequate knowledge among clinical staff is acknowledged as well as a lack of awareness of how knowledge and skills could be enhanced. Continence is not seen by practitioners as a high priority within the competing demands of nursing.

In rehabilitation settings for older people, the promotion of continence and improved management of incontinence is a key theme for the development of practice in nursing. Providing practitioners with the evidence of best practice alone does not directly lead to this being implemented into practice (Rycroft-Malone *et al.* 2004). Many factors have been debated within the literature to explain the gap between evidence of best practice and the reality of what takes place in practice. These include nurses attitudes and perceptions of research utilisation (Parahoo 1999), and nurses ability to understand and interpret research (McCaughan *et al.* 2002). Rycroft-Malone and colleagues (2004) highlight the importance of evidence derived from a combination of empirical sources matched with patients' experiences, local context factors and clinical experience (Rycroft-Malone *et al.* 2004). A framework known as the Promoting Action on Research Implementation in Health Services framework (PARIHS) (Kitson *et al.* 1998; Rycroft-Malone *et al.* 2002) proposed that successful implementation of evidence is dependent on the inter-relationship of three key elements; the nature of the evidence derived from (research, clinical experience, and patients preference), the quality of the practice context (culture, leadership and evaluation) and expert facilitation (characteristics, role and style) (McCormack *et al.* 2002).

The 'practice context' (the culture, leadership and evaluation processes) therefore needs to be conducive to the utilisation of research evidence. A comprehensive method of assessment to include all elements of practice context was not available at the time of the study, therefore a collaborative research study between the University of Ulster and University College Cork commenced to identify the 'contextual' indicators of best practice in continence care, which would in turn lead to the development of an assessment tool to measure practice context.

Sections 1 and 2: Background and aims of the study

These sections provide a background to the study, highlighting the overall purpose of this two-year all-Ireland research study, between the University of Ulster and the University College Cork, which began in 2004. The study aims were to: (1) identify the contextual indictors that enable or hinder effective evidence-based continence care in rehabilitation settings for older people; and (2) develop a tool (the Context Assessment Index, CAI) to enable practitioners to assess the context (leadership, culture and evaluation) within which continence care is provided. Principle Investigators were Professor Geraldine McCarthy from the University College Cork and Professor Brendan McCormack from the University of Ulster. A Research Associate was responsible for the planning and carrying out of all aspects of the study at each site. They were supported by a third Research Associate for the development of the tool from the University of Ulster. The research was conducted in two phases. Phase 1 consisted of an indepth case study design set within the Promoting Action on Research Implementation in Health Services (PARIHS) framework (Kitson *et al.* 1998, Rycroft-Malone *et al.* 2002) to identify the factors that enhance and hinder evidence-based continence care. At the end of Phase 1, key indicators arising from all strands of the data collection and analysis were identified and developed into a tool for assessing practice context in order to establish practice development approaches that lead to person-centred continence practices.

Section 3: Review of the literature

A literature review presents evidence of the prevalence of continence problems and consequences for older people, e.g. that many older people do not like to admit to having an incontinence problem. Continence problems are often seen by nurses and older people as an inevitable consequence of aging and difficult to treat. The effect on the resources of the NHS has led to continence becoming a national health-care issue, and recent policy documents such as the *Good Practice in Continence Services* and the *National Service Framework for Older People* (DH 2001a) promote continence services with a focus on proactive assessment and appropriate treatment. Often simple management measures can resolve the problem. Evidenced-based protocols and care pathways have been developed. However, research has demonstrated that practitioners are continuing to provide reactive continence management rather than apply available evidence of best practice.

The utilisation of evidence in practice is also discussed and it is demonstrated that there remains a gap between evidence of best practice and reality in practice. PARIHS (Kitson *et al.* 1998, Rycroft-Malone *et al.* 2002) proposes that successful implementation of evidence is dependent on the inter-relationship of three key elements – the nature of the evidence, the quality of the context, and expert facilitation. The practice context defined by McCormack *et al.* (2002) as 'environment or setting in which people receive health-care services' is rarely straightforward but can be seen as constantly changing and with many diverse cultures operating at different levels in the organisation. The challenge was to identify and understand the contextual indicators that hinder or enhance the implementation of evidenced-based continence care and management for older people. This was the main aim of Phase 1 of the project.

Sections 4 and 5: Phase 1 findings

These sections describe the methods used in Phase 1 of the study and the results. The overall research question was: What are the components of practice context that enable or hinder proactive approaches to the promotion of continence and treatment in rehabilitation settings for older people? There were two study sites, a 78-bed rehabilitation unit in Northern Ireland and an 80-bed rehabilitation unit in the Republic of Ireland. A number of quantitative and qualitative research instruments were employed (each of these is described as well as the method of data analysis):

- Royal College of Physicians audit scheme for continence (Brocklehurst 1998).
- Staff knowledge questionnaire (Irwin et al. 2001).
- Semi-structured observation of practice (framework using Manley's cultural indicators) (Manley 2000a, DH 2001b).
- Focus groups.

Using the context framework to analyse the data, a picture emerged of the context within the care sites and its significance to evidenced-based continence care. The evidence suggests that the context (leadership, culture and evaluation) was weak and not conducive to person-centred continence care and management. Clearly there is development work needed to create a context that reflects strong leadership, culture and effective evaluation. By utilising the context framework, the research team were able to identify the specific contextual issues that were hindering and enabling the delivery of person-centred continence care and themes that arose from this process. These themes formed the basis of the development of a tool to measure context – hence the Context Assessment Index (CAI).

Section 6: Phase 2 findings

This section covers the development of the Context Assessment Index through testing and retesting its validity, reliability and usability. The methods of data collection and the stages to development of the assessment tool are outlined, from the initial statements arising from the analysis of the data within the context framework (a list of approximately 300 items), through piloting, revising, testing and retesting the tool. Development of the tool was undertaken in five stages:

- Pre-pilot testing for comprehensiveness and specificity.
- Pilot testing for face and content validity.
- Large sample testing for factor analysis purposes.
- Test–retest for reliability, stability and homogeneity.
- Telephone interviews for assessment of usability.

Section 7: Final discussion

This section draws together the findings from the factor analysis and the testing process. In general the Context Assessment Index can be considered a valid instrument according to the results of the statistical analysis. Reliability is also demonstrated through a test–retest process. Telephone interviews were then conducted with nurse managers who had taken part in the test–

retest to discuss the usability of the CAI. On the whole response to the usability of the revised CAI was positive and it was encouraging that most of the respondents found that it helped them reflect on practice.

The report concludes with the overall findings of the study and some recommendations for further research and practice. These include:

- Implementing the CAI in practice, particularly in designated clinical areas, and evaluating its impact on developing practice.
- Testing the validity and reliability of the CAI in different specialties.
- Refining the context framework by exploring further the meaning of context and its impact on implementing evidence in practice.

A guide was developed to accompany the CAI and this was tested and refined following feedback from the interviewees. A process for interpreting the CAI was also developed (to be tested in a separate study).

SECTION 1
Introduction and background

Introduction

This report is of a two-year all-Ireland research study (funded by the Northern Ireland DHSSPS R&D Office and the Republic of Ireland Health Research Board) between the University of Ulster and University College Cork, begun in 2004. In both locations the focus was a rehabilitation site for older people. The study described in this report aimed to achieve two things: firstly, to identify the contextual indictors that enable or hinder effective evidence-based continence care in rehabilitation settings for older people; secondly, to develop a tool (Context Assessment Index, CAI) to enable practitioners to assess the context (leadership, culture and evaluation) within which continence care and management is provided.

Background to the study

In rehabilitation settings for older people, the promotion of continence and improved management of incontinence is a key theme for development work. At present, practice in this area generally reflects the need to help people who experience continence problems, remain clean and to prevent skin damage. Despite major advancements in the evidence base underpinning continence promotion and management of incontinence, there continues to be little emphasis placed on detailed and individualised assessment or on providing programmes of treatment. An audit in a Northern Ireland Health and Social Services Trust (Irwin *et al.* 2001) suggested inadequate assessment, poor record keeping and consequently only a limited degree of active treatment. The predominant approach to management was conservative, involving costly reliance on pads. Irwin and colleagues identified a lack of adequate knowledge among clinical staff, as well as a lack of awareness of how knowledge and skills could be enhanced. In the Republic of Ireland continence management in the Health Service Executive Southern Area (HSE-South) is directed by regional guidelines and supported by one continence advisor. At a unit level, the practice of continence management is a mix of conservative intervention, education, behaviour modification and facilitation. A number of facilities in the HSE-South are in the process of formulating local policies. Early indications from an initial exploration of practices in a rehabilitation setting for older people in Belfast, Northern Ireland suggest that existing care reflects a similar picture. Current approaches to care address safety and the reduction of risk. Despite major advancements in the evidence base underpinning continence promotion and management of incontinence, the approach to care remains reactive and conservative, rather than proactive and therapeutic (DH 2001b). Existing evidence about the utilisation of research in practice identifies 'context' as a key issue. McCormack *et al.* (2002) identified three elements of practice context that need to be assessed in order for research evidence to be utilised – existing measures of effectiveness, leadership and workplace culture.

As a comprehensive method of assessment to include all elements of practice context was not available, this collaborative research study between the University of Ulster and University Collage Cork commenced. The aim was to identify the 'contextual' indicators of best continence-care practice, which would in turn lead to the development of an assessment tool to measure practice context.

SECTION 2
Aims and objectives

Research aims

These were:

- To determine contextual indicators that enables or inhibits effective continence promotion and continence management.
- To develop a tool for assessing the contextual factors in rehabilitation settings for older people in order to introduce appropriate continence promotion strategies.
- To test the reliability and validity of the tool in rehabilitation settings.

The overall research question was; What are the components of practice context that enable or hinder proactive approaches to the promotion of continence and treatment in rehabilitation settings for older people?

To address this question, the research was conducted in two phases. Phase 1 consisted of an in-depth case-study design set within the Promoting Action on Research Implementation in Health Services (PARIHS) framework (Kitson *et al.* 1998, Rycroft-Malone *et al.* 2002) to identify the factors that enhance and hinder evidence-based continence care. At the end of Phase 1, key indicators arising from all strands of the data collection and analysis were identified and developed into a tool for assessing practice context. This was done in order to establish practice-development approaches that lead to person-centred continence practices. Phase 2 focused on development of the tool and testing its validity reliability and usability.

Study sites

There were two study sites, a 78-bed rehabilitation unit in Northern Ireland (site 1) and an 80-bed rehabilitation unit in the Republic of Ireland (site 2). The rationale was to allow the identification of items for inclusion in the tool, which would be culturally sensitive, and to enable comparisons between the two care settings. The research was carried out simultaneously in each site, using specific research instruments.

Research team

The study had two Principle Investigators, Professor Geraldine McCarthy from the University of Cork and Professor Brendan McCormack from the University of Ulster. On each site there was a Research Associate who was responsible for planning and carrying out of all aspects of the study. An additional Research Associate conducted the statistical analysis for the development of the Context Assessment Index (CAI). The Research Associates met five times over the course of the study and the project team met four times.

SECTION 3
Literature review

Prevalence of continence problems

The prevalence of continence problems among older people is estimated to be between 30 and 50% (Button *et al.* 1998). There is a wealth of literature that highlights the effect of continence problems on the quality of life of older people, suggesting that effective care and treatment can prevent admission to long-term care (Wyman 2003). Many older people do not like to admit to having an incontinence problem (Cochran 1998) and continence is often seen by nurses and older people as an inevitable consequence of aging that is difficult to treat (Bland *et al.* 2003, Button *et al.* 1998, Gray 2003, Thompson and Smith 2002. Furthermore, nurses do not always have the necessary skills and knowledge to undertake continence assessment and effective treatments (Bayliss *et al.* 2001).

The significance of continence to older people and the effect on the resources in the National Health Service (*N*HS) has led to continence becoming a national health-care issue. The Chief Nurse for England stated that she expected nurses to give much more attention to continence as it is a 'fundamental aspect of nursing care' (DH 2001a).

Recent policy documents such as the *Good Practice in Continence Services* (DH 2000) and the *National Service Framework for Older People* (DH 2001a) promotes the development of integrated continence services with a focus on identifying patients, assessing their conditions, and putting appropriate treatment in place. Both these policy documents aim to raise nurses' awareness of proactive continence care. The *Essence of Care* benchmarking toolkit includes a standard for continence (DH 2001b) which goes further than raising awareness and offers practitioners the opportunity to work with service users to review existing practice and make improvements. All these documents aim to promote anti-discriminatory and person-centred models of practice.

Management of continence problems

The diagnostic approach to incontinence should include a careful review of all organ systems, a sensitive but detailed history, and a focused physical examination (Sarkar and Ritch 2000, Thompson and Smith 2002). Most patients also require urodynamic studies and/or ultrasound scanning to further aid diagnosis. These investigations will provide information about the internal urethral sphincter, the bladder wall and/or the presence of an obstruction (Sarkar and Ritch 2000). There are also barriers to continence that, according to Thompson and Smith (2002), have little to do with the urinary tract. An evaluation of such things as access to toileting facilities, functional and cognitive ability, and motivation are therefore also pertinent aids to diagnosis.

The management of incontinence implies the use of measures designed to achieve social continence (Heath and Watson 2002). According to the Royal College of Physicians (1995){not in refs}, urinary incontinence can be cured or alleviated in up to 70% of cases; therefore the implication is that an underlying cause can be found for these cases and should be investigated. In a study by Landi *et al.* (2003) to determine the factors associated with incontinence in community-dwelling elderly people in Italy, potentially reversible risk factors such as urinary tract infections and environmental barriers featured strongly. There is ample evidence according to Sarkar and Ritch (2000) that nursing measures (e.g. hygiene, diet and fluid intake, care of bowels, bladder re-training and pelvic floor exercises) are effective in improving and restoring continence for the majority of patients.

Various other strategies are used to restore continence, including surgery and the use of medication according to Haslam (2004). Conservative treatments for urinary incontinence include bladder training (scheduled voiding according to a timetable), pelvic muscle rehabilitation (to strengthen voluntary peri-urethral muscles, vaginal muscles and the anal sphincter), biofeedback (to provide a visual or auditory awareness of the physiology of voiding), and electrical stimulation (to facilitate the contraction of the muscles in urge incontinence). Pharmacological therapies such as anticholinergic drugs for urge incontinence and oestrogens for stress incontinence can be used in addition to (or instead of) behavioural therapies. Simple measures such as improving toileting facilities, removing environmental barriers and restraints and altering medications may resolve the problem (Sarkar and Ritch 2000). The use of containment products such as pads and penile sheaths can also assist the management of incontinence, in conjunction with other therapies.

Focused and targeted assessment of continence in older people is the means to determining the most appropriate treatment and care to be provided (Gray 2003, NSF 2001a, Bayliss et al. 2000). However, as practitioners do not see continence as a high priority within the competing demands of nursing, assessments do not get made (Gray 2003). Patients feel that assessments ask too many questions about symptoms and too few about the emotional impact of incontinence (Rigby 2001). For person-centred continence care, practitioners should explore how continence-related problems affect well-being in everyday life (Palmer 2002).

Evidenced-based protocols and care pathways have been developed that are valuable for ensuring standardisation of continence services (for example, Bayliss *et al.* 2000, Button *et al.* 1998, Williams *et al.* 2002). However, despite the evidence that treatments and life changes can make a difference, nurses see continence problems as an acceptable part of aging (NSF/DH

2001a); this attitude leads to reactive care, such as replacing wet pads and clothes with dry ones (Irwin *et al.* 2001, Palmer 2000, Thomas 2001).

Wyman (2003) outlines the factors (or barriers) that interfere with implementation of evidence-based continence practice – educational, attitudinal, organisational, financial and professional. Interestingly, individual nurse's knowledge, beliefs and attitudes about urinary infection were found to be a significant predictor of nursing practice (Cheater 1992). Wyman (2003) states that education should aim to create attitudinal change towards continence. Available evidence suggests that education largely focuses on palliative rather than therapeutic or rehabilitative nursing strategies (Cheater 1992), touching on such aspects as scheduled voiding regimens, pelvic floor exercises, surgical procedures, and lifestyle changes (reducing caffeine intake and so on) (DH 2001b). Pringle *et al.* (2002) highlighted the results of treating older people with dementia in specialist units. They used prompted voiding with patients who were immobile to improve their continence.

An audit of nurses' continence knowledge conducted by Irwin *et al.* (2001) supports the finding that nurses' knowledge about continence must be improved. They observed that few nurses take the opportunity to increase their knowledge.

According to Wyman (2003) an organisation that is not open to innovation or that is focused on keeping costs down is a barrier to optimal continence management. The report also identified limited nurse leadership in the field of continence because it is not seen as a priority over the many other competing demands of nursing. Wyman demonstrated that behavioural interventions were often effective in reducing incontinence in long-term care, but observed that once a study ended the old practices resumed ('business as usual') and the changes were not sustained.

The literature on continence and older people illustrates a growing body of knowledge in support of evidence-based continence care. However, practitioners in this field continue to provide reactive continence management, rather than apply available evidence of best practice.

Evidence-based practice

Over the past few years, the issue of how to transfer evidence into practice has been given much attention. But clearly providing practitioners with evidence of best practice alone does not directly lead to implementation in practice (Rycroft-Malone *et al.* 2004). The reasons for this are complex and many factors have been proposed within the literature to explain the gap between evidence of best practice and the reality of what occurs in practice, including the role of nurses, their attitudes to and perceptions of research utilisation (Parahoo 1999) and their ability to understand and interpret research (McCaughan *et al.* 2002). Rycroft-Malone *et al.* (2004) identified issues with organisational support, relevance of research to the clinical setting, approaches to collaboration and leadership in the implementation process, availability of resources and access to evidence as factors contributing to knowledge use in practice.

When evidence is discussed in the literature the focus is mainly on systematic, conventional, published research studies, with randomised control trials recognised as the most valuable. However, relatively recent work by Rycroft-Malone (Rycroft-Malone *et al.* 2004) highlights the importance of pluralist forms of evidence that derive from empirical sources matched with patients' experiences, local context factors, and clinical experience. Rycroft-Malone and colleagues developed the PARIHS framework as a model for understanding the significance of differing factors promoting knowledge use in practice.

The PARIHS framework

The full name of the PARIHS framework is Promoting Action on Research Implementation in Health Services Framework (Kitson *et al.* 1998, Rycroft-Malone *et al.* 2002). It illustrates and makes sense of the complex factors involved in implementing evidence into practice, and proposes that successful implementation of evidence is dependent on the inter-relationship of three key elements:

- The nature of the evidence (research, clinical experience, and patient preference).
- The quality of the context (culture, leadership and evaluation).
- Expert facilitation (characteristics, role and style) (McCormack *et al.* 2002).

Each of these elements has characteristics spanning a continuum of weak to strong. Kitson *et al.* (1998) proposes that for successful implementation, the evidence needs to be robust, the context needs to be receptive to change, and appropriate facilitation needs to be used. As the focus of the study was the context within which continence care and management is provided, the three elements of context are discussed. The three elements and their characteristics are presented in Table 1.

Table 1: Characteristics of the context framework

ELEMENTS	Weak characteristics ⟷	Strong characteristics
Context	Lack of clarity around boundaries Lack of appropriateness and transparency Lack of information and feedback	Boundaries clearly defined (physical, social, cultural and structural) Appropriate and transparent decision-making

	Lack of power and authority Not receptive to change	processes Information and feedback Power and authority understood Receptiveness to change
Culture	Unclear values and beliefs Low regard for individuals Task driven organisation Lack of consistency	Able to define culture(s) in terms of prevailing values and beliefs Values individual staff and clients Promotes learning organisation Consistency of individuals role or experience to value: relationship with others, team working, power and authority, rewards/recognition
Leadership	Traditional, command and control leadership Lack of role clarity Lack of teamwork Didactic approaches to teaching/ learning/ managing Autocratic decision-making processes	Transformational leadership Role clarity Effective teamwork Enabling/empowering approach to teaching/learning/ managing Enabling/empowering approach to learning/teaching/ managing
Evaluation	Absence of any form feedback and information Narrow use of performance information sources Evaluations rely on single rather than multiple methods Poor organisational structure	Feedback on individual, team and systems Use of multiple sources of information on performance Use of multiple methods (clinical, performance and experience) Effective organisational structure

Context

Context is defined by McCormack *et al.* (2002; p.96) as the 'environment or setting in which people receive health-care services'. The environment in healthcare is rarely straightforward but is constantly changing, with many diverse cultures operating at different levels throughout the organisation. Research is seen as providing evidence of what might be achieved under ideal circumstances – it creates 'context-free' guidance. Of course it is recognised that we do not work in context- free situations, as supported by the Canadian Health Services Research Foundation (Canadian Health Service Research Foundation (CHSRF) 2005; p.11) who argue that getting evidence into practice is not context free and state: 'the role of science is somewhat detached from, and unconcerned with, it's application to specific circumstances'. This means that researchers need consider the context within which the research is being undertaken and the effect the context will have when that evidence is put into practice. Moreover, the role of context in the research process needs to be further elucidated (McCormack *et al.* 2002).

The difficulty in defining and capturing the concept of context has been likened to 'trying to catch a cloud' (CHSRF 2005; p.13). Context can be seen as 'infinite' because it exists in all workplace communities and cultures that are influenced by economic, social, political, fiscal, historical and psychosocial factors (McCormack *et al.* 2002). From a review of the relevant literature on context, the Canadian Foundation suggested that issues directly relevant to health care include values, political judgements, resources, professional experience and expertise, habits and traditions, lobbyists and pressure groups, and pragmatics and contingencies (CHSRF 2005). McCormack's (2002) identified three elements of practice context that need to be assessed in order for research evidence to be utilised – the existing measures of effectiveness, leadership and culture. Because of the diverse elements of context, it could be concluded that multiple methods of achieving evidence-based practice are needed (Swinburn *et al.* 2005). McCormack's three elements of the context framework form the basis for the study and are briefly described here.

Workplace culture

Organisational culture

Organisational research studies have mainly focused on structure, systems and behaviour (Manley 2000a,b). Van den Berg and Wilderom (2004) describe organisational culture as the 'glue' that holds an organisation together and stimulates an employee's commitment to the organisation to perform; they suggest that evidence of how to operationalise this 'glue' is rare. However, Manley (2000a,b) argued that as a concept, organisational culture has little significance to clinicians and patients because of its focus on high-level structures, systems and processes. Manley showed that individual workplaces have their own cultural characteristics which may be influenced by organisational culture but are unique to each practice setting (i.e. context). These unique characteristics have the greatest influence on the perceptions and experiences of patients and staff about their organisation (i.e. workplace culture).

Transformational culture

Manley (2004) defines an ideal culture as 'transformational' because it is always changing form, adapting and responding to a

changing context. A transformational culture is based on values that enable staff at all levels to feel empowered, to develop their own potential, and to be innovative in developing practice and thus produce best practice for patients. Manley (2000b) also states that there is a need for qualitative studies to observe the cultures of workplaces and to provide information on how to successfully implement innovative work in practice.

Leadership

Much has been written about what makes a good leader, but the field of nursing has had some difficulty in establishing good leadership (Cunningham 1998, Girvin 1998). The most effective leaders are 'transformational' ones, who are committed to allowing themselves and others to optimise their skills, abilities, knowledge, and potential (Manley and Dewing 2002). Leaders described as 'transformational' can bring different types of evidence together (research, patient experience and clinical experience) and implement that evidence into practice, so bringing about new ways of working. In this way they can change the organisation's culture and create a context into which evidence based practice can be more easily integrated (McCormack 2002). The PARIHS framework points out that everyone can be a leader of something, and that the potential for leadership needs to be developed and released (Rycroft-Malone *et al* 2004)

Evaluation

Evaluating practice takes many forms, from the use of 'hard' data (such as cost effectiveness and length of stay) to 'soft' data (such as the patients' experience of practice). In an effective culture, healthcare professionals use evidence gathered from various sources to make decisions about individual or organisational effectiveness; this in turn is used as an integral part of accountability frameworks and staff appraisal strategies (McCormack *et al.* 2002). This culture embraces peer-review, user-led feedback and reflection on practice, as well as evidence from the systematic literature reviews, meta-analyses and audit of effectiveness. Measurement is a vital part of any environment that seeks to implement evidence into practice – no matter how complex that measurement can be (McCormack *et al.* 2002).

The challenge is to explore which contextual factors hinder or enhance the implementation of evidenced-based care and management of older people with continence problems.

SECTION 4
Phase 1 Methodology and data collection

Case-study methodology

According to Yin (1994) a case study is an 'empirical' enquiry that investigates a contemporary phenomenon within a real-life context. This study was designed as a case study because case studies are good for exploring human affairs and because they are focused, reflecting realities that readers can empathise and offering rich descriptions of social conditions (Geertz 1973).

The case-study approach we used allowed in-depth investigation of the 'context' in which continence is managed, with multiple sources of evidence gathered from two rehabilitation sites for older people. The PARIHS framework was used to guide the structure of the study, based on the constructs of culture, leadership, and evaluation.

Data collection

Various quantitative and qualitative research instruments (see Appendix 1 and 2) were employed in Phase 1 of the study:

- Royal College of Physicians (RCP) audit scheme for continence (This is only available in hard copy (Brocklehurst 1998) (see Appendix 1).
- Staff Knowledge Questionnaire (see Appendix 1).
- Semi-structured observation of practice framework using Manley's cultural indicators (Manley 2000a) and *Essence of Care* (DH 2001b) (Appendix 1).
- Focus groups (Appendix 2).

The Royal College of Physicians (RCP) audit scheme (Brocklehurst 1998)

It was used to collect data on the incidence and management of urinary and faecal incontinence and of urethral catheterisation. The RCP scheme includes three types of audit: a single-patient audit, a multiple-patient audit, and a facility audit. For each of these audits, separate questionnaires were provided for urinary incontinence, faecal incontinence and urethral catheterisation. In this study, a single-patient audit of urinary incontinence served as a pilot for the main audit. The multiple-patient questionnaires were used in the main study to audit a series of patients with a continence problem in each rehabilitation unit. These questionnaires recorded details of the incidence, assessment, treatment and follow-up of urinary and faecal incontinence and urethral catheterisation. A facility audit was completed in collaboration with clinical nurse managers or continence link nurses in both sites, to enable review of policies and availability of resources for continence promotion.

Staff Knowledge Questionnaire (Irwin *et al.* 2001)

This questionnaire has 27 questions designed to measure staff awareness and knowledge of the causes and treatment of continence problems. There are two parts; the first measures perceived knowledge of continence; the second is multiple choice questions about factual knowledge.

Semi-structured observation of practice

Non-participant observations of practice were carried out in a semi-structured way using a schedule developed from the *Essence of Care* continence benchmarks (DH 2001b) and Manley's cultural indicators (Manley 2000a). This provided a focus for observation of best practice. A total of 16 hours of observations were made at each rehabilitation home, each one lasting for two hours and carried out at different times of day. These were undertaken by practitioners from the study site areas.

Focus groups

Focus group discussions took place in both study sites – the Republic of Ireland and in Northern Ireland. Various multidisciplinary team members were invited to participate so that each discipline was represented. In total, 26 staff took part. Multidisciplinary staff from both rehabilitation units were invited to provide opinions on specific issues that emerged from analysis of the data. In order to have a wide range of opinions and an accurate representation of the study population, a stratified sample of the multidisciplinary staff in each of the participating sites was invited to participate in focus group discussions (Mays and Pope 2000). Kitzinger (1995) describes the focus-group approach as group discussions that are organised to explore specific issues.

Data analysis

The data were collected and analysed in two stages.

Stage 1

All data (excluding that from the focus groups) were analysed to identify key themes using the ten-stage approach for qualitative analysis (Ely 1991; later adapted by McCormack 2002).

Quantitative data were analysed using the RCP audit, the Knowledge Questionnaire. The NIVIO (Fraser 2000) was used to organise the qualitative data and manage the analysis process. Initial impressions were noted from the data and a list of tentative sub-themes was drawn up. The sub-themes were revised and refined and narratives were selected to link them together. This process identified any gaps (e.g. a lack of data) and assessed each particular context indictor as being too 'weak' or too 'strong'.

Stage 2

Several topics were identified for discussion by the focus groups, in addition to issues already identified by the work of Manley (2000a,b) on patient and staff cultural indicators, and *Essence of Care* (DH 2001b). Three specific issues emerged:

- How the two units performed in a number of highlighted areas such as specific continence assessment and clear rationale for treatment.
- How information and choice and dignity were provided for patients in each unit.
- How knowledge and skill in continence management was prioritorised within the team.

Participants were asked to describe their roles in continence promotion and management and to assign responsibility for leadership in continence care.

Consent and ethical considerations

The study gained ethical approval at both sites. All staff were given written information about the purpose of the study and the focus groups and received written requests to participate. Meetings were held to raise any concerns and reinforce confidentiality issues. No names were used in any part of the study. To ensure a collaborative (overt) approach, nurses were given written information prior to the observation stage.

Gaining informed consent before the observations commenced was problematic because they were conducted in busy wards. Therefore we followed the advice of Savage (2000) by gaining verbal consent from all people expected to be on the ward during the times of the observation and then including any unexpected visitors and staff. No-one declined to take part. No patient information was collected so consent was not needed, but anyone in the area of the observations were given written information and explanations beforehand.

The nursing staff identified patients with a continence problem who were approachable. These patients were asked for consent to read and record information from their notes. In the first instance, the ward nurse asked these patients if the researcher could talk with them.

Table 2: Summary of methods of data collection and analysis

Data collection method	Purpose	Sample size	Data analysis
Royal College of Physicians audit scheme (Brocklehurst 1998) for review of existing incidence and management of urinary and faecal incontinence and urethral catheterisation	To quantify number of older people with continence problems, the types of problem, and approaches to assessment, care and treatment	220 patients were identified by the staff or through patient care records	SPSS 12 software
Facilities audit using information from clinical nurse leaders and continence link nurses	To review clinical areas for facilities such as toilet facilities, staff continence education programmes, access to continence aids, etc.	Two 40-bed units (site 1) and five wards and one day hospital (site 2)	SPSS 12 software
Staff knowledge questionnaire (Irwin *et al.* 2001) distributed to nursing, medical and therapy staff (58 at site 1 and 96 at site 2)	To assess staff knowledge about management of continence	97 questionnaires (44 from site 1; 53 from site 2	SPSS 12 software
Observations of practice (*non*-participant) with a semi-structured interview schedule, developed using the *Essence of Care* (DH 2001b) continence benchmarks and Manley's cultural indicators (2000a)	To focus the observation of best practice	Total of 16 hours of observation in each study site (2-hour periods at different times of the day)	Ten-stage thematic (Ely *et al.* 1991) and characteristics of context from the PARIHS framework
Focus groups discussions between multidisciplinary team members, carried out (after analysis of data collected in the previous stages) and using Manley's cultural indicators (2000a) as a basis	To explore the context of continence practices within the participating units and to discuss in-depth all data collected during observations of culture	Six focus groups with total of 26 MDT members (two groups in site 2 and four in site 1)	Ten-stage thematic (Ely 1991) merged with previous data within the context framework

Final analysis using the context framework

The final stage involved analysis of all data within the context framework, from which we could identify the strong and weak characteristics of the context within which continence care was provided at each site. The data were considered in three groups – culture, leadership, and evaluation – and characteristics were assigned along a continuum of weak to strong evidence ('strong' evidence enhances person-centred continence care, and 'weak' evidence hinders it).

Table 3 shows how comments were used to create the statements in the CAI. Table 3 uses an extract from the context framework and illustrates the characteristics of decision making.

Table 3: Example of statement development

LACK OF APPROPRIATENESS AND TRANSPARENCY	Data extracts	APPROPRIATE AND TRANSPARENT DECISION-MAKING PROCESSES
Lack of understanding for the rational for decisions on the care and management of continence Lack of appropriate decisions on the approach to continence promotion and care Lack of involvement of the older person in the decision-making process Staff not providing a rational for their actions Approach to continence reactive The management structure not clear No members of the multidisciplinary team or management having responsibility or accountability to ensure patients receive best practice continence care	**RCP audit:** no diagnosis of continence problems made for 74% of patients. 85.6% had body-worn pads with no stated rationale for this approach to containment of continence **Document:** 'All data to date together'; 10 passages; 1713 characters *Section 0; Paragraph 14; 116 characters:* No planning prior to commencing patient care; unclear how the nurses knew which patients needed or wanted care first. *Section 0; Paragraph 113; 23 characters:* No prioritising of work. *Section 0; Paragraph 151; 225 characters:* Assessment of continence stated whether the person was continent or incontinent but no other details of cause or patient perception. The assessment follow this appears to be internal to the nurse and is about how to manage the continence not how to prevent or educate. *Section 0, Paragraph 171, 442 characters:* Worked based on routine and rituals such as no plan for how they would work just got on with care in the same way as always do (i.e. did not discuss if a patient needed their position changed first or pad changed or offered the toilet). As none of this information was given at handover then no way of know the patients needs for those who did not articulate their care. Did not know what time patients went to bed or last had offer of toilet. **RCP audit:** In 97% of cases patients had had no discussion regarding their continence. **Focus group**: We would look at it from a different perspective (assessment) in that when a patient is referred to us we would go to the ward and do a questionnaire with them and find out what their incontinence was like prior to admission because sometimes they may or may not been incontinent already and maybe see how that affected them and their function before admission. We would usually ask if they had problems with incontinence and how that affected them.	Clear rational for all aspects of continence care, management, treatment, etc. Continence care based on an assessment which provides a comprehensive picture of the patient Evidence of assessment, planning and evaluation based on multiple approaches, observation, interview, etc. Documented evidence of proactive promotion and management of continence Clear and open channels of communication between clinical and non clinical staff Shared responsibility and accountability within the team for providing best practice continence care

SECTION 5
Phase 1: Findings from analysis

This section presents a summary of the findings from an analysis of the data collected in Phase 1.

Royal College of Physicians (RCP) audit scheme

The mean age of patient participants across both sites was 80 years. The average length of stay was 25 days in site 1 and 35 days in site 2 with a range of 1–150 days. Of the participants in both sites, 60% had urinary incontinence only and 3% had faecal incontinence. Frequency of incontinence was once daily for 62% of participants at site 1 and up to three times daily for 70% at site 2.

Urinary incontinence

This was assessed from existing documentation and from incontinence charts in 61% of patients. Investigations of causation at site 1 included abdominal examination in 50%, midstream specimen of urine (MSU) in 45%, and residual urine measurement in 24%. Most of the patients at site 1 (89%) were referred for further investigations such as bladder, pelvis or kidney ultrasound, urinalysis and cytology, but there was no documented diagnosis of incontinence in 45% of these. Investigations at site 2 included MSU (in 33%). Only 2% were referred to a nursing or medical specialist, and continence charts were used for just 9%.

Patients were asked about contributory factors to their incontinence and most cited physical (64%) rather than environmental factors (19%). Documentation revealed most treatment was for constipation (47%) and urinary tract infection (43%), with 8% receiving medication. Not surprisingly, 84% (site 1) and 89% (site 2) of patients remained incontinent after treatment. Incontinence was contained using body-worn pads (50%) and timed voiding (57%), with 87% of patients at site 2 using body pads. According to 62% (site 1) and 97% (site 2) of participants, urinary incontinence was not discussed with them or their significant other. Patients were asked whether they were satisfied with their treatment and 66% responded they did not know – possibly indicating a lack of information or confusion about treatment. There was no documentary evidence of follow-up in 85% of cases.

Faecal incontinence

Faecal incontinence presented clinically in 54% (site 1) and 60% (site 2) of patients, as both loose and formed stools. The frequency of incontinence was less than daily but more than weekly for 54% (site 1) and 61% (site 2). At site 2, 71% of participants had experienced problems for over 1 month. Assessment was made from general nursing notes or medical notes with faecal end-of-bed charts. In 82% (site 1) and 86% (site 2) there was no documented diagnosis or identified cause for faecal incontinence. Patients were managed by different interventions, sometimes multidisciplinary, such as advising on the use of laxatives, dietary changes, prevention of constipation (11.5%) and antibiotic treatment. In 77% (site 1) and 89% (site 2) continence problems persisted after treatment. Further treatment had been planned for 66% (site 1) and 87% (site 2) of patients but was not discussed with 62% (site 1) and 72.5% (site 2).

Urethral catheters

Urethral catheters were in place in 30% (site 1) and 27% (site 2) of participants. In most cases, the catheter was inserted before admission to the rehabilitation unit, but in 75% there was no record of the date of insertion. Information in 75% of the written records was provided by doctors. Catheterisations (mostly closed system types) were usually performed post-surgically or because of an acute or worsening medical condition (71%), and in most cases were not intended for long-term use. Records of bag emptying were available in 98% of cases at site 1 but only 49% at site 2, and general management (e.g. bag emptying) was usually carried out by the ward nurse (67%). 92% of carers were not usually involved in catheter management or trained in catheter care.

Facility audit

This was conducted at both units using the RCP audit scheme, with the assistance of clinical nurse managers. At site 2, the clinical nurse managers reported that written guidelines regarding incontinence management were available to staff on the unit, and these were visible to the researcher at the time of audit. Most of the

stipulated guidelines in the RCP audit tool were present in the unit, with some exceptions (e.g. guidance on indications for referral to urodynamic assessment, or a medical or surgical specialist or a continence nurse specialist). At site 1 guidelines were not available. The clinical nurse managers at both sites considered toileting facilities to be adequate and conducive to continence promotion and management.

The audit demonstrated a lack of specific continence assessment, documentation and specific rationale for treatment decisions or continuation of care. Furthermore, the focus at both sites was on continence containment rather than proactive management. Patient referral for specialist diagnosis and treatment was limited. The outcome for most of the patients following treatment was that they remained incontinent, and many reported that incontinence was not discussed with them.

Staff knowledge questionnaire

These findings provided evidence of actual knowledge as well as perceived knowledge. For example, 100% and 95% of staff correctly answered questions about the correct meaning of the terms 'residual urine' and 'hypotonic bladder', 56% knew the average bladder capacity of an adult and 67% knew that residual urine could be expected with a hypotonic bladder. A study of staff knowledge conducted by Irwin *et al.* (2001) showed that 97% knew pelvic floor exercises can improve stress incontinence; in the present study, 100% knew this fact. In contrast, only 37% in the present study knew that anticholinergic drugs could be used to treat urge incontinence compared to 44.6% in Irwin's study. Both studies revealed similar (good) levels of knowledge regarding continence promotion and prevention. For example, 74% knew that reducing caffeine intake could reduce urgency and frequency, and 63% knew that dietary vitamin C helps prevent encrustation of long-term catheters. The results demonstrate a high level of perceived and actual knowledge about continence and its management among staff within the multidisciplinary team in both study sites (as evident from previously collected data).

Observation of practice

Data were recorded on an observation schedule using the *Essence of Care* benchmarking framework for continence care (DH 2001b). This evaluated the observed care against eleven benchmarks for evidence-based continence practice, scoring observations on a continuum from A (best practice) to E (worst practice). Scores were analysed using *Essence of Care*, and were then grouped into the two cultural themes developed by Manley – patient indicators and staff indicators (Manley 2000a,b).

Observational data were then analysed in-depth using the ten-step approach to qualitative analysis (devised by Ely 1991 and later adapted by McCormack 2002). Initial impressions were noted and a list of sub-themes was drawn up. These sub-themes were revised and refined and narrative was selected to link with the sub-themes. Theme statements were then written, based on common characteristics of the sub-themes. All findings were compared for patterns, commonalities, differences and unique happenings.

At site 2, the observational data suggested the presence of strong enabling factors regarding continence care (e.g. nurses were observed recording bowel movements on the end-of-bed charts using the Bristol stool scale). Patients had easy access to toilet facilities within the six-bedded bay, and did not wait for long for toileting assistance from the staff. The atmosphere created by the staff was conducive to patient comfort and requests for assistance were never left unanswered. Staff demonstrated familiarity with their patients and good rapport with all disciplines. There was evidence of teamwork and collaboration between disciplines: a nurse and physiotherapist helped one patient to walk to the toilet, encouraging her all the time; one patient, newly returned from physiotherapy, was helped to the bathroom by the physiotherapist, reassuring him that it was close by and that he could make it

Site 1 was similar in some ways to site 2, but at other times the needs of the ward area were put before the needs of the patients. For example, the lights were switched on at 07.30 AM and the staff talked loudly, seemingly unaware of the patients' need for rest. Patient dignity was not consistently maintained: one nursing auxiliary asked a patient who was on the toilet if they had finished, opening the toilet door even though other people were present.

In both sites there was little observed evidence of involving patients in decisions; none were offered any choice about their care. The prevailing 'culture' was of the patients being 'done to', having only a passive role. At no time during care did nurses refer to the patient's documentation. Dignity was not always a prime concern, and there were some routine and ritualistic practices. Both units were acknowledged to be very busy, with high turnover of patients. Some staff indicators were identified, including proactivity of staff dedicated to patient well-being. However, lack of leadership and management, particularly in relation to continence care, was

evident, and leadership and the organisation of care varied. In one ward, the nurses cared for one group of patients for the whole shift but in another they only carried out personal care – hence no one had specific responsibility for the follow-through of care, and some patients did not receive the care they needed. The management of incontinence appeared to be the sole responsibility of the nurses and, although teamwork was evident in areas such as mobility and nutrition, it was not seen in the management of patients with continence problems. Nurses were observed getting the patients washed and dressed for therapy. If any patients asked a therapist to take them to the toilet, they requested a nurse to do this, even if they then later mobilised the patient.

Focus groups

The themes (and identifiable gaps) that emerged from analysing this material formed a topic list for discussion by the focus groups. The topics are outlined in detail in Appendix 2. When discussing 'evidence of continence management', members gave their opinions on how each unit performed in a number of areas, such as specific continence assessment, clear rationale for treatment, consistency and continuity in approaches to continence management, and evaluation of care. Discussion of the topic 'patient indicators' included how information and choice were provided for patients, how dignity was promoted and whether any improvements could be made. 'Staff indicators' involved discussion of the priority of knowledge and skills in continence management within the team. Members were also invited to describe their own roles in continence promotion and management and to assign responsibility for leadership in continence care.

Analysis of the focus group data was conducted initially using the Ely's ten-step guide. The emerging themes were matched to the PARIHS context framework devised by McCormack *et al.* (2002). Individual quotes were chosen to demonstrate either strong (enabling) characteristics of context or weak (hindering) characteristics, under the headings outlined in the PARIHS framework – context, culture, leadership and evaluation.

There appeared to be lack of clarity of professional boundaries in continence care. It was proposed by one member, for example, that toileting is '*usually a nursing function*'. Nurses reported that therapists come to them if patients wanted to go to the toilet or that therapists brought them back from therapy departments if they had been incontinent. This clearly caused tension between the nurses and therapists. One therapist stated *'as soon as we get* [to the therapy department] *they want the toilet and that eats into the therapy time'*. Members also commented on the inappropriateness of toileting equipment in open-plan wards, and highlighted the difficulties of '*carrying out care when family and friends are visiting*'. Issues were raised regarding the routine practice of patients being transferred to the unit with continence pads in place.

On the whole, members from site 1 were satisfied that they had recently introduced a new continence assessment tool. However they felt powerless to enhance services, citing the need for the appointment of a continence specialist. Frustration about lack of resources was common, in addition insufficient information for patients or staff. Education about continence care and management was suggested for all staff on the units. Staff felt they did not know enough about continence promotion and treatments. At site 2, staff acknowledged that continence assessment was not routinely carried out and therefore needed improving. A continence nurse specialist had been appointed at site 2 but her role was not referred to.

The multidisciplinary members appeared to be receptive to change in continence care, agreeing that continence is not seen as a priority and that the environment in which they worked was not altogether conducive to person-centred care. The lack of space for personal care and patient privacy was highlighted.

Although the focus group members advocated team effort, there were some inconsistencies in practice. At site 1, physiotherapists and occupational therapists in the group felt that continence care was beyond their remit. At site 2, however, it was felt that continence was part of the therapist's remit but there was uncertainty about the therapist's role. It was agreed that physiotherapists could do more by promoting pelvic floor exercises.

Including patients in own their care was seen as important, and all members worked on the principle of inclusion and the promotion of self-care. However, at site 2 the staff acknowledged that older persons were often not treated like this, and that it was too easy to rely on pads. One therapist stated '*I don't think we do enough now, just get the pads and don't ask what they know*'. Continence assessment was mentioned but there was little mention of evaluation, even though one member called for an audit of practice.

The focus group discussion highlighted the need for further collaboration between disciplines in order to enable proactive continence care, as well as a need for the empowerment and involvement of patients in their continence care and leadership of practice. The multidisciplinary team members displayed strong awareness of the deficiencies in the practice of continence care and management and of the challenges ahead.

Final analysis using the context framework

The final stage was to analyse all data within the context framework in order to identify strong and weak characteristics of the context within which continence care was provided in these two sites. Data were themed under the elements of culture, leadership, and evaluation, and each characteristic was rated along a continuum of weak to strong evidence (‘strong’ evidence enhances person-centred care and ‘weak’ evidence hinders it). This process is illustrated in Table 4 with an extract from the element 'leadership' and the characteristic of 'didactic approaches to learning/teaching/managing' along the continuum to the strong context of 'enabling/empowering approaches to teaching/learning/management'.

Table 4 illustrates how the data were organised within each of the characteristics. In this example, most data fell at the weak end of the continuum, reflecting a didactic approach to learning/teaching/managing. Although there was limited evidence of 'enablement and empowerment', the staff at the focus groups gave examples which suggested they had some insight into the existing didactic approach (such as: '*I think that we should share more and learn more from each other. New ideas come and go and that’s that, but we could learn as we all know a lot…*'). The three elements of context and the corresponding characteristics identified within the PARIHS framework captured all the aspects of context within the study, some of which overlapped and were therefore amalgamated (see *Introduction* in *Section 6*).

The element ‘context’ was removed and the characteristics distributed where appropriate within 'culture', 'leadership' and 'evaluation'.

The trend throughout the analysis was that the data supported a weak context. Very little was at the strong end of the continuum. Appendix 3 contains various examples of the data that illustrate the use of the context framework for the analysis.

Discussion

The data illustrate that practitioners had some insight into the contextual factors hindering or enhancing evidence-based practice. However, due to a culture of unclear beliefs and values, and leadership that reflected an autocratic approach, they felt disempowered to change their practice. This is illustrated in Table 4 where the leadership was more autocratic than 'transformational'. Without transformational leadership, team members were unable to optimise their skills, abilities and knowledge. The staff showed they were aware of the limiting affect of autocratic leadership on their ability to elicit changes in continence practice.

The approach to continence problems reflected reactive continence care, with limited assessments and over-reliance on the use of ‘pads and pants’ as found within the literature (Bland *et al.* 2003, Gray 2003). Continence problems were seen as an accepted part of aging, leading to nurses losing sight of the significance of continence in rehabilitation of older people.

The multidisciplinary team were aware that there were deficiencies in their care and management of continence and of the challenges ahead. One person expressed this: *'We could do patient training as a group to help the patients understand continence. Don’t think we do enough now, just get the pads and don’t ask what they know*'. They agreed that continence was not given a high priority and that the environment in which they worked was not altogether conducive to person-centred care. Measuring practice by using hard data (e.g. length of stay) and soft data (e.g. patient feedback) were not part of the 'culture'. Without these data to inform their practice, staff were working in a vacuum and were unable to understand how they could improve the patients' experiences.

Alongside this, there were no opportunities for reflecting on practice, in a culture where practice went unchallenged. There was a reliance on classroom teaching but, as the literature on the problems of getting evidence into practice illustrates, providing information alone does not change practice (Rycroft-Malone *et al.* 2002). The data reinforce the significance of understanding and developing local context to enable the provision of person-centred practice. Because the staff did not understand the impact that the context (leadership, culture and evaluation) was having on their practice, they continued to feel dissonance between how they practiced and how they would like to practice. Therefore, they were unable to put their espoused beliefs and values into practice, leading to a culture that was not receptive to new ideas and ways of working. Practice continued, therefore, to be task based, with limited choice given to older patients, and a low regard for patient privacy and dignity.

Table 4: Extract from data analysis within the context framework

DIDACTIC APPROACH TO LEARNING/ TEACHING/ MANAGING	Data extracts	ENABLING/ EMPOWERING APPROACH TO TEACHING/ LEARNING/ MANAGING
Classroom-based teaching and education Based on a narrow form of knowledge No reflective practice Hierarchical learning (being told what to) Practice not evidence based Limited priority given to learning Issues remain unsolved and no follow through Blame culture Limited insight into their own learning needs or those of the unit No questioning of practice Control of patients decision making	*Section 0; paragraph 16; 123 characters* *L*Limited introductions to patients by the staff by care delivery. The *[nursing assistant]* worked unsupervised, therefore no learning of continence could took place. There were plenty of opportunities for patient education but none taken. Even when patient asked 'What are my tablets for?' the patient was not told. **Patient comment: '**Can they treat it? I thought there was nothing they could do.' **Observation**: 'I was told they used to have leaflets for patient but 'no-one read them so we took them down'. **Focus group:** 'If you want to know something you ask, and sister or some senior tells you that's how it is and that's how we learn. You learn by watching and doing, following others'. 'Huh. They don't discuss anything and not private things anyway. Can they do something? I wear these here pads but that means I can't get to the bottle but I don't wear the pads I wet myself. Can they do anything else? It shows there, my trousers and all.' **Focus groups:** 'In-service training (is where new ideas come from). Someone goes on a course then brings the information back. There is a lot of training needed which has come out of developing the MDT notes. One a year in-services training as staff change'; 'Link nurses share information with us all then we can put it into practice'; 'We learn about continence on the job as we go along. We have no formal teaching'; 'When a patient says they don't want the toilet you say "Come on and try" as they usually do need it'; 'If you want to implement change you go through sister. It is her decision then if it happens'. **RCP**: No protocols or guidelines on continence in one site. **Focus group**: 'We could do patient training as a group to help the patients understand continence. Don't think we do enough now, just get the pads and don't ask what they know.' **Observation**: Staff constantly checking with the patient that what they are doing or saying is understood and explaining an activity or a delay. **Focus group:** 'Sometimes *[the patients]* are saying "I had been calling and calling and nobody came" which can happen at times on every ward, but I just wonder are things as regular and if people are being approached as regular as they would like to be?'; ' I think that we should share more and learn more from each other. New ideas come and go and that's that, but we could learn as we all know a lot'. **Observation**: Nurse is taking the time to orientate the patients about the date, day and time – informally. Nurse has spoken to one of the patients regarding the use of hip protectors and has offered to arrange the procurement of these for the patient with a physiotherapist. **Focus group: '**Regular updates for staff and students are necessary. Like all sciences, it's a moving entity and advances are being made.' **Observation**: A physiotherapist discussing an exercise with one of the patient – she introduced herself and her role and then proceeds to encourage the patient to follow the example she provides of carrying out the exercises needed to improve his arm. A patient asks one of the nurses about a chiropody service – she is informed promptly about the availability of the service and offered a referral if required.	Development of practice from within the team as well as outside Draws on different types of knowledge (craft, propositional, etc.) Based on evidence of best practice Learning takes place within the workplace through reflection in and on practice, supervision and action learning Leaders role modelling None-blame culture Facilitative approach Knowledge and skills of practice development

Conclusions

Using context framework to analyse these data provided a picture of the context within these two units and its significance in hindering or enhancing evidenced-based continence care. Evidence suggests that the context

was weak and not conducive to person-centred continence care and management. Clearly development work is needed to create a context that reflects strong leadership, culture and effective evaluation.

The findings reflect those found within the reviewed literature, and it could be argued that this might have been achieved without using the context framework. However, by using the framework we were able to identify specific contextual issues that were hindering and enabling the delivery of person-centred care. The themes that arose from this process (illustrated in Table 4) were developed into statements, and these statements were the foundation for developing the Context Assessment Index.

SECTION 6
Phase 2: Testing and developing the Context Assessment Index (CAI)

Introduction

The first stage was the development of statements from the analysis of data within the context framework. Statements were both negative and positive. They were listed in the outside column of the context table, and either reflected a strong context or a weak context (as illustrated in Table 4). The wording of the statements needed to reflect that the CAI was a self-reporting tool, which aimed to obtain information of practitioners' personal views and experiences of their work-base context. Therefore, the statements needed to be as unambiguous as possible. The second stage needed practitioners to identify a connection between what the statement was asking and their own work situation. For self-reported tools, the statements must be relevant to those using the tool (Babbie 1989). Respondents also needed to be able to read the statements quickly and grasp what was being asked of them. Finally, it was necessary to ensure that the statements arose directly from the data and reflected the aim of the CAI (Babbie 1989).

There was some repetition in the initial list of statements obtained for each of the characteristics. Therefore, three of the characteristics were amalgamated:

- 'Information and feedback' from ‘context’ was merged with 'feedback on individual teams and systems' in 'evaluation'.
- 'Promotes learning organisation' was merged with 'effective organisational structure'.
- 'Autocratic decision making' was merged with 'traditional, command and control leadership'.

The extensive list of about 300 statements was reviewed by the project team to eliminate statements that were clearly repetitive for each characteristic. They reduced the list to about 88 statements. It was decided to use a four-point Likert scale (Likert 1952) using the headings of ‘Strongly agree’, ‘Agree’, ‘Disagree’, and ‘Strongly disagree’. It was decided not to use a statement such as ‘Don’t know’ in order to focus the user on agreement or disagreement. Both negative and positive statements were used.

Phase 2 was concerned with developing the CAI through testing the validity, reliability and usability. This was undertaken in four stages:

- Pre-pilot testing for comprehensiveness and specificity.
- Pilot testing for face and content validity.
- Large sample testing for factor analysis purposes.
- Test–retest for reliability, stability and homogeneity.
- Usability testing via telephone interviews.

Pre-pilot testing

The aim of the pre-pilot was to test the clarity, specificity and comprehensiveness of the CAI. We wanted to gain feedback on whether the user understood what was being asked of them by each statement (clarity), whether the statements reflected each of the characteristics (specificity), and whether the CAI covered all elements and characteristics of context (comprehenisiveness). The instrument (see Appendix 4) was sent to ten continence nurse specialists throughout the UK and Ireland, eight of whom are recognised experts in practice development, identified through the Royal College of Nursing continence specialist members’ forum, the Association of Continence Advisors (ACA) and the National Council for the Development of Nursing and Midwifery Database. Practice developers were identified through the UK Developing Practice Network (DPN). These nurses were sent a copy of the first draft of the instrument and a feedback sheet.

Results

Eight continence nurses and six practice development nurses returned the feedback sheet. The feedback was grouped to identify three themes: clarity of the statements, layout of the CAI, and clarity of terminology. This feedback was consistent, highlighting statements that were unclear and ambiguous (e.g. who was referred to by the terms 'manager' or 'healthcare professional'). They revealed repetition in some statements for each of the characteristics from the context framework. The CAI took 20 minutes on average to complete, which the pre-pilot group felt was acceptable. There were no comments about the fact that only four possible answers were offered for each statement. Feedback was very positive about the value of the CAI in the clinical setting and respondents felt that it was very comprehensive.

Revisions were then made to the CAI. Some statements were removed and some language clarified. A list of abbreviations was added to explain key terms. At this stage a guide was also developed for use with the CAI (to be tested later once the CAI had been developed). The inclusion of the element of 'context' was confusing because the original description of the framework (Kitson *et al.* 1998) is that the elements are 'part of context'. The project team, therefore, decided to remove the element of 'context' and to amalgamate the indicators within 'context' into three other elements (culture, leadership and evaluation).

The element headings that indicated which criteria related to the 'culture', 'leadership' and 'evaluation' were removed. Statements were then re-ordered, by taking one statement from each characteristic in turn, so that people completing the CAI would not know which characteristic the statements were referring to.

Pilot testing

This aimed specifically to test the clarity of each item of the CAI. At each study site, the researchers discussed the use of the CAI with a total of 16 continence link nurses, who then completed a feedback sheet (Appendix 5) about the clarity of the CAI and gave overall feedback. Six practice development experts were also asked for feedback, including any qualitative comments. Analysis of this feedback allowed further revisions of the CAI.

Results

More clarification was needed about some of the statements in the CAI. The nurses stated that they felt the CAI would be of value to improving practice. One stated: *'It makes you think about what you do and how you can do it better. It is therefore, a good tool for reflecting on practice'*. However, the continence nurse groups felt that expecting nurses to achieve all statements was idealistic. The practice development nurses had minor suggestions about grammar. All felt the CAI would be of value but felt it was too long. From this feedback, grammatical errors were corrected. The researchers recognised that the CAI was too long and aimed to reduce the number of statements further still. It was also decided to develop a guide to the CAI and interpretation process to aid nurses' reflection on their practice. It was planned to test these at a later date.

Large sample testing

The CAI was sent to a sample of registered nurses to test its factual structure, and whether the statements reflected each element of the characteristics of context (culture, leadership, and evaluation). Registered nurses were identified by contacting all the Directors of Nursing who had responsibility for older peoples' services, to request information on the services they provided, the numbers of registered nurses employed, whether they would let their facility take part of the study, and the name of a person who could act as local coordinator. The original aim was to recruit 500 on to the study, but the response was good, so 915 nurses were recruited from around Ireland, who provide non-acute care for older people in community hospitals, post-acute care, day hospitals, stroke units, and post-hip replacement wards. A total of 19 hospitals were identified of which 12 agreed to take part, incorporating 25 wards and units. In total, 436 nurses from Northern Ireland and 479 nurses from the Republic of Ireland agreed to participate, from 27 different sites. The number of nurses at each individual site ranged from 5–57.

The CAI was sent to these 915 nurses via co-ordinators for each area, with introductory and explanatory letters. The participants had 1 month in which to return the completed CAI. The researchers phoned each week to check on progress. Tables 5 and 6 show the type of service provided by each area, the number of questionnaires sent to registered nurses in each area and the return rate. In total, 192 (44%) were returned in Northern Ireland and 268 (56%) in the Republic of Ireland. The total was 460 (50.27%).

Table 5: Large sample validity test in Northern Ireland

Code	Service provided	Number of questionnaires	
		Sent out	Returned (percentage)
1	1 rehabilitation unit for older people	105	57 (54%)
2	2 rehabilitation wards for older people 1 ward for older people waiting nursing or residential care	54	19 (35%)
3	Day hospital 3 general older people rehabilitation	50	23 (46%)
4	1 stroke unit 1 day hospital 3 rehabilitation wards	50	2 (2.5%)
5	3 continuing care for older people	40	32 (80%)
6	1 rehabilitation ward for older people	35	13 (37%)
7	1 stroke unit 1 post orthopaedic rehabilitation ward	34	0
8	1 post acute rehabilitation	26	14 (54%)
9	1 post orthopaedic rehabilitation ward	24	11 (46%)
10	1 general rehabilitation ward for older people	18	0
	TOTAL	**436**	**192 (44%) (Misc. 21)**

Results

Analysis was conducted following the procedure outlined by Kline (1994) with the objective of reducing the number of items to reflect a strong factor structuring. Principle components analysis was carried out on all items to identify the number of factors in the questionnaire. The 83 items of the CAI were subjected to exploratory factor analysis to insure that the strongest factor structure would emerge from the data. 'Maximum likelihood' was used to extract the factor structures from the data. A process of Varimax-rotated extraction was used to ensure discreet factor structures. This process is a highly analytical method for obtaining orthogonal rotation of factors. It centred on simplifying the column of the factor matrix and gave clearer separation of factors (Hair *et al.* 1998). The number of factors extracted was set at 20, determined by Eigen values over 1 and based on the findings of the principle components analysis. The 20 factors thus identified explained 64.27% of the variance. (Interestingly, the number of factors to be extracted was left unspecified in a separate analysis, and this produced a 20-factor solution also.) The 20 constructs were extracted from the data and criteria for item reduction were based on two principles:

- A factor loading (the correlation of the item with the factor) of 0.4 was set using power analysis based on the sample size and a significance criteria of $P < 0.05$, power level of 0.80 and standard errors assumed to be twice those of conventional correlation coefficients (Solo Power Analysis, BMDP Statistical Software, Inc. 1993).
- At least two or more items per construct.

Table 6: Large sample validity test in Republic of Ireland

Code	Service provided	Number of questionnaires	
		Sent out	Returned (percentage)
1	Rehabilitation unit	12	1 (8.5%)
2	Rehabilitation unit	5	5 (100%)
3	Rehabilitation unit	43	21 (49%)
4	Rehabilitation unit	5	3 (60%)
5	Rehabilitation unit	20	19 (95%)
6	Rehabilitation unit	16	7 (44%)
7	Rehabilitation unit	0	0
8	Rehabilitation unit	9	8 (95%)
9	Rehabilitation unit	12	10 (60%)
10	Rehabilitation unit	19	13 (68%)
11	Rehabilitation unit	12	11 (95%)
12	Rehabilitation unit	25	5 (25%)
13	Rehabilitation unit	20	12 (60%)
14	Rehabilitation unit	20	14 (70%)
15	Rehabilitation Unit	11	10 (95%)
16	Community hospital	25	12 (48%)
17	Community hospital	20	13 (65%)
18	Community hospital	25	21 (84%)
19	Community hospital	13	13 (100%)
20	Community hospital	12	6 (50%)
21	Community hospital	30	0
22	Community hospital	26	13 (50%)
23	Community hospital	20	9 (45%)
24	Community hospital	20	20 (100%)
25	Community hospital	14	0
26	Community hospital	16	6 (37.5%)
27	Community hospital	18	6 (33%)
28	Community hospital	25	7 (28%)
	TOTAL	**479**	**268 (56%)**

Using this process, 32 items were removed from the original data set, leaving 51 items covering seven factors. The items were categorised into seven factors and the researchers labelled those factors and identified items within them that were considered 'misplaced'. Hair *et al.* (1998) states that this procedure helps to exclude 'rogue' items from being included within the outcomes of factor analysis, which is common in questionnaires with a lot of items (as is the case here). In this way, rogue items were extracted before the next round of factor analysis. One further item was removed to leave 50 items.

The modified data-set (50 items) was analysed using maximum-likelihood Varimax extraction with the number of factors to be extracted set to 7. This process replicated the factor structure of the previous analysis, and explained 52.19% of the data variance. Only items with factor loadings of 0.4 or higher were considered relevant to the factor. Cross-factor loading was included in the analysis. Further examination of the data led to removal of another two items and a seventh factor 'resources' was also deleted to leave a 47 itemed six-factor model.

The six factor model was distributed for validation with an expert panel of 7 members (four of the project team and three senior researchers from the collaborating universities) to agree construct titles and items. The team was asked to examine items within each construct based on their factor loading scores, agree the composition of each construct and finalise the factor titles. A further Factor was deemed as redundant in that it failed to

explain anything statistically or professionally. The expert panel agreed on a five-factor, 44 item model (Table 7) with the following corresponding factor titles:

1. Collaborative Practice
2. Evidence Informed Practice
3. Respect for Persons
4. Practice Boundaries
5. Evaluation

Table 7: Items and corresponding factor scores for the contextual indicators questionnaire

Items	1	2	3	4	5	Test retest score (%)
A proactive approach to care is taken	0.52					70%
HCPs and patients have access to appropriate diagnostic methods and equipment	0.62					36%
HCPs and patients work as partners providing individual patient care	0.69					77%
HCPs are empowered to influence external factors affecting care	0.48					52%
HCPs provide opportunities for patients to participate in decisions about their own care	0.55					68%
Patients have choice in the assessment, planning and evaluation of their care and treatment	0.61					61%
Patients are encouraged to be active participants in their own care	0.49					64%
Feedback is a two-way process between patients and HCPs	0.48					55%
Patients are encouraged to participate in feedback on care, culture and systems	0.53					87%
Organisational structures and processes are clear to patients HCPs and HSWs	0.48					52%
HCPs in the MDT have equal authorities in decision making	0.49					59%
Clinical nurse leaders create an environment conducive to development and the sharing of ideas	0.40					68%
All aspects of care/treatment are based on evidence of best practice		0.50				78%
The development of staff expertise is viewed as a priority by nurse leaders		0.56				65%
Evidenced based knowledge on care is available to staff		0.48				83%
Guidelines/protocols are available which are based on evidence of best practice (patient experience, clinical experience, research practice)		0.59				78%
Audit and/or research findings are utilised to develop practice		0.48				65%
Resources are available to provide evidence-based care		0.57				70%
Education is a priority		0.55				61%
The organisation is non-hierarchical		0.47				57%
The hospital management structure is democratic and inclusive		0.40				73%
HCPs have the opportunity to consult with specialists		0.48				65%
Nurse leaders act as role models of good practice			0.44			61%
HCPs share common goals and objectives about patients			0.42			87%
There is regard for the patients' privacy and dignity			0.58			57%
Regard is given to the patients psychological/spiritual well-being			0.55			52%
There are good working relations between clinical and non-clinical staff			0.53			59%
Staff welcome and accept cultural diversity			0.41			65%
Decisions on care and management are clearly documented by all staff			0.46			56%

Care is based on a comprehensive assessment			0.47			83%
Personal and professional boundaries between HCPs are maintained				0.41		64%
HCPs feel empowered to develop practice				0.61		61%
Staff have explicit understanding of their own attitudes and beliefs towards the provision of care				0.45		55%
HCPs and HSWs understand each other's roles				0.52		74%
Structured and open channels of communication exist between HCPs, patients, carers and organisation managers				0.45		41%
Challenges to practice are supported and encouraged by nurse leaders and nurse managers				0.44		65%
Structured programmes of education are available to all HCPs				0.36		65%
Organisational management is a high regard for staff autonomy				0.53		65%
Discussions are planned between HCPs and patients				0.54		59%
Staff receives feedback on the outcomes of complaints					0.47	57%
Performance measures (e.g. staff turnover, length of stay) are in place					0.51	45%
A staff performance review process is in place which enables reflection on practice and goal setting and is regularly reviewed					0.52	73%
Staff use reflective processes (e.g. action learning, clinical supervision, reflective diaries) to evaluate and develop practice					0.62	70%
Appropriate information (e.g. large written print, tapes) is accessible to patients					0.48	59%

The correlation matrix shows the relationship between the five factors as seen in Table 8. This is unstandardised.

Table 8: Correlation matrix of five factors contained in the contextual indicators questionnaire

Factor	1	2	3	4	5
1	0.56	0.51	0.36	0.38	0.32
2	–0.34	–0.29	0.70	0.46	–0.30
3	–0.60	0.53	–0.21	0.39	0.14
4	0.23	–0.57	–0.35	0.58	0.2
5	–0.16	–0.21	0.23	–0.13	0.8

This 44-item model was accepted as reasonable. Measures of homogeneity (see Table 9) were calculated for each of the five factors to measure their internal reliability. Reliability refers to the consistency of the results and it is achieved using Cronbach's alpha scores. Scores of 0.7 are generally acceptable, but in cases of broad construct lower scores are also acceptable. The Cronbach's alpha score for the complete questionnaire is 0.93. Five of the six constructs achieve a satisfactory level of internal consistency in scoring. The negative construct 'Routinised care' failed to achieve the rule-of-thumb score 0.7

Table 9: Homogeneity of the five factors of the contextual indicators questionnaire

Construct title	Cronbach's alpha scores
Factor 1 Collaborative practice	0.91 (*N* = 13)
Factor 2 Evidence-informed practice	0.88 (*N* = 11)
Factor 3 Respect for Persons	0.81 (*N* = 8)
Factor 4 Practice Boundaries	0.85 (*N* = 7)
Factor 5 Evaluation	0.78 (*N* = 5)

The item scores of each of the constructs were summed for all respondents to produce a respondents' construct score, and divided by the number of items to produce a mean score on the construct for each respondent. Overall mean construct scores are reported in Table 10. Scoring ranged from 1 (strongly agree) to 4 (strongly disagree). Higher mean scores indicate higher levels of disagreement with the factor theme as a context of continence care and management. Scores below 2 for both skewness and kurtosis indicate an acceptable distribution of the scores.

Table 10: Mean scores of each construct of the contextual indicators questionnaire

Construct title	Mean scores	Skewness	Kurtosis
Factor 1 Collaborative practice	2.28	0.74	1.56
Factor 2 Evidence-informed practice	2.24	0.52	0.92
Factor 3 Respect for the persons	1.92	-0.26	0.08
factor 4 Practice Boundaries	2.05	-0.14	0.25
factor 5 Evaluation	2.50	0.15	0.32

Test–retest

The test–retest was conducted to test reliability, stability, homogeneity and consistency of the scale over time. This instrument must be completed by members of the same sample on two separate occasions, with an interval between test sessions to prevent memory from influencing the results. An instrument is then considered reliable if the same answers are produced on both occasions. Feedback on the CAI was collected two weeks apart. Test–retest reliability of scores prior to interventions were calculated by comparing stability of scores across the two time points. Correlation was analysed by linear regression with a best-fit line and calculation of least-squares residual (LSR). The closer the correlation and LSR values are to 1 the more stable the scoring across the two points.

In this case a period of two weeks was chosen because it was considered long enough for respondents to forget their initial answers, but not long enough for the culture of their organisation to change dramatically. Ward managers working in rehabilitation settings for older people, who had been involved in the previous test process, were contacted via the Director of Nursing of older people's services, and phoned to clarify their willingness to participate. The 23 participants were purposively selected according to the ease with which they completed the initial questionnaire, and were drawn from both sites (10 from Northern Ireland and 13 from Republic of Ireland). They were instructed to complete the CAI as honestly as possible and to return it in a stamped-addressed envelope to the researcher. The first sampling was T1, and the repeated sample two weeks later was T2.

Results

The data was entered into SPSS 12 for analysis. Percentage agreement scores for items (and tests of reliability) were calculated using cross-tabulations and Kendall tau-b scores. Construct mean scores for both occasions were computed and construct correlation scores were generated. The construct mean scores for all five constructs were plotted on a single graph and a line of best fit was generated. The percentage agreement for item scores of the CAI were generally good. Given the four-point Likert scale of possible responses, there was a 25% chance that a respondent could randomly select the same response at T2 as well at T1, so any percentage agreement greater than 25% was higher than chance alone. All 44 items scored higher than chance alone; two-thirds scored higher than 60% agreement (63%) with 30% having agreement levels of 70% or higher; only three scored less than 50% agreement. The percentage agreement for all 44 items was displayed in a frequency table of percentiles of 10%. This produced a distribution of 0–40% (1 item, 2.27%), 40–50% (2 items, 4.54%), 50–60% (13 items, 29.5%), 60–70% (15 items, 34%), 70–80% (9 items, 20.4%), and 80–100% (4 items, 9.1%). The item scores are shown in Table 7.

The items in the questionnaire formed five constructs. Items relating to each of the constructs were merged to provide a single mean construct score, and these construct scores were tested for test–retest reliability.

Correlation scores range from –1 to +1, where –1 indicates a perfect negative relationship and +1 indicates a perfect positive relationship. A negative relationship occurs when one parameter increases by a set unit and the other decreases by the same amount. A correlation (whether positive or negative) of 0 indicates there is no

relationship. Scores of 0.7–1 indicate strong correlations, scores of 0.5–0.7 indicate moderate correlations, and of 0.3–0.4 indicate weak correlations. Pearson's product and Spearman's rho findings are both reported, but because of the small sample size, priority was given to Spearman's rho. The correlations ranged from 0.38 for 'practice boundaries' to 0.82 for 'evidence-informed practice'. Four of the five constructs had statistically significant correlations across the two data collection points, with three having probability levels of $P = 0.001$.

Table 11: Correlation of construct scores at times T1 and T2 (*$P = 0.05$, **$P > 0.001$)

Construct title	Pearson's product	Spearman's rho
Collaborative practice	0.29	0.1
Evidence-informed practice	0.73**	0.82**
Respect for the person	0.60**	0.53**
Practice boundaries	0.40*	0.38*
Evaluation	0.39*	0.53**

Modifications to the model

To improve the correlation scores of the constructs, items with a percentage-agreement score of less than 55% were removed. There is no hard and fast rule about item removal so the arbitrary figure of 55% was agreed on as a starting point. If further modifications were required to achieve statistically significant levels of correlation, the 55% boundary could be increased. This method identified seven items for modification.

Collaborative practice

The construct 'collaborative practice' was not significant at a statistical level and produced a weak measure of association (0.1). Examination of items in this construct revealed that four of the thirteen items that comprise the construct had percentage-agreement scores below 55% and the lowest scored agreement item (36%) related to 'collaborative practice'. These statements about healthcare professionals (HCPs) are listed below together with their percentage-agreement scores:

- HCPs and patients have access to appropriate diagnostic equipment (36%).
- HCPs are empowered to influence external factors affecting care (52%).
- Organisational structures and processes are clear to patients, HCPs and health-care support workers (52%).
- Feedback is a two-way process between patients and HCPs (54.4%).

These items were removed from the analysis and this increased the correlation score to 0.43, an acceptable correlation at a statistically significant level.

Respect of the person

The item 'regard is given to the patient's psychological and spiritual well-being' had 52% agreement, and was removed from the construct 'respect for the person' and re-tested. This produced a stronger correlation of 0.59 (Spearman's rho $P = 0.000$).

Practice boundaries

The item 'structured and open channels of communication exist between healthcare professionals and patients, carers and organisational management' was removed from this construct and the correlation increased to 0.50 ($P = 0.000$).

Evaluation

The item 'performance measures (staff turnover, length of stay, etc) are in place' was removed from the correlation analysis and this actually reduced the correlation score to 0.36, but still at a statistically significant level.

Table 12: Correlation of amended construct scores at T1 and T2 (P* = 0.05, ***P* > 0.001)**

Construct	Pearson's product	Spearman's rho
Collaborative practice	0.46**	0.43**
Evidence-informed practice	0.73**	0.82**
Respect for the person	0.66**	0.59**
Practice boundaries	0.51**	0.50**
Evaluation	0.36*	0.36*

The paired construct scores for each of the five constructs were entered on a scatter plot, producing 115 pairs of responses (23 times 5). A best-fit line was fitted from the origin (coordinates 0,0). The line was determined by calculation of the least-summed squares of residuals from the fitted line. This produced a Spearman's rho correlation of 0.56, *P* = 0.000 (0.59 Pearson's product, *P* = 0.000) between both time points at a significance level of 0.001. The line of best fit indicates a strong relationship between the two time points. The scatter plot is shown in Figure 1.

In general the CAI can be considered a reliable instrument. Minor modifications are suggested for the removal of items with low percentage-agreement scores (below 55%), and the changes these would produce highlighted. However, there must be a balance between the content validity and the statistical reliability of the instrument, which is a point for further discussion. Further testing of the instrument may help to refine these findings.

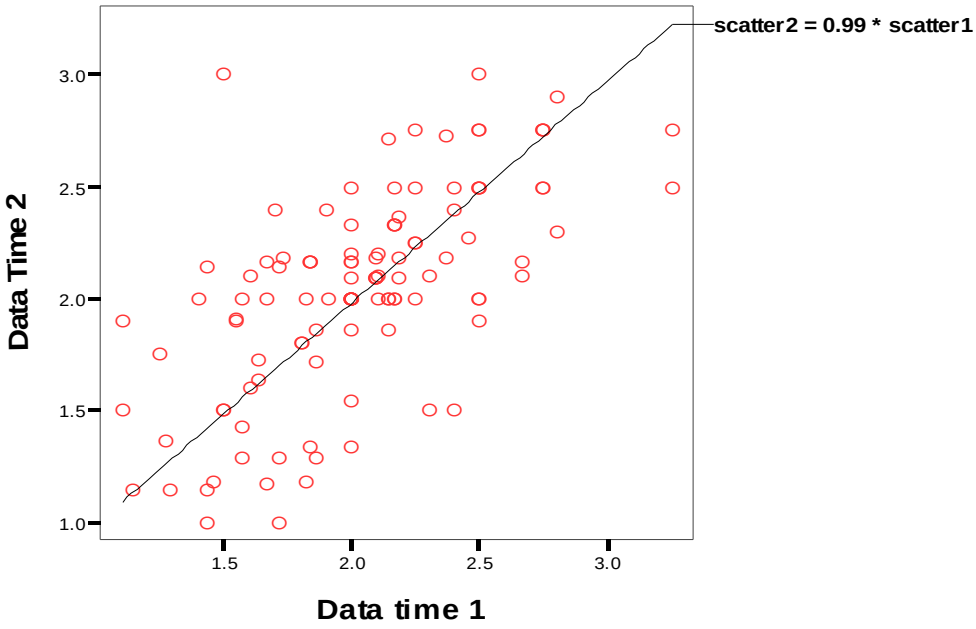

Figure 1. Scatter plot of responses from first test at time one (T1) and re-test at time two (T2) with a line of best fit.

Usability testing by telephone interview

Nurse managers at each site (20 in total) who had taken part in the test–retest were invited to participate in a telephone interview to discuss the usability of the CAI and associated guide. A schedule was sent to out prior to the interview, and each interview (see Appendix 6) lasted approximately 20 minutes. The interviewer wrote responses down as the person was speaking, and read them back at the end to ensure they had been noted correctly.

Results

Most interviewees did not have a problem understanding the statements in the CAI and stated that it was user-friendly. Two had been annoyed by some repetition: *'something* (*the statements) asked in a different way'* although one person thought this made them read each statement carefully. One was not clear about a statement that related to hierarchical management structure. The language of the CAI was considered easy to understand and it was helpful to be given a guide to abbreviations at the outset. An important point was made about the difference in answers that might be provided by managers and staff, inasmuch as managers may believe they are doing a good job while practitioners often feel differently. Another individual stated that '*staff nurses may not be in a position to answer some of the questions*' and suggested that the tool was more suited to nurse managers

The time taken to complete the CAI was 10–20 minutes and no-one expressed difficulty with this. One said that if she used it regularly she would be able to complete it even more quickly.

All interviewees found the accompanying guide helpful and informative, enabling them to understand how to use the CAI and guiding them through the process. They all felt that nothing was missing from the guide. However, three of them had concerns about the length of the guide and queried whether most people would take the time to read it. One person admitted they had '*just scanned over it*', while another said it was '*very detailed'*, and another suggested that reasons for duplication of questions should be explained within the guide. One respondent thought a shorter version would be better and suggested it needed '*tidying up*'. Interviewees with an academic background said they would not need such a comprehensive guide (too '*time consuming*').

All interviewees recognised that the purpose of the CAI was to assess continence with a multidisciplinary focus. Four of them realised that the focus went beyond continence assessment. One ward manager said: *'it is to help nurses understand all the factors affecting good continence care, the wider picture of things we don't see or normally think about when looking at continence'*. One person said that they saw it as an '*evaluation of individuals' attitudes to their work environment'*. However, another ward manager stated that she did not understand the purpose: '*A lot of the questions were not relevant to continence. Not sure what it was assessing'*. Interestingly no-one actually referred to context specifically.

Interviewees were asked if they thought the CAI was relevant to clinical practice and, if it were available, would they choose to use it. Significantly, all of them felt it was relevant to their clinical practice and thirteen of them said they would use it. They said that it highlighted issues about their practice such as: '*It made me think about the wider picture – the unseen parts of caring that we do. Thought about how we don't have a multidisciplinary approach to continence care, it's not a high priority*'. All respondents agreed that the CAI was relevant to their clinical area. One suggested that her unit was fortunate because accreditation was underway, so conditions were good at the time, but the CAI helped her *'to think of future projects that can improve patient-centred care'*. One particular area of practice was highlighted by one person that is '*encouraging patients to be involved in providing feedback on their care'*. Another said it made her *'stop and think, and that anything that helps staff to reflect on practice is good'*. One commented that '*the CAI can also affirm positive aspects of care'*. Two people picked out particular areas in which the CAI had highlighted need for changes – performance review and evidence-based practice. The ward managers also suggested that the CAI could be used with other topics, such as wound care and documentation.

Conclusion

The interviewees did not have the CAI to refer to during these interviews and many could not remember it. They requested to see the CAI again and re-scheduled the interview. More information may have been

generated if the interviews had been carried out immediately after completing the CAI. On the whole, responses about the usability of the revised CAI were positive. Some reduction in the length of the user guide would reduce the burden of completing the tool. Some of the interviewees did not fully understand the link to evidence-based practice and to the wider cultural aspects of the organisation. Clearly, they found parts of the CAI challenging as they associated continence at ward level and envisaged differences between managers and ward-based staff. This could suggest that the CAI is best implemented through a coordinator or a person who is able to engage the person completing the CAI to reflect on its meaning to their practice. It was encouraging that most interviewees stated they would use the CAI and found that it helped them to reflect on their practice.

Summary of data collection and analysis

The analysis of data from Phase 1 provided a list of statements that was reviewed by the project team and formed the initial CAI. This tool was then refined by pre-pilot and piloting testing for clarity, comprehensiveness, usability and specificity with continence nurse specialists and practice development nurses. The revised tool was then tried out in a large sample to test the factor structure for validity in 936 nurses who worked in rehabilitation of older people. Factor analysis of this data resulted in further revision of the tool to a 44-item structure. Measures of homogeneity were calculated and Cronbach's alpha-score for the complete tool was 0.93. A test–retest of the CAI was then conducted to check its reliability over time, analysed using cross-tabulations and Kendall's tau-b scores, and resulting in the formation of five constructs. A few minor modifications increased the correlation score to a statistically significant level. Finally the usability was assessed by interviewing 20 nurse managers who had taken part in the test–retest. Generally the CAI is considered a reliable research instrument (Cronbach's alpha-score 0.93) that is user-friendly and acceptable to clinical staff.

Final revisions of the CAI

Seven statements identified as statistically weak and considered insignificant to the aims of the CAI were removed, leaving 38 items. They were:

- HCPs and patients have access to appropriate diagnostic equipment.
- HCPs are empowered to influence external factors affecting care.
- Organisational structures and processes are clear to patients, HCPs and healthcare support workers.
- Feedback is a two-way process between patients and HCPs.
- Regard is given to the patient's psychological and spiritual well-being.
- Structured and open channels of communication exist between healthcare professionals and patients, carers and organisational management.
- Performance measures (staff turnover, length of stay, etc) are in place.

The explanatory guide was amended following feedback from interviewees. The CAI and the guide can be found in Appendix 7.

SECTION 7
Final discussion and recommendations

Discussion

The PARIHS framework was developed through the work of the Royal College of Nursing (RCN) institute's analysis of various retrospective projects they had undertaken. The framework was an attempt to understand the complex factors involved in implementing evidence-based practice (evidence, context and facilitation). This study focused on assessing the context within which continence care is provided and developing a tool to assess practice context. The complex nature of context (comparable to trying to 'catch a cloud' according to the CHSRF (2005) usually renders it invisible to practitioners, so they are left wondering why they are unable to implement evidence-based practice. Through developing the CAI we have provided practitioners with a means to assess and understand the context in which they work and the impact this has on implementing evidence-based practice.

We know from the literature that a substantial body of knowledge regarding evidence-based continence care exists, but practitioners continue to provide reactive continence management rather than apply available evidence of best practice. This was supported by findings from Phase 1 of the study which found that the context (leadership, culture and evaluation) in both study sites was weak and not conducive to person-centred care and management.

Our data showed that practitioners had some insights into the contextual factors that hinder or enhance evidence-based practice. However, a prevailing culture of unclear beliefs and values, and a tendency for autocratic leadership, means they feel disempowered to change their practice. This is illustrated in Table {4} whereby more autocratic (rather than transformational) forms of leadership create teams that are unable to optimise skills, abilities and knowledge. Staff were aware of these leadership effects with respect to continence practice. One person expressed the opinion: '*New ideas sort of come and go and your sort of – you know – can't get on with new things. We have meetings and everyone says "Yes" but nothing happens. It's not right but I just keep my head down now – don't want to keep asking about things'.*

Approaches to care of continence is reactive, involving limited assessments and heavy reliance on a 'pad and pants' approach. Similar observations were made by Bland *et al.* (2003) and Gray (2003). Moreover, continence problems are often accepted as part of the aging process, which means that nurses often fail to notice the significance of continence in rehabilitation of older people.

Participants in this study were aware of the deficiencies in their own sites' care and management of continence, agreeing that continence was not seen as a priority and that the environment in which they worked was not always conducive to person-centred care. They did acknowledge the challenges ahead of them. One participant stated: '*We could do patient training as a group to help the patients understand continence. Don't think we do enough now just get the pads and don't ask what they know'*. Furthermore, opportunities for reflection are limited, and often routine practices go unchallenged. Despite the provision of classroom teaching, it is clear that merely providing information does not change practice (Rycroft-Malone *et al.* 2002). Without a culture that is receptive to new ideas and ways of working, approaches to care remain task-based. Older people with incontinence will suffer from limited choice and less than adequate assurance of privacy and dignity. We used data from Phase 1 of the study to develop a tool that enables nurses and other healthcare professionals to assess contextual factors in their own area of practice, factors that enhance or hinder person-centred care, in this case of continence in older people.

In Phase 2 the development of the CAI went through five stages of testing for reliability, validity and usability with practitioners from the UK and Republic of Ireland. The CAI proved to be a valid and reliable tool. What adds to the rigour of the CAI is the scale of the study, encompassing all of Ireland, so that a wide range of data were generated for analysis. Data from sites in both the Republic of Ireland and Northern Ireland highlighted the same issues, so we can assume that our findings have wider applicability and are more generalisable than would have been the case if the study had been confined to one area.

Practitioners stated that they would use the CAI if it was available and that using the CAI enabled them to reflect on their practice, as evidenced by these words from a ward manager: '*Made me think about the wider picture, the unseen parts of caring that we do. Thought about how we don't have a multidisciplinary approach*

to continence care'. Another ward manager stated that the CAI helped her 'to think of future projects that can improve patient-centred care'.

The CAI can help practitioners reflect on their current practice, but there is not yet any process for practitioners to formally analyse the outcome of the CAI. The addition of an interpretation for the CAI would further increase its value to developing practice. We feel that the CAI has the potential to bring about practice changes, but until it has been widely applied to practice we will not know how effective it is at facilitating change.

Feedback from practitioners suggests that the CAI may have value in different settings and in different areas such as wound care and documentation. It could be used as a generic tool within different areas, but further research would be needed to ensure validity, reliability and usability in other settings or aspects of practice.

The next step is implement the CAI in designated clinical areas and evaluate its impact on developing practice, with research focused on the reliability and validity in other settings, to further determine its value in clinical practice. Finally, the CAI could be used to explore more deeply the meaning of context and its impact on implementing evidence into practice.

Conclusions

This was the first study to test the theoretical element of context from the PARIHS framework in practice. The aim was not to test the original PARIHS framework but to develop a tool to enable context to be measured. The elements (collaborative practice, evidence-informed practice, respect for persons, practice boundaries, evaluation) and statements that arose through the development of the CAI are a more detailed analysis of the context framework and can be mapped on to the original context framework. This is illustrated in Table 13.

Table 13: Mapping of CAI elements to the context framework

Context framework	CAI element
Culture	Collaborative practice; Practice boundaries
Leadership	Respect for persons
Evaluation	Evidence-informed practice

Throughout the study, modifications were incorporated into the context framework. The use of 'context' as an *element* was confusing because the aim of the context framework was to assess context, so it was removed and its characteristics were transferred to the other three elements.

We found several areas of overlap, and therefore three characteristics were amalgamated as discussed above. Table 14 illustrates the revised context framework.

The context framework in Phase 1 was used to analyse the data. This illustrated the complex factors leading to weak and strong context and their impact on the quality of continence care in the two study sites. It confirmed that the context within which care is provided is multifaceted.

The scale of the study and the collaborative approach enabled systematic and rigorous testing of the validity and reliability of the CAI, allowing assessment of the context factors that enhance or hinder person-centred care of older people with incontinence undergoing rehabilitation. Practitioners described the CAI as user-friendly and relevant to their practice.

Table 14: Revised context framework following organisation of data for analysis

Elements	Weak characteristics ⟷	Strong characteristics
Culture	Lack of clarity around boundaries Unclear values and beliefs Low regard for individuals Task-driven organisation Lack of consistency Not receptive to change	Boundaries clearly defined (physical, social, cultural and structural) Able to define culture(s) in terms of prevailing values and beliefs Values individual staff and clients Promotes learning organisation Consistency of individuals' role or experience to value relationship with others, team working, power and authority, rewards/recognition, receptiveness to change
Leadership	Traditional, command and control leadership Lack of role clarity Lack of teamwork Didactic approaches to teaching/ learning/ managing Autocratic decision-making processes Lack of appropriateness and transparency Lack of power and authority	Transformational leadership Role clarity Effective teamwork Enabling/empowering approach to teaching/learning/ managing Appropriate and transparent decision-making processes Power and authority understood
Evaluation	Absence of any form feedback and information Narrow use of performance information sources Evaluations rely on single rather than multiple methods Poor organisational structure	Feedback on individual, team and systems Use of multiple sources of information on performance Use of multiple methods (clinical, performance and experience) Effective organisational structure

Recommendations for future research

Implement the CAI into practice

The CAI should be implemented in designated clinical areas to evaluate its impact on developing practice. This could be a before-and-after study that uses practice development methodology to assess the context using the CAI, develop practice from the findings, then re-evaluate it. This would also provide an opportunity to test the analysis process for the CAI.

Test the validity and reliability of the CAI generically

The CAI was developed for use in older people undergoing rehabilitation, with a particular focus on continence issues. However, the CAI would have value in other specialties. Research could be undertaken to test the reliability and validity of the CAI in other clinical settings.

Refine the context framework

The framework could explore further the meaning of context and its impact on implementing evidence into practice. The development of the CAI proved that some characteristics are less theoretically robust, suggesting that the context framework could be revised. Research to further test the robustness of the context framework is therefore recommended.

Develop and test of an interpretation process for the CAI

Such a process will enable practitioners to interpret their findings from the CAI. It should include a section that allows them to reflect on the results and their meaning to practice. A process like this would need to be developed with practitioners to ensure reliability and validity.

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Appendix 1
Data collection instruments

Semi-structured observation of practice framework

Observation of practice relating to the factors that enhance or hinder care and management of continence in older people, using Manley's cultural indicators (Manley 2000a) and Essence of Care (DH 2001b).

Unit: _____

Ward/department: _____

Time of observation: _____

Names of observers: _____

Time	Patient care activity	Thoughts/comments/feelings

Contextual indictors that hinder and enhance continence care and management

The components of a transformational culture	*Essence of Care* best practice continence benchmarks as indicated by patients	Source of information (observation, patients notes, talking to staff)
STAFF INDICATORS		
Staff continually develop their practice and self-knowledge Staff have a clear sense of purpose Staff communicate freely, question, challenge and support each other Staff use formal and informal systems that foster critical thinking Staff are enabled to develop knowledge and skills Teams continually develop their own practice and their self-knowledge	Staff use evidence of best practice of continence care and promotion Assessment of patients' continence is undertaken in response to trigger questions Care is continuously planned, implemented and evaluated based on the assessment Staff seek challenge and support about their knowledge and skills on continence care Staff undertake specific continence education and updates	
PATIENT INDICATORS		
Patient-centred care is designed around the needs, concerns and experiences of patients/carers Activity is focused directly on practice and how knowledge and skills are used in practice Evidence used to inform decision-making is drawn from policy (from local to global) Different types of knowledge are used: propositional (research and theory) knowledge, craft knowledge, local theory, and patients' own knowing	Continence care is delivered in an environment conducive to the patients' individual needs and wishes Assessment of patients is ongoing and based on patient interviews Staff apply knowledge and skills of person-centred practice There is information on continence care for patients and carers, adapted to meet individual patient needs Patients are referred to specialist services who can meet their continence needs, and these services are activity promoted Staff can verbalise and through documentation the rationale for their actions	
WORKPLACE CONTEXT		
Quality is everyone's concern Espoused values and beliefs are realised in action There is a focus on developing the leadership potential of all staff All stakeholders are valued (staff, patients/carers, etc.)	Continence care knowledge and skills is developed and evident at all levels Service users are always involved in planning and evaluating continence services Resources for continence care meet the patients' specific needs All opportunities are taken to promote continence and a healthy bladder and bowel	

Observation of practice, continence and older people

This tool has been developed to aid in the observation of nursing practice with a particular focus on continence and older people. The tool incorporates the components of a transformational culture and related cultural indicators developed by Kim Manley, and the *Essence of Care* benchmarks of good continence care as identified by patients. The aim is to gain information through observation of nursing practice on the factors that hinder and enhance the management of continence for patients within Elliot Dynes. The key cultural indicators and the Essence of Care benchmarking will act as triggers for the observation and aid the observation to focus on ' best practice' rather than the observer's own perception of the care that should be provided to patients.

The observation is undertaken by two people for 2-hour periods. At the end of the observation the observers compare notes taken during the observation and discuss any similarities and differences in how the nursing practice meets the cultural indicators and Essence of Care benchmarks, and any factors they observed that enhanced or hindered these findings.

Guide to undertaking observation of practice

- Verbal explanation of the purpose of the observation is given to patients along with written information at least 24 hours before the observation takes place.
- Verbal consent is gained from staff that will be on duty during the observation. If any member of the team declines to take part then none of the patient interventions of actions are recorded.
- Observers review the nursing notes of the patients whose care they will be observing, prior to commencing the observation, noting how the patients' continence is assessed and planned.
- Observers should aim to observe the care of the same group of patients.
- Do not discuss your observations until the end of the observation period.
- It is best not to wear uniform so the patients will not ask for your assistance.
- It may be necessary to assist a patient but only do this if patient care is being compromised. If you do intervene on behalf of a patient, note this down.
- Use all your senses when observing (e.g. including what you can hear or smell).
- Do not interact with other healthcare professionals, and if they begin to talk to you politely explain that they must just carry on as if you were invisible.
- Take notes as you are observing using the chart included but do not worry about 'fitting' all information into the chart. You can make notes then refer to the chart again at the end.
- No patient or staff names are to be used.

Good luck!!
Jayne Wright (*October 2004)*

Staff continence knowledge questionnaire

	MULTIPLE CHOICE QUESTIONS	ANSWERS
Q1	**Are you a:**	1. CNM 2. Staff nurse 3. Medical consultant 4. Medical registrar 5. Medical house officer 6. Physiotherapist 7. Occupational therapist 8. Other (*please specify)*
Q2	**How would you describe your knowledge of:**	**Continence promotion?** 1. Very good 2. Good 3. Average 4. Poor
		The management of continence? 5. Very good 6. Good 7. Average 8. Poor
		Anatomy and physiology related to incontinence? 9. Very good 10. Good 11. Average 12. Poor
		The different types of incontinence? 13. Very good 14. Good 15. Average 16. Poor
Q3	**Who do you think should do the first assessment for clients with incontinence? (*more than one answer may be given)***	**At home:** 1. Continence advisor 2. PHN 3. GP
		At school: 4. School nurse 5. PHN
		In hospital: 6. Continence advisor 7. CNM 8. Staff nurse 9. Medical consultant 10. Registrar / senior house officer 11. Other (*please specify)*
Q4	**Incontinence of urine affects:**	1. About 2% of women over 65 years old 2. About 5% of women over 65 years old 3. About 10% of women over 65 years old
Q5	**The bladder of a newborn baby is controlled by:**	4. The cerebral cortex 5. Local synapses in the bladder wall 6. A sacral reflex arc
Q6	**The pelvic floor:**	7. Supports the urethral sphincter 8. Is another name for the pubic bone 9. Is the bottom part of the bladder
Q7	**An average adult bladder at capacity holds:**	10. 200 mL 11. 350 mL

		12. 500 mL
Q8	**An average adult passes urine:**	13. 2–3 times per day 14. 4–7 times per day 15. 8–12 times per day
Q9	**A 'residual urine' is:**	16. The total capacity of the bladder 17. The amount left in bladder after voiding 18. Post-micturition dribble
Q10	**Normal residual urine is:**	19. 0 mL 20. 0–100 mL 21. 100–200 mL
Q11	**A hypotonic bladder has:**	22. Excessive contractility 23. Insufficient contractility 24. A reduced capacity
Q12	**Encopresis is:**	25. Playing with bodily wastes 26. Day and night incontinence of urine 237. Incontinence of faeces
Q13	**Retention with overflow is not a symptom of:**	28. Detrusor instability 29. Outflow obstruction 30. Hypotonic bladder
Q14	**A high residual urine can be expected with:**	31. Stress incontinence 32. Urge incontinence 33. Hypotonic bladder
Q15	**Anticholinergic drugs may be used to treat:**	34. Stress incontinence 35. Urge incontinence 36. Retention with overflow
Q16	**Parents' attitudes when dealing with children's incontinence should be:**	37. Calm 38. Scolding/disapproving 39. Punishing
Q17	**Stress incontinence can usually be improved by:**	40. Surgery 41. Pelvic floor exercises 42. Medication
Q18	**What might help reduce urgency and frequency?**	43. Reducing caffeine intake 44. Restricting fluids 45. Diuretics
Q19	**When is intermittent catheterisation useful:**	1. When a large residual is found 2. With urge incontinence 3. In younger sufferers
Q20	**What size catheter would you recommend in an average female:**	4.12 Ch with 30 mL balloon 5.12 Ch with 5 mL balloon 6.10 Ch with 30 mL balloon
Q21	**Which vitamin supplement would you suggest to reduce encrustation of a long-term catheter:**	7.Vitamin A 8.Vitamin B 9.Vitamin C

Appendix 2
Focus group topics

The aim of this discussion is to consider the characteristics that enable and hinder proactive continence management within this unit

1. To enable proactive continence management the following are necessary:

- specific continence assessment
- clear rationale provided for treatment decisions
- consistency and continuity in approaches to continence management
- evaluation of care.

How do you think this rehabilitation unit performs in (each of) these four areas?

2. Proactive continence management is patient-centred (e.g. providing patient information, time for discussion, involvement in decisions about their care, choice of treatment, promotion of dignity, etc.).

How do you involve patients in decisions about their continence care?

How is dignity and respect promoted and achieved?

3. Good leadership and effective teamwork is necessary to enable proactive continence management.

How much priority is given to ensuring that best practice is adhered to by team members?

4. In your opinion, is the management of continence a multidisciplinary responsibility or the responsibility of individuals within the team? Please give examples.

Thank you for participating

Jayne Wright and Alice Coffey

Appendix 3
Extracts from analysis using context framework

Clarity around boundaries (physical social, cultural and structural) *vs* lack of clarity around boundaries

The data suggested some confusion around boundaries. For example, there was a merging of professional and personal boundaries between staff which appeared to prevent practice from being challenged. This is summed up by one of the focus group participants: '*You must accept that some of us have worked here for years and are friends and that makes a good team. You know peoples' ways and how they are and if you don't know that nurse who might think she is , you know, not being right, but it's her way*'.

The therapists, nurses and doctors were aware that continence was seen as the nurses' responsibility and this seemed to be an area of tension between the nurses and therapists. One therapist stated at the focus group: '*We are slightly guilty of at the end of the session and they would say they need to go to the toilet, and say "Right, you can go when you go back up to the ward". That would be something we are guilty of but our toilet is used constantly down there'.*

At another focus group a nurse emphasises her role as liaison: '*Well, we liaise with the medical team all the time with regard to any medication they need, with the* [occupational therapist] *for equipment going home, and the physio – well – for mobilising to the toilet. It's a topic that is out there all the time as a multidisciplinary problem*'. And an occupational therapist commented: '*everywhere I worked* [continence management] *tended to be the nurses' role*'.

Some were happy to see boundaries more blurred, like this doctor:' *I firmly believe that it is a multidisciplinary responsibility*'. And a physiotherapist added that the patients: *'think we are all nurses anyway*'.

Patients were asked about factors contributing to their continence problem. Most cited physical factors (64%) as opposed to environmental factors (19%). This was compounded by restrictions imposed by the culture, evidenced by chairs that patients could not get out of easily, and placement of some patients at some distance from the toilet facilities.

Being receptive to change *vs* not being receptive to change

The culture was one where new ideas and ways of working were not sustained in practice. This left the staff feeling reluctant to make suggestions on how practice could be changed. This dissonance between how they wanted to practice and their existing practice caused some discomfort, compounded by the fact that there was no continence education within the unit on a regular basis (RCP audit).

This is illustrated by comments at the focus groups: *'New ideas sort of come and go and your sort of, you know, can't get on with new things. We have meetings and everyone says "yes" but nothing happens. It's not right, but I just keep my head down now. Don't want to keep asking about things.'*

In another focus group an explanation was put forward for little change in existing practice: *'Perhaps in the absence of a continence advisor all education and induction becomes bitty and that is definitely a barrier to evidence-based practice.'*

Enthusiasm for change was, however, found in one of the focus groups: *'Benchmarking is going on at the moment with the Essence of Care – the latest buzz word – it will give us a template to work with. It would be helpful if we had more input from the quality office encouraging more auditing of practice.'*

The Nursing Work Index (NWI) scores were on a moderately positive side of the scale: 'nurse autonomy' scored 2.87, 'control over practice' scored 2.39, 'nurse–doctor relationship' scored 2.91 and 'organisational support' scored 2.67. The results overall indicated a low to moderate perception of control over practice, autonomy in practice, and good nurse–doctor relationships.

Characteristics of culture

Able to define cultures in terms of prevailing values and beliefs *vs* unclear values and beliefs

Many examples illustrated that healthcare professionals did not have clear beliefs and values about working with older people and the provision of proactive continence care. However, they appeared to be aware of this as stated during one focus group meeting: '*The issue has been raised. You know, maybe making us consider more what the patient is going through and maybe being more empathising of their situation. Because you can, after working for years, get used to it, that you actually nearly think it is normal rather than realising it's not how it should be – you know, it is awful for someone to have that problem – so not being blasé*'.

The comments suggest that some staff accepted continence problems as an inevitable part of aging and had lost sight of the effect it had on the older person's life. This is support by the RCP audit where in almost half the cases there were no documented diagnoses of incontinence. Just a few cases were referred to a nursing or medical specialist, and continence charts were used for only a small number. Documentary evidence of follow-up was not present in the majority. However, in another focus group a nurse stresses: *'We don't just accept that* [the patients] *are incontinent and just put a pad on – that's not acceptable – we create awareness in the staff'.*

Values to individual staff and clients *vs* low regard for the individual

Care often appeared to be based on tasks and routines, leaving little space for patient choice or decision making, and resulting in inflexibility in the established routines of the day, as highlighted in these observer's field-notes: *'Lights on full at 07.40 and ward noise. Lots of patients already up but most asleep in the chair. No apparent perception by the staff that they should be quiet as patients resting. Talking loudly'*. Another observer noted: '*Care assistant comes in to ward, opens window and turns radio on loudly – she doesn't ask patients if they would like the window open or closed – it can be very cold when stationery for a long time and everyone doesn't like pop music.*'

But there were times when the care is very person-centred. Again, from the observation field notes: '*A patient asks one of the nurses about a chiropody service – she is informed promptly about the availability of the service and offered a referral if required.*' And on another occasion: '*A doctor is talking on the corridor to a patient – social chat about the patient's home. The patient is enjoying the chat. Doctor is very attentive and seems to have a great rapport with the patient. Good communication skills – touch, paraphrasing*.'. Another observer reported: *'Patients ask for replenishment of drinking water. This is done immediately. I have not witnessed any patient waiting for any service here today.'*

It is known that limited individualised care affects patient dignity. For example the RCP audit in one site showed that 85.6% had body-worn pads with no stated rationale for this containment approach. Furthermore, 53.7% of the patients wearing pads were still occasionally wet and 38.85% were usually wet.

Such issues are encapsulated in the following observations of practice: '*The nursing assistant asked the patient if he had finished on the toilet. Then another nursing assistant came along and stood with him saying "Have you finished?". These interactions took place while the toilet door was ajar and the patient was sitting on the toilet.'* And on another occasion, a nurse spoke to one of the dependent patients, saying: '*We will be turning you every two hours because your bottom is sore.*' The observer noted: *'Is there a need to go in to detail within earshot of others?'.*

In one of the focus group discussions, a nurse said *'Dignity and respect, that's all part of it for the individual and basically treating* [patients] *as you wish you or others to be treated. That goes without saying'*. However, the continence problems faced by the older people in this study were not discussed with them, according to 62% of them at site 1 and 97% of them at site 2. And a large proportion of patients said they did not know whether they were satisfied with the treatment they received for continence problems – is this because of a lack of information? or because they are confused about treatment?

Characteristics of leadership

Transformational leadership *vs* traditional command and control leadership

The data suggests the approach to leadership was autocratic with decisions about care being referred back to the nurse in charge of the unit. The Nursing Work Index shows that nurses are generally indifferent about autonomy or empowerment to make decisions. This reflects a limited understanding of the role of leadership. One observer overheard comments like '*I'll have to ask Sister before I can do that*' or '*Sister does not like it if…*'.

However, the focus group discussions indicated a more proactive approach to leadership. One nurse leader said *'We have the knowledge and the expertise and the willingness to do it but we need more manpower. But we are doing a lot of continence promotion – it's our philosophy.'*

The style of leadership in some instances clearly contributed to a sense of disempowerment among some staff, as expressed by a participant at the focus group: *'You see, at the end of the day we have no control over decisions about care plans because the helpers come and take the patients and half of the time we don't even know they are away. You can't really put the burden on us'*.

Poor organisational structure *vs* effective organisational structure

The organisation structures in place at ward, unit or strategic level can have a significant impact on the quality of patient care. For example, in one ward area the nurses were observed caring for an allocated group of patients for their shift; this provided continuity of care and the patients had access to 'their nurse'. But in another area, the nurses were only allocated a group of patients for early morning washing and dressing; they had no specific responsibility for the follow-through of care and some patients were did not receive the continence care they needed. This patient's comment (from RCP data) illustrates how the organisation of care affects the day-to-day needs of patients: *'The water just comes from me if I leave it too long so I watch the clock and then call the nurses so they can get to me in time. I catch one as they walk past if I can't reach the buzzer. Some are quicker than others but they do their best. Nothing is smooth and easy. I asked ages ago and now I'm soaked. It's not nice. I am sorry'.*

This is in contrast to the organisation of care reported in this observer's field notes: *'Staff are allocated to a group of patients and appear very person-oriented. They are constantly checking with the patient that what they are doing or saying is understood and explaining an activity or a delay.'*

The therapists and the nurses have separate roles in rehabilitation. The nurses are associated with personal care which is separate from the rehabilitation process. This leads in some instances to the organisation of care being focused on the nurses 'getting patients ready for therapy'.

The following observation was also made: *'The* [occupational therapist] *and physio have separate roles from the nurses. The nurses work around the routine of the therapist by getting the patients up and washed and dressed so that the therapist can do 'rehabilitation'.*

Some therapists clearly differentiated their work from nurses' role. One occupational therapist said in a focus group: *'We try to have a different philosophy to nurses – to get the patient to do for themselves. Nurses don't have to spend forty minutes on an ADL with somebody waiting for someone slowly to do it. We have to train our assistants out of rushing the patients'.* The nurses frequently asserted that their role was to 'encourage' rather than 'do'.

The RCP scheme audit showed that most of the stipulated guidelines in the RCP audit tool were readily available at one unit in this study but not at the other. Clinical nurse managers thought that the toileting facilities at both sites were adequate.

Appendix 4
Feedback sheet for pre-pilot testing

Please complete the questions below. If you find it helpful you may also make comments on the questionnaire as you are completing it.

1. How long did it take you to complete the tool?

2. Have you any feedback to provide on the layout of the questionnaire (e.g. was it easy to follow)?

3. Did you understand what each statement was asking? If not, please state which ones you did not understand.

4. Did you find that the statements reflected the theme of each section? If not, please explain.

5. Would you suggest any changes?

6. Were any areas missing from the questionnaire?

7. Was there any duplication of statements?

8. How well do you feel the questionnaire achieved its aim?

9. What did you think of the overall clarity of the questionnaire?

10. How helpful was the introduction and the guide to using the questionnaire?

11. Can you suggest any improvements to increase clarity of the introduction and the guide?

12. Would you like to add any other comments?

Thank you for providing this feedback.

Appendix 5
Feedback sheet for pilot testing

Please complete the questions below. If you find it helpful you may also make comments on the questionnaire as you are completing it.

1. How long did it take you to complete the tool?

2. What did you think about the layout of the questionnaire (e.g. was it easy to follow)?

3. Did you understand what each statement was asking? If not, please state which ones you did not understand, and explain why.

4. Did you find that the statements reflected the theme of each section?

5. Would you suggest any changes to any of the statements?

6. Did you think any areas were missing from the questionnaire?

7. Was there any duplication of statements?

8. How well do you feel the questionnaire achieved its aim?

9. What did you think of the overall clarity of the questionnaire?

10. How helpful was the introduction and the guide to using the questionnaire?

11. Can you suggest any improvements to increase clarity of the introduction and the guide?

12. Would you like to add any other comments?

DEMOGRAPHIC INFORMATION

Position:
Grade:
Date of birth (in order to enable tracking of responses over time, please indicate the first four digits of your date of birth in the following form, e.g. 24th February is 24-02): _____ – _____

Thank you for providing this feedback.

Appendix 6
Interview schedule after reliability testing

Thank you for agreeing to participate in this interview. It is hoped that the interview should not last more than 30 minutes. The questions below are set out as a guide only and should I think that you have already answered a question in response to a different question then that question will be omitted. The aim of the questions is to gain your views in the usability of the Continence Assessment Index (CAI) which you have used in your clinical area. The interview will be transcribed at the time it is being conducted. The transcripts will be held in a locked cupboard to which only the research team will have access.

Jayne Wright and Alice Coffey,

Participant code:

Date:

Interviewer:

We want to know how you usable you found the CAI:

1. Did you understand what each statement in the questionnaire was asking? If not, which did you not understand?
2. Do you have any suggested changes to any of the statements?
3. How long did it take you to complete the CAI? Was this an acceptable time (yes/no)?

The next set of questions focuses on the guide to using the CAI:

3. Can you explain what you see as the purpose of the CAI?
4. Did you find the guide helped you understand the purpose of the CAI?
5. Did the guide enable you to understand how to complete the CAI?
6. Did you think anything was missing or needed to be taken out of the guide?

We would like to know how relevant the CAI is to your own practice:

7. Did using the CAI highlight any issues about your practice context that you were unaware of?
8. Did you find the CAI relevant to your clinical practice?
9. If the CAI was available, would you choose to use it in your clinical area?
10. Are there any other comments you would like to add?

Appendix 7
The Context Assessment Index (CAI) and the CAI guide

About the CAI

The aim of the CAI is to enable healthcare professionals to assess the context within which care is provided in clinical areas/teams that provide rehabilitation for older people. It can be completed by just one person, such as a specialist or ward leader, or it can be completed by each member of the team.

Context

Context is defined as the setting or environment in which people receive healthcare services. Three elements have been identified that form the context to ensure there is person-centred practice (McCormack *et al* 2002. These elements are: culture, leadership and evaluation.
The CAI assesses these three elements, and each of these has characteristics that can be assessed along a continuum from 'weak' to 'strong' (Table A1) For an effective culture that is receptive to change and has person-centred ways of working, the three elements all need to be 'strong'.
Each element is described briefly below.

Culture

The culture is seen as the 'way things are done around here'. The culture cannot be seen but is based on the beliefs, values and assumptions held by those at an individual, team and organisational level. The culture of a practice setting needs to be understood if meaningful and sustained change and person-centred practice is to be achieved (McCormack, 2002).

Leadership

The focus of effective leadership is on transformational leaders who create a culture that recognises everybody as a leader of something. They inspire staff towards a shared vision of the future, as well as a number of other processes such as challenging and stimulating, enabling, developing trust and communication (Schein, 1985). Transformational leaders have emotional intelligence, rationality, motivational skills, empathy and inspirational qualities. These qualities mean that a transformational leader can alter the culture and create a context that is conducive to innovative and person-centred practice.

Evaluation

The evaluation of practice can take many forms from the use of 'hard' data, such as cost effectiveness and length or stay, and 'soft data' such as the patient's experience of practice. In an effective culture, the healthcare professionals use evidence gathered through a variety of sources to make decisions about individual and organisational effectiveness; this evidence is then used as an integral part of accountability frameworks and staff appraisal strategies. This culture embraces peer review, user-led feedback and reflection on practice, as well as evidence derived from systematic reviews, meta-analysis and audit of effectiveness. Measurement is a vital part of the environment that seeks to implement evidence into practice.

Table A1: Characteristics of context

ELEMENTS	Weak characteristics ⟷	Strong characteristics
Context	Lack of clarity around boundaries Lack of appropriateness and transparency Lack of power and authority Not receptive to change	Boundaries clearly defined (physical, social, cultural and structural) Appropriate and transparent decision-making processes Power and authority understood Receptiveness to change
Culture	Unclear values and beliefs Low regard for individuals Lack of consistency	Able to define culture(s) in terms of prevailing values and beliefs Values individual staff and clients Consistency of individuals role or experience to value: – relationship with others – team working – power and authority – rewards/recognition
Leadership	Traditional, command and control leadership Lack of role clarity Lack of teamwork Didactic approaches to teaching/ learning/ managing	Transformational leadership Role clarity Effective teamwork Enabling/empowering approach to teaching/learning/ managing
Evaluation	Absence of any form feedback and information Narrow use of performance information sources Evaluations rely on single rather than multiple methods Poor organisational structure	Feedback on individual, team and systems Use of multiple sources of information on performance Use of multiple methods (clinical, performance and experience) Effective organisational structure

Benefits of using the tool

By completing the CAI, you and the team you work within will be able to assess whether the context in your clinical area is conductive for person-centred practice and the level of receptiveness of the context to change and development. The tool will provide evidence of any changes that need to be made in order to create a strong context.

The following is a guide to using the CAI. Remember, as with anything that is new, it will take time to learn and become proficient in.

1. The CAI can be completed by any healthcare professional who is working with older people in a rehabilitation setting (inpatient or outpatient) who has working knowledge of the area.

2. If there are different answers from different team members this does not mean that one person is right and the other is wrong; it simply reflects individual experiences of working within the clinical area/team.

Further reading

McCormack B, Kitson A, Harvey G, Rycroft-Malone J, Titchen A, Seers K (2002) Getting evidence into practice: the meaning of context. *Journal of Advanced Nursing* **38**(1):94–104.

The Context Assessment Index (C.A.I.)

University of Ulster, May 2007

For each of the following statements, please put a cross in one box only.
A – Strongly agree; A – Agree; D – Disagree; SD – Strongly disagree

		SA	A	D	SD
01	Personal and professional boundaries between healthcare professionals (HCPs) are maintained	☐	☐	☐	☐
02	Decisions on care and management are clearly documented by all staff	☐	☐	☐	☐
03	A proactive approach to care is taken	☐	☐	☐	☐
04	All aspects of care are based on evidence of best practice	☐	☐	☐	☐
05	The nurse leader acts as a model of good practice	☐	☐	☐	☐
06	HCPs provide opportunities for patients to participate in decisions about their own care	☐	☐	☐	☐
07	Education is a priority	☐	☐	☐	☐
08	There are good working relations between clinical and non-clinical staff	☐	☐	☐	☐
09	Staff receives feedback on outcomes of complaints	☐	☐	☐	☐
10	HCPs have equal authority in decision making	☐	☐	☐	☐
11	Audit and/or research findings are used to develop practice	☐	☐	☐	☐
12	A staff review process is in place which enables reflection on practice and goal setting and is regularly reviewed	☐	☐	☐	☐
13	Staff have explicit understanding of their own attitudes and beliefs towards the provision of care	☐	☐	☐	☐
14	Patients are encouraged to be active participants in their own care	☐	☐	☐	☐
15	There is high regard for patient privacy and dignity	☐	☐	☐	☐
16	HCPs and healthcare support workers understand their roles	☐	☐	☐	☐
17	The management structure is democratic and inclusive	☐	☐	☐	☐
18	Appropriate information (large written print, tapes, etc) is accessible for patients	☐	☐	☐	☐
19	HCPs and patients work as partners providing individual patient care	☐	☐	☐	☐
20	Care is based on comprehensive assessment	☐	☐	☐	☐

For each of the following statements, please put a cross in one box only.
A – Strongly agree; A – Agree; D – Disagree; SD – Strongly disagree

		SA	A	D	SD
21	Challenges to practice are supported and encouraged by nurse leaders and nurse managers	☐	☐	☐	☐
22	Discussions are planned between HCPs and patients	☐	☐	☐	☐
23	The development of staff expertise is viewed as a priority by nurse leaders	☐	☐	☐	☐
24	Staff uses reflective processes (e.g. action learning, clinical supervision or reflective diaries) to evaluate and develop practice	☐	☐	☐	☐
25	Regard is given to the psychological and spiritual wellbeing of patients	☐	☐	☐	☐
26	Organisational management has high regard for staff autonomy	☐	☐	☐	☐
27	Staff welcomes and accepts cultural diversity	☐	☐	☐	☐
28	Evidenced-based knowledge on care is available to staff	☐	☐	☐	☐
29	Patients have choice in assessment, planning and evaluating of their care and treatment	☐	☐	☐	☐
30	HCPs have the opportunity to consult with specialists	☐	☐	☐	☐
31	HCPs feel empowered to develop practice	☐	☐	☐	☐
32	Clinical nurse leaders create an environment that is conducive to the development and sharing of ideas	☐	☐	☐	☐
33	Guidelines and protocols based on evidence of best practice (patient experience, clinical experience, research) are available	☐	☐	☐	☐
34	Patients are encouraged to participate in feedback on care, culture and systems	☐	☐	☐	☐
35	Resources are available to provide evidence-based care	☐	☐	☐	☐
36	The organisation is non-hierarchical	☐	☐	☐	☐
37	HCPs share common goals and objectives about patient care	☐	☐	☐	☐
38	Structured programmes of education are available to all HCPs	☐	☐	☐	☐

Thank you for completing this for completing this form.