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ORIGINAL ARTICLE

Patient safety culture in primary care: developing a theoretical framework for practical use

Susan Kirk, Dianne Parker, Tanya Claridge, Aneez Esmail, Martin Marshall

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See end of article for authors' affiliations
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Correspondence to:
Dr Susan Kirk, School of Nursing, Midwifery and Social Work, University of Manchester, Coupland 3, Oxford Road, Manchester M13 9PL, UK; Sue.Kirk@manchester.ac.uk

Accepted 30 April 2007
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Objective: Great importance has been attached to a culture of safe practice in healthcare organisations, but it has proved difficult to engage frontline staff with this complex concept. The present study aimed to develop and test a framework for making the concept of safety culture meaningful and accessible to managers and frontline staff, and facilitating discussion of ways to improve team/organisational safety culture.
Setting: Eight primary care trusts and a sample of their associated general practices in north west England.
Methods: In phase 1 a comprehensive review of the literature and a postal survey of experts helped identify the key dimensions of safety culture in primary care. Semistructured interviews with 30 clinicians and managers explored the application of these dimensions to an established theory of organisational maturity. In phase 2 the face validity and utility of the framework was assessed in 33 interviews and 14 focus groups.
Results: Nine dimensions were identified through which safety culture is expressed in primary care organisations. Organisational descriptions were developed for how these dimensions might be characterised at five levels of organisational maturity. The resulting framework conceptualises patient safety culture as multidimensional and dynamic, and seems to have a high level of face validity and utility within primary care. It aids clinicians' and managers' understanding of the concept of safety culture and promotes discussion within teams about their safety culture maturity.
Conclusions: The framework moves the agenda on from rhetoric about the importance of safety culture to a way of understanding why and how the shared values of staff working within a healthcare organisation may be operationalised to create a safe environment for patient care.

In the field of patient safety, attention has tended to focus on the epidemiology of adverse events and on the development of specific solutions aimed at preventing these events. A high profile example is the National Reporting and Learning System, developed and administered by the UK's National Patient Safety Agency. At the same time, attention has been paid to the importance of understanding the shared attitudes, beliefs, values and assumptions that underlie how people perceive and act on safety issues in their organisations, and on the potential importance of these shared characteristics to initiating fundamental and sustained changes to patient safety.[1–3] These shared characteristics are often referred to as the "safety culture" of an organisation.[4–6]

SAFETY CULTURE IN CONTEXT

The notion that an organisation has a safety culture is not new, and there is much to be gained from looking at the way safety culture has been conceptualised outside healthcare. Safety culture is one element of the broader construct of organisational culture, about which there has been considerable sociological and organisational research.[7] The concept of an organisation having a culture is contested by some people, and there is an ongoing polarised debate between those who see culture as a variable that can be manipulated (what an organisation has) and those who see it as a descriptive metaphor (what an organisation is).[8] Nevertheless, evidence is emerging of a link between culture and organisational performance,[9] although the nature and mechanisms underlying this link are uncertain.

In many high hazard industries a great deal of research effort has gone into defining, specifying and measuring safety culture.[6 10 11] It is generally agreed that a safety culture arises from the shared safety-related values, beliefs and behaviours of the members of an organisation.[2 12 13] Developments and

changes in practices and procedures within the organisation are thought both to shape and to reflect the safety culture of that organisation, in a dynamic and evolving way. The characteristics of an organisation with a positive safety culture have been described (box 1).[2 14–17] The viability of developing a positive safety culture is thought to be dependent on the quality of staff–management communications, agreement at all levels of the organisation that safety is important, and confidence that safety measures are adequate.[15 16]

ASSESSING SAFETY CULTURE

Several tools with differing characteristics are available to assess the generic concept of organisational culture.[18] However, none of these instruments makes explicit reference to safety culture, and it is only in recent years that specific instruments have been developed to measure the safety culture of health organisations.[17 19] These instruments tend to be based on surveys of the level of agreement among staff with a series of predetermined statements about safety. Although useful, these responses represent a relatively superficial evaluation of an organisation's culture, emphasising individual attitudes and opinions, rather than their shared beliefs, values and assumptions. In addition, they fail to take account of the complexity of interactions between staff members within organisations, the differing influence of individuals and professional groups on culture, and the emergent nature of safety culture. Lastly, the currently available instruments have mostly been designed in the USA, for use in acute hospitals, and may not be generalisable to organisations focusing on the delivery of primary care services in the UK.[20]

Against this background of academic debate and an intuitive appeal of safety culture, there is a need to make the concept meaningful to frontline staff. This has become increasingly important with the publication in the UK of the NPSA's *Seven*

Box 1: Aspects of a positive safety culture

- Communication based on mutual trust and openness
- Shared perceptions of the importance of safety
- Confidence in the efficacy of preventive safety measures
- Organisational learning
- Committed leadership and executive responsibility
- A ''no blame'', non-punitive approach to incident reporting and analysis

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steps to patient safety, which identifies safety culture as the first step.[21] Here we describe the development of a tool that aims to make the concept of safety culture more meaningful to clinicians and managers. The aims of our two-phase study were:

- In phase 1: to develop a framework document which would ''unpack'' the concept of safety culture in primary care, making it more accessible and reflecting practitioners' understanding of the reality of safety culture in their organisations.
- In phase 2: to establish the face validity and utility of the framework using individual and focus group interviews.

PHASE 1: DEVELOPING THE FRAMEWORK
Theoretical basis

The theory underpinning the study was originally developed by Westrum,[22 23] who proposed that one key way of distinguishing between organisational cultures is to examine the ways in which information is handled by the organisation. He proposed three different organisational cultures, which he called pathological, bureaucratic and generative. The most immature stage of organisation has a pathological culture, which is one in which information is hidden, failure is covered up and new ideas are actively crushed. There is active discouragement of sharing with and learning from others. A more mature organisational culture is one that has developed systems to handle the flow of information. In this—the bureaucratic organisation—information is collected but may then be ignored, new ideas are seen to create problems, and learning and sharing are tolerated but not encouraged. The generative organisation represents the most advanced state of cultural maturity. Here information is actively sought, and some staff members are specifically trained to collect it. New ideas are welcomed, and failure prompts inquiry rather than cover-up or blame.

Table 1 Levels of organisational safety culture (Parker and Hudson[24])

Level of organisational safety culture	Characterisation
Level 1: pathological	Why do we need to waste our time on risk management and safety issues?
Level 2: reactive	We take risk seriously and do something every time we have an incident
Level 3: calculative	We have systems in place to manage all possible risks
Level 4: proactive	We are always on the alert, thinking of risks that might emerge
Level 5: generative	Risk management is an integral part of everything we do

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Box 2: Literature search terms and strategies

Criteria: 1990 onwards
Databases searched

- Medline
- Embase
- HMIC (Health Management Information Circular)
- CINAHL
- E-PIC (Pharmacy Information)

Search strategy

- Free text searches looking for keywords in title or abstract of records: (primary care or primary health care or general practice or family medicine or family practice*) AND ((Risk near3 (management or assessment) or patient safety or medical error* or clinical risk* or safety culture (adverse near3 (event* or incident*))

Thesaurus searches
The following thesaurus terms were identified and searches carried out:

- Medline

Primary-health-care and (risk management/or adverse-drug-reaction-reporting systems or medical errors/or iatrogenic-disease or malpractice)

- CINAHL

Primary-health-care and (diagnostic-errors or medication-errors or treatment errors or risk assessment or risk-management or risk factors)

- Embase

Primary-health-care and (iatrogenic-disease or error/or risk-assessment or danger, risk safety and related phenomenon)

Westrum's tripartite typology was later extended to a five-level model and adapted by Parker and Hudson[24] specifically with respect to safety culture (table 1). A safety culture assessment tool based on the five-level model was developed and is now widely used in the oil and gas industry.[25] It was thought that taking the same approach, and adopting a methodology that has been successful in one high-risk industry, in healthcare might be beneficial. Therefore we used the extended five-level model as the theoretical basis for the present study.

Development of the dimensions of safety culture in primary care organisations

We undertook a comprehensive review of the peer-reviewed literature to generate a list of the dimensions, or key categories, describing safety culture in primary care organisations. Box 2 shows the search terms/strategies used for the review and the bibliographic databases that were searched. In addition, we reviewed key texts, reports and policy documents relating to patient safety and safety culture. A preliminary list of the dimensions identified was then sent to five national opinion leaders in patient safety and risk management for comments and adaptation. The final list of dimensions formed the framework for the interviews conducted with managers and clinicians working in primary care organisations (table 2). These included general practices (organisations in the UK

Table 2 Dimensions of patient safety culture in primary care

Dimension	Description
Overall commitment to quality	How much is invested in developing the quality agenda?
	What is seen as the main purpose of policies and procedures?
	What attempts are made to look beyond the organisation for collaboration or innovation?
Priority given to patient safety	How seriously is the issue of patient safety taken within the organisation?
	Where does the responsibility lie for patient safety issues?
Perceptions of the causes of patient safety incidents and their identification	What sort of reporting mechanisms are there?
	How are reports of incidents viewed?
	As an opportunity for blame or improve?
Investigating patient safety incidents	Who investigates incidents and how are they investigated?
	What is the aim of the organisation?
	Does the organisation learn from the event?
Organisational learning following a patient safety incident	What happens after an incident?
	What mechanisms are in place to learn from the incident?
	How are changes introduced and evaluated?
Communication about safety issues	What communication systems are in place?
	What are their features?
	What is the quality of record keeping to communicate about safety?
Personnel management and safety issues	How are safety issues managed in the workplace?
	How are staff problems managed?
	What are recruitment and selection procedures like?
Staff education and training about safety issues	How, why and when are education and training programmes about patient safety developed?
Teamworking around safety issues	How and why are teams developed?
	How are teams managed?
	How much teamworking is there around patient safety issues?

through which family doctor and some primary care services are delivered to local communities) and primary care trusts (PCTs; National Health Service organisations responsible for the overall planning and delivery of health services to a local population, including managing geographically defined groups of general practices and providing other health services such as community nursing, pharmacy and dentistry).

Sampling

We invited all 15 PCTs in the north west of England to participate in the study and recruited the first six PCTs that expressed interest. It is not possible to know if these sites differed from those that did not respond—for example, it may have been that these organisations were more committed to or interested in patient safety. As PCTs were relatively new organisations at the time, they did not have formal structures to manage patient safety, and we did not know who at the study sites would have lead responsibility for, or expertise in, patient safety issues. For this reason, sampling of individual participants was purposeful and responsive to the local context.[26][27]

Our aim was to capture the views of any of the personnel working in the PCT or local practices with a special interest in

Table 3 Phase 1 sample

Professional group	Number
Clinical governance manager/lead	8
PCT chief executive	5
PCT manager	5
Community nurse	3
General practitioner	3
Allied health professionals	2
Practice manager	2
Pharmacy adviser	1
Dentist	1
Total	30

PCT, primary care trust.

patient safety, and to ensure that the perspectives of both managers and clinicians from different professional groups were taken into account. In five of the six PCTs we interviewed the chief executive first, and asked them to identify the person with lead responsibility for risk management and the other individuals in the PCT/local general practices with expertise and/or responsibility in the area. We used the same snowball sampling technique with all interviewees until all of the key potential informants had been identified. In total we interviewed 30 people from a range of disciplines (table 3).

Participants were sent written information about the study and an invitation to participate. Approximately a week later, individuals were contacted by telephone to ascertain their willingness to participate and to arrange a convenient time for an interview.

Multisite research ethical committee approval for the study was obtained.

Data collection

We used a semistructured schedule to guide the interviews. The interviewer described the meaning of the levels and the dimensions at the start of the interview. The aim was to draw on participants' experience and expertise to develop descriptions of what an organisation might look like for each of the nine dimensions at each of the five levels of organisational maturity. In addition, the face validity of the dimensions developed from the literature was explored. The interviewer made clear that the aim of the interview was not to examine or categorise the current safety culture in the participant's own organisation, which could be general practice or the PCT depending on their role. The interviews were tape recorded with the interviewee's permission and these data were supplemented with field notes.

Data analysis

The interview data were fully transcribed and coded at the predetermined nine dimensions and five maturity levels using the framework approach[28] to identify key themes and develop a thematic framework. We then analysed the thematic

framework, to which all data had been charted, in terms of mapping the range and nature of the themes, comparing data coded to different maturity levels and developing initial descriptive statements for the dimensions at the five maturity levels. Two researchers independently assigned the data and developed the descriptive statements, and then edited them to produce brief consensus descriptions. These edited statements were then applied to the framework, which is a Guttman-type matrix with levels of maturity as one axis and dimensions of patient safety as the other.

Results
The dimensions
The nine dimensions were judged by interviewees to be comprehensive and valid. In terms of coverage, it was felt that there was overlap between two of the dimensions, one relating to the causes and one to the identification of adverse events/near misses, so they were merged early in the fieldwork. There was also some debate about whether "patient/user involvement" should be a separate dimension. However, most interviewees felt that user involvement was a component of all the dimensions and would be more evident in organisations with a relatively mature safety culture.

The levels of maturity
Overall, the participants regarded the underlying theory describing levels of organisational maturity as being a useful and appropriate way of categorising health service organisations and teams.

> "The tool and the different levels provide a systematic method for organisations to assess and categorise themselves."

The framework
Interviewees saw the framework as being applicable to primary care organisations. They had little trouble describing the dimension characteristics of reactive and calculative safety cultures, with some regarding these as being the prevalent safety cultures within primary care organisations. However, they had more problems describing the dimension

characteristics of a generative safety culture and many felt that this was an unattainable state. Some participants doubted that pathological organisations could exist in the highly performance-managed environment of the National Health Service. Some also expressed concerns about the negative connotations of this term.

> "I really dislike the term 'pathological'. I think another term could be used, may be 'no commitment'. I think people might find it insulting"

Conversely, in community pharmacy a pathological safety culture has been described as being perceived as the dominant culture.[29] As an example the final descriptions for each level of two of the dimensions are presented in tables 4 and 5.

PHASE 2: ASSESSING THE FACE VALIDITY AND UTILITY OF THE FRAMEWORK
In phase 2 we aimed to assess the face validity and utility of the framework developed in phase 1 using individual (stage 1) and focus group interviews (stage 2).

Stage 1
Sampling
A total of 33 participants were purposefully sampled from the phase 1 PCT sites to ensure a range of disciplinary backgrounds and management roles (table 6).

Data collection
The framework developed in phase 1 was reproduced as a professionally designed and printed document. The participants were interviewed to explore their views of the framework in terms of the dimension descriptors (comprehensiveness, clarity of language), the utility of the framework in primary care, its potential to operationalise the concept of safety culture and the presentation of the document itself. Interviews were tape recorded and selectively transcribed in relation to predetermined areas (see below).

Data analysis
Interview data were coded at the predetermined categories that were the focus of the face validity and utility testing (eg,

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Table 4 Perceptions of the causes of adverse events and near misses and their identification

Maturity level of safety culture	Dimension description
Pathological	In a pathological organisation, incidents would be seen as "bad luck" and outside the organisation's control, occurring as a result of staff errors or patient behaviour. Ad hoc reporting systems would be in place with the organisation largely in "blissful ignorance", unless serious adverse events occur. Incidents and complaints would be "swept under the carpet" if possible. There would be a high blame culture with individuals subjected to victimisation and disciplinary action
Reactive	A reactive organisation would see itself as a victim of circumstances. Individuals would be seen as the cause of problems and solutions would focus on retraining or punitive action. There would be an embryonic reporting system, although staff would not be encouraged to report incidents. Minimum data on incidents would be collected and this would not be analysed. There would be a blame culture which would make staff reluctant to report incidents. When incidents occurred there would be no attempt to support any of those involved, including patients and their relatives
Calculative	Calculative organisations would recognise that systems, not just individuals, contribute to incidents. The organisation would profess to not having a blame culture, but this would not be the perception of the staff. There would be a centralised anonymous reporting system in place with an emphasis on form completion. Staff would be encouraged to report incidents and near misses, but they would not feel safe to do so. Complaints would be considered with adverse events
Proactive	Proactive organisations would accept that incidents are a combination of individual and system faults. Reporting of adverse events and near misses would be encouraged and they would be seen as learning opportunities. Accessible and "staff-friendly" electronic reporting methods would be used, allowing trends to be readily examined. The organisation would have a blame-free, collaborative culture and staff would feel safe to report near misses. Staff, patients and relatives would be supported from the moment of reporting
Generative	In generative organisations, organisational failures would be noted but staff would also be aware of their own professional accountability in relation to errors. Reporting adverse events and near misses would be second nature as staff would have confidence in the investigation process and understand the value of reporting. Integrated systems would allow adverse events, near misses, complaints and litigation cases to be analysed together. Staff, patients and relatives would be actively supported from the time of the incident and the organisation would have a high level of openness and trust

Table 5 Teamworking around safety issues

Maturity level of safety culture	Dimension description
Pathological	Individuals mainly work in isolation but where there are teams they are ineffective in terms of risk management. There are tensions between the team members and a rigid hierarchical structure. They are more like a group of people brought together with a nominal leader and no direction
Reactive	There are teams but they are told to work together and only pay lip service to teamworking. People only work as a team following a patient safety incident. Teams get put together to respond to external demands. There is a clear hierarchy in every team corresponding to the hierarchy of the organisation as a whole. Teams do work together, but individuals are not actually committed to the team
Calculative	Teams are put together to respond to government policies but there is no way of measuring how effective they are. There is a risk management team. Teamwork is seen by lower grades of staff as paying lip service to the idea of empowerment. There is little sharing of ideas or information about safety issues across teams
Proactive	Team structure is fluid with people taking up the role most appropriate for them at the time. Teams are collaborative and adaptable and actively contribute to the risk management agenda within the organisation. There is evaluation of how effective the team is and changes are made when necessary. Teams may include those external to the organisation
Generative	Team membership is flexible, with different people making contributions when appropriate. Teams are about shared understanding and vision about safety issues rather than geographical proximity. This way of working is just the accepted way in the organisation. Everyone is equally valued and feels free to contribute. ''Everyone is part of the risk management team'', this includes all levels of the organisation from board members through to those who have day-to-day contact with patients

comprehensiveness of dimensions, clarity of language, structure of document, appropriateness). Key themes were then identified in the data at each category and compared data from different groups of participants. A second researcher checked data assignment to categories and the identification of key themes.

Results

Our results suggested that the tool had a high level of face validity. Participants reported that the tool would be acceptable and useful to primary care teams. They considered that ''safety culture'' would be a new and ''alien'' concept to many potential users of the framework. However, they also felt that one of the strengths of the framework was its usefulness as an educational tool, in that it presented a conceptualisation of patient safety culture with which managers and clinicians could engage. The participants believed that raising awareness of the complexity of organisational safety culture could encourage management activities and facilitate research into the effectiveness of interventions designed to improve safety culture that were sensitive to this complexity. Another potential strength of the framework design was seen in the emphasis on team use and communication processes. It was anticipated that this would contribute to an understanding that those at different levels in an organisation could hold varying perceptions of safety culture. The participants believed that this realisation could help to identify the problems and solutions that would lead to improvements in patient safety. The framework was also seen as a way of illuminating differences between professional groups, in terms of their perceptions of

the existing safety culture of the PCT or practice, thus allowing the identification of potential levers for change. The participants felt that the conceptualisation of patient safety culture as a multifaceted framework, encompassing contextual factors, management characteristics, and general attitudes and beliefs was useful as it would encourage analysis of the deeper, systemic factors within an organisation that may be causing serious failures.

Suggestions for improving the framework were also made. The participants considered that the framework needed to include more recognition of patient involvement in the descriptors, and that a handbook would be a useful addition to support managers and clinicians in using the tool. Recommendations for rewording some of the descriptors were also made. These alterations and additions were made before stage 2 testing.

Stage 2

The aim of this stage was to assess whether the framework clarified the concept of safety culture for healthcare professionals, and how far it served as a useful stimulus for reflection within a group context.

Sampling

The participating organisations were four PCTs in the north of England, selected on the basis of their geographical location

Table 6 Phase 2, stage 1 sample

Professional group	Number
General practitioner	3
Clinical governance manager	4
Risk manager	3
Human resource manager	2
Director of nursing	2
PEC member (various professionals)	7
District nurse	4
Health visitor	4
Community pharmacist	2
Podiatrist	2
Total	33

PEC, professional executive committee.

Table 7 Phase 2, stage 2 sample

PCT	Group type	Focus group composition
1	General practice	GP, health visitor, district nurse, practice manager
	PCT management	Clinical governance committee members
	Specialist remit	Child protection team members
	Single profession	District nurses
2	General practice	GP, receptionists, practice manager
	PCT management	Clinical risk committee members
	Specialist remit	Rapid response team members
	Single profession	District nurses
3	General practice	GP, practice manager
	PCT management	Nurse managers and clinical governance leads
	Specialist remit	Infection control nurses
	Single profession	District nurses
4	Specialist remit	Medicines management team
	Single profession	District nurses

GP, general practitioner; PCT, primary care trust.

and size. Two of these trusts had been involved in the first phase of the study. Chief executives and risk managers were asked to nominate individuals and teams who could be invited to participate in focus group interviews.

Data collection
We conducted 14 focus groups which consisted of either single professional or multiprofessional groups, considered to be the management and operational teams that might use the framework in future (table 7). The size of the focus group ranged from 3 to 12 participants and they were conducted at either a general practice or the PCT premises.

Focus groups commenced with observation of how the groups used the framework. Participants were asked to read the dimension descriptions and identify those that they believed described the level of maturity of the patient safety culture in which they worked as a team and, if appropriate, an organisational level. They were encouraged to discuss their choices, challenge those of others and discuss ways to enhance the patient safety culture of the organisation in which they worked. Following this a semistructured guide was used to explore how the framework might be delivered and used. Focus groups were audio taped. One researcher moderated the discussion while a second researcher made contemporaneous field notes.

Data analysis
We coded and analysed the transcriptions using the framework approach[28] to explore participants' understandings of ''safety culture'' and their perceptions of the usefulness of the framework in primary care teams and organisations. Data were examined to identify any differences in understandings and perceptions between different groups of healthcare professionals or between frontline clinicians and those with a management role. Data from the field notes were also incorporated in the analysis.

Results
Understanding of ''safety culture''
Using the framework to stimulate group discussion appeared to contribute to participants' understandings of the concept of safety culture. Participants commented that reading relatively straightforward descriptions of the systems, behaviours and beliefs that contribute to safety culture helped them to understand what had previously been an abstract concept.

> ''It's changed my thinking I suppose, I hadn't really thought about safety culture, hadn't really heard about it. Patient safety meant to me, I suppose, not doing anything to harm a patient and checking you know things like elder abuse and such like. But now I really see how things like communication and teamwork are relevant. It gives a sort of collective responsibility feel to it, whereas I used to focus just on what I did in my clinics''

Frontline workers and senior executive team members seemed to have less understanding and awareness of patient safety culture than those in middle management roles who were responsible for policy implementation. However, in terms of the assessment of the safety culture of their team/organisation, there seemed to be differences between the perceptions of ''junior'' and ''senior'' staff (ie, those at different levels within the organisation) and these seemed to be greater than those between different professional groups. Junior staff consistently assessed the safety culture of their PCT to be less mature than their more senior counterparts. When this divergence was explored with participants they saw it as being

the result of inconsistent ''top down'' communication and the lack of ''hands-on'' experience of senior managers. They believed that senior managers relied on developing the structure and functions of organisational processes related to patient safety to improve the culture without paying full attention to the idiosyncrasies of the organisation itself (ie, the culture itself). Senior staff saw this difference in perception as being a consequence of junior staff's lack of awareness of the work they were undertaking that would contribute to increasing maturity of the safety culture.

Perceptions of the team's safety culture and the PCT's patient safety culture were always different. The teams believed that their patient safety culture was stronger than that of the PCT. The participants deemed that this was a result of the safety culture of the PCT being shaped by patient safety culture at a national level whereas the team's culture was shaped by the individual team members themselves. The teams expressed a sense of frustration at the less mature safety culture of the PCT.

> ''There's a desire within individual teams, individual people and maybe individual PCTs you know to be proactive or generative, they would all love to be there. But the national culture is calculative and that's what we have got to work to: this team does have a different culture, I don't think there are many teams or organisations with a culture like ours, we're open with each other … we've tried to share how we work, attended the meetings on the list, haven't we? We've made suggestions and those suggestions haven't been considered at Trust management level''

Using the framework
The participants found the framework to be a useful way of deconstructing the concept of patient safety culture and exploring its maturity within their teams/organisations. This was because they found the descriptions of the dimensions straightforward to understand and reflective of their own experience. Consequently they were readily able to locate their teams or trusts in terms of the five stages of cultural maturity, and to identify some of the factors that seemed to be stimulating or constraining progression such as targets, resources and established systems.

Indeed participants identified the framework's main purpose to be as a facilitative educational tool that could enable different work groups gain insight into the safety culture of their team/organisation and promote discussion of how it might be improved at each dimension. They also saw that it had a use as a means of assessing whether improvements had occurred over time.

CONCLUSION
The framework developed in this study for assessing the safety culture in primary care organisations, which we have called the Manchester Patient Safety Framework (MaPSaF), helps to fill the gap between the policy makers who espouse the importance of safety culture and the practitioners who are charged with implementation of such a culture, yet find it a problematic concept to understand, engage with and improve. The framework is based on an established theory and has been developed using a qualitative approach to define the dimensions and test its face validity and utility in primary care. It acknowledges the multidimensional and dynamic nature of culture, and allows for the recognition of subcultures within a single organisation. This is important as subcultures within organisations act as powerful influences on detecting and learning from errors.[30] In addition, we found that in assessing the safety culture of a team or organisation, there may be differences between the

Key messages

- This paper describes the development and testing of a framework that aims to enable primary care clinicians and managers engage with and understand the concept of patient safety culture.
- The framework (MaPSaF) is based on a theoretical model of increasing maturity in organisational culture.
- The content of MaPSaF was derived from interviews with primary care clinicians and managers.
- Testing of MaPSaF has shown that it has a high face validity and that it is a useful way of stimulating discussion and exploring ways of improving patient safety culture in primary care trusts and teams.

perceptions of managers and frontline practitioners. This indicates the need for dialogue between these two groups.

In terms of improving patient safety it seems that the framework is best used as a facilitative educational tool by teams. It can be used in team discussions to:

- provide insight and promote discussion about patient safety culture;
- facilitate interactive self-reflection on the safety culture of the team and/or organisation and its strengths and weaknesses;
- help teams recognise the complexity and multidimensionality of safety culture;
- reveal and explore differences in perceptions between different staff groups or teams;
- help understand how a team/organisation with a more mature safety culture might look;
- evaluate interventions aimed at improving safety culture.

Our experience of using the framework to date suggests that staff readily engage with the exercise and find it both enjoyable and useful. The development of a version of the framework for use in community pharmacy adds support to these findings.[29]

The framework seems to improve healthcare professionals' understanding of the term safety culture, to engage frontline staff with the organisational aspects of safe practice and to stimulate discussion of ways of improving the safety culture of health organisations. It has recently been disseminated by the National Patient Safety Agency to the National Health Service and includes a facilitator guide as well as the framework itself which has now been adapted for use in a range of healthcare settings outside primary care.[31]

Ultimately however, no single approach can provide organisations with a ready-made positive patient safety culture. MaPSaF can contribute to this by providing a valuable stimulus for discussion and reflection. Primary care organisations will need to work towards developing a positive patient safety culture and facilitate the progression of teams and organisations through the different levels of safety culture maturity. This is a complex process, and as our framework illustrates through its dimensions, requires development in several areas, such as communication, teamwork and leadership. There is no "quick fix" to transforming organisations in this way. It will take time and needs commitment but the benefits to both patients and staff could be considerable.

Authors' affiliations
Susan Kirk, School of Nursing, Midwifery and Social Work, University of Manchester, Manchester, UK
Dianne Parker, Tanya Claridge, School of Psychological Sciences, University of Manchester, Manchester, UK
Aneez Esmail, Division of Primary Care, University of Manchester, Manchester, UK
Martin Marshall, National Primary Care Research and Development Centre, University of Manchester, Manchester, UK

REFERENCES
1 **Department of Health**. *An organisation with a memory: report of an expert group on learning from adverse events in the NHS*. London: The Stationery Office, 2000.
2 **Leape LL**, Berwick DM. Safe health care: are we up to it? *BMJ* 2000;**320**:725–6.
3 **Vincent C**, Taylor-Adams S, Chapman EJ, *et al*. How to investigate and analyse clinical incidents: clinical risk management unit and association of litigation and risk management protocol. *BMJ* 2000;**320**:777–81.
4 **Pidgeon NF**. Safety culture and risk management in organizations. *J Cross Cult Psychol* 1991;**22**:129–40.
5 **Mearns K**, Whittaker S, Flinn R. Safety climate, safety management practice and safety performance in off shore environments. *Saf Sci* 2003;**41**:641–80.
6 **Clarke S**. Perceptions of organisational safety; implications for the development of safety culture. *J Organ Behav* 1999;**20**:185–98.
7 **Hofstede G**. Values and culture. In: *Culture's consequences: international differences in work-related values*. Beverly Hills, CA: Sage, 1980:13–53.
8 **Davies HTO**, Nutley SM, Mannion R. Organisational culture and quality of health care. *Qual Health Care* 2000;**9**:111–9.
9 **Scott J**, Mannion R, Marshall M, *et al*. Does organisational culture influence health care performance? *J Health Serv Res Policy* 2003;**8**:105–17.
10 **Zohar D**. Safety climate in industrial organizations: theoretical and applied implications. *J Appl Psychol* 1980;**65**:96–102.
11 **Cox S**, Cox T. The structure of employee attitudes to safety: a European example. *Work Stress* 1991;**5**:93–106.
12 **Hart E**, Hazelgrove J. Understanding the organizational context for adverse events in the health services: the role of cultural censorship. *Qual Health Care* 2001;**10**:257–62.
13 **Clarke S**. The contemporary workforce: implications for organizational safety culture. *Personnel Review* 2003;**32**:40–57.
14 **Health and Safety Commission**. *Organising for safety: third report of the human factors study group of ACSNI*. Sudbury: HSE Books, 1993.
15 **Caroll JS**, Rudolph JW, Hatakenaka S. Lessons learned from non-medical industries: root cause analysis as cultural change at a chemical plant. *Qual Saf Health Care* 2002;**11**:266–9.
16 **Kuhn AM**, Youngberg BJ. The need for risk management to evolve to assure a culture of safety. *Qual Saf Health Care* 2002;**11**:158–62.
17 **Singer SJ**, Gaba DM, Geppert JJ, *et al*. The culture of safety: results of an organization-wide survey in 15 California hospitals. *Qual Saf Health Care* 2003;**12**:112–8.
18 **Scott J**, Mannion R, Davies H, *et al*. The quantitative measurement of organisational culture in health care: a review of the available instruments. *Health Serv Res* 2003;**38**:923–45.
19 **Weingart S**, Farbstein K, Davis R, *et al*. Using a multihospital survey to examine the safety culture. *Jt Comm J Qual Saf* 2004:125–32.
20 **Kirk S**, Marshall MN, Claridge T, *et al*. Evaluating safety culture. In: Walshe K, Boaden R, eds. *Patient safety: research into practice*. Maidenhead, Berkshire: Open University Press, 2005:173–84.
21 **National Patient Safety Agency**. *Seven steps to patient safety*. London: National Patient Safety Agency, 2004.
22 **Westrum R**. Cultures with requisite imagination. In: Wise J, Stager P, Hopkin J, eds. *Verification and validation in complex man-machine systems*. New York: Springer, 1993.
23 **Westrum R**. A typology of organisational cultures. *Qual Saf Health Care* 2004;**13**(Suppl II):ii22–7.
24 **Parker D**, Hudson PT. *HSE: understanding your culture*, Shell International Exploration and Production, EP 2001–5124, 2001.
25 **Hearts and Minds**. Understanding your culture. http://www.energyinst.org.uk/heartsandminds/culture.cfm (accessed 1 April 2007).
26 **Mason J**. *Qualitative researching*. London: Sage, 1996.

27 **Popay J**, Rogers A, Williams G. Rationale and standards for the systematic review of qualitative literature in health services research. *Qual Health Res* 1999;**8**:341–51.

28 **Ritchie J**, Spencer L. Qualitative data analysis for applied policy research. In: Bryman A, Burgess R, eds. *Analysing qualitative data*. London: Routledge, 1993:173–94.

29 **Ashcroft DM**, Morecroft C, Parker D, *et al.* Safety culture assessment in community pharmacy: development, face validity, and feasibility of the

Manchester Patient Safety Assessment Framework. *Qual Saf Health Care* 2005;**14**:417–21.

30 **Edmondson A**. Learning from mistakes is easier said than done: group and organizational influences on the detection and correction of human error. *J Appl Behav Sci* 1996;**32**:5–28.

31 **National Patient Safety Agency**. Manchester Patient Safety Framework (MaPSaF). http://www.npsa.nhs.uk/display?contentId=4798Ref (accessed 1 April 2007).