Assessing patient safety culture in New Zealand primary care: a pilot study using a modified Manchester Patient Safety Framework in Dunedin general practices

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ABSTRACT

INTRODUCTION: Patient safety is a major concern, both in hospitals and in primary care settings. The current focus internationally is on the prospect of improving patient safety through cultural transformation. There are no tools designed to assess and strengthen safety culture in New Zealand (NZ) general practices, but a United Kingdom (UK) group have developed a tool—the Manchester Patient Safety Framework (MaPSaF)—to assess safety culture in UK Primary Care Trusts. We aimed to modify the MaPSaF and test its acceptability and utility in the NZ primary care setting.

METHODS: We modified the MaPSaF to suit the NZ context and then used it in 12 Dunedin general practices at baseline and at three months. Participants were all practice personnel present in the practice on the day. Participants rated their practice individually on each of the nine MaPSaF dimensions of safety culture, then discussed the dimensions and their scores and chose a practice-wide consensus score for each dimension in turn. These discussions were recorded, transcribed and analysed to determine acceptability and utility of the modified framework in NZ practices.

FINDINGS: The framework process took about one hour. Most participants found the process acceptable and useful. The framework directed team discussion about patient safety issues and facilitated communication and prompted some practices to make changes. Some participants from smaller practices deemed the systems advocated in the framework superfluous.

CONCLUSION: The framework can be adapted and used in NZ practices to stimulate learning about safety culture and to facilitate team communication.

KEYWORDS: Family practice; patient safety; primary care; safety culture

Introduction

Iatrogenic harm has been a major focus of concern internationally for at least the last decade.¹ Research confirms that most patient harm stems from care provided by health care teams comprised of competent, well-intentioned individual practitioners.² As most practitioners are already trying to do the right thing, the old strategy of punishing practitioners when things go wrong is unlikely to be effective for improving patient safety. A 'systems' approach is suggested as an alternative way forward and strengthening safety culture is central to this approach.^{3,4} 'Safety culture' refers to the 'shared values, attitudes, perceptions, competencies and patterns of behaviour'.⁵

To date, most patient safety research has focussed on hospital care and tools to measure and strengthen safety culture in hospitals have been developed and tested.⁵⁻⁹ Although we know that patient safety is also a concern in primary care Department of General Practice and Rural Health, Dunedin School of Medicine, University of Otago, Dunedin, New Zealand

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settings, research on how to improve patient safety in primary care remains underdeveloped.^{10,11}

There are no tools designed to assess safety culture in New Zealand (NZ) general practices. However, a United Kingdom (UK) group has developed a tool—the Manchester Patient Safety Framework (MaPSaF)—to assess and strengthen safety culture in UK Primary Care Trusts.¹² The MaPSaF was designed to 'make the concept of safety culture accessible to frontline practice staff' and 'facilitate discussion' about safety issues and has been endorsed by the UK's National Patient Safety Agency for use as a 'team-based self-reflection and education exercise'.¹³

In the UK there is now a requirement to address safety culture in health care organisations, but in NZ there is, as yet, no such requirement. However, if patient safety can be improved by strengthening safety culture, we have a moral ob-

Table 1. The nine MaPSaF dimensions of patient safety

Di	mension	Explanation
1	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 practice for collaboration and innovation?
2	Priority given to patient safety	How seriously is the issue of patient safety taken within the practice? Where does responsibility lie for patient safety issues?
3	Perceptions of the causes of patient safety incidents and their identification	What sort of reporting systems are there? How are reports of incidents received? How are incidents viewed, as an opportunity to blame or improve?
4	Investigating patient safety incidents	Who investigates incidents and how are they investigated? What is the aim? Does the practice learn from the event?
5	Team 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?
6	Communication about safety issues	What communication systems are in place? What are their features? What is the quality of record keeping communicating about safety like?
7	Staff management and safety issues	How are safety issues managed in the practice? How are staff problems managed?
8	Staff education and training about safety issues	How, why and when are education and training programmes about patient safety developed? What do staff think of them?
9	Team working around safety issues	How and why are teams developed? How are teams managed? How much team working is there around patient safety issues?

ligation to take up the challenge using whatever tools are available. $^{\rm 14-17}$

In this study we aimed to modify the MaPSaF and test the acceptability and utility of the modified framework (NZ-MaPSaF) in Dunedin practices, as a pilot to enable its wider adoption throughout NZ.

Methods

The MaPSaF defines nine dimensions of patient safety (see Table 1).

For each dimension the MaPSaF provides descriptions of organisations at five levels of safety culture maturity (see Table 2).

We modified the MaPSaF to suit the NZ context in two stages. Initially KW reviewed the language in the MaPSaF descriptions and removed or replaced phrases unique to the UK setting (for example 'solicitor' was replaced with 'Health and Disability Commissioner') and also shortened the descriptions. Following this, further changes were made as the NZ-MaPSaF was used in the study practices and participants drew attention to unclear phrases or concepts. For example, many participants were unfamiliar with 'root cause analysis' and so this was deleted.

Twelve randomly-selected Dunedin general practices were recruited for the study. The Dunedin city boundary encloses large areas of rural land as well as high-density urban locations. Dunedin has a population of 120 000 and has 32 general practices. Practice recruitment was facilitated by The Royal New Zealand College of General Practitioners' (RNZCGP's) endorsement of the MaPSaF process for practitioner recertification purposes.

The NZ-MaPSaF was used during practice meetings, facilitated by KW and/or research assistant, at baseline and at three months. Participants were given time to read the five descriptions for each of the nine dimensions (A, B, C, D and E) and to choose the description that they thought best reflected their practice for each dimension. A team discussion was then held where each dimension and the individual scores were discussed in turn and a practice-wide consensus score for each dimension was chosen.

This process was repeated at a second visit at three months where participants were also asked additional questions to discover their views about the NZ-MaPSaF process, and whether it had stimulated any change in thinking about safety issues or had led to any changes in practice processes.

The discussions at visit one and visit two were recorded, transcribed and coded by KW. The analytic process involved immersion in the data and identification of themes relating to acceptability and utility of the NZ-MaPSaF in study practices, and changes in views or practice processes following the first visit. Further themes arose from data analysis. As the study's aim was practically oriented-to test NZ-MaPSaF acceptability and utility-theory-building and philosophical development were not analytic goals.18 There were no predetermined categories relating to acceptability and utility that guided discussions: these categories emerged from data analysis. All quotes from transcripts were organised into categories under the main themes and representative quotes were chosen to demonstrate the main findings.

Ethics approval for the study was provided by Research Ethics Review Committees of both the World Health Organization and the University of Otago.

Findings

The study sample included rural, suburban and student health practices and an accident and after-hours centre. Practices ranged in size from a solo practice with 1100 registered patients to a large group practice with 12 full-time equivalent doctors and 18 000 patients. Participants were all practice personnel present on the data collection day and included general practitioners, nurses, managers, receptionists, counsellors, dentists, registrars and student nurses. There were between four and 23 participants at each meeting. The NZ-MaPSaF process was completed in about one hour, usually over lunch but sometimes at the beginning of the day or in the afternoon.

WHAT GAP THIS FILLS

What we already know: Patient safety is a major concern, both in hospitals and in primary care settings. The current focus internationally is on the prospect of improving patient safety through cultural transformation. There are no tools designed to assess and strengthen safety culture in New Zealand general practices.

What this study adds: In this pilot study we modified a tool developed in the UK to assess safety culture in Primary Care Trusts and tested it in 12 Dunedin general practices.

Table 2. NZ-MaPSaF Dimension 3 described at five levels of safety culture maturity

	NZ-MaPSaF Dimension 3: Perceptions of the causes of patient safety incidents and their identification
Level	Description
A	Incidents are seen as 'bad luck', occurring as a result of staff errors or patient behaviour. Ad hoc reporting systems are in place but the practice is largely in 'blissful ignorance' unless serious incidents occur or letters of complaint are received. There is a strong blame culture.
В	The practice sees itself as a victim of circumstances. Individuals are seen as the cause and the solution is 'retraining' and punishment. There is an embryonic reporting system. Minimum data on the incidents is collected but not analysed. There is a blame culture, so staff are reluctant to report incidents.
с	There is a recognition that 'systems' contribute to incidents and not just individuals. A reporting system is in place. Attempts are made to encourage staff to report incidents (including those that did not lead to harm), though staff do not feel safe reporting the latter.
D	It is accepted that incidents are a combination of individual and system faults. Reporting of patient safety incidents is encouraged and they are seen as learning opportunities although learning is not always disseminated. Accessible, 'staff friendly' electronic reporting methods are used. The practice has an open, fair and collaborative culture.
E	'System' failures are noted, although staff are also aware of their own professional accountability in relation to errors. It is second nature for staff to report patient safety incidents as they have confidence in the investigation process and understand the value of reporting. The practice has a high level of openness and trust.

Acceptability

Most participants enjoyed the NZ-MaPSaF process and found that it stimulated thought and discussion about patient safety within their practice:

Practice 2:

I think it's definitely stimulated us to think about it more... we're more conscious about how all the communication channels work and affect us... we're

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getting to maybe talk about it a bit more than we did. (Receptionist)

I think it was quite thought provoking after last time. It was good. (Nurse)

Some participants expressed reservations about overcoming defensive attitudes:

Practice 5:

And were we defensive? Too bloody right. (Doctor)

This is a 'learning tool'. (Nurse)

But it is natural to be defensive... But it's also a learning experience as well... Everyone sort of says 'Oh we're not defensive, it's learning'... Of course we're defensive. I think everyone is defensive. (Doctor)

Some participants expressed concern about a lack of time to run the NZ-MaPSaF process:

Practice 5:

We just got busier and busier and the paperwork got greater and greater... there's not the time to do it... (Doctor)

Applicability of NZ-MaPSaF

Some participants from small practices considered the systems advocated in the NZ-MaPSaF to be superfluous and could lead to unfair scoring:

Table 3: Comparing MaPSaF and NZ-MaPSaF descriptions of Dimension 4 at safety culture maturity level (D)

Dimension 4: Investigating patient safety incidents

MaPSaF: description (D)

Investigations occur in order to gain an independent perspective. The staff involved in incidents are involved in their investigation, which uses robust methods like root cause analysis and significant event audit to identify the contributory factors and system problems that led to the incident. The aim of investigations is to learn from incidents and disseminate the findings widely. Data from investigations are used to analyse trends, identify 'hot spots' and examine training implications. It is a forward-looking, open organisation. Patients are involved in the investigation process and their perceptions, experience and recommendations are sought.

NZ-MaPSaF: description (D)

Investigations occur in order to gain an independent perspective. The staff involved in incidents are involved in their investigation, and help to identify the contributory factors and system problems that led to the incident. The aim of investigations is to learn from incidents and disseminate the findings widely.

Practice 4:

We just basically talk about it don't we? I mean we're a small team... (Receptionist)

Well, we don't discuss it in an 'open forum'... An 'open forum' sounds like something large. ...It's more over a cup of tea, or at the front desk. Certainly the 'process exists to share learning' because we talk about things. (Nurse)

Practice 7:

Often everyone's involved in some incident too, so you have to know about them... In a little place... you can talk to each other, so you don't have quite the same... We have discussion but we don't actually have the systems in place. (Doctor)

Practice 5:

See I wonder about that whole sort of um... I mean they're really based around large organisations, and so it's an unfair tool in that sense. (Doctor)

Few of the study practices had processes to involve patients in safety initiatives, as advocated in the NZ-MaPSaF, and many participants were sceptical of the value of patient involvement and feedback:

Practice 7:

Because we did offer them a patient questionnaire and the thing just said, 'We love you.' (Doctor 1)

Not very meaningful feedback. (Doctor 2)

It is positive but if you're looking at what goes on, what happens and how do we change... It's sort of like you've gone through all the effort of doing it, for what?... A pat on the back. (Doctor 1)

Utility: education

Participants learned that 'patient safety' issues were different to 'occupational health and safety' issues:¹⁹

Practice 2:

We actually do, do that... at every meeting we ask if there are any Health and Safety issues... (Manager)

The Health and Safety issues... they were often about the building... (Nurse 1)

They are 'Health and Safety' issues... yeah, which is slightly different from 'patient safety' incidents. (Nurse 2)

Other participants learned about patient safety incidents after initially claiming not to remember any incidents because they occurred so rarely:

Practice 5:

I found difficulty with this because we don't... haven't had a situation that I can recall... (Doctor)

The generative level safety culture descriptions provided ideas for ways participants could improve the safety culture in their practice:

Practice 2:

Well, we could bring it up in the practice meeting? That would be the forum I think. (Nurse)

Have it on the agenda: 'safety'. Okay. (Doctor)

That's a very good idea. We should include that on our agenda, just that... a line on safety, if there are any issues or anything like that... I think that's a great idea. (Nurse)

And following the first NZ-MaPSaF visit some practices had made changes:

Practice 6:

We've started a patient called 'Mr Patient Safety' and we've recorded a fair number of incidents. We had a meeting recently... so that has improved things, it's made us more aware. To my mind it's improved the score... The other thing we have done is to instigate a meeting to try and develop commonality of approach to patients and to discuss, I was going to use the word 'difficult' patients but I don't mean it in that way, I mean patients that are complex patients. And we really want to develop a uniform approach to managing those complex problems. And that's happened since our last meeting. (Nurse)

Utility: team communication

The NZ-MaPSaF process provided a useful forum for discussion about safety issues and helped some team members to air their concerns:

Practice 2:

Well, I find the staff meetings are too far apart, like they're not often enough... often stuff might not be dealt with because there's too many other things to do. I've had... a problem which is seen as not an issue because... but I'm not actually being heard... it would be quite nice to know what was actually... what's on the agenda, or if you want to actually put something to the management meetings so that it can be discussed. ...But what is actually discussed there at the staff meeting? (Nurse)

Practice 7:

Umm, the 'equally valued' and 'free to contribute'... (Receptionist)

So, what do you mean by that, do you feel that people aren't equally valued? (Researcher)

Sometimes, yes. (Receptionist)

In what way? (Researcher)

Just mainly attitudes really. (Receptionist)

From patients or from other staff or ...? (Researcher)

Mostly other staff... I'm aware of times when it doesn't feel equally valued. (Receptionist)

Discussion

Study findings suggest that the MaPSaF can be modified and used in New Zealand general practices to assess safety culture. The NZ-MaPSaF introduced participants to the concept of safety culture and helped participants to understand its dimensions. We found that the MaPSaF concepts were resonant in New Zealand practices and the structure appropriate, but some descriptions may benefit from further modification to make the NZ-MaPSaF more acceptable to participants from smaller practices. The NZ-MaPSaF facilitated communication within the practice team and precipitated change in some practices. Further research is needed to determine the extent to which the NZ-MaPSaF can change practice safety culture, how frequently the NZ-MaPSaF needs to be used to maintain any improvement, and whether the NZ-MaPSaF ultimately improves patient safety.

Although the study was conducted in one NZ city, study findings are likely to be transferable at

least within NZ because of the diversity of participating practices. The results may also be transferable to other countries where small primary care practices are common and where discussion about patient safety is in its infancy.

Robb and Seddon have recently reviewed measures for assessing safety culture in New Zealand hospitals.⁶ This research reinforces their work and extends it by actually testing a safety culture tool. Although primary care patient safety research still lags behind that in hospitals, our active research reflects an urgency to address patient safety issues in primary care because of the greater volume of health care provided in primary care settings and the increased opportunity for patient safety incidents.

The MaPSaF was developed as an internal tool for health care organisations, but in this study an external facilitator (KW and/or SG) was used which may have influenced the NZ-MaPSaF process. An external facilitator can help break established practice hierarchies and foster discussion but can also intimidate participants and inhibit discussion about this sensitive topic. An external facilitator can also act as vector, transmitting ideas from one practice to the next. Further research is required to determine whether the use of internal practice facilitators would yield different results.

In future the NZ-MaPSaF can be used in general practices to help practice teams learn about safety culture, to facilitate discussion about safety issues, and to provide a qualitative audit of practice safety culture.

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COMPETING INTERESTS None declared. It is likely that practices would need some incentive to use the NZ-MaPSaF regularly. We found endorsement by the RNZCGP for use of the NZ-MaPSaF to count towards the general practitioner recertification programme to be a suitable incentive. An alternative incentive would be for use of the NZ-MaPSaF to count towards practice accreditation processes.

In conclusion, we found the NZ-MaPSaF to be an acceptable and useful tool for assessing safety culture in NZ general practices.

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