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How to monitor patient safety in primary care? Healthcare professionals' views

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Summary

Objective: To identify patient safety monitoring strategies in primary care.
Design: Open-ended questionnaire survey.
Participants: A total of 113 healthcare professionals returned the survey from a group of 500 who were invited to participate achieving a response rate of 22.6%.
Setting: North-West London, United Kingdom.
Method: A paper-based and equivalent online survey was developed and subjected to multiple stages of piloting. Respondents were asked to suggest strategies for monitoring patient safety in primary care. These monitoring suggestions were then subjected to a content frequency analysis which was conducted by two researchers.
Main Outcome measures: Respondent-derived monitoring strategies.
Results: In total, respondents offered 188 suggestions for monitoring patient safety in primary care. The content analysis revealed that these could be condensed into 24 different future monitoring strategies with varying levels of support. Most commonly, respondents supported the suggestion that patient safety can only be monitored effectively in primary care with greater levels of staffing or with additional resources.
Conclusion: Approximately one-third of all responses were recommendations for strategies which addressed monitoring of the individual in the clinical practice environment (e.g. GP, practice nurse) to improve safety. There was a clear need for more staff and resource set aside to allow and encourage safety monitoring. Respondents recommended the dissemination of specific information for monitoring patient safety such as distributing the lessons of significant event audits amongst GP practices to enable shared learning.

Keywords

patient safety, attitudes, primary care physicians, questionnaire methods

Introduction

Events that may lead to patient harm are estimated to occur in 1–2% of primary care consultations.[1] Despite calls for research and action to improve patient safety in primary care, we have limited knowledge on the epidemiology of this harm,[2] as well as the measurement and monitoring of harm in these settings.[3] Studies using routinely available data from the General Practice Research Database have identified that adverse events in primary care show a narrow focus on post-surgical complications and drug-related harm,[4,5] possibly due the ease of coding these particular types of adverse events in the patient record using READ-coding.[6] The General Practice Research Database covers approximately 8% of the UK population[7] and the accuracy and completeness of the data are not known.[8] As such, it is feasible that not all adverse events in primary care can be identified and monitored from existing routinely available data.

Importantly, studies estimate that a large proportion of harm occurring in primary care is preventable.[9] Given the limited research on the nature of primary care harm, it seems unlikely that we have enough information to monitor this type of harm, with a view to prevent it from occurring in the future. Therefore, the development of useful indicators to identify and monitor patient safety events in primary care may benefit from direct consultation with healthcare professionals. A direct consultation approach may help in the decision of which patient safety monitoring strategy to support as well as increase the likelihood that any resulting strategy or intervention has clinician support. A systematic review has demonstrated that a larger proportion of patient safety events are identified, managed and resolved in primary care than the proportion requiring patients to seek acute care.[10] This finding reinforces the idea that primary care professionals may be able to provide a unique perspective on useful strategies to identify and monitor patient safety in these settings. Furthermore, primary care practitioners who routinely conduct significant event

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analyses in their practice may have already considered monitoring and improving patient safety; a research study using significant event analyses found that over 90% of events that had, or had the potential to have, caused patient harm offered a learning opportunity.[11] Against this background, this study will survey healthcare professionals about their recommendations for suitable ways of monitoring patient safety in primary care. The present study is focused on the development of monitoring strategies in line with recommendations from the Francis report to develop, share and understand meaningful information about performance to ensure patient safety.[12] Asking healthcare professionals about their recommendations for suitable ways of monitoring patient safety in primary care would be useful to inform future monitoring strategies as well as extend our knowledge on the ways patients are viewed as being at risk of harm in primary care. The present study used an open-ended questionnaire to survey healthcare professionals in North-West London about how patient safety in primary care should be monitored in the future.

Objective

Identify new strategies for monitoring of patient safety in primary care as viewed by healthcare professionals.

Methods

Study design

Self-administered survey with the use of a bespoke questionnaire.

Instrument development

The findings presented here were part of a larger project (entitled 'PRIORITIZE') which asked healthcare professionals their views about medication safety and delayed diagnosis in North-West London primary care using an adapted priority-settings methodology[13] designed to address research gaps and funding priorities. The PRIORITIZE project employed a seven-item questionnaire which took approximately 10 min to complete and included open-ended questions about primary care medication safety and contributing factors, as well as potential solutions, for delayed diagnosis in primary care and novel strategies to monitor patient safety. The findings presented in this paper include results from a question in the full questionnaire on how care should be monitored in the future. Participants were invited to submit as many responses to the questions as they wished. The full questionnaire was subjected to multiple rounds of piloting to simplify question wording. Overall, 24 pilot participants were asked to comment on the clarity of question wording, and the overall readability and design of the survey. Successive improvements were made following feedback from each round. Survey development ended when pilot participants were satisfied with the question wording and survey design. The final questionnaire was available in hardcopy and online using Qualtrics® survey software.

Sample and recruitment

All healthcare professionals working in North-West London were eligible to participate as they will have some experience of dealing with primary care providers and services as well as experience as primary care patients. In order to increase the ecological validity of the study, the survey could be completed by the diverse range of professionals working in and alongside primary care, including secondary care doctors and foundation doctors. In a similar vein, all participants were invited to draw on any information to inform their survey response which included their experiences being a patient in primary care as this could provide additional insights into primary care patient safety. A total of 500 healthcare professionals were invited to take part in the survey and were recruited through email distribution lists, snowballing and visits to North-West London GP practices. The survey was open from January 2014 through to August 2014. Respondents ($n = 113$; response rate=22.6%) were: general practitioners (88); or trainee general practitioners (18); foundation doctors (4); hospital consultants (1); nurse (1); and a pharmacist (1).

Analysis

This paper is based on the results to the question on strategies to better monitor patient safety in the future. The free-text responses to this question were exported to an Excel spreadsheet. These responses were then subject to a content analysis[14] by one researcher, in which similar responses were clustered together. These groups of responses were labelled (coded). Following this, we used Vincent et al.'s framework for analysing risk and safety in clinical practice[15] to determine the level of the organisational system that each monitoring strategy indicated that risk resided. Vincent et al.'s contributory factors framework is useful in identifying and classifying

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the error-producing conditions that contribute to safety problems as well as guiding the implementation of solutions at different levels of the healthcare organisation.[16,17] This stage was conducted by two researchers and concluded when a consensus was reached on the category to which each monitoring strategy belonged.

Ethical considerations

This study was deemed to be a service evaluation,[18] and did not require NHS Research Ethics Committee approval.[19] Appropriate local research governance permissions were sought. Participation was voluntary and participants were informed that data would be treated confidentially and written up anonymously.

Results

A total of 188 monitoring suggestions were offered from the 113 completed questionnaires. A content analysis was performed to group similar responses together. After this analysis, the 188 responses were considered to fall into 24 different ideas for future monitoring strategies. Additionally, each of these 24 strategies was categorised according to Vincent et al.'s factors affecting clinical practice[15] according to the area of the environment or system to which the monitoring strategy corresponded. Table 1 outlines the number of monitoring strategies in each factor, how many times respondents proposed a strategy from the seven factors and example monitoring strategies categorised in each factor.

Of the 24 distinct monitoring strategies, nine corresponded to monitoring the individual (staff) factor in the clinical practice environment. This factor relates to the knowledge and competence of individual staff members as the risk to patient safety and these strategies included auditing medication and prescribing data or comparing mortality rates. Five suggestions were given to monitor patient safety relating to the suitability and design of task and technology, such as improving the current adverse event reporting system. Three monitoring strategies corresponded to the organisation and management factor which relates to the policies, culture and priorities of the GP practices. Two monitoring strategies related to the institutional context such as the rules and regulations of the NHS, such as increasing the appointment

Table 1. Suggested strategies for monitoring patient safety in primary care.

Factors affecting clinical practice	Monitoring strategies corresponding to factor	Frequency count of proposals for strategies in factor (% of total proposals)	Example of monitoring strategies corresponding to factor
1. Individual (staff)	9	60 (31.9)	Conducting significant event audits and sharing results, auditing medication and prescribing data, mortality rates analyses
2. Task and technology	5	38 (20.2)	Introduction of a new adverse event reporting system (anonymised & shared results), improving GP software to better flag harm and adverse events and providing telephone/eHealth
3. Organisational & management	3	13 (6.9)	Analysing general patient experience and feedback, and analysing general patient experience and feedback
4. Institutional context	2	20 (10.6)	Increasing appointment times to 15 min, reducing the number of indicators collected from GP practices
5. Team	2	18 (9.6)	Conducting self and peer appraisal, conducting risk management with pharmacists
6. Patient characteristics	2	17 (9.0)	Encouraging patients to self-care, creating practice lists of housebound/complex patients
7. Work Environment	1	22 (11.7)	Increasing staff and resources to allow monitoring

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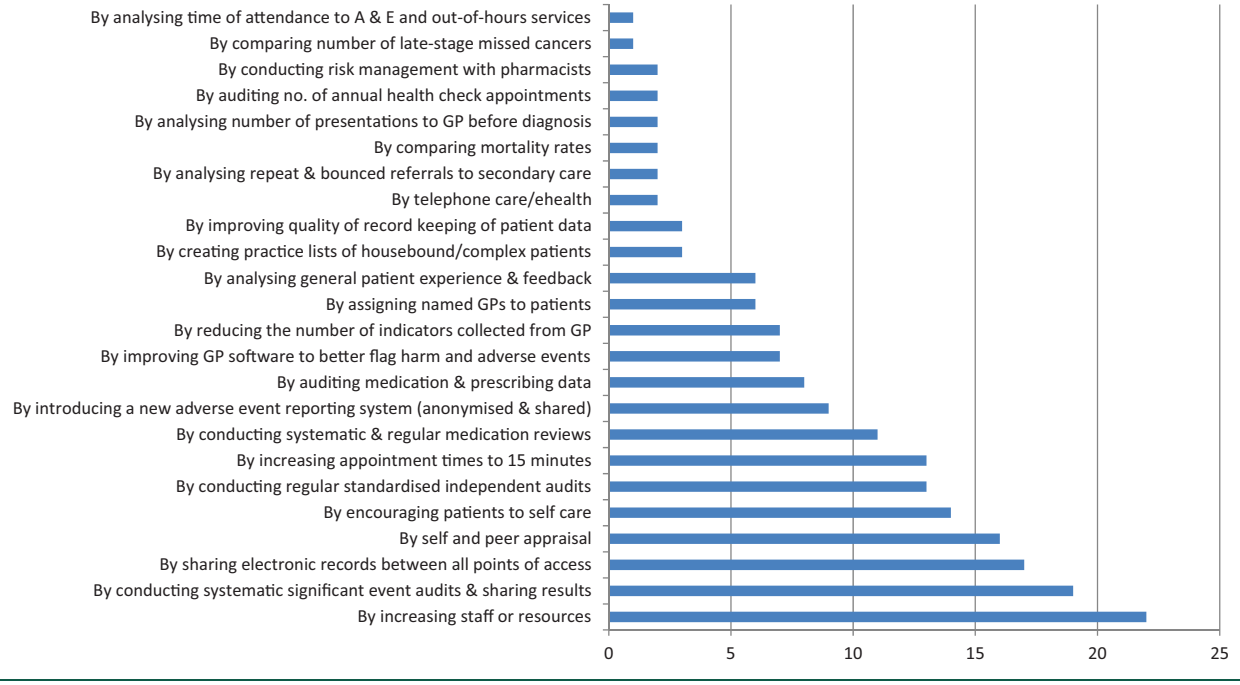
duration from 10 min to 15 min. The team factor relates to how members work together to avoid risk of harm to the patient and two monitoring strategies corresponded to this factor, including conducting risk management with pharmacists. There were two monitoring strategies that related to patient characteristics, including creating a list of housebound or complex patients. One strategy related to the suitability of the working environment and concerned increasing levels of staffing and resources. In addition to these strategies, 11 participants left the question blank, and a further 10 responded that monitoring patient safety was not possible or productive.

The most commonly proposed specific monitoring strategy was increasing staffing and resources to monitor patient safety (22 proposals), followed by conducting significant event audits and sharing the anonymised results (19 proposals). The numbers of proposals for each monitoring strategy are displayed in Figure 1. A summary of respondents' recommendations and actions for monitoring safety at the different levels of the healthcare system is provided in Box 1.

Discussion

Despite calls for research and action to improve patient safety in primary care for over a decade,[20] there has been slow development on the measurement and monitoring of patient safety in primary care settings.[3] This study asked healthcare professionals in North-West London to nominate suitable ways to monitor primary care patient safety in the future through the use of an open-ended survey. The present study identified 24 distinct monitoring strategies for the future which were then classified according to the aspect of the clinical practice environment they related to. Approximately 32% of all responses recommended a strategy designed to monitor the individual (e.g. GP, staff member) aspect of the clinical practice environment, such as by auditing the medication and prescribing data or conducting independent standardised audits on GP's data and performance. This is in line with previous research which found that 32.5% of primary care patient safety events appeared to relate to an individual healthcare professional's skill or knowledge.[11] The most common specific recommendation related to the removal of barriers to monitoring safety: that more staff or resources were needed to allow effective monitoring of patient safety. Previous work has also found that clinicians may not have resources to monitor safety or control over the allocation of resources which are important to patient safety, especially allocation of time.[21] This finding supports the recent accumulation of evidence that GPs are experiencing increasingly high workload pressures, which, coupled with the funding pressures, have resulted in demoralisation,[22,23] and reports that the majority of GPs

Figure 1. Frequency count of individual monitoring strategies.



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Box 1. Summary of respondents' recommendations and actions for monitoring in primary care.

Individual clinicians

- Clinicians should provide telephone or ehealth care, which is particularly important for patients who have difficulty attending the practice.
- Clinicians should utilise the knowledge of pharmacists in reducing risks to patients by working together and seek to develop a relationship with local pharmacists to allow for identification and quick resolution of ambiguous and incorrect prescriptions.
- GPs should conduct systematic and regular medication reviews of patients, especially those on long-term or high-risk drugs.

Practice level

- Practices should create lists of housebound and complex patients and check that these patients are safe at regular intervals.
- Practice staff should be familiar with their own patient experience data and monitor patient feedback so they are aware of areas identified for improvement.
- Practices should consider providing a named GP service for their patients.
- Practice staff should continue to ensure that patient data is well recorded and accurate.
- Practices should encourage clinicians to reflect on how many patient presentations occurred before a diagnosis was determined, the level of late-stage missed cancers and the number of repeat and bounced referrals to secondary care which occur in their patient group as this could be a sign of the safety and quality of the care they provide.

CCGs and regional networks

- Regional practice networks or CCG governing bodies should organise regular standardised independent audits for member practices.
- Member practices should be encouraged to audit medication and prescribing data within their networks to determine that their care is comparable to nearby or similar practices.
- CCGs and regional networks should ensure that significant event audits are conducted in their member practices and that the results are anonymised and shared across the network so as to allow for education and learning about risks.
- CCGs and regional networks should analyse time of attendance to A & E and out-of-hours services to reflect on whether their member practices are accessible to patients.

Government level

- Appointment times should be increased to 15 min and the amount of staff and resources in primary care should be increased.
- The number of indicators collected from GP practices should be reduced to allow more time for core activities which support safety.
- There is a need for a new adverse event reporting system in which the results are anonymised and shared.
- The electronic records of patients should be shared across all components of the healthcare system to ensure up-to-date and accurate records.
- The mortality rates of patients should be analysed and compared to determine outliers and potential unsafe practices.

cannot guarantee safe care.[24] In a similar vein, it has to be assumed that the recommendation and actions identified in this study require an explicit allocation of time and resources to allow primary care staff to undertake effective monitoring of safety. However, this study does add to previous research findings by suggesting some strategies which may save time in the future, such as the use of telephone or eHealthcare, reducing the number of indicators (and related paperwork) collected from GP practices, and by improving the GP software to better flag common adverse events.

The second most common response concerned the development and dissemination of useful information to monitor patient safety. Specifically, this strategy involved encouraging general practices to conduct and report regular significant event audits (SEA) external to the practice, but also requiring the external agency to feed back an analysis of the results from the SEA reports with general practices. Whilst the need to conduct SEAs is a requirement for registration with the Care Quality Commission,[25] it has been retired as an indicator for the Quality and Outcomes Framework.[26] The present study indicates that respondents found the process of conducting SEAs useful for monitoring patient safety but would like to receive feedback from syntheses of the wider SEA reports. These findings are consistent with recent work which has begun synthesising results from significant event audit documents to provide learning opportunities and transferable lessons to general practice staff.[11,27] Importantly, this study is consistent with the finding that clinicians consider significant event audits to have high face validity,

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providing professionally acceptable and educational feedback.[28] The present study adds to the existing literature by indicating that healthcare professionals may welcome and benefit from a synthesis of the SEA report to feed back into their own practice.

Another strategy for improving monitoring required a shared electronic system in which different healthcare providers could access the same patient notes and medical records, but this has been acknowledged as a need for improving patient care for many years.[29] Interestingly, the fourth and fifth most common responses involved encouraging the primary care providers to appraise their own performance and that of their peers, and by encouraging patients to be more involved in their own healthcare. Therefore, it appears that respondents felt that monitoring should be shared by patients and providers and believed that greater autonomy and shared responsibility for patient safety would be a viable strategy for successful monitoring in the future. This is an interesting finding as past work has often assumed a top-down approach to the identification and monitoring of patient safety concerns by focusing on clinician's views on error.[30,31] There is some evidence which supports the idea that the team-based nature of primary care may contribute to error or threats to patient safety,[32–36] which is reinforced by the findings to the present study where a number of monitoring strategies are related to the team and work environment. The present study therefore raises the question of whose responsibility it is to monitor patient safety or how the responsibility can be shared in practical terms. Specifically, these findings raise further questions of how individuals working in primary care would perform self-/peer appraisal and encourage patient involvement, in local practices or networks of practices, but still allow comparison or learning across groups to ensure that there are not large variations in patient safety across the national landscape. This is an avenue for future work.

Strengths and weaknesses

This study allowed respondents to comment on monitoring strategy recommendations in their own words and did not constrain responses as is the case with closed-ended or forced choice items. The main strength of this study is that healthcare professionals were given the opportunity to identify and choose their own recommendations for monitoring patient safety in primary care which adds to the face validity of any resulting strategy and contributes to the unique value of this study. The content analysis of the strategies was conducted by one researcher and therefore serves as a limitation of the study. The major limitations of the study relate to the generalisability and validity of findings. The response rate for this study was low at 22.6% but this is comparable to the lower response rates achieved with surveys including the clinician group.[37] One of the main weaknesses of this study is that it used opportunity sampling and therefore it is not known whether the findings generalise to any wider group. The findings relate to the UK NHS system and so results are most likely not applicable to settings outside the UK. A strength of the study is that respondents were anonymous and therefore it was expected that responses were not unduly motivated by socially desirable responding. However, we do not know the difference between those who chose to complete the survey and those who did not. It is feasible that the views of the non-responders would differ from those who completed the survey which is a limitation of the study. The sample mainly comprised of GPs and therefore the study may be more reflective of this professional group which is a further limitation of the study. Although invited to the study, it is not clear why other members of the primary care staff group did not choose to complete the survey. Previous work has suggested that primary care staff, other than GPs, tend to be under-represented in the medical research on patient safety in primary care.[32–34] It is possible that other primary care staff may not feel suitably included in the primary care patient safety debate. Given the importance of teamwork in avoiding safety incidents in primary care,[35,36] the views of other members of the team could further enrich the picture on monitoring harm in primary care.

Implications for research and practice

Little is known about how healthcare professionals feel they can best identify and monitor patient safety events in primary care. In this study, healthcare professionals identified a diverse range of strategies for monitoring safety related to various aspects of the clinical environment, such as the clinician, the wider team and the work environment. Importantly, respondents felt the need to address the issue of assigning resources for the task of monitoring patient safety. Responses also indicated that it cannot be assumed that healthcare professionals consider it their responsibility to monitor safety as many highlighted the role of patients in monitoring patient safety. Whilst respondents identified 24 distinct monitoring strategies, the findings indicate that the issues of responsibility and resource allocation will need to be addressed in conjunction with any specific monitoring strategy.

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Conclusions

This exploratory study on recommendations for monitoring patient safety in primary care in North-West London received 188 responses from 113 healthcare professionals. Twenty-four distinct monitoring strategies emerged after the analysis. Respondents were able to identify a range of strategies related to a range of factors in the clinical environment that are perceived to affect patient safety. Future work should seek to explore these monitoring strategies amongst larger and more diverse samples.

Declarations

Competing Interests: The views expressed are those of the authors and not necessarily those of the NHS, the NIHR or the Department of Health.

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Ethical approval: This study was deemed to be a service evaluation, and did not require NHS Research Ethics Committee approval. Appropriate local research governance permissions were sought.

Guarantor: RS.

Contributorship: JC and AM secured the funding. CV, JC, PA and AM conceived the study idea. RS analysed the data and wrote the initial draft of the paper. All authors revised the paper and approved the final version.

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