Junior doctors’ reflections on patient safety

Maria Ahmed, Sonal Arora, Simon Carley, Nick Sevdalis, Graham Neale

ABSTRACT

Aim To determine whether foundation year 1 (FY1) doctors reflect upon patient safety incidents (PSIs) within their portfolios and the potential value of such reflections for quality of care.

Methods A cross-sectional retrospective review of every ‘reflective practice’ portfolio entry made by all FY1 doctors within an Acute Teaching Hospital Trust was conducted in February 2010. Entries were reviewed by two independent blinded researchers to determine whether they related to a PSI, any unintended or unexpected incident that could have or did lead to patient harm. For all entries rated positive by both reviewers, a content analysis approach was used to code PSI into incident type, contributing factors and patient outcome according to validated frameworks developed by the National Patient Safety Agency. Results 139 reflective practice entries were completed by 30 trainees (15 men, 15 women, mean age 24 years). Of the 139 entries, 49% reflected on a PSI. Of these, 22% were due to errors in clinical assessment; 22% were due to delayed access to care; 18% were due to infrastructure/staffing deficiencies; and 16% were due to medication errors. The most common contributing factors were team/social factors (23%), patient factors (22%), communication and task factors (both 17%). The majority of PSIs led to no harm. Six entries described PSIs resulting in patient death, the majority of which were attributable to diagnostic errors.

Conclusions FY1 doctors commonly reflect on PSIs within their professional portfolios. Such critical reflection can encourage learning but may also promote patient safety and the quality of healthcare across all medical specialties.

INTRODUCTION

Adverse events in the provision of healthcare continue to be a serious problem despite significant safety improvement efforts over the past decade. It is argued that substantive improvements in patient safety will be difficult to achieve without major reform in medical education at both undergraduate and postgraduate levels.

As frontline clinicians, junior doctors are vital for promoting patient safety in the workplace. They will often be directly or indirectly involved in patient safety incidents (PSIs) and need to be encouraged to discuss and report such events in order to learn from them. However, evidence suggests that although 1 in 10 of hospitalised patients suffer from a PSI, relatively few such events are reported. Junior doctors may be particularly discouraged from reporting due to the impacted impact on their careers and the existence of a ‘blame culture’ rather than an ‘open and learning’ safety culture. Other methods are therefore required to identify PSIs, which junior doctors working at the bedside are aware of and likely to use to disclose such incidents.

We propose that reflection on clinical practice, which all doctors are strongly encouraged to perform, may be a fruitful way forward. Reflection refers to “those intellectual and affective activities in which individuals engage to explore their experiences in order to lead to a new understanding and appreciation.” It is a powerful, metacognitive process that can lead to a greater understanding of the self and the situation to inform future actions. Reflection is rapidly becoming a competency in its own right and is being promoted in medical education as a core professional quality.

Indeed, with the advent of revalidation, reflection on practice is one way in which licensed doctors in the UK will be expected to demonstrate continuous professional development and ultimately their fitness to practice. A variety of educational approaches are commonly employed to facilitate reflective learning—including portfolios, reflective learning logs, multimedia approaches and models based on significant event analysis.

Of these methods, portfolios in particular are being used increasingly throughout continuing medical education to encourage reflection, enhance personal responsibility for learning and support professional development. Within the UK, all trainees within the foundation programme (two-year training programme forming the bridge between medical school and specialist training) are now required to maintain an electronic portfolio of professional development and reflective learning competencies. Although patient safety awareness is recognised as a core element of medical professionalism, to the best of our knowledge no study to date has explored whether these portfolios can be used to assess awareness of patient safety issues. The aim of the study reported here was to evaluate whether foundation year 1 (FY1) doctors reflect on PSIs within their portfolios and to explore the potential value of such reflections for quality of care.

METHODS

Study design

This was a cross-sectional, retrospective record review of educational portfolios.

Study participants

Participants included all FY1 doctors (n=30) in a University Hospital Foundation Trust. As a first study to explore the reflective practice of doctors on patient safety, we felt it appropriate to evaluate the practice of FY1 doctors for the following reasons:

The foundation programme is a well-defined programme of clinical training within UK
The foundation programme curriculum provides the educational framework to support the professional development of new doctors in the first 2 years of clinical practice. The curriculum is based on the General Medical Council’s ‘Good Medical Practice’ document which provides guidance on the principles and standards of clinical care, competence and conduct.17

Foundation Year 1: Aims to build upon the competences acquired during undergraduate training, completion of which leads to full registration with the General Medical Council (regulatory body for UK doctors).

Foundation Year 2: Aims to build upon Foundation Year 1 with a specific focus on the assessment and management of the acutely ill patient as well as generic professional skills (teamworking, communication, time-management).

Box 1 The foundation programme curriculum aims16

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RESULTS

One hundred and thirty-nine reflective entries were completed by 30 trainees (15 men, 15 women; mean age 24 years). On average, each trainee made five reflective entries. Of the total number of these 139 entries, 68 (49%, 95% CI 41% to 57%) reflected on a PSI. The formal reporting of PSIs to HIRS was mentioned in only 3 (4%, 95% CI 0.7% to 6%) of these cases.

Inter-rater reliability

Inter-rater reliability analyses revealed that the coding of the incidents was robust for presence of a PSI (κ=0.83, 95% CI 0.75 to 0.92), type of PSI (κ=0.82, 95% CI 0.71 to 0.94) and patient outcome (κ=0.70, 95% CI 0.56 to 0.83).

Incident type

Certain types of incidents were more commonly reflected on than others. Fifteen of the 68 PSIs (22%, 95% CI 14% to 33%) were due to errors in clinical assessment (delayed or wrong diagnosis) (table 1). Examples of this type of incident extracted from the portfolios were as follows:

‘A gentleman with a history of resected laryngeal cancer was admitted to the ward as “off legs”. On our ward round he was found to have neurological signs of acute cord compression that had not been picked up previously.’ (FY1 doctor 8)

‘The fact that I incorrectly diagnosed acute pulmonary oedema as an escalating pneumonia and consequently almost gave the patient further fluids to treat her hypotension was very frightening.’ (FY1 doctor 11)

A further 15 (22%) of PSIs were due to delay or failure to access care. For example:

‘I was shocked that despite communicating my senior-approved management plan to the staff on day duty that it had not been carried out — with the result that the patient received suboptimal care. His Trop T (cardiac troponin) was still positive 3 days later and he had not had any further clexane (low-molecular weight heparin) since attending A&E.’ (FY1 doctor 30)
Twelve PSIs (18%, 95% CI 10% to 28%) were assigned to infrastructure/staffing deficiencies and 11 (16%, 95% CI 9% to 27%) were assigned to medication errors. The remaining PSIs were due to disruptive or aggressive behaviour (7%), failure to monitor/review (6%), self-harming behaviour (4%), treatment or procedure complication (3%) and failure to communicate outside of team (1%).

**Contributing factors**

Each PSI was associated with an average of 2 (range 1–4) contributing factors. Certain types of contributing factors were more commonly reflected upon than others (table 2). The most significantly cited contributing factors to PSIs were team and social factors (25%, 95% CI 17% to 31%) and patient factors (22%, 95% CI 16% to 29%). An example relating to both these factors is cited below:

> “An 82-year-old woman was admitted to the surgical ward and developed a deep venous thrombosis. We commenced the patient on warfarin therapy as recommended by guidelines on the prescription sheet. The patient’s International Normalised Ratio post loading was 8.1. The consultant in charge of the patient was extremely annoyed. I felt disheartened at being blamed for the situation and for potentially putting the patient at increased risk of bleeding. I learnt from this experience that each patient must be treated individually. The patient was frail and very small and doses prescribed generally for average sized patients may not be applicable to all patients.” (FY1 doctor 22)

Task factors and communication factors were the next most common cause (both 18%, 95% CI 9% to 20%) An example relating to both these factors is cited below:

> “Phlebotomists provide a blood-taking service on the ward 3 times a week. On many occasions I would find that not all the bloods had been taken....I recommended that any bloods that cannot be done need to be brought to the attention of the junior doctors so that they can be attempted later. I realised from this experience that effective communication between members of healthcare staff is essential to provide patients with good medical care.” (FY1 doctor 13)

**Outcome**

There was insufficient information to determine PSI outcome in 19 (28%) cases. Of the entries where elucidation of outcome was possible (n = 49), the majority (47%, 95% CI 34% to 61%) led to no harm to the patient. Six (12%, 95% CI 6% to 24%) reflective entries described PSIs resulting in patient death (figure 1). The details of these deaths are presented in table 3.

**DISCUSSION**

Patient safety is a key item on the healthcare agenda, both nationally and internationally. Junior doctors are considered powerful ‘agents for change’ in promoting safety improvement in the workplace. This study shows that FY1 doctors commonly reflect on PSIs within their professional development portfolios—thus demonstrating awareness of patient safety issues in their everyday clinical practice. As new doctors embarking on lifelong careers within the UK healthcare system, this is reassuring especially in light of proposals for revalidation which will expect all licensed doctors to continually reflect and improve upon their practice.12

Although the reflective practice proforma does not specifically encourage the submission of PSIs, nearly half of all reflective entries made by FY1 doctors described a PSI as a memorable event. This supports findings from other studies in the UK and abroad. In one study, when young interns were asked what were your most memorable experiences during training?, 21% of the responses related to actual or potential mistakes. Within this study, errors in diagnosis, delay or failure to access care, deficiencies in infrastructure/staffing and medication errors were the most common types of PSI reflected on. These findings broadly mirror those found in a study which asked house officers to describe their most significant medical mistake in the last year.4 However, this pattern of incident type differs from that found in the data summaries from the UK’s National Reporting and Learning System (NRLS). The latest national data shows that the most common types of PSI described via HIRS were patient accidents (50%), followed by medication errors (11%), treatment/procured complications (10%), delays or failure to access care (8%) and errors in documentation and deficiencies in implementation
of ongoing care/monitoring (both 6%). Errors in clinical assessment/diagnosis formed a minority of reported incidents at just 5%. The different distribution of PSI type between national findings and reflections from our study probably reflects the different demographics of staff that report PSIs through HIRS. Nurses and allied health professionals tend to report incidents much more frequently than doctors. Hence diagnostic errors, most commonly reflected on by doctors, do not feature highly on national dataset summaries, whereas patient accidents involving slips, trips and falls reported most commonly by nursing staff feature heavily in such reports.

Multiple factors were found to contribute to the PSIs reported, supporting existing evidence that diverse factors spanning individual healthcare professionals and healthcare systems impact on patient safety. Data on contributing factors do not appear to be collated on a national scale, possibly in part reflecting the complexities involved in standardising and analysing such data. This suggests that reflective entries could be a useful source of information regarding factors that contribute to error and harm in a way currently difficult to achieve via national reporting systems. Moreover, the majority of PSIs led to no harm and this supports national data. Six PSIs led to patient death and on closer analysis, the majority of these incident types were attributable to errors in clinical assessment: missed or delayed diagnosis. This supports evidence to show that diagnosis-related incidents are more likely to be associated with moderate/severe harm/death than incidents unrelated to diagnosis.

Limitations

With regards to limitations, this study was conducted on a total cohort of FY1 doctors, thus avoiding selection bias. However, this study may not represent the reflective practice of junior doctors on a national scale and a larger study to include trainees working at different hospitals across the UK and internationally would be required to assess generalisability. The quality and depth of reflections made by trainees varied and as a result it was difficult to extract sufficient information from some entries. Entries varied from four to five sentences to up to a full page. Furthermore the incident outcome could not be elucidated in some entries. Such variability in PSI reporting is not accounted for. Such critical reflection can encourage learning but may also be valuable in identifying how doctors reflect about PSIs, as well as the type of PSIs that occur to them and are most memorable—this information would assist in understanding PSIs in current clinical practice beyond what we know from reporting systems like the NRLS. Apathy towards reporting to the NRLS, nurse-led reporting, and the perceived lack of feedback from the system are some of its limitations, which have contributed to low reporting from doctors. Portfolio analysis, and analysis of specialty-specific incident reporting and analysis (including Confidential Reporting System in Surgery for surgeons and Safe Anaesthesia Liaison Group for anaesthetists, for instance) could help address this gap.

Finally, further research is also required to assess whether reflection on PSIs actually translates into safer clinical practice. Some recent research suggests that critical reflection on such ‘dissorienting dilemmas’ can stimulate improvements in both individual and systems-based practice through transformative learning—systematic empirical investigation is required to elucidate this issue.

CONCLUSIONS

This study shows FY1 doctors commonly reflect on PSIs within their portfolios and that reflective entries may be a useful tool to determine junior doctors’ awareness and understanding of PSIs. Such critical reflection can encourage learning but may also...
Main messages

- As frontline clinicians junior doctors are vital to promoting patient safety in the workplace; however, incident reporting among this cohort is low.
- Portfolios are widely used across undergraduate and post-graduate medical education to promote reflective learning.
- Foundation Year 1 doctors commonly reflect upon patient safety incidents within their professional development portfolios.
- Foundation doctor portfolios may prove an additional source of data to detect adverse events in healthcare.

Current research questions

- How does the reflective practice on patient safety of specialty/senior doctors compare with that of Foundation Year 1 doctors?
- How can we promote wider organisational learning through the individual reflections on patient safety incidents?
- To what extent does reflection on patient safety incidents translate to safer clinical practice?

promote patient safety and the quality of healthcare across all medical specialties.

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