

A five-year retrospective analysis (2017–2022) of reported incidents from a primary care-based education provider

Afsha Musa,*¹ Robert Witton,² Kamran Ali³ and Ewen McColl⁴

Key points

Promotes patient safety in primary care and dental education settings, with greater awareness of its importance and national reporting mechanisms.

Highlights the importance of reporting incidents from primary care settings and the learning that may result from having reporting processes and systems in place.

Encourages primary care education settings to create environments where learning from patient safety incidents is a core component of clinical dental education, and analysis of incidents is part of the learning process.

Abstract

Background Patient safety incident reporting and analysis are often confined to secondary care, despite 95% of dentistry occurring in primary care. Peninsula Dental Social Enterprise (PDSE) delivers primary care dentistry in education-based settings and uses a report-review-action process to underpin its patient safety framework.

Aim This article analyses trends in clinical incident data, reflecting on learning to improve overall patient safety.

Methods A retrospective observational study was employed to analyse incidents over a five-year period (2017–2022) using anonymised data from the PDSE reporting system.

Results Over the five-year reporting period, there were an average of 13.1 total incidents per 1,000 appointments. Sub-analysis of reported incidents revealed 1.5 clinical incidents and 0.9 'hear miss' incidents. A soft-tissue injury rate of 0.6, a contamination injury rate of 0.9, and 0.3 written complaints were reported per 1,000 appointments.

Conclusion Patient safety is a key component of quality dental care, especially when delivering clinical dental education. PDSE fosters an environment of transparency, enabling the provider to monitor incidents and learn from them. This results in systems improvements sitting at the heart of the clinical service. With a lack of data published from similar settings, comparison to the sector is limited. Further sharing of data is encouraged to enable standardisation and quality benchmarking.

Background

Patient safety is defined by the World Health Organisation as the absence of preventable harm to a patient and reduction of risk of unnecessary harm associated with healthcare to an acceptable minimum.¹ In 2000, the UK Department of Health published a report calling for unified reporting mechanisms, alongside a systems approach to prevention,

analysis and learning from errors related to patient safety incidents.² To date, dental research in this area in the UK has been driven through the lens of hospital-based dental specialities.^{3,4,5} Therefore, patient safety is still relatively underexplored in primary care dentistry. Many of the systems, processes and initiatives developed in secondary care still require full-scale implementation in primary care settings.

The complexity of patient safety reporting systems in UK dentistry has previously been described, and poor incident reporting rates in dentistry recognised in comparison to other healthcare fields.⁶ The reasons for this under-reporting in dentistry are complex and relate to overlapping dental regulation, lack of centralised reporting systems and a lack of awareness of the benefits of incident reporting.^{6,7}

All dental professionals have a legal responsibility to ensure patient safety, including reporting of safety incidents.^{8,9}

Additionally, dental teams must be able to demonstrate a culture of openness and transparency in the reporting and sharing of patient safety incidents (PSIs) and complaints, so that any learning resulting from systems-based investigations can be shared back to teams, allowing improvements to be made.⁸

Patient safety incidents vary in their seriousness, from posing no or little patient harm to life-threatening events.⁷ PSIs can be stratified and defined by risk (Table 1) and certain incidents are notifiable to regulators, such as the General Dental Council and Care Quality Commission, for both NHS and private providers. A review of never events and serious events related to dentistry reported to the National Reporting and Learning Service between 2005 and 2014 found that harmful events do occur but under-reporting may not accurately reflect the true incidence of events, and very few were reported from primary care dentistry.¹⁰ The updated *Patient safety incident*

¹Clinical Fellow in Dental Public Health, Peninsula Dental Social Enterprise CIC, UK; ²Professor of Community Dentistry, Peninsula Dental School, University of Plymouth, UK; ³Professor of Oral Surgery, Faculty of Health, Qatar University, Qatar; ⁴Head of School, Peninsula Dental School, University of Plymouth, UK.
*Correspondence to: Afsha Musa
Email address: afsha.musa@nhs.net

Refereed Paper.

Submitted 29 April 2024

Revised 18 July 2024

Accepted 23 July 2024

<https://doi.org/10.1038/s41415-024-7952-0>

Table 1 Classifications of patient safety incidents⁷

Near miss	An unplanned event (mishap) that did not result in injury, illness or damage but had the potential to do so
Patient safety incident	Unintended or unexpected incidents which could have or did lead to harm for one or more patients or team members receiving NHS funded healthcare
Severe harm	Incidents that result in the permanent lessening of a bodily, sensory, motor, psychological or intellectual function that is not related to the natural course of an underlying illness or condition and/or psychological harm that is proven which a person has experienced or likely to experience for a period of at least 28 days
Serious incident ¹² (The <i>Patient safety incident response framework</i> replaces the 2015 <i>Serious incident framework</i> and makes no distinction between serious incidents and patient safety incidents. Thus, as of Autumn 2023, the 'serious incident' classification and its threshold will be removed) ¹¹	Events in healthcare where the potential for learning is so great, or the consequences to patients, families/ carers, staff, or organisations are so significant that they warrant using additional resources to mount a comprehensive response. Serious incidents can extend beyond incidents which affect patients directly and include incidents which may indirectly impact patient safety or an organisation's ability to deliver ongoing healthcare. Serious incidents can be isolated, single events, or multiple linked or unlinked events, signalling systemic failures within a commissioning or health system
Never events ²⁹	Never events are defined as serious incidents that are wholly preventable because guidance or safety recommendations that provide strong systemic protective barriers are available at a national level and should have been implemented by all healthcare providers. Strong systemic protective barriers are defined as barriers that must be successful, reliable and comprehensive safeguards or remedies. Each never event type has the potential to cause serious patient harm or death. However, serious harm or death does not need to have happened as a result of a specific incident for that incident to be categorised as a never event.

Table 2 PDSE incident classifications

Type of incident	Examples of event	Type of incident	Examples of event	Type of incident	Examples of event
Highlighted incidents		All other recorded incidents (cont.)		All other recorded incidents (cont.)	
Clinical treatment incident	Drug error Incident resulting from dental treatment (such as soft tissue injury) Incorrect irreversible treatment provided Wrong patient treated Other	Clinical administration	Incorrect correspondence (sent) Incorrect correspondence (received) Loss of clinical records (electronic) Loss of clinical records (paper) Patient booking error R4 issues Other	Radiography – repeat exposure	Loss of images Repeat exposure due to IT/ equipment failure Repeat exposure due to operator error Other
Near miss incident	Clinical notes near miss Decontamination near miss Infection control near miss Other	Equipment failure	Equipment failure IT failure Power or utilities failure	Safeguarding referrals	Adult Child
Infection control or contamination injury	Infection control issue Mucous membrane contamination Needlestick injury Other	Lab	Lab work broken Lab work incorrect Lab work not returned on time Lab work remakes Other	Staff/student illness	Staff unexpected illness Student unexpected illness
Written complaint	Unsatisfactory service Unsatisfactory treatment Waiting time Other	Medical emergency	Minor faint Severe faint Severe cut/abrasion Severe burn/scald Unexpected serious illness Other	Verbal complaint	Unsatisfactory service Unsatisfactory treatment Waiting time Other
All other recorded incidents				Verbal/physical abuse	Verbal abuse Physical abuse
Breach of confidentiality	IT related Clinical record (electronic) Clinical record (paper) Verbal Other	Non-adherence to policy	Failure to adhere to formal policy	Workplace health and safety	Building related incident RIDDOR reportable incident Security
Circumstances preventing treatment	Equipment not available Material not available Interpreter not available Staffing/ student issues Other	Property loss or damage	Property damaged during work-based activities Theft	Workplace injury	Cut/abrasion Minor scald/burn Minor injury Nausea/vomiting Slip, trip or fall Other

*response framework*¹¹ replaced the 2015 *Serious incidents framework*¹² and organisations are now expected to move away from linear, sequential, root-cause analyses of events which arrive at a single causative factor. Instead, they are encouraged to adopt systems thinking

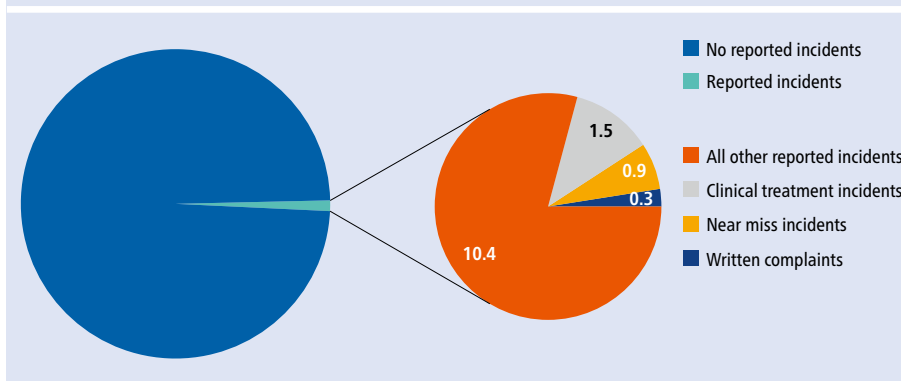
and a proportionate approach to responding to patient safety incidents and informing improvement.

Peninsula Dental Social Enterprise (PDSE) is a social enterprise clinical service provider created by the University of Plymouth

with responsibility for running four large primary care dental facilities across Devon and Cornwall. Undergraduate dental and dental therapy students provide the majority of care, supervised by a team of qualified dental registrants. Local priority groups are

Table 3 All reported incidents, rates per 1,000 appointments

	Total appointments	All reported incidents Per 1,000 appointments	Clinical treatment incidents Per 1,000 appointments	Near miss incidents Per 1,000 appointments
2017–18	25,347	11.95	2.29	1.62
2018–19	26,448	9.83	1.25	1.02
2019–20	19,840	9.32	1.40	0.60
2020–21	22,481	16.01	1.65	0.76
2021–22	30,582	18.57	1.11	0.52
Total	124,698			
Average		13.1	1.5	0.9

Fig. 1 Five-year average incident rate per 1,000 appointments

also served by dedicated clinics, delivered by a small team of primary care dentists. PDSE prioritises patient safety, particularly as the clinical environment is principally a learning one. PDSE operates a report, review and action process for all PSIs using an online reporting system, allowing incidents to be reported by all staff and students. This system enables the appropriate degree of incident response to take place and any learning or trends to be identified from recurring incidents.

The reporting of incidents is the first step in developing a patient safety culture, the intention being that dental teams use the data to analyse and improve their activity. However, there is a lack of data from primary care and much less so from primary care education settings to identify common incidents and their antecedents or allow comparison across organisations to improve overall standards. The aim of this paper is to report clinical incident data over a five-year period (2017–2022) and highlight some of the key learning we have derived that has informed clinical protocols and clinical curriculum development to improve patient safety.

Methods

Study design

A retrospective observational study design was used to analyse the clinical incidents over a five-year reporting period from 2017–2022 using a data extract from the PDSE online incident reporting tool – the commercially available system, Ulysses Incident Management Systems. All incidents reported across the 20 categories recorded by the incident management system (Table 2) during the reporting period were analysed.

Settings

PDSE operates across four large, primary care education-based settings throughout Devon and Cornwall. These sites are in Truro (Cornwall) and Derriford, Devonport and Exeter (Devon). All sites provide undergraduate clinical training, as well as primary care dentistry delivered by qualified registrants.

Study duration

The data extract included all reported incidents between 1 September 2017 and 31 August 2022.

Data collection

An anonymised extract covering the reporting period was downloaded from the PDSE online reporting tool by the patient safety lead and transcribed to a Microsoft Excel (Version 16.83, Microsoft Corporation) spreadsheet. Where further clarification was needed on data entries, clinical staff were consulted by the patient safety lead. Any incomplete or duplicate data were removed from the final analysis. Data were arranged into academic years and presented as total numbers and rates.

Data analysis

Data were analysed using Microsoft Excel (Version 16.83, Microsoft Corporation) and descriptive statistics used to provide an overall summary of incidents by category. Additional analyses to determine rate of occurrence per 1,000 appointments were undertaken in specific incident categories comprising soft tissue injuries, clinical treatment incidents, contamination injuries and complaints. Statistical significance of these specific categories was explored using z-tests (with a p-value of ≤ 0.05) to understand if there were any significant differences in rates between years.

Research ethics

Completion of the Health Service Research Authority decision tool determined that ethical approval for the study was not required. PDSE publishes an annual patient safety report via its website and the data are publicly available. The study is based on secondary analysis of anonymous routinely collected data that is reported as part of service monitoring and performance. Consent was not required for retrospective data collection.

Results

Across five academic years (2017–2022), PDSE provided 124,698 patient appointments. The decrease in the number of appointments delivered from 2019–2021 was due to the COVID-19 lockdown and subsequent restrictions implemented as a result of the pandemic.

Overall, the five-year average incident rate across 124,698 appointments was 13.1 total incidents per 1,000 appointments (range: 9.32–18.57), of which 1.5 (range: 1.11 to 2.29) were clinical treatment incidents and 0.9 (range: 0.52–1.62) were recorded as near miss incidents (Table 3 and Fig. 1).

Analysis of a sub-set of specific incidents was undertaken. The results showed that the

infection control or contamination injury rate was 0.9 per 1,000 patient appointments (range: 0.49–1.41), followed in decreasing order by soft tissue injury at a rate of 0.6 (range: 0.26–0.87) and written complaints at 0.3 (range: 0.2–0.43) per 1,000 patient appointments (Table 4).

The clinical treatment incidents showed a downward trend which was statistically significant ($p=0.0047$), as well as decreasing rates of all reported incidents ($p=0.0197$) between years 2017–18 to 2018–19. There was an increase in the reporting of all incident types between the years 2020–21 to 2021–22 which was statistically significant ($p=0.0254$).

Statistical analyses indicate there was no significant difference in the rates of either soft tissue injuries or written complaints between any of the years between 2017–2022.

To determine patterns in reporting, the category of dental team member reporting the incident was explored. In 2017/18, the majority of incidents were reported by PDSE staff or final year Bachelor of Dental Surgery students; however, over subsequent years, an increasing number of different team members reported incidents (Fig. 2).

Analysis of all incidents was undertaken to highlight any trends in reporting activity across the course of the academic year (Fig. 3).

Discussion

This is the first paper the authors are aware of that provides an analysis of reported incidents over a five-year period from a primary care dental provider in the UK, where the majority of clinical care is delivered by undergraduate students. Despite the provider having a proactive reporting culture and a clear reporting policy, overall incidents rates were low. There are no comparable data in the literature to evaluate these rates or benchmark them, despite there being several similar clinical settings around the UK delivering dental undergraduate training in a primary care environment. While the rates reported within the PDSE setting appear low, comparable data are required from similar settings to draw more meaningful conclusions and enable external peer review processes to take place.

The data collected by the reporting system is analysed monthly with senior clinical ownership to identify specific incidents or trends that warrant further investigation. Depending on the outcome of the subsequent investigation, this may lead to changes in clinic protocols, which are fed back to educators to action enhancements in

Table 4 Highlighted incidents, rates per 1,000 appointments

	Total appointments	Soft tissue injuries Per 1,000 appointments	Infection control or contamination injuries Per 1,000 appointments	Written complaints Per 1,000 appointments
2017–18	25,347	0.79	0.99	0.28
2018–19	26,448	0.87	0.49	0.26
2019–20	19,840	0.55	1.41	0.20
2020–21	22,481	0.40	0.85	0.31
2021–22	30,582	0.26	0.72	0.43
Total	124,698			
Average		0.6	0.9	0.3

Fig. 2 Reporting of incidents based on staff type

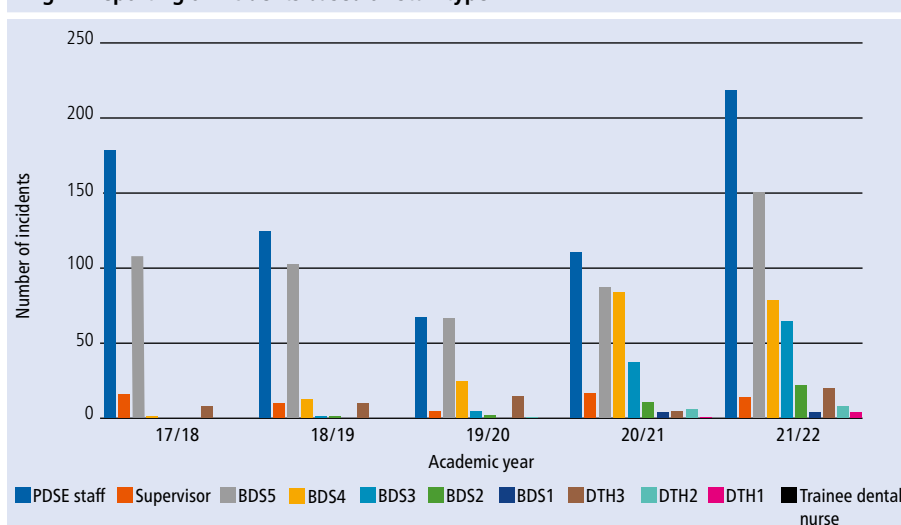
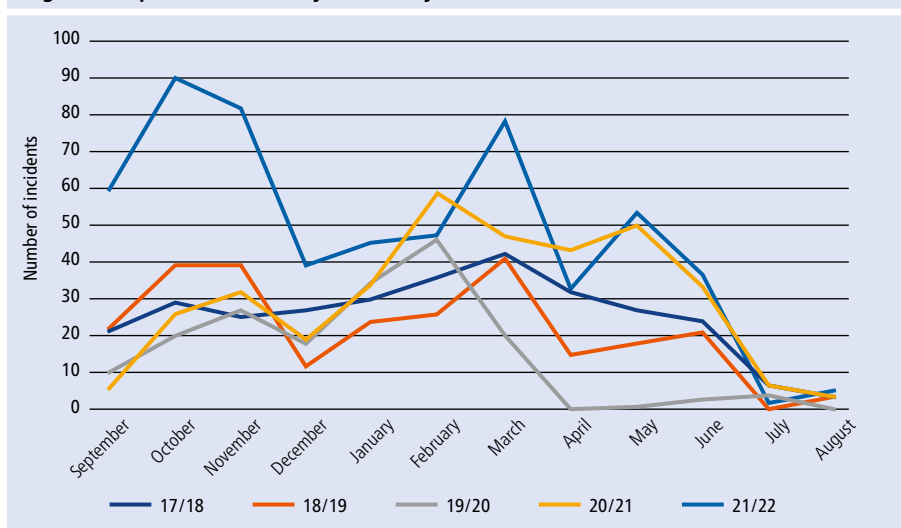


Fig. 3 All reported incidents by academic year



teaching and assessment processes and ultimately improve patient outcomes. Each year, a service improvement plan is drawn up, informed by these incident reports, and the resulting actions are audited against the plan annually.

One such example is hypochlorite incidents, which occur more frequently in the data than

other types of incidents, related to student use of rubber dam during endodontic procedures. In response to the frequency of reported incidents, a new standard operating procedure was developed and introduced in 2018, outlining a six-point prevention protocol, which included procedural considerations and further guidance

on techniques to achieve an adequate dam seal. The undergraduate student clinic handbook was updated, and caulking techniques, which previously were not formally assessed in the pre-clinical environment, were introduced as a new assessment. These measures have helped to reduce the incidence of hypochlorite issues and following its introduction, a statistically significant fall in the number of clinical treatment incidents were reported between 2017–18 and 2018–19.

A further illustrative example of systems learning has been the introduction of enhanced clinical induction at the start of each academic year. This was in response to a notable increase in incidents reported at the start of the academic year (Fig. 3). Using the data to examine for particular trends enabled the induction to be designed in a way to directly address the commonly occurring incidents, such as those related to radiography.

The peak in incidents from September to November in 2021–22 (Fig. 3) coincided with the introduction of a new dental laboratory provider, resulting in new laboratory processes, and is due to the high number of laboratory items processed each day. However, reporting of these issues were addressed quickly and new systems developed to reduce the occurrence of incidents underscoring the importance of learning from incidents, no matter how minor.

Analysis of incidents which are known to occur more frequently with student learners, such as soft tissue injuries, indicate no significant differences between reporting years. El Sayed *et al.*,¹³ reported that soft tissue traumas were the most common complication of endodontic procedures, where students were learning to conduct endodontic treatment on patients exhibiting limited mouth opening, excessive salivation or tooth misalignment. So, although such incidents do occur, and particularly with novice students, these have been minimised as much as practically possible.

Following a similar pattern, written complaints have remained consistent throughout the reporting period, with no statistically significant difference between years. While this may be surprising given the generalised reported increase in complaints, costs of treatment is a key factor.^{14,15,16} In one study, almost 20% of complaints in a dental school environment were associated with expenses.¹⁷ PDSE, however, does not raise any patient charges in its provision of primary care dentistry, and this may be a contributing factor as to why the complaints rate remains low across the reporting period.

Fewer incidents were reported during undergraduate holiday periods as the number of clinicians working and clinical activity falls significantly. Similar falls were also observed due to the COVID-19 pandemic, with the increase from April to June 2021 coinciding with the return of undergraduate students following the relaxation of COVID restrictions. The increase in reported incidents thereafter is explained by the recovery of clinic capacity following the lift of pandemic restrictions.

Creating an open and transparent culture is a fundamental requirement for any clinical organisation striving to optimise outcomes for patients. PDSE's incident reporting policy encourages and empowers all members of the team to report incidents they may experience or observe, creating a safe and open environment for all stakeholders, and where the cultural aspects of patient safety are a shared responsibility across the entire dental team. It appears that this culture is being increasingly taken up within PDSE, as while the majority of incidents are still reported by staff or final-year dental students, an increasing number of junior students are reporting incidents each year (Fig. 2). This empowerment of the entire dental team is in line with the recommendations in the report by the National Advisory Board for Human Factors in Dentistry on incident reporting and learning from mishaps.⁷

Reporting of 'near misses' is equally important, allowing organisations to identify a need for support, thus allowing them to react in real time to the needs of students and employees.⁷ As shown by colleagues exploring sharps safety in undergraduate dentistry, the narratives recorded around each incident are important to analyse in order to highlight factors that might lead to recurrence.¹⁸ The undergraduate dental clinic is primarily a learning environment where students develop their professional attitudes¹⁹ and where they may learn procedures and protocols which will endure with them throughout their practising careers; thus, opportunities to learn about patient safety and systems thinking are valuable opportunities.

Sharing this learning establishes an educational feedback loop from the incident reporting process. While effective local incident reporting can improve local clinical team behaviours, this information is vitally important to share publicly to raise awareness and allow other dental teams to adapt their own clinical behaviours.¹⁸ As within primary care, there are many reported barriers perceived by clinical supervisors in engaging with incident

reporting systems.²⁰ These include a lack of confidentiality, undesirability of being held responsible, a lack of support from the academic community and unresponsive management teams, possible negative relationships with students, and not wanting students to be subjected to disciplinary procedures.

Development of reporting systems which are focused on learning, rather than exposure and blaming operators,²¹ without any punitive associations, are imperative in helping students and educators to understand their role in identifying and reporting incidents.¹⁹ PDSE approaches this with regular meetings to discuss key clinical incidents through an internal peer review process, ensuring learning points are identified, reinforced and reflected upon. This is particularly important as the provider is multi-sited, which offers additional challenges in dissemination of learning and cultural development. Additionally, PDSE shares a monthly patient safety bulletin with all members of the organisation, dental staff and students. Anonymised incidents are described, the key learning highlighted and changes to policy or practice explained in a clear and non-judgemental language. Through regular communication and 'setting the patient safety tone'²² of the organisation, behaviour change is encouraged. The safety climate of an organisation has been shown to have positive impacts on rates of under-reporting of incidents across other labour-intensive industries, where 81% of eligible injuries go unreported in construction companies with poor safety climates.²³ Even in highly developed countries such as Norway, less than one-fifth of very serious events occurring in obstetric units are reported centrally.²⁴

Similarly, studies show a chronic trend of under-reporting of incidents from primary care dentistry.⁴ In a review of reported incidents between the 2005–2014 period, there were only three reports originating from general dental practice, of which there were 10,300 registered in the UK.¹⁰ There are several notable barriers to patient safety incidents being reported more widely in primary care.^{4,6,25,26} These can be summarised into three broad categories: a lack of knowledge and understanding, the reporting systems themselves, and other factors.⁷ Primary care teams are unclear about what incidents need reporting and to whom, and the learning from reporting these events has not been shown to sufficiently benefit patients or the practitioners. Recent research to establish the attitudes of clinicians to patient safety highlights the lack of knowledge concerning reporting, particularly in

primary care, as well as the fear of repercussions of reporting.²⁷ A standardised reporting system does not exist across primary care dentistry, so the complex processes and numerous bodies involved become a barrier to clinician reporting. As noted by Ensaldó-Carrasco *et al.*,²⁸ the emerging evidence regarding patient safety, its incorporation into evidence-based guidelines, and creation of clear reporting systems, offers many opportunities for improvement in the field of dentistry.

Strengths and limitations of the work

This work looks retrospectively at reported data over a five-year period (2017–2022) from a primary care-based provider. It highlights the importance of fostering a patient safety culture within our education-based settings to promote an enduring relationship with patient safety and incident reporting throughout the practising careers of graduating students. This work also highlights the benefits of learning from incident reports and being able to implement new strategies in real time to improve patient outcomes. There is a lack of comparable data published from similar settings so comparison to other settings is not possible. It is suggested that more providers should openly share their data to enable shared learning across organisations.

Conclusion

Patient safety is a key component of quality and sustainable dental care. This ethos should be carried through into a clinician's practising career; however, the limited data on reported patient safety events in primary care settings suggests a lack of awareness of national reporting mechanisms. Though it is rational to believe that there is local learning from some of these events, without a centralised database, along with an open and supportive learning culture for dental teams, it is unlikely that the profession will be able to work collectively to improve patient safety.

Teaching and learning are significant enablers in overcoming these challenges. Starting at the undergraduate level is the logical and most effective place to introduce learning and awareness of patient safety to foster this awareness, and for it to endure throughout an individual's career.

Ethics declaration

The authors declare no conflicts of interest.

Completion of the Health Service Research Authority decision tool determined that ethical approval for the study was not required. PDSE publishes an annual patient safety report via its website and the data are publicly available. The study is based on secondary analysis of anonymous routinely collected data that is reported as part of service monitoring and performance. Consent was not required for retrospective data collection.

Data availability

The data sets generated and analysed in this article may be made available on request from the corresponding author.

Author contributions

Robert Witton: conceptualisation, data analysis, supervision, writing – original draft, writing – review and editing. Afsha Musa: data curation, data analysis, writing – original draft, writing – review and editing. Kamran Ali: conceptualisation, writing – review and editing. Ewen McColl: conceptualisation, writing – review and editing.

Acknowledgements

The authors would also like to thank Rebecca Anderson, Clinical Governance and Operations Manager at PDSE, for her contributions to this work, facilitating access to data and educational interventions.

References

- World Health Organisation. Patient Safety. 2023. Available at <https://www.who.int/news-room/fact-sheets/detail/patient-safety> (accessed December 2024).
- Department of Health. An organisation with a memory: report of an expert group on learning from adverse events in the NHS. 2000. Available at https://qi.elft.nhs.uk/wp-content/uploads/2014/08/r_02-an-organisation-with-a-memory-l-donaldson.pdf (accessed December 2024).
- Pemberton M N. Wrong tooth extraction: further analysis of 'never event' data. *Br J Oral Maxillofac Surg* 2019; **57**: 932–934.
- Thusu S, Panesar S, Bedi R. Patient safety in dentistry – state of play as revealed by a national database of errors. *Br Dent J* 2012; DOI: 10.1038/sj.bdj.2012.669.
- Bailey E, Dungarwalla M. Developing a patient safety culture in primary dental care. *Prim Dent J* 2021; **10**: 89–95.
- Renton T, Master S. The complexity of patient safety reporting systems in UK dentistry. *Br Dent J* 2016; **221**: 517–524.
- National Advisory Board for Human Factors in Dentistry. Homepage. 2020. Available at <http://www.humanfactors.dental/> (accessed December 2024).
- General Dental Council. Standards for the Dental Team. 2013. Available at <https://standards.gdc-uk.org/Assets/pdf/Standards%20for%20the%20Dental%20Team.pdf> (accessed December 2024).

- Care Quality Commission. Essential standards of quality and safety. 2010. Available at https://www.elmb.nhs.uk/www.elmb.nhs.uk/_resources/assets/attachment/full/0/essential%20standards%20of%20qu_afety%20march%202010%20CQC.pdf (accessed December 2024).
- Renton T, Sabbah W. Review of never and serious events related to dentistry 2005–2014. *Br Dent J* 2016; **221**: 71–79.
- NHS England. Patient Safety Incident Response Framework. 2022. Available at <https://www.england.nhs.uk/patient-safety/patient-safety-insight/incident-response-framework/> (accessed December 2024).
- NHS England. Serious Incident Framework. 2015. Available at <https://www.england.nhs.uk/wp-content/uploads/2015/04/serious-incident-framework-upd.pdf> (accessed December 2024).
- Elsayed M A, Islam M S, Saleh D R, Alnahdi A M, Padmanabhan V. Endodontic Procedural Errors and Associated Factors among Undergraduate Dental Students: A Cross-sectional Study. *J Contemp Dent Pract* 2023; **24**: 998–1007.
- British Dental Journal. Complaints about NHS dental practices on the rise. *Br Dent J* 2023; **235**: 854.
- Parliamentary and Health Service Ombudsman. Complaints to the Parliamentary and Health Service Ombudsman, 2022–23. 2023. Available at <https://www.ombudsman.org.uk/publications/complaints-parliamentary-and-health-service-ombudsman-2022-23> (accessed December 2024).
- British Dental Journal. Are you aware of dental charges in your area? *Br Dent J* 2023; **235**: 770.
- Sachdeo A, Konfino S, Icyda R U *et al.* An analysis of patient grievances in a dental school clinical environment. *J Dent Educ* 2012; **76**: 1317–1322.
- Imran A, Imran H, Ashley M P. Straight to the point: considering sharp safety in dentistry. *Br Dent J* 2018; **225**: 391–394.
- Taylor C L, Grey N J A. Professional behaviours demonstrated by undergraduate dental students using an incident reporting system. *Br Dent J* 2015; **218**: 591–596.
- AlBlaiehd R M, AlSaeed M I, Abuabat A A, Ahsan S H. Incident reporting in dentistry: clinical supervisor's awareness, practice and perceived barriers. *Eur J Dent Educ* 2018; **22**: 408–418.
- Yamalik N, van Dijk W. Analysis of the attitudes and needs/demands of dental practitioners in the field of patient safety and risk management. *Int Dent J* 2013; **63**: 291–297.
- Saksena A, Pemberton M N, Shaw A, Dickson S, Ashley M P. Preventing wrong tooth extraction: experience in development and implementation of an outpatient safety checklist. *Br Dent J* 2014; **217**: 357–362.
- Probst T M, Brubaker T L, Barsotti A. Organizational injury rate underreporting: The moderating effect of organizational safety climate. *J Appl Psychol* 2008; **93**: 1147–1154.
- Johansen L T, Braut G S, Acharya G, Andresen J F, Øian P. Adverse events reporting by obstetric units in Norway as part of their quality assurance and patient safety work: an analysis of practice. *BMC Health Serv Res* 2021; **21**: 931.
- Bailey E. Contemporary views of dental practitioners' on patient safety. *Br Dent J* 2015; **219**: 535–540.
- Pemberton M N. Developing patient safety in dentistry. *Br Dent J* 2014; **217**: 335–337.
- Chohan P, Renton T, Wong J, Bailey E. Patient safety in dentistry – the bigger picture. *Br Dent J* 2022; **232**: 460–469.
- Ensaldó-Carrasco E, Sheikh A, Cresswell K, Bedi R, Carson-Stevens A, Sheikh A. Patient safety incidents in primary care dentistry in England and Wales: a mixed-methods study. *J Patient Saf* 2021; **17**: 1383–1393.
- NHS Improvement. Revised Never Events Policy Framework. 2018. Available at <https://www.england.nhs.uk/wp-content/uploads/2020/11/Revised-Never-Events-policy-and-framework-FINAL.pdf> (accessed December 2024).