

BMJ Open Quality Evidence on the links between patient experience and safety: a systematic review

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ABSTRACT

Background Patient experience and safety are central to healthcare quality, yet their relationship remains underexplored. While earlier evidence suggests a positive association, policy and practice are continually developing around the world. This review systematically examines the literature to better understand how patient experience and safety are linked.

Methods Searches were conducted via PubMed (2000–2023) using predefined terms on patient experience and safety. Articles were uploaded to Rayyan, duplicates removed and titles and abstracts screened for relevance. Full articles were reviewed and 30 eligible studies were included. A narrative synthesis was performed, with quality and evidence strength assessed using the Mixed Methods Appraisal Tool and the Grading of Recommendations, Assessment, Development and Evaluations (GRADE) framework.

Results Evidence regarding the relationship between patient experience and safety was heterogeneous. Seven studies demonstrated consistent positive associations, 6 reported no association and 17 yielded mixed findings across different safety metrics. Among these 17 studies, 7 tended to support a positive association, 5 suggested no association and 5 reported results that varied according to the analytical approach.

Discussion This review found mixed evidence on the relationship between patient experience and safety, and causality remains unknown. While some research identified clear associations, others showed considerable variation, often influenced by the specific measures used. Studies focused on secondary care, leaving gaps in primary and mental health settings. Notably, no research examined links between safety and the Picker Principles of ‘fast access to healthcare advice’ or ‘family and carer involvement’—domains considered vital to safety.

The review suggests that future research should explore domain-specific links and include experimental designs to strengthen causal understanding of the granular elements of safety and experience. Further investigation across care settings and population subgroups would help to fully understand how patient experience influences safety and vice versa.

Overall, this review provides evidence that patient experience and safety are related but distinct concepts that should be addressed together in quality improvement efforts.

WHAT IS ALREADY KNOWN ON THIS TOPIC

⇒ A systematic review published over a decade ago concluded that patient experience was positively associated with patient safety.

WHAT THIS STUDY ADDS

⇒ This study revisits the relationship between patient experience and patient safety, taking into account more recently published literature and substantial policy, practice and technological changes.

HOW THIS STUDY MIGHT AFFECT RESEARCH, PRACTICE OR POLICY

⇒ This systematic review highlights that improving patient experience can support patient safety efforts, encouraging healthcare providers and policymakers to treat them as interdependent priorities in quality improvement strategies. This study recommends adopting a more granular approach to future research; examining associations at the subtheme level to better understand how specific patient experience and safety measures relate.

BACKGROUND

As health systems worldwide strive for high quality care, increasing attention is focusing on how clinical effectiveness, patient experience and patient safety interact to shape outcomes for people. These three components have been used to define healthcare quality by the National Health Service (NHS) in England and the WHO: they are now recognised as interconnected and should be understood as part of a comprehensive approach to understanding and improving healthcare quality.^{1 2}

Patient experience, as defined by The Beryl Institute, is ‘the sum of all interactions, shaped by an organisation’s culture, that influence patient perceptions across the continuum of care’.³ It reflects how patients, service users and families experience care, including access, communication and being treated with respect and dignity. Widely recognised as a key indicator of person-centred care, patient experience is understood using frameworks



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like the Picker Principles of Person Centred Care, which highlight what matters most to users of health services.⁴

WHO defines patient safety as ‘the absence of preventable harm to a patient and reduction of risk of unnecessary harm associated with health care to an acceptable minimum’.⁵ Common patient safety incidents include medication and diagnostic errors and poor clinical care.⁶ In England, over 2.5 million patient safety events—incidents that could have or did cause harm to patients—are recorded annually in the NHS.⁷

There are underlying pathways through which patient experience and safety may influence each other. Feeling safe may foster confidence in healthcare professionals, whereas safety lapses may damage trust and perceptions of care. Positive experiences, such as respectful communication and involvement, can encourage patients to speak up, thereby reducing safety risks. Poor experiences may discourage such behaviour, increasing the likelihood of harm.

Few studies have thoroughly explored these links, meaning the safety impact of poor experience may be underestimated. A key publication in this area is a systematic review by Doyle *et al*⁸ which concluded that patient experience was positively associated with both patient safety and clinical effectiveness.⁸ Over a decade later, and in the context of substantial policy, practice and technological change, no updated synthesis has revisited this relationship.

This review focused specifically on the links between patient experience and patient safety due to the evolving landscape of research and policy in this area in England and internationally. As healthcare becomes more complex and faces new challenges like the increasing adoption of digital technologies and the lasting impact of COVID-19, understanding the relationship between patient experience and safety is essential for resilient healthcare.^{9 10}

In 2023, England established the Health Services Safety Investigations Body (HSSIB) to conduct independent investigations into NHS patient safety concerns.¹¹ Its core aim is to reduce harm by creating safer environments and involving patients in healthcare; a key element of person-centred care and a core domain of patient experience measures. However, the UK government now plans to abolish HSSIB, raising questions about the future role of patient safety investigations in improving patient experience.

Despite these impending changes, patient involvement in safety remains a priority. The Patient Safety Commissioner has championed patient perspectives through principles focused on transparency, compassionate support, learning from incidents and placing patients at the centre of safety systems.¹² One principle, ‘Identify and mitigate risks’, encourages patients to speak up about risks and areas for improvement. This aligns with Martha’s Rule, introduced in May 2024 across 143 hospitals and subsequently extended to all hospital sites in England from April 2025, which enables urgent reviews when a patient’s condition deteriorates.¹³ Innovations within the NHS are

proactively trying to enhance safety monitoring. Similarly, advances in the routine collection of patient experience data, such as real-time feedback platforms, help services respond more effectively to patient concerns.¹⁴

Concurrently, quality improvement is increasingly embedded into routine practice, with initiatives such as safety huddles (meetings where concerns and strategies to improve patient safety are discussed)¹⁵ and Schwartz Rounds fostering a culture of openness, empathy and psychological safety.¹⁶ There is a growing recognition of the role of co-production in designing and delivering safer, more person-centred care.¹⁷ Involving patients, families and communities enhances the relevance and impact of safety initiatives. The Organisation for Economic Co-operation and Development highlights active engagement as being crucial for making health systems safer.¹⁸

Although a recent scoping review examined patient safety culture and experience,¹⁹ no systematic review has re-examined the evidence on patient safety and experience. Given changes in policy, patient involvement and quality improvement over the past decade, an updated synthesis is necessary. This study aimed to systematically review the link between patient safety and patient experience, to improve understanding of how these domains are linked and to inform future policy development and quality improvement.

METHODS

The Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines were used to design this review. The PRISMA 2020 Checklist is included as supplementary information in online supplemental Appendix 1.²⁰ The protocol for this review has been registered in PROSPERO (registration number CRD420251070479).

Eligibility criteria

The review included studies involving any healthcare users, with no restrictions on age, condition, care setting, country or demographic characteristics. It was not restricted to specific interventions; any study examining the relationship between patient experience and patient safety was eligible.

As this review was not limited to studies of specific interventions, no predefined comparator was required, though comparators were extracted where present for added context.

Both randomised and non-randomised studies were included.

Search strategy

The search strategy was designed to capture studies exploring the relationship between patient experience and patient safety. Keywords were used to reflect both concepts, as outlined in table 1. Boolean operators were applied to combine experience-related and safety-related terms. No Medical Subject Headings (MeSH) terms were applied.

Table 1 Search terms

Patient experience AND	Patient safety
OR user experience	OR adverse events
OR patient satisfaction	OR medical errors
OR user satisfaction	OR avoidable harm
OR patient perception	OR adverse outcomes
OR user perception	OR clinic risk
OR patient reported experience	OR clinical safety
OR care experience	

A search of PubMed was undertaken to identify articles, followed by reviewing the words contained in the title, abstract and index terms of the retrieved articles. A second search using all identified keywords was then undertaken. We included peer-reviewed studies published in English between January 2000 and December 2023, excluding grey literature, systematic reviews, conference papers and unpublished sources.

All identified citations were uploaded into Rayyan software and duplicates removed. Titles and abstracts were independently screened against the predefined inclusion criteria, with support from Rayyan's prediction classifier.²¹ This machine learning tool facilitated the screening process by learning from reviewers' inclusion and exclusion decisions, assigning a confidence score to each unscreened article based on its similarity to previously screened ones. To check accuracy, reviewers manually screened a random 10% sample of all articles evaluated by the prediction classifier. Potentially relevant sources were retrieved as full text articles and screened by two reviewers, with any disagreements discussed until consensus achieved.

Data extraction

Data from eligible full text articles were extracted into a table by one team member. A second member reviewed 50% of the extracted data for accuracy. Extracted items included study details (eg, title, authors, year of publication, objectives, country), inclusion/exclusion criteria and evidence linking patient experience to safety (eg, statistical associations between patient experience scores and rates of adverse events; qualitative themes describing how poor patient experience contributes to unsafe care).

Data synthesis

A narrative synthesis of results was conducted. Narrative methods of synthesis are often used where meta-analysis is not appropriate, as was the case with many of the articles included in this study due to expected heterogeneity in study design and outcomes.²² This was aided by using tabulation and visual mapping to allow for gaps in coverage to be recognised and discussed. Thematic summaries were used to create different groups based on study information and outcomes. For example, to explore whether specific domains of patient experience were more likely

to relate to patient safety, studies were coded according to the Picker Principles of Person Centred Care.²³

Risk of bias assessment

The Mixed Methods Appraisal Tool (MMAT), designed to critically appraise studies included in systematic mixed-studies reviews, was used for quality assessment. MMAT is specifically designed to appraise the quality of studies included in systematic reviews that incorporate differing study designs.

Certainty of evidence

To assess the certainty of evidence, the Grading of Recommendations, Assessment, Development and Evaluations (GRADE) framework was used.²⁴ These domains were assessed: risk of bias, consistency, directness, precision and publication bias. The quality of evidence of the reviewed studies was rated as high, moderate, low or very low. Assessment was carried out by two reviewers with queries resolved through discussion.

The outcomes assessed were based on the Picker Principles of Person Centred Care. A broad 'overall patient satisfaction/experience' outcome was also included. As none of the included studies were randomised controlled trials, each outcome was assigned an initial rating of 'low' in accordance with GRADE guidance, with ratings subsequently downgraded or upgraded as appropriate.

Patient and public involvement

No patients or members of the public were involved in this study.

RESULTS

Search and study selection

After removing 266 duplicates, 2925 articles were identified. Title and abstract screening excluded 2808, most commonly for focusing on specific interventions rather than the link between experience and safety. Of the 117 full-text articles reviewed, 87 were excluded for not examining a relevant association. A PRISMA 2020 compliant flow diagram is shown in figure 1 and was produced using an open source tool.²⁵

Study quality and certainty of evidence

Included studies were generally well designed with clear research questions, but many provided limited information on sample representativeness and non-response, which may affect generalisability (see online supplemental appendix 2). Across outcomes, most studies were at low risk of bias, but the overall certainty of evidence was very low due to imprecision and inconsistency (see online supplemental appendix 3).

Characteristics of included studies

Online supplemental table 1 and figure 2 detail the key study characteristics of the final 30 articles included for review.

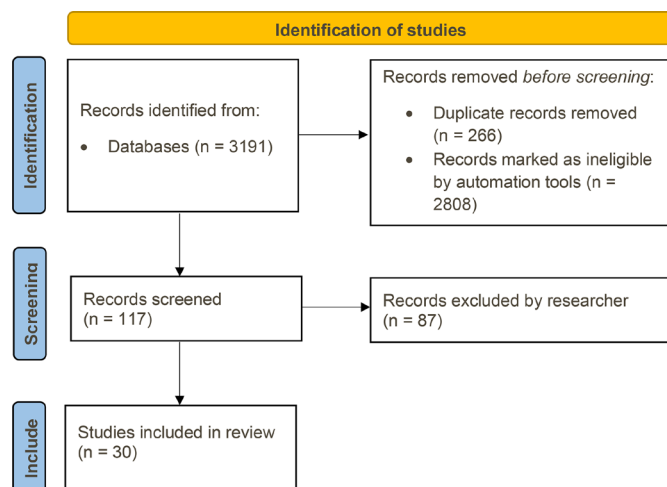


Figure 1 PRISMA flow diagram. PRISMA, Preferred Reporting Items for Systematic Reviews and Meta-Analyses.

Most studies were conducted in the USA, with smaller numbers from the UK, Canada, China and several other countries. Cross-sectional designs predominated, followed by correlational and cohort studies. No randomised controlled trials or purely qualitative studies

were included. All studies focused on secondary care with most exploring the experiences of hospital inpatients. A minority focused on specific conditions or different treatment contexts.

Patient experience was assessed using various instruments, most commonly the Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) or its variants (n=17). Others included the NHS Friends and Family Test (FFT) and the Picker Patient Experience questionnaire.

Safety was largely assessed through the incidence of adverse events. Most studies examining adverse events used clinical data, while fewer relied on surveys. All studies examining safety culture/climate used surveys, most commonly the Agency for Healthcare Research and Quality (AHRQ) Hospital Survey on Patient Safety Culture (HSOPS) or its variants. Most focused on hospital staff perceptions. Two studies included patient views and only one included managers.

To explore which aspects of experience relate most to safety, studies were grouped by the Picker Principles of Person Centred Care,²³ with an additional domain for overall satisfaction to capture global or composite

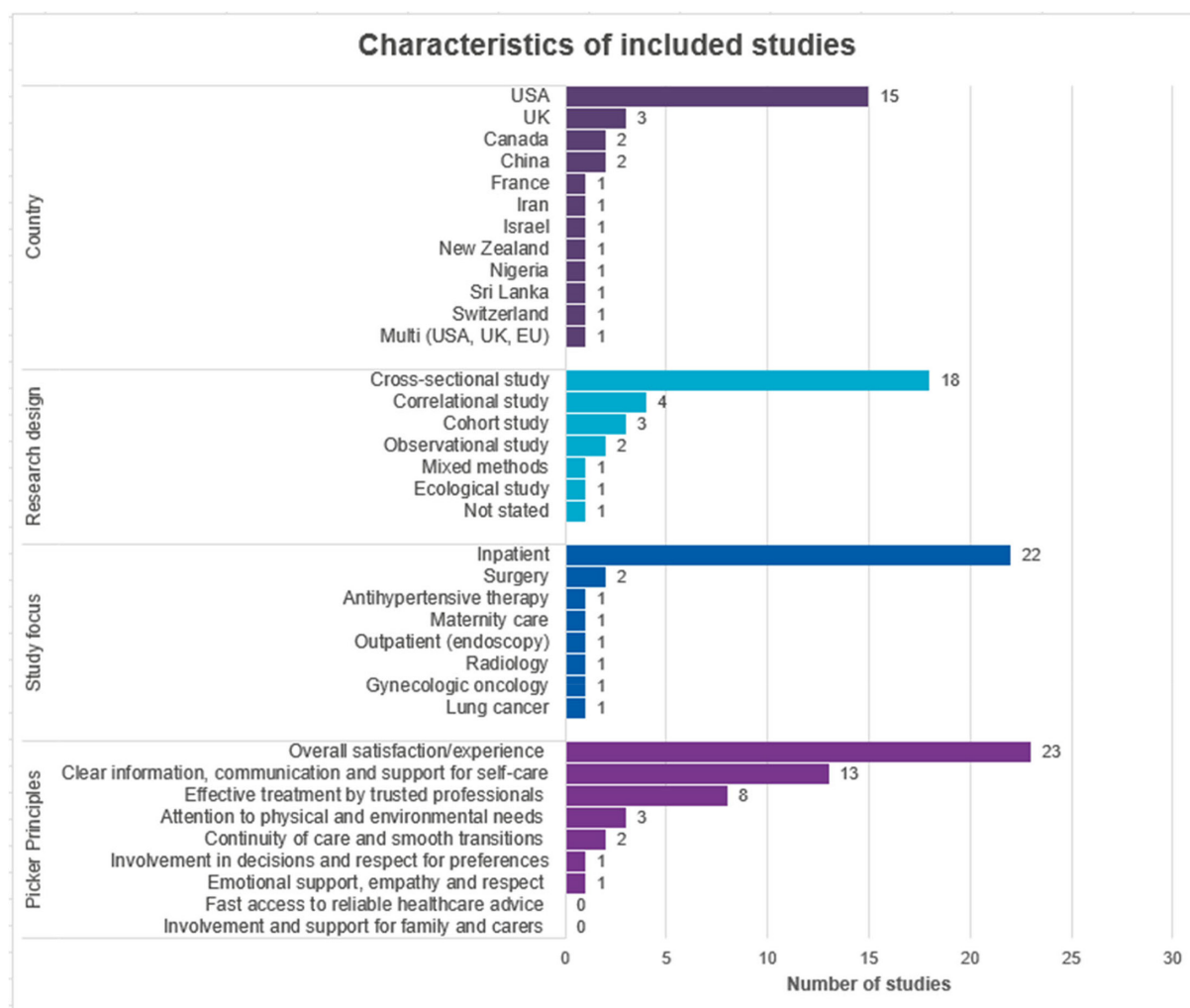


Figure 2 Characteristics of included studies.

measures. Twenty-three of the 30 studies aligned with overall satisfaction, seven of which also aligned with a Picker Principle. The most common were 'Clear information, communication, and support for self-care' and 'Effective treatment by trusted professionals'. No studies examined links to 'Fast access to reliable health-care advice' or 'Involvement and support for family and carers'.

Results of included studies

Overall, evidence on the associations between patient experience and measures of patient safety was heterogeneous. Importantly, where associations were found, none showed that poorer patient experience was associated with better patient safety, or vice versa (online supplemental table 2).

Seven studies reported consistent associations between patient experience and patient safety while six reported no associations for any of the measures explored. Notably, seventeen studies demonstrated mixed findings, with both associations and non-associations observed across different metrics within the same study. Of these, seven identified more significant associations than non-associations and five found the opposite. The remaining five studies showed varied results depending on the level or type of analysis. These patterns were broadly consistent across study designs, measures and settings.

Of the seven studies that found a consistent association between patient experience and patient safety, two were aligned with the Picker Principle 'Clear information, communication and support for self-care' and five with the overall satisfaction domain only. In contrast, all six studies which found no association between patient experience and safety were aligned with the overall satisfaction domain.

A summary of associations by theme can be found in table 2, and a summary of studies showing a consistent association alongside the safety and experience measures they used is displayed in table 3.

Table 2 Summary of associations by theme	
Consistent associations	Number of studies
Patient experience and safety culture	4
Patient experience and safety indicators	3
Mixed associations	
Patient experience and safety culture	5
Patient experience and safety indicators	11
Patient experience and malpractice environment	1
Patient experience and medical record-keeping	1
No associations	
Patient experience and safety culture	3
Patient experience and safety indicators	4

Patient experience and perceptions of safety culture

12 studies explored the relationship between patient experience and perceptions of patient safety culture/climate, with mixed findings.

Consistent associations between patient experience and safety culture

Four studies found that stronger safety culture or adherence to safety protocols was associated with higher patient experience.^{26–29} While Afshar *et al* (2021)²⁷ used composite scores for both satisfaction and safety culture, others used specific experience questions^{26 28} or examined overall experience in relation to safety culture components.²⁹

Higher ratings across six quality and safety measures—leadership, quality improvement performance, open communication with patients, resources for quality care and teamwork—were found by Kagan *et al* (2018) to be associated with higher patient satisfaction.²⁹ Similarly, higher nurse-reported safety grades in hospitals in China and Europe were found by You *et al* to correlate with better patient ratings of communication, hospital recommendation and overall care.²⁶ Aiken *et al* reported patients were less likely to give hospitals high ratings, recommend them to others, or respond positively about nursing care in hospitals where a higher proportion of nurses reported failing safety grades.²⁸

Mixed associations between patient experience and safety culture

Five studies reported mixed findings between patient experience and patient safety culture.^{30–34} One identified more significant associations than non-associations,³² while another reported the opposite.³¹ The remaining three studies showed varied results depending on the analysis undertaken.^{30 33 34}

Smith *et al* found that 10 out of 12 safety culture composites were significantly associated with better communication about medications and discharge.³² In contrast, Abrahamson *et al* reported limited associations, with links only to organisational learning, teamwork and staffing adequacy.³¹ Sorra *et al*³³ found no significant associations between two single-item experience measures and safety culture items, but a composite score was associated with 12 of 15 items. Lawton *et al* reported a link between overall patient satisfaction and patient-perceived safety, but not with staff-perceived safety culture.³⁴ Another study also found mixed results: clinician-reported safety climate was consistently linked to patient satisfaction, while manager-reported safety climate showed no such association.³⁰

No associations between patient experience and safety culture

Three studies found no association between staff perceptions of patient safety culture and patient experience.^{35–37}

Patient experience and safety indicators

18 studies examined patient safety incidents, including adverse events and errors.

Table 3 Summary of studies showing a consistent association

Author	Patient group of focus	Patient experience measure	Safety measure	Safety theme	Associated demonstrated
Afshar <i>et al</i> ²⁷	Inpatients	Survey (not named)	AHRQ Hospital Survey on Patient Safety Culture— Farsi version	Safety culture	Positive patient safety culture significantly associated with higher patient satisfaction
Aiken <i>et al</i> ²⁸	Inpatients	Survey (HCAHPS)	AHRQ Hospital Survey on Patient Safety Culture	Safety culture	Increased nurse reports of poor or failing safety grades associated with patients less likely to rate hospital care highly, recommend the hospital or report favourable nurse communication.
Kagan <i>et al</i> (2018)	Inpatients (medical /surgical)	Survey (bespoke)	Survey (tool constructed from different validated instruments)	Safety culture	Higher patient satisfaction associated with all six measures of the quality and safety assessment.
Kemp <i>et al</i> ³⁹	Inpatients	Survey (modified HCAHPS)	Medical records (patient safety indicators)	Safety indicators	Having one or more in-hospital adverse event associated with lower patient rating in: 'Overall care', 'Physician experience' and 'Nurse experience'.
Parr <i>et al</i> (2020)	Inpatients (medical /surgical)	Survey (FFT)	Medical records (falls)	Safety indicators	Lower rates of falls associated with better patient experience.
Yan <i>et al</i> ⁴⁰	Inpatients (medical /surgical)	Survey (bespoke)	Survey (adverse outcomes)	Safety indicators	Patients who experienced more undesirable events were more likely to give poor evaluations of their care.
You <i>et al</i> ²⁶	Inpatients	Survey (adapted HCAHPS)	AHRQ Hospital Survey on Patient Safety Culture	Safety culture	High nurse reported patient safety grades associated with patients' increased satisfaction with nursing communication, willingness to recommend the hospital and likelihood of high rating.

AHRQ, Agency for Healthcare Research and Quality; HCAHPS, Hospital Consumer Assessment of Healthcare Providers and Systems.

Consistent associations between patient experience and safety indicators

Three studies identified consistent associations between patient experience and safety indicators on all metrics reported.^{38–40} Two studies reported that the occurrence of adverse events was associated with poorer patient experience.^{39, 40} Kemp *et al* found having one or more in-hospital adverse events was associated with lower patient reported overall care ratings, physician experience and nurse experience,³⁹ while another study found lower fall

rates in adult inpatient medical surgical wards was associated with higher patient satisfaction, as measured by the NHS Friends and Family Test.³⁸

Mixed associations between patient experience and safety indicators

11 studies examining the relationship between patient experience and safety indicators reported mixed results. Five identified more significant associations than non-associations,^{41–45} while another four studies found the

opposite.^{34 46–48} For two studies, varied results were found depending on level or type of analysis.^{49 50}

Of the five studies that found more associations than not between patient experience and safety indicators, four used multiple experience measures.^{41–43 45} Black *et al* found strong links between poor experience and postoperative complications across hip, knee and hernia procedures.⁴³ Using HCAHPS to measure patient experience, Sammer *et al* reported that fewer harms correlated with higher satisfaction in 6 of 10 measures.⁴² Another study showed patients without adverse events reported higher satisfaction with their medication and were more likely to recommend it, though adherence was unaffected.⁴⁵

Four studies reported more non-associations than associations between experience and safety indicators.^{34 46–48} Dottino *et al* found links between positive experience and reduced inpatient mortality and surgical complications, but not with other outcomes.⁴⁶ Another study found that postoperative adverse events had minimal impact on experience.⁴⁷

Mercier *et al* found that while most individual experience items showed no significant link to adverse events, aggregated scores revealed lower patient experience across four of seven domains and overall ratings when adverse events occurred.⁴⁹

Another study also found varied results: patient satisfaction was significantly associated with a lower mortality index, but not with six other safety measures.⁵⁰ Satisfaction with ‘always received help’ and ‘pain controlled’ correlated with patient safety indicator rates, whereas ‘medications explained’ and ‘discharge information’ did not.⁵⁰

No association between patient experience and safety indicators

Four studies found no association between patient experience and safety indicators.^{37 51–53} Across these studies, patient safety was measured through different metrics: the presence of at least one adverse outcome,⁵¹ hospital-acquired conditions,⁵² patient safety indicators⁵³ and quality indicators data.³⁷

Patient experience and malpractice environment

Bilimoria *et al* found that higher Malpractice Geographic Practice Cost Index scores were linked to lower HCAHPS ratings on 9 of 10 measures, while the number of paid claims per 100 physicians showed no associations.⁵⁴

Patient experience and medical record-keeping

Dang *et al* found limited links between record-keeping compliance and patient experience; higher perception scores were associated only with timely discharge summaries, not with overall score, pain assessment or nutrition screening documentation.⁵⁵

DISCUSSION

This review found mixed evidence on the association between patient experience and safety. While some studies identified clear relationships, others reported

considerable variation or no association. Given the nature of the included studies and heterogeneity in design and measurement, it is difficult to draw a consistent conclusion about the nature of this relationship across the evidence base. Notably, no study found that poorer patient experience was associated with better patient safety, or vice versa. Results suggest that initiatives to enhance patient experience are compatible with efforts to improve patient safety. Consequently, patient experience and safety should not be viewed as competing priorities; rather, they coexist and improvements in each area can be mutually reinforcing. Providers should therefore view strategies aimed at improving elements of patient experience as aligned to broader safety and quality efforts.

Variations in measures and definitions across studies complicated evidence synthesis and comparison. Safety and patient experience were examined differently in different studies, sometimes as the primary focus and sometimes secondary to broader quality and effectiveness. These differences made it challenging to disentangle safety-specific outcomes from broader domains of quality. Nevertheless, this integration should also be viewed positively, reflecting a recognition that experience and safety are essential, interrelated dimensions of overall quality.

While some papers explored experience with specific elements of care—such as medication or communication—others used a single item measure or a single composite measure. Most studies that found consistent associations between patient experience and safety explored overall experience. Studies that found mixed associations typically examined additional dimensions of experience, most commonly the Picker Principles of ‘Effective treatment by trusted professionals’ and ‘Clear information, communication, and support for self-care’. In contrast, all six studies that did not find associations were aligned solely with the broader domain of overall experience. This suggests a complex relationship between domains of experience and safety—some elements of people’s experiences may be more strongly associated with safety, and reducing experiences to a single item or composite therefore risks overlooking important subtleties.

Granular measures of experience, such as communication or treatment effectiveness, might better detect associations with safety, as they capture elements of care more directly linked to factors contributing to harm. By comparison, global satisfaction scores may be too general, shaped by expectations or overall impressions. Concerns about the limitations of broader measures have been raised elsewhere; for example, Borrelli *et al* (2021) questioned the value of the NHS Friends and Family Test, advocating for a focus on patient experience rather than satisfaction to inform quality improvements.⁵⁶ For targeted quality improvement efforts based on nuanced patient perspectives, it is important that evidence is developed that supports an understanding of links between experience and safety at a domain-specific level.

No studies explored the association between safety and the Picker Principles of 'Fast access to reliable health-care advice' or 'Involvement and support for family and carers', highlighting an evidence gap. Despite the lack of existing evidence, these domains have clear conceptual relevance to patient safety, including minimising avoidable harm. Delays to accessing timely advice could increase the risk of deterioration of health, while family and carer involvement could help with identifying issues: indeed, it is a common theme in investigations of serious patient safety failings that harm could have been avoided if patients and their families had been listened to sooner.⁵⁷ Recent policy developments in England such as Martha's rule support the role that families have in highlighting concerns, suggesting a future area for research.¹³

Studies that explored safety culture or climate used measures of a broader nature than those investigating safety incidents or events. While safety culture could be viewed as a proxy for safety outcomes, it nonetheless supports an understanding of the organisational conditions (such as attitudes and behaviours of staff and working environment) required to provide safe care. As such, it represents an important indicator of an organisation's capacity to deliver safe, person-centred care.

Half of the studies included in this review were conducted in the USA, where HCAHPS (or a modified version) was most frequently used to capture patient experience. Providers and researchers in the USA, as in the UK, benefit from access to long-established collection programmes and both countries have significant national level interest in each of the concepts of patient safety and patient experience.

The evidence base was limited to secondary care, restricting the applicability of findings to contexts such as primary care and mental healthcare. Yet, safety challenges in these areas are substantial. A recent study in England looking at safety in primary care found that most avoidable harm stems from diagnostic errors, medication issues and delayed referrals.⁵⁸ Mental healthcare safety encompasses physical and psychological well-being; a 2025 HSSIB report highlighted systemic challenges such as staff shortages, gaps in care provision and a culture that can hinder learning from incidents.⁵⁹ Studies such as these provide a clear focus for future research into the relationship between patient experience and safety in these settings.

Limitations

Only studies published in English and identified via PubMed were included. There may be studies that this review did not identify, as no grey literature was included. Therefore, future research could include supplementary searches (eg, Embase, CINAHL or key organisational sources). Nevertheless, the substantial number and diversity of studies identified in this review provide some confidence that the findings are robust.

It is important to acknowledge the low certainty of evidence as identified through GRADE which impacts

the conclusions that can be drawn from this review. This highlights the need for experimental studies in the future to strengthen the evidence base. Proxies for safety were determined by the research team, resulting in an element of subjectivity whereby some proxies may have been excluded due to a lack of relevance while others were included (ie, medical record-keeping, communication).

Finally, studies varied in the direction of analysis, with some examining whether better experience was associated with safety outcomes and others examining the impact of adverse events on patient experience. These differing approaches contributed to inconsistency across the evidence base.

CONCLUSION

The relationship between safety and patient experience is complex and may not yet be fully understood—but the evidence supports the idea that patient safety and patient experience are related but separate components. While some papers showed definitive associations, others did not; most studies identified mixed levels of associations depending on the specific measures used to capture safety and experience.

Differences in the study characteristics and the measures used were likely to play a role in this variability. It would be beneficial for future research to investigate associations by subthemes, to better understand the relationship between specific measures of safety and experience, and subgroups to understand the different experiences of populations.

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Patient and public involvement Patients and/or the public were not involved in the design, or conduct, or reporting, or dissemination plans of this research.

Patient consent for publication Not applicable.

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Provenance and peer review Not commissioned; externally peer reviewed.

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