

This is an Open Access document downloaded from ORCA, Cardiff University's institutional repository:<https://orca.cardiff.ac.uk/id/eprint/174035/>

This is the author's version of a work that was submitted to / accepted for publication.

Citation for final published version:

Darwish, Maram, Nandy, Shabita, Willis, Simone , Coulson, James, Withers, Kathleen and Bosanquet, David C. 2024. A systematic review of surgical Patient Reported Experience Measures (PREMs) and qualitative experience studies. BJS Open

Publishers page:

Please note:

Changes made as a result of publishing processes such as copy-editing, formatting and page numbers may not be reflected in this version. For the definitive version of this publication, please refer to the published source. You are advised to consult the publisher's version if you wish to cite this paper.

This version is being made available in accordance with publisher policies. See <http://orca.cf.ac.uk/policies.html> for usage policies. Copyright and moral rights for publications made available in ORCA are retained by the copyright holders.



**TITLE PAGE****Title**

*A systematic review of surgical Patient Reported Experience Measures (PREMs) and qualitative experience studies*

**Authors**

Maram Darwish<sup>1,2</sup>, Shabita Nandy<sup>3</sup>, Simone Willis<sup>4,5</sup>, James Coulson<sup>3</sup>,  
Kathleen Withers<sup>4,6,7</sup>, David C Bosanquet<sup>1,8</sup>

**Affiliations**

<sup>1</sup>Southeast Wales Vascular Network, University Hospital of Wales,  
Cardiff, UK

<sup>2</sup>Health Education England, The East Midlands Deanery, Leicester, UK

<sup>3</sup>Cardiff University, School of Medicine, University Hospital of Wales,  
Heath Park, Cardiff, UK

<sup>4</sup>Centre for Healthcare Evaluation, Device Assessment and Research,  
CEDAR, Cardiff and Vale University Health Board, Cardiff, UK

<sup>5</sup>Specialist Unit for Review Evidence, Cardiff University, Cardiff, UK

<sup>6</sup>The Welsh Value in Health Centre, Cwm Taf University Health Board,  
UK

<sup>7</sup>Cardiff University, University Hospital of Wales, Heath Park, Cardiff,  
UK

<sup>8</sup>Department of Vascular Surgery, Aneurin Bevan University Health  
Board, UK

**Category of manuscript**

Systematic review

**Corresponding author**

Mrs. Kathleen Withers  
Cardiff University

Cardiff and Vale University Health Board Cardiff Medicentre, Heath  
Park

CF14 4UJ

Tel: +44 (0) 2920 744771

Email: [withersk@cardiff.ac.uk](mailto:withersk@cardiff.ac.uk)

ORCID ID: [0000-0001-9514-2025](https://orcid.org/0000-0001-9514-2025)

<b>Word count</b>	Abstract: 246 Manuscript body: 2997
<b>Tables</b>	3
<b>Figures</b>	1
<b>Supplementary material</b>	11
<b>Key words</b>	PREM, PREMs, Patient Reported Experience Measure, surgery, patients' experience, systematic review.
<b>Funding</b>	None
<b>Conflicts of interest</b>	None
<b>Previous Communication</b>	None
<b>Data availability</b>	All data used in this systematic review are included in the article and its supplementary materials. Additional data and materials are available upon request from the corresponding author.

## **Abstract**

**Background:** Patient-Reported Experience Measures (PREMs) are surveys that gather patient feedback on their healthcare experiences, crucial for improving care quality from the patient's perspective.

This systematic review aims to identify surgery-related PREMs, evaluate their psychometric properties, appraise and identify recurring themes within qualitative studies on surgical care, and identify potential bias in study designs.

**Methods:** PubMed, MEDLINE, Embase, CINAHL, and Cochrane Library, along with clinical trials registries were searched for articles on surgery-specific PREMs and qualitative studies on patients' experiences up to September 21, 2023. Manual coding was used for themes identification and grouping based on thematic synthesis principles. Joanna Briggs Institute (JBI) tools were used for risk of bias assessment and a revised version of the COnsensus-based Standards for the selection of health Measurement INstruments (COSMIN) checklist was used for PREMs appraisal.

**Results:** Fourteen studies met our criteria, identifying seven PREMs. Key patient experience themes included communication with healthcare providers, care setting environment, overall satisfaction, pre-admission information, coordination of care, wait times, surgical experience, post-surgery support, impact on life, and healthcare information and technology management. Internal consistency was reported adequately across all PREMs. Other psychometric properties were questionable.

**Conclusion:** Inadequate psychometric evaluations of some PREMs in surgery highlights the need for rigorous validity and reliability assessments. Identification of thematic patterns emphasises the importance of ongoing research to explore patients' experiences in surgical contexts. Clinical staff can use this information to enhance communication, reduce waiting times, and improve the overall patient experience by addressing highlighted areas.

## **Introduction**

Patient-Reported Experience Measures (PREMs) are tools used to gather feedback from patients about their experiences of healthcare services. While Patient-Reported Outcome Measures (PROMs), focus on the outcomes of treatments, PREMs concentrate on the patient's perception of the care they received <sup>(1, 2)</sup>. This includes aspects such as communication with healthcare providers, accessibility of services, and continuity of treatment <sup>(3)</sup>.

Unlike satisfaction surveys that present subjective and generic assessment of whether the care met the patients' expectations or not <sup>(4-7)</sup>, PREMs provide objective and quantifiable representation of the quality of care. Ideally all PREMs would be validated, where the tool's reliability and validity assessments confirm their accuracy and consistency in capturing relevant data <sup>(7-12)</sup>. Several PREMs have been developed and validated within the broader healthcare landscape <sup>(13-19)</sup>; however, few PREMs specifically focus on surgery.

Incorporating PREMs into clinical practice is an essential part of patient-centred care. PREMs help clinicians identify areas affecting patients' healthcare journey and can reveal communication gaps between surgeons and patients, facilitating better compliance with management plans and recovery processes <sup>(2, 20)</sup>. Insights from PREMs can help clinicians tailor care to individual patient needs, resulting in more personalised and effective treatment plans.

Qualitative studies of patients' experiences often capture the intricacies of patients' experiences in healthcare <sup>(21-24)</sup>. While PREMs provide quantitative data on experience, qualitative feedback provides more granular data on patients' lived experiences.

This systematic review will undertake a comprehensive evaluation of the validated PREMs used in surgery, and qualitative studies exploring the experiences of surgical patients.

## **Methods**

This study follows the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) statement <sup>(25)</sup>, PRISMA (supplementary S1) and PRISMA-S (supplementary S2) checklists have been completed. The review protocol was prospectively registered in PROSPERO (CRD42023479711) <sup>(26)</sup>. Deviations from the original protocol are depicted in (supplementary S3).

### *Study objectives*

1. To identify PREMs designed for assessing patients' experiences in surgery and surgical sub-specialties.
2. To identify domains and items utilised in each PREM.
3. To identify themes that emerged from qualitative research assessing surgical patients' experiences.
4. To assess the methodological quality of the PREMs.

### *Eligibility criteria*

Inclusion criteria were: (i) quantitative studies that have included, and/or validated PREMs within the domain of surgery as defined by the Royal College of Surgeons of England (RCSEng) <sup>(27)</sup> including general surgery, vascular surgery, cardiothoracic surgery, neurosurgery, oral and maxillofacial surgery, otolaryngology, plastic surgery, trauma and orthopaedic surgery, and urology; (ii) qualitative studies reporting on the patients' peri-surgical experience; (iii) participants aged 18 years or older; (iv) studies written in English.

Exclusion criteria were (i) studies focusing on other specialties; (ii) studies that used PREMs where the psychometric assessment indicates insufficient validity and reliability; (iii) studies measuring patients' expectations or PROMs rather than patients' experiences.

### *Information sources*

A search strategy was devised to identify pertinent studies, encompassing electronic databases including PubMed, MEDLINE (Ovid), Embase (Ovid), CINAHL via EBSCO host, and Cochrane Library. The search strategy was developed in MEDLINE (Ovid) and translated to the other databases. Search terms were developed in consultation with a university librarian. Additionally, clinical trials registries including clinicaltrials.gov, EU Clinical Trials Register, and the ISRCTN registry were searched using relevant terms. The search strategy included controlled vocabulary and free text terms encompassing the definition of PREMs, surgery, and surgical sub-specialties <sup>(27)</sup>. Due to resources constraints, searches were limited to English language. The search strategy was peer reviewed using the PRESS checklist <sup>(28)</sup> by research librarians. Searches were conducted from database inception to 21<sup>st</sup> September 2023 (Supplementary S4). Backward citation searching was undertaken of included papers.

Endnote (version 20) was used for reference management and removal of duplicates. Two reviewers (MD and SN) independently screened the titles and abstracts of articles. Where disagreements occurred, articles were included for full text review. MD and SN independently conducted full text screening; disagreements were resolved through discussion.

### *Risk of bias*

The methodological quality of the included studies was assessed using the Joanna Briggs Institute (JBI) Critical Appraisal tools <sup>(29)</sup>. The JBI tools accommodate quantitative <sup>(30)</sup> and qualitative <sup>(28)</sup> study designs. For this review, we used the JBI critical appraisal checklist for: case-control studies (Supplementary S5); cross sectional studies (Supplementary S6); and qualitative studies (Supplementary S7).

For PREMs quality appraisal, the revised COSMIN checklist <sup>(31)</sup> was used. MD and SN conducted the quality assessment independently in duplicate. Disagreements were resolved through discussion.

### *Data extraction*

Data extraction was performed independently in duplicate by MD and SN. Discrepancies were resolved through discussion. A standardised form was used for data extraction. The following information was extracted from each quantitative study: author(s), year of publication, country of origin, sample size, study population, PREM used, mode of administration, and PREM's characteristics. For the qualitative studies, data extracted were author(s), year of publication, country of origin, sample size, study population, qualitative method used, and main themes identified.

### *Surgical patients' experience themes development*

Aligning with similar methodologies utilised in previous literature on PREMs<sup>(32)</sup>, we opted to identify and categorise emerging themes from PREMs and qualitative studies assessing patients' experiences within surgical contexts. One reviewer (MD) identified and categorised thematic patterns emerging from the reviewed studies using manual coding and guided by thematic synthesis principles<sup>(33)</sup>. The themes were reviewed and ratified by the co-authors.

## **Results**

A total of 5214 records were identified from database searches and registers, seven of which were removed during deduplication. The remaining 5207 records were screened at title and abstract, and 5179 records were excluded. Twenty-eight full text articles were reviewed, a further 16 articles were excluded. Details of excluded studies can be found in supplementary S8. Seventy-seven additional records were identified through backward citation searching and three articles were included in the review. A total of fourteen papers met the inclusion criteria (Supplementary S9).

### *Included studies*

Included studies' characteristics are summarised in table 1 and table 2. All studies were conducted after 2010. Sample sizes ranged from 10 to 60,526 and resulted in a total of 73,796 participants across the included studies. Four studies were conducted within the USA<sup>(12, 34-36)</sup>, three within the UK<sup>(37-39)</sup>,



two in Sweden <sup>(40, 41)</sup>, one in Denmark <sup>(11)</sup>, one in Turkey (10), one in the Netherlands <sup>(42)</sup>, one in Spain <sup>(43)</sup>, and one in Ireland <sup>(44)</sup>. Two studies were conducted among colorectal surgery patients <sup>(35, 41)</sup>, two among orthopaedic surgery patients <sup>(11, 40)</sup>, two with breast surgery patients <sup>(34, 44)</sup>, two within general surgery <sup>(10, 36)</sup>, and one each with; emergency abdominal surgery patients <sup>(37)</sup>, gastrointestinal cancer surgery patients <sup>(12)</sup>, plastic and reconstructive surgery patients <sup>(42)</sup>, elective day case surgery patients <sup>(39)</sup>, urology surgery patients <sup>(38)</sup>, and transplant surgery patients <sup>(43)</sup>. Nine studies used quantitative study designs to report on patients' experiences or the psychometric properties of a validated PREM <sup>(10-12, 34-37, 39, 42)</sup>. With the exception of one study <sup>(34)</sup> that used a speciality-specific PREM (i.e. PGASS to assess the ambulatory surgery service), all studies used generic PREMs to assess surgical patients' experience. Five studies examined patients' experiences through qualitative research design <sup>(38, 40, 41, 43, 44)</sup>. For the qualitative studies, using either semi-structured interviews <sup>(40, 41, 44)</sup>, focus group sessions <sup>(38)</sup>, or both <sup>(43)</sup>. Apart from one study <sup>(43)</sup> that recruited patients and Health Care Providers (HCPs) for data collection, all qualitative studies recruited only patients <sup>(38, 40, 41, 44)</sup>.

#### *PREM characteristics and performance*

Seven PREMs were evaluated across the reviewed studies. The Hospital Consumer Assessment of Healthcare Providers and Systems (H-CAHPS) <sup>(45)</sup> was utilised by Wick et al. <sup>(35)</sup> and Liu et al. <sup>(12)</sup>; the NHS adult General Inpatient Survey (GIS) <sup>(46)</sup> was employed by Jones et al. <sup>(37)</sup>; Hertle-Joegensen et al. <sup>(11)</sup>, and Donmez and Ozbayr <sup>(10)</sup> used a version of the Good Perioperative Nursing Care Scale (GPNCS) <sup>(47)</sup> that was translated to Danish and Turkish, respectively; The Press Ganey patient Satisfaction Surveys (PGASS, PGSS) <sup>(48)</sup> were used by Murphy et al. <sup>(34)</sup> and Schreiter et al. <sup>(36)</sup>, respectively; a non-specified Dutch national PREM was utilised by Polestra et al. <sup>(42)</sup>; lastly a 15-item short form of The Picker Patient Experience Questionnaire (PPE-15) <sup>(47)</sup> was used by Black et al. <sup>(39)</sup>. All PREMs were self-completed by patients. The time period for survey collection from discharge to completion varied from 2 to 12 weeks post discharge. Only two studies reported collecting the surveys during the in-patient setting <sup>(10, 11)</sup>. Four studies reported aspects of psychometric testing <sup>(10, 11, 39, 42)</sup>; two of which reported on validity <sup>(10,</sup>

<sup>11</sup>, three reported on internal consistency <sup>(10, 11, 39)</sup>, two on reliability <sup>(10, 11)</sup>, and three on responsiveness <sup>(10, 39, 42)</sup> (table 3). The length of the PREMs used varied from 24–50 items across 6-9 domains. Domain contents and names varied, however, the essential characteristics identified by the Patient Reported Indicator Survey (PaRIS) initiative <sup>(49)</sup>, were encompassed within the domains of these PREMs, suggesting a level of alignment with the international fundamental patient-reported indicators.

### *Themes identified*

Themes identified from quantitative and qualitative studies were grouped into eight primary categories that encompassed the spectrum of surgical patients' experiences: (i) communication and interaction; (ii) care environment; (iii) patient experience and satisfaction; (iv) waiting time; (v) pre-admission information; (vi) post-surgery and rehabilitation; (vii) impact on everyday life; (viii) the medical and surgical experience. The themes and subthemes are further detailed in figure 1 (The surgical patient experience themes).

### *Methodological quality of studies and the PREMs*

The included studies were rated as having good methodological quality based on the JBI tools as depicted in Supplementary documents S10. The assessment of the eight items of the COSMIN checklist <sup>(31)</sup> for tools assessment is depicted in table 3 and detailed as follows: (i) structural validity was indeterminate in all studies, except for the translated versions of the GPNCS. In both the Turkish version of GPNCS <sup>(10)</sup>, and the Danish version of GPNCS <sup>(11)</sup> structural validity was confirmed to be excellent using Confirmatory Factor Analysis (CFA) (Supplementary S11); (ii) internal consistency was sufficient for all tools, unanimously tested using Cronbach's alpha(s) threshold of  $\geq 0.70$  for each unidimensional scale or subscale, mostly in previous research; (iii) Reliability was indeterminate in all tools, except for the translated versions of the GPNCS <sup>(10, 11)</sup>. Both of these studies used Cronbach's alpha coefficient and their results confirmed that both scales have good internal consistency and are reliable scales (Supplementary S11); (iv) measurement error was insufficient for all tools, except for

the translated versions of the GPNCS <sup>(10, 11)</sup> and the Dutch national PREM <sup>(42)</sup> where it was deemed indeterminate; (v) hypothesis testing was indeterminate in all studies, except for the translated versions of the GPNCS <sup>(10, 11)</sup> and the Dutch national PREM <sup>(42)</sup> where it was deemed sufficient; (vi) cross-cultural validity was indeterminate in all studies, except for the translated versions of the GPNCS <sup>(10, 11)</sup> and the Press Ganey Survey <sup>(36)</sup> where it was sufficient; (vii) criterion validity was indeterminate in all tools across all studies; Finally, (viii) responsiveness was reported according to the COSMIN checklist only in three studies <sup>(10, 39, 42)</sup> with evidence provided suggesting that the GPNCS <sup>(10)</sup>, PPE-15 <sup>(39)</sup>, and the Dutch national PREM <sup>(42)</sup> have a good level of stability over time.

## **Discussion**

This systematic review has identified fourteen studies that assessed surgical patients' experiences and seven PREMs tools which were used. All studies were conducted after 2010, and only three studies <sup>(10, 11, 39)</sup> reported some form of additional psychometric testing. Except for one study <sup>(34)</sup> that used a speciality-specific PREM, all included studies used generic PREMs to assess surgical patients' experience. Eight themes were extracted and consolidated to help clinicians, researchers, and policymakers to understand patients' perspectives of their surgical journey.

The lack of a specific surgical PREM identified in the available literature and surgical care practice is noteworthy, especially given the increasing evidence supporting speciality-specific PREMs over generic ones <sup>(50-52)</sup>. Speciality-specific PREMs tailored to specific patient populations yield more accurate and meaningful data regarding patients' experiences within the specific speciality <sup>(50-52)</sup>. Using a speciality-specific PREM facilitates a comprehensive understanding of patients' needs, recovery experiences, and the unique challenges associated with different healthcare contexts. Implementing speciality-specific PREMs improves patient-provider communication, enhances quality of care, and facilitates targeted interventions that address the specific needs of the patient population <sup>(42, 52-54)</sup>.

Incorporating speciality-specific PREMs allows for personalised feedback that serves as a motivating factor for surgeons to align their clinical practices with patient-centred care, fostering a sense of empathy and understanding for the individual experiences of their patients. The data derived from speciality-specific PREMs can support surgeons to drive quality improvement initiatives to meet the needs of their patient population.

Our analysis has identified themes that significantly impact the surgical patient journey, pre-, and post-surgery, including patients with different surgical pathologies, at different time points in their surgical journey, and across different surgical settings and healthcare systems. This data can support the development, validation, and improvement of surgical speciality-specific PREMs, ensuring they are relevant and meaningful in healthcare quality assessment and improvement efforts.

To place our findings within a broader context, we compared our themes with key themes from previous literature across medical specialties. An Australian review of PREMs for emergency care service provision found similar themes of communication, decision making, and care environment <sup>(32)</sup>. However, studies of PREMs developed in low- and middle-income countries highlighted issues with resources, healthcare infrastructure, confidentiality, and technical capacity <sup>(55, 56)</sup>, less prominently in our findings, showing socioeconomic impacts on patient experiences <sup>(57-60)</sup>. Also, PREMs assessing emergency care services highlighted issues related to immediate access and privacy, differing from the long-term patient-provider relationships in surgical care <sup>(32)</sup>. Mental health services PREMs prioritise emotional support and personalised care, noted in our findings but less so in surgical contexts <sup>(16, 61)</sup>. Our study highlighted the importance of clear communication and identified coordination of care and pain management as more prominent issues compared to some non-surgical specialties <sup>(4, 62)</sup>.

In collecting PREMs data, the choice of recall period (i.e. The specific time-frame participants are asked to recall past experiences) is a critical part of study design. Too long a recall period can introduce measurement errors, potentially obscuring patients' experience highlights <sup>(63)</sup>. While no single recall period is optimal for all measures <sup>(64)</sup>, to reduce recall bias, PREMs should ideally be administered as

close to patient discharge as possible. Deploying PREMs within few days post-discharge captures more vivid and accurate patient recollections, as supported by studies showing a decline in recall memory accuracy over time <sup>(63-66)</sup>. Also, utilising a combination of different methods for PREM collection such as electronic surveys, telephone interviews, and mailed questionnaires can improve response rates and data quality<sup>(67)</sup>.

The included studies were of good methodological quality that effectively addresses the authors' research question. Conversely, quality appraisal of PREM's performance demonstrates a limited level of information on construct validity, reliability, and responsiveness throughout the measures except for two studies <sup>(10, 11)</sup>. It is reasonable to hypothesise that these two studies were more robust in their psychometric testing and reporting because the main objective of these studies was to validate a translated version of an existing PREM. However, it is vital that studies assessing patients' experiences should report whether the PREM used have undergone rigorous testing for validity and reliability, as this directly influences the instrument's ability to accurately capture patient-reported healthcare experiences. The robustness of the study design that reports a PREM's results or assesses a PREM's validity and reliability is vital to ensuring that the results are a dependable representation of the instrument's capability to reflect the patients' experiences <sup>(31)</sup>.

Overall, there was significant variations in the psychometric properties of the utilised PREMs, with numerous weaknesses identified in most tools. While internal consistency was generally reported as sufficient across the tools, other psychometric properties exhibited varying degrees of indeterminacy. These findings might be due to lack of adequate psychometric testing or lack of clear information stating their testing in the published text. Also, some of the psychometric testing of the tools used may be reported outside of the peer-reviewed study, which the COSMIN checklist guidance does not account for, and this might have led to an underrepresentation of all testing undertaken for these measures. This highlights the need for careful consideration of the specific psychometric properties of each instrument when interpreting and comparing the results of studies including PREMs. Further

validation efforts are warranted to enhance the robustness of some of the PREMs used in surgical healthcare settings. It is important to note that existing instruments lacking validation on specific criteria are not inherently flawed, but rather not properly tested. While these instruments may offer valuable insights, caution should be exercised in their use as quality assessment measures.

### *Strengths and Limitations*

#### Strengths

This systematic review represents a comprehensive effort to synthesise and report all available PREMs used in surgery. Integrating both PREMs and qualitative research findings facilitated a more robust exploration of the psychosocial, emotional, and practical dimensions of patients' experiences before, during, and after surgical interventions. The inclusion of various surgical specialties in the review contributes to its generalisability, supporting broad applicability across different surgical settings. Lastly, this review has collectively unveiled key themes that hold implications for the development of PREMs tailored to specific surgical population. These findings form a robust foundational framework crucial for comprehensively understanding and addressing the surgical patient experience.

#### Limitations

This review considered English language articles only. Also, the search strategy identified few surgery related PREMs, which may be attributed to the specificity of the surgical population and the evolving nature of PREMs within healthcare. Some PREMs might have been inadvertently excluded due to poor reporting.

### *Interpretation and implications*

The key themes identified in this review shed the light on the key priorities of surgical patients. Also, it identifies a gap in speciality-specific PREMs and a lack of psychometric validation for the promising PREMs. The prevalent use of generic PREMs, rather than PREMs specifically tailored to surgical patients, underscores the necessity for targeted measures to capture the unique experiences and

priorities of surgical patients.

Future research should prioritise the psychometric validation of PREMs utilised in surgical settings and developing and validating speciality-specific PREMs.

## **Acknowledgements**

We would like to express our sincere gratitude to Ms Chloe Turner, primary care knowledge specialist librarian at University Hospital of Derby and Burton NHS foundation Trust and Ms Mariann Hilliar, health research specialist librarian at Cardiff University, for their invaluable assistance in reviewing multiple versions of the search strategy against the PRESS criteria. Their expertise and dedication greatly contributed to the refinement of our search strategy, and we are indebted to them for their time, insightful feedback, and support.

## **References**

1. Desomer A, Van den Heede K, Triemstra Mattanja T, Paget J, De Boer D, Kohn L, et al. Use of patient-reported outcome and experience measures in patient care and policy. 2018.
2. Brunelli C, Borreani C, Caraceni A, Roli A, Bellazzi M, Lombi L, et al. PATIENT VOICES, a project for the integration of the systematic assessment of patient reported outcomes and experiences within a comprehensive cancer center: a protocol for a mixed method feasibility study. *Health and quality of life outcomes*. 2020;18:1-12.
3. Depla AL, Pluut B, Lamain-de Ruiten M, Kersten AW, Evers IM, Franx A, et al. PROMs and PREMs in routine perinatal care: mixed methods evaluation of their implementation into integrated obstetric care networks. *Journal of Patient-Reported Outcomes*. 2023;7(1):26.
4. Hodson M, Andrew S, Roberts CM. Towards an understanding of PREMS and PROMS in COPD. *Breathe*. 2013;9(5):358-64.
5. Beattie M, Murphy DJ, Atherton I, Lauder W. Instruments to measure patient experience of healthcare quality in hospitals: a systematic review. *Systematic reviews*. 2015;4(1):1-21.
6. Sitzia J, Wood N. Patient satisfaction: a review of issues and concepts. *Social science & medicine*. 1997;45(12):1829-43.
7. Coulter A, Fitzpatrick R, Cornwell J. The Point of Care: Measures of patients' experience in hospital-The King's Fund, July 2009. 2009.
8. Mookink LB, Terwee CB, Patrick DL, Alonso J, Stratford PW, Knol DL, et al. COSMIN checklist manual. Amsterdam: University Medical Center. 2012.
9. Christiansen O, Benth JŠ, Kirkevold Ø, Bratt O, Slaaen M. Construct Validity of the Questionnaire Quality From the Patients Perspective Adapted for Surgical Prostate Cancer Patients. *Journal of Patient Experience*. 2021;8:2374373521998844.
10. Donmez YC, Ozbayır T. Validity and reliability of the 'good perioperative nursing care scale' for Turkish patients and nurses. *Journal of Clinical Nursing*. 2011;20(1-2):166-74.
11. Hertel-Joergensen M, Abrahamsen C, Jensen C. Translation, adaptation and psychometric validation of the Good Perioperative Nursing Care Scale (GPNCS) with surgical patients in perioperative care. *International journal of orthopaedic and trauma nursing*. 2018;29:41-8.

12. Liu JB, Pusic AL, Hall BL, Glasgow RE, Ko CY, Temple LK. Combining surgical outcomes and patient experiences to evaluate hospital gastrointestinal cancer surgery quality. *Journal of Gastrointestinal Surgery*. 2019;23:1900-10.
13. Ferreira J, Patel P, Guadagno E, Ow N, Wray J, Emil S, et al. Patient Experience or Patient Satisfaction? A Systematic Review of Child-and Family-Reported Experience Measures in Pediatric Surgery. *Journal of Pediatric Surgery*. 2023.
14. Schmittdiel J, Mosen DM, Glasgow RE, Hibbard J, Remmers C, Bellows J. Patient Assessment of Chronic Illness Care (PACIC) and improved patient-centered outcomes for chronic conditions. *Journal of general internal medicine*. 2008;23:77-80.
15. Pougheon Bertrand D, Fanchini A, Lombrail P, Rault G, Chansard A, Le Breton N, et al. Collaborative research protocol to define patient-reported experience measures of the cystic fibrosis care pathway in France: the ExPaParM study. *Orphanet Journal of Rare Diseases*. 2022;17(1):1-14.
16. Fernandes S, Fond G, Zendjidjian XY, Baumstarck K, Lançon C, Berna F, et al. Measuring the patient experience of mental health care: a systematic and critical review of patient-reported experience measures. *Patient preference and adherence*. 2020:2147-61.
17. Bull C, Crilly J, Latimer S, Gillespie BM. Establishing the content validity of a new emergency department patient-reported experience measure (ED PREM): a Delphi study. *BMC emergency medicine*. 2022;22(1):1-10.
18. Tinnfält I, Nilsson U. Patients' experiences of intraoperative care during abdominal aortic aneurysm repair under local anesthesia. *Journal of PeriAnesthesia Nursing*. 2011;26(2):81-8.
19. Caljouw M, Van Beuzekom M, Boer F. Patient's satisfaction with perioperative care: development, validation, and application of a questionnaire. *British journal of anaesthesia*. 2008;100(5):637-44.
20. LeBlanc TW, Abernethy AP. Patient-reported outcomes in cancer care—hearing the patient voice at greater volume. *Nature reviews Clinical oncology*. 2017;14(12):763-72.
21. Thirsk LM, Clark AM. Using qualitative research for complex interventions: The contributions of hermeneutics. *International Journal of Qualitative Methods*. 2017;16(1):1609406917721068.
22. Collins S, Britten N, Ruusuvoori J. Patient participation in health care consultations: qualitative perspectives: qualitative perspectives: McGraw-Hill Education (UK); 2007.
23. Mestdagh A, Hansen B. Stigma in patients with schizophrenia receiving community mental health care: a review of qualitative studies. *Social psychiatry and psychiatric epidemiology*. 2014;49:79-87.
24. Odell M, Victor C, Oliver D. Nurses' role in detecting deterioration in ward patients: systematic literature review. *Journal of advanced nursing*. 2009;65(10):1992-2006.
25. Takkouche B, Norman G. PRISMA statement. *Epidemiology*. 2011;22(1):128.
26. Darwish M, Withers K, Bosanquet D. Assessing patients' experiences in surgery and surgical subspecialties: a systematic review of Patient Reported Experience Measures (PREMs). PROSPERO 2023 CRD42023479711. 2023.
27. (RCSENG) TRCoSoE. Surgical Specialties 2024 [Available from: <https://www.rcseng.ac.uk/careers-in-surgery/trainees/foundation-and-core-trainees/surgical-specialties/>].
28. McGowan J, Sampson M, Salzwedel DM, Cogo E, Foerster V, Lefebvre C. PRESS peer review of electronic search strategies: 2015 guideline statement. *Journal of clinical epidemiology*. 2016;75:40-6.
29. Munn Z, Moola S, Riitano D, Lisy K. The development of a critical appraisal tool for use in systematic reviews addressing questions of prevalence. *International journal of health policy and management*. 2014;3(3):123.
30. Moola S, Munn Z, Tufanaru C, Aromataris E, Sears K, Sfetec R. JBI manual for evidence synthesis—chapter 7: Systematic reviews of etiology and risk. Adelaide, South Australia: jbi global. 2020;10.
31. Mokkink LB, De Vet HC, Prinsen CA, Patrick DL, Alonso J, Bouter LM, et al. COSMIN risk of bias checklist for systematic reviews of patient-reported outcome measures. *Quality of Life Research*. 2018;27:1171-9.



32. Male L, Noble A, Atkinson J, Marson T. Measuring patient experience: a systematic review to evaluate psychometric properties of patient reported experience measures (PREMs) for emergency care service provision. *International Journal for Quality in Health Care*. 2017;29(3):314-26.
33. Thomas J, Harden A. Methods for the thematic synthesis of qualitative research in systematic reviews. *BMC medical research methodology*. 2008;8:1-10.
34. Murphy BL, Hanson KT, Hieken TJ, McLaughlin S, Gray RJ, Habermann EB. Patient-reported experience after outpatient breast surgery. *The American Journal of Surgery*. 2019;218(1):175-80.
35. Wick EC, Galante DJ, Hobson DB, Benson AR, Lee KK, Berenholtz SM, et al. Organizational culture changes result in improvement in patient-centered outcomes: implementation of an integrated recovery pathway for surgical patients. *Journal of the American College of Surgeons*. 2015;221(3):669-77.
36. Schreiter NA, Fisher A, Barrett JR, Acher A, Sell L, Edwards D, et al. A telephone-based surgical transitional care program with improved patient satisfaction scores and fiscal neutrality. *Surgery*. 2021;169(2):347-55.
37. Jones C, O'Neill S, McLean K, Wigmore S, Harrison E. Patient experience and overall satisfaction after emergency abdominal surgery. *BMC surgery*. 2017;17(1):1-8.
38. Harrison H, Stewart GD, Usher-Smith JA. Patient experience of follow-up after surgery for kidney cancer: a focus group study. *BJU international*. 2023.
39. Black N, Varaganum M, Hutchings A. Relationship between patient reported experience (PREMs) and patient reported outcomes (PROMs) in elective surgery. *BMJ quality & safety*. 2014;23(7):534-42.
40. Arvidsson L, Hägglund B, Petersson L, Arvidsson E, Tägil M. Virtual Follow up After Distal Radius Fracture Surgery—Patient Experiences During the COVID-19 Pandemic. *Journal of Patient Experience*. 2023;10:23743735231188819.
41. Lithner M, Klefsgard R, Johansson J, Andersson E. The significance of information after discharge for colorectal cancer surgery—a qualitative study. *BMC nursing*. 2015;14:1-8.
42. Poelstra R, Selles RW, Slijper HP, van der Oest MJ, Feitz R, Hovius SE, et al. Better patients' treatment experiences are associated with better postoperative results in Dupuytren's disease. *Journal of Hand Surgery (European Volume)*. 2018;43(8):848-54.
43. Ventura-Aguiar P, Bayés-Genís B, Amor AJ, Cuatrecasas M, Diekmann F, Esmatjes E, et al. Patient Experience in Pancreas-Kidney Transplantation—A Methodological Approach Towards Innovation in an Established Program. *Transplant International*. 2022;35:10223.
44. Brennan L, Kessie T, Caulfield B. Patient experiences of rehabilitation and the potential for an mHealth system with biofeedback after breast cancer surgery: qualitative study. *JMIR mHealth and uHealth*. 2020;8(7):e19721.
45. Darby C, Hays RD, Kletke P. Development and evaluation of the CAHPS® Hospital Survey. *Health services research*. 2005;40(6 Pt 2):1973.
46. Adult Inpatient Survey [Available from: <http://www.nhssurveys.org/survey/1619>].
47. Leinonen T, Leino-Kilpi H, Ståhlberg MR, Lertola K. The quality of perioperative care: development of a tool for the perceptions of patients. *Journal of advanced nursing*. 2001;35(2):294-306.
48. Aiello A, Garman A, Morris SB. Patient satisfaction with nursing care: a multilevel analysis. *Quality Management in Healthcare*. 2003;12(3):187-90.
49. Slawomirski L, van den Berg M, Karmakar-Hore S. Patient-Reported indicator survey (Paris): aligning practice and policy for better health outcomes. *World Medical Journal*. 2018;64(3):8-14.
50. Lungu DA, Pennucci F, De Rosis S, Romano G, Melfi F. Implementing successful systematic Patient Reported Outcome and Experience Measures (PROMs and PREMs) in robotic oncological surgery—The role of physicians. *The International Journal of Health Planning and Management*. 2020;35(3):773-87.

51. Minvielle E, Fierobe A, Fourcade A, Ferrua M, Di Palma M, Scotté F, et al. The use of patient-reported outcome and experience measures for health policy purposes: a scoping review in oncology. *Health Policy*. 2023;129:104702.
52. Kingsley C, Patel S. Patient-reported outcome measures and patient-reported experience measures. *BJA Education*. 2017;17(4):137-44.
53. Sjövall A, Söderqvist L, Martling A, Buchli C. Improvement of the experience of colorectal cancer patients in Sweden with a regional cancer plan. *Colorectal Disease*. 2020;22(12):1965-73.
54. Atkinson V, Woods J, Myles PS, Hodge A, Lloyd D, Rovtar V, et al. Patient Judgement of Change with Elective Surgery Correlates with Patient Reported Outcomes and Quality of Life. 2022.
55. Cazabon D, Pande T, Sen P, Daftary A, Arsenault C, Bhatnagar H, et al. User experience and patient satisfaction with tuberculosis care in low-and middle-income countries: a systematic review. *Journal of clinical tuberculosis and other mycobacterial diseases*. 2020;19:100154.
56. Pieris L, Sigera PC, De Silva AP, Munasinghe S, Rshan A, Athapattu PL, et al. Experiences of ICU survivors in a low middle income country-a multicenter study. *BMC anesthesiology*. 2018;18:1-8.
57. Angelis J, Glenngård AH, Jordahl H. Management practices and the quality of primary care. *Public Money & Management*. 2021;41(3):264-71.
58. Glenngård AH. Is patient satisfaction in primary care dependent on structural and organizational characteristics among providers? Findings based on data from the national patient survey in Sweden. *Health Economics, Policy and Law*. 2013;8(3):317-33.
59. Glenngård AH, Anell A. Does increased standardisation in health care mean less responsiveness towards individual patients' expectations? A register-based study in Swedish primary care. *Sage open medicine*. 2017;5:2050312117704862.
60. Kandelaki K, Marrone G, Lundborg CS, Schmidt I, Björkman I. Patient-centredness as a quality domain in Swedish healthcare: results from the first national surveys in different Swedish healthcare settings. *BMJ open*. 2016;6(1):e009056.
61. Coelho A, de Bienassis K, Klazinga N, Santo S, Frade P, Costa A, et al. Mental health patient-reported outcomes and experiences assessment in Portugal. *International journal of environmental research and public health*. 2022;19(18):11153.
62. Martin-Delgado J, Guilabert M, Mira-Solves J. Patient-reported experience and outcome measures in people living with diabetes: a scoping review of instruments. *The Patient-Patient-Centered Outcomes Research*. 2021;14(6):759-73.
63. Coughlin SS. Recall bias in epidemiologic studies. *Journal of clinical epidemiology*. 1990;43(1):87-91.
64. Stull DE, Leidy NK, Parasuraman B, Chassany O. Optimal recall periods for patient-reported outcomes: challenges and potential solutions. *Current medical research and opinion*. 2009;25(4):929-42.
65. Spearpoint K. Surviving cardiac arrest: patients' experiences of the in-hospital phase of recovery. 2017.
66. Blome C, Augustin M. Measuring change in subjective wellbeing: Methods to quantify recall bias and recalibration response shift. *HCHE Research Paper*; 2016.
67. Bull C, Teede H, Watson D, Callander EJ, editors. Selecting and implementing patient-reported outcome and experience measures to assess health system performance. *JAMA Health Forum*; 2022: American Medical Association.