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Integrating evidence-based medicine into UK general surgical training: a modified Delphi consensus study

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Title

Integrating Evidence-Based Medicine into UK General Surgical Training: A Modified Delphi Consensus Study

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Declaration**Ethics approval and consent to participate**

Ethics approval has been obtained by the School of Medicine and Population Health Ethics Committee, University of Sheffield, United Kingdom (Reference Number 065891) and the study was conducted in accordance with the ethical principles of the Declaration of Helsinki. All authors have consented to publication of this manuscript. All acknowledged participants have provided their consent for their name to be in the acknowledgements section.

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Competing interests

The authors declare no competing interests relevant to this work.

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Not applicable

Availability of data and materials

The data that support the findings of this study is available from the corresponding author upon reasonable request.

Authors' contributions

Study conception and design: Eviropidis Tokidis, Pirashanthie Vivekananda-Schmidt, Saba P Balasubramanian, Acquisition of data: Eviropidis Tokidis, Analysis and interpretation of data: Eviropidis Tokidis, Drafting of manuscript: Eviropidis Tokidis, Critical revision of manuscript: Eviropidis Tokidis, Pirashanthie Vivekananda-Schmidt, Saba P Balasubramanian.

Abstract**Background**

Recent research has highlighted inconsistent teaching and application of Evidence-Based Medicine (EBM) within General Surgery. Existing international EBM competency frameworks are not tailored to the specific requirements of surgical training, and no specialty-specific curriculum currently exists. This study seeks to establish the stakeholder-agreed competency foundations that could inform future curricular refinements.

Methods

A modified Delphi study was conducted electronically with surgical educators involved in postgraduate General Surgery training. Participants rated their agreement to 21 adapted statements using a five-point Likert scale and provided commentary. Consensus was pre-defined as $\geq 75\%$ agreement. Quantitative findings were summarised using percentage agreement, medians, and interquartile ranges; qualitative commentary was retained verbatim after round 1 and analysed thematically after round 2 when the study concluded.

Results

Thirty-six and twenty-one panellists completed rounds 1 and 2 respectively. Consensus was reached on key EBM competencies including question formulation, evidence retrieval, critical appraisal, and application of evidence in

clinical decisions; and on preferred teaching approaches. Qualitative feedback emphasised the value of EBM while identifying feasibility, supervisory capacity, and resource constraints. One statement proposing assessment of EBM through existing Workplace-Based Assessments did not reach consensus across the two rounds. Response stability, supported by panel diversity, consistency and the 58.3% retention rate informed the decision not to proceed to a third round.

Conclusion

The study establishes consensus on core EBM competencies for General Surgery. These findings provide a stakeholder-informed foundation for curriculum development and highlight assessment through workplace-based mechanisms as an area that requires further evaluation.

Keywords

Evidence-based Medicine, Evidence-based Surgery, General Surgery, Delphi Consensus, Curriculum

Introduction

Evidence-based Medicine (EBM), defined as the “conscientious, explicit and judicious use of current best evidence in making decisions about the care of individual patients” is the cornerstone of contemporary clinical practice,¹ yet its integration into General Surgical training in the United Kingdom remains inconsistent and poorly defined^{2,3}. Despite emphasis on EBM within UK General Surgery postgraduate education, trainees often encounter fragmented teaching, limited workplace application and unclear expectations regarding acquiring competence³. General Surgery is characterised by the need for rapid, decision-making in time-pressured clinical environments, variability in supervision and traditional apprentice model of work⁴; all of which could influence how EBM is enacted in practice⁵. This echoes current literature which shows wide variation in how EBM is conceptualised and delivered across many surgical training programmes, with few interventions tailored to the structure or demands of the surgical workplace².

Although mixed-methods research on UK General Surgery trainees^{3,6} has shown EBM is valued, they experience lack of coherence and consistency with EBM teaching and application within the specialty. Cultural and hierarchical influences, trainees’ research background and limited access to resources were revealed as factors shaping how EBM is learnt. There was also uncertainty regarding expected levels of EBM competence at different stages of training and inconsistent opportunities for trainees to develop these skills within their training programmes^{3,6}. International efforts

have produced a consensus framework describing generic EBM competencies⁷. While this framework is valuable for defining the broad domains of EBM practice, it was developed for health professionals in general and is not specific to specialties or aligned to the needs of UK post-graduate level surgical training.

This study aims to establish a consensus agreement among well-informed General Surgical educators on the core components of EBM competencies for General Surgery in the UK through a modified Delphi study^{8–10}. This could then inform future UK curricular refinements within General Surgery training including intentions to strengthen EBM competencies.

Methods

This study employed a modified Delphi approach where a previously published set of EBM statements were modified to fit the context of General Surgery in the UK rather than generation of items de novo⁸. The study followed guidance (DELPHISTAR)¹¹ for designing and reporting Delphi studies in health and social sciences (Supplementary Material).

Statement adaptation process

Rather than adopting existing competencies⁷ verbatim or generating Delphi items de novo, we undertook an adaptation process to contextualise them for UK postgraduate General Surgical training. Four senior stakeholders, each holding educational leadership positions within General Surgery (2 training programme directors from 2 different UK regions, the president of a General Surgical association and the national lead for the online General Surgical teaching), participated in online meetings with the research team. These stakeholders reviewed the EBM competencies proposed by Albarqouni et al⁷ in relation to the structure and requirements of UK General Surgery training. Findings from earlier trainee-focused studies³ were presented to the stakeholders to inform this process. Three areas of agreement emerged: the original framework was considered educationally robust but difficult to operationalise within routine surgical training; competencies required contextualisation to reflect surgery-specific clinical practice; and additional statements addressing assessment within UK postgraduate training structures were developed and included as this was not available in the international consensus. This iterative process resulted in 21 statements (Supplementary Material), which formed Round 1 of the modified Delphi study.

Settings and Participants

Participants in this study were defined as well-informed persons rather than experts⁹. While expertise in Evidence-Based Medicine can be conceptualised in general terms, identifying individuals with recognised expertise in EBM within the specific context of General Surgery training is challenging¹². This is because, EBM teaching and supervision in surgical training are typically delivered by trainees' supervisory teams rather than by a small group of designated experts^{3,6}. Clinical and educational supervisors, Royal College tutors, members of General Surgery specialty committees (including trainees in them) and training programme directors were considered well-informed individuals for the purposes of this study. These individuals collectively represent the stakeholder groups directly involved in shaping and delivering UK General Surgery training curricula.

Recruitment

Invitations were distributed electronically via email to identified stakeholder groups, including training programme directors (via the chair of the General Surgery Specialty Advisory Committee), Royal College of Surgeons of England tutors (via publicly available contact details on the College website), and General Surgery specialty committee members (via publicly available professional society email addresses). In addition, the study was promoted through professional social media platforms (LinkedIn) to reach other relevant stakeholders involved in surgical training. Participation was voluntary.

Consent to participate and demographics

After providing informed consent, participants were asked to report their role(s) in postgraduate surgical training, their General Surgical subspecialty and whether they wished collaborative acknowledgement in the study. This information was collected to describe the composition of the Delphi panel, ensure representation across clinical and supervisory contexts and assess panel breadth and stability across rounds rather than to undertake subspecialty or role specific comparative analyses.

Data collection

The Round 1 Delphi questionnaire comprised structured statements presented with a five-point Likert scale (1-strongly disagree to 5-strongly agree) to measure levels of agreement. Each statement was accompanied by a free-text field to allow participants to elaborate on their responses. For composite questions, sub-elements were rated individually, with qualitative feedback captured through a shared comments field. Participants were instructed to rate statements independently in the first round without consultation with other respondents. The second round panellists were provided with feedback and a summary of the first round data. Additionally, the statements that did not reach

consensus in the first round were included in Round 2. Rounds were planned to continue iteratively until either consensus or demonstrated response stability was achieved for all statements, rather than a fixed number of rounds being pre-specified, consistent with modified Delphi convention⁸. Each Delphi round lasted 8 weeks with a reminder sent at 4 weeks.

The data was collected via the Qualtrics^{XM} (Qualtrics, Provo, UT, USA). Data was managed according to an established data management plan with the University of Sheffield and analysed using Microsoft ExcelTM and Jamovi¹³.

For each Delphi statement, the following metrics were calculated:

- Frequency counts for each statement's Likert agreement scores (1-5)
- Median agreement scores for each statement's Likert agreement scores (1-5)
- Interquartile range (IQR) of each statement's Likert agreement scores (1-5) as an index of response dispersion

Data analysis

The panel size was set to 10-25 participants a priori based on relevant Delphi literature⁹. Pre-specified consensus criteria were set at $\geq 75\%$ agreement, defined as the proportion selecting "somewhat agree" or "strongly agree". A threshold of $\geq 75\%$ agreement was selected as it falls within the commonly reported range for consensus thresholds in Delphi studies⁸. Free-text responses were extracted and retained verbatim. This data was analysed descriptively and organised deductively using the Kirkpatrick Model¹⁴. This was selected because it provides a recognised framework for categorising the impact of educational interventions across levels of reaction, learning, behaviour and results, and was therefore well suited to organise participants' free-text comments on the perceived value and anticipated impact of EBM training, rather than for the analysis of the quantitative consensus data itself. These verbatim qualitative comments were shared with panellists; however, analytic synthesis was deferred until study completion to prevent researcher interpretation from influencing subsequent Delphi rounds. After round 2, the participants were thanked and a summary of the results was provided to them via email.

Results

Figure 1 summarises the flow of this modified Delphi study.

Thirty-six participants completed Round 1 of the modified Delphi process. All participants were actively involved in postgraduate General Surgery training and reported one or more educational or supervisory roles; the breakdown of

role is provided in the supplementary material. The results of Round 1 are summarised in Table S1. Consensus ($\geq 75\%$) was achieved for 18 of 21 statements. Panellists agreed that EBM should be integrated within the ST3–ST8 General Surgery curriculum and delivered longitudinally across training. Agreement was also achieved for core EBM competencies, including formulation of structured clinical questions, access to EBM resources, construction and execution of literature search strategies, critical appraisal of multiple study designs, application of evidence in clinical decision-making, and communication of evidence-based decisions to patients and colleagues. All proposed modes of EBM delivery—regional teaching, national teaching, courses or workshops, and journal clubs—met the consensus threshold.

Three statements (statement 18, 19 and 21) did not meet the predefined 75% agreement threshold in Round 1 and were therefore progressed to Round 2. These related to the assessment of EBM competencies through predefined GMC General Professional Capabilities and ARCP processes, summative assessment in FRCS Part 1 MCQ format, and assessment of EBM practice through existing workplace-based assessments. These statements demonstrated greater response dispersion and lower median agreement scores compared with statements addressing curriculum content and teaching delivery.

In Round 2 (Table S2), two out of three statements subsequently reached the predefined consensus threshold of $\geq 75\%$ agreement (statements 18 and 19) by 21/36 (58.3% retention rate) panellists; the panellist breakdown is provided in the supplementary material. The statement proposing assessment of EBM practice through existing workplace-based assessments (WBAs) and review at Annual Review of Competence Progression (ARCP) did not reach consensus with responses distributed across agreement, neutrality, and disagreement categories, and minimal change in median scores between rounds. This response stability, defined as a negligible shift in agreement levels between consecutive rounds, indicated that further iteration was unlikely to alter the consensus position. Accordingly, in line with established Delphi methodology, the item was retained as a non-consensus outcome, and no additional Delphi rounds were undertaken.

Qualitative comments provided contextual insight into the responses to all statements regardless of agreement. All the free-text comments are mapped to the Kirkpatrick framework in Table S3. Comments relating to curriculum inclusion and core competencies predominantly reflected positive perceptions of relevance and value (Kirkpatrick Level 1) and anticipated benefits for learning and clinical practice (Levels 2 and 4). In contrast, comments concerning assessment

focused on feasibility, variability in supervisory expertise, limitations of existing assessment structures, and challenges in evidencing EBM behaviours in routine practice (Levels 2–3).

Discussion

This Delphi study sought to establish consensus on the EBM core competencies which were adapted from an international established framework and also gathered consensus opinions on their integration, delivery, and assessment within General Surgical training in the UK. The findings demonstrate agreement and disagreement across the panel on the centrality of EBM training in General Surgery and the importance of providing trainees with structured opportunities to formulate clinical questions, retrieve evidence, critically appraise research, and apply findings in clinical decision-making. These areas achieved consistently high levels of consensus and low response dispersion, indicating a shared professional understanding of the relevance and necessity of EBM within the surgical curriculum.

Retention between rounds was 58.3% and although higher retention is preferable, particularly where changes in group opinion are anticipated, evidence suggests that meaningful inferences can still be drawn when the characteristics of retained respondents remain representative of the initial sample.¹⁵ In this study, we observed relatively stable attrition across professional roles, with a modest shift toward greater representation of formal educational leadership roles. The consistency of participant profiles mitigates concerns regarding panel attrition-related variability and supports the validity of the consensus patterns observed¹⁶. Nevertheless, this could suggest differential capacity for sustained participation due to potential cultural and workload barriers^{3,6}.

Most statements achieved strong consensus across both rounds, reflecting clear professional expectations regarding EBM-related knowledge, skills, and behaviours. Notably, consensus was achieved for all components relating to critical appraisal of treatment, diagnostic, prognostic, and systematic review evidence, as well as integration of evidence into shared decision-making. Consensus was similarly strong regarding curricular structure and delivery: panellists agreed that EBM training should be integrated longitudinally across the ST3-ST8 curriculum rather than delivered as an isolated module, and that regional teaching, national teaching, structured courses, and journal clubs all represented appropriate delivery modes. Agreement was also high on foundational skills, including trainees' ability to access EBM resources and to construct and execute effective literature search strategies, underscoring that the panel viewed EBM not as a discrete competency but as a skill set requiring sustained, varied exposure throughout training.

Qualitative comments further supported these findings, emphasising the perceived importance of EBM not only for examination preparation. For example, one panellist described MCQ-based assessment as "the most obvious place to test theoretical knowledge" (Statement 19). Another panellist has noted that understanding EBM helps ensure trainees "offer treatments to patients that is in line with the most up to date evidence" (Statement 18).

However, consensus was not reached on the statement:

"Practice of EBM should be assessed through existing Work-Based Assessments in the surgical trainees' portfolio by their supervisory team and reviewed at the trainees' Annual Review of Competence Progression (ARCP)."

Agreement levels remained below the pre-specified threshold across both rounds, and the change in percentage agreement from Round 1 to Round 2 was minimal (e.g., from approximately 57% to 58%), indicating response stability without meaningful movement toward consensus. Given the 58.3% retention rate, the demonstrated stability of responses, and the absence of substantive change between rounds, a third round was not undertaken. Re-surveying the reduced panel risked further attrition⁸, and the evidence suggested diminishing returns. In this context, maintaining the item as a documented non-consensus statement was methodologically appropriate¹⁷.

Retaining this divergence is also educationally valuable; qualitative comments revealed concerns related to supervisor capability ("Supervisors would not know their Chi-2 from the t-tests"), workload ("Keen to see how a WBA assessment would be introduced and how it would be assessed in a small DGH where there is no research portfolio"), inconsistency in WBA delivery ("Introducing more WBAs is not the best way to do this"), and the already considerable assessment burden on trainees ("MCQs are not high fidelity enough"). These insights highlight legitimate and currently unresolved tensions within the training system,^{18,19} making the non-consensus finding a meaningful outcome rather than a methodological limitation. This is in line with existing literature, where there is no agreement on what is effective EBM assessment in surgery and medicine in general^{2,20}. This is discussed further in the "future considerations" section.

Establishing this stakeholder informed consensus of EBM competencies for the General Surgical curriculum is an essential precursor to any future efforts to improve EBM competencies within General Surgical training. However, the next steps of curriculum development to improve integration of EBM competencies and its execution falls beyond the scope of the current study.

Overall, the study's findings provide a stakeholder-informed foundation for enhancing EBM competencies of future surgeons. The endorsed components could be incorporated into curricular design, while the non-consensus statement about assessment requires further consultation, piloting, or local adaptation. Future work may involve mapping the agreed competencies to existing training structures,²¹ exploring faculty development needs, and evaluating implementation strategies through pilot programmes or quality-improvement approaches.

Limitations

Although participants represented multiple educational roles and subspecialties, recruitment was voluntary and purposive, so selection bias and non-response bias remain possible. However, targeted mailing lists and professional social media (LinkedIn) advertisement were used to implement inclusive recruitment by both ensuring the survey is open to all relevant participants as well as ensuring it reaches senior education leads for example by advertising it through Surgical Advisory Committee with curriculum development responsibilities. A formal response rate was not calculated, as the total number of individuals invited could not be reliably determined; response-rate reporting is in any case not standardised across Delphi studies^{8,9}. Different consensus methods such as the nominal group technique²² were not deemed feasible given the time constraints of surgeons, whose demanding schedules preclude the synchronous participation required for structured group meetings. Attrition between rounds (36 to 21 panellists) may have affected Round 2 estimates of agreement, even though the second-round panel remained representative and the attrition rates are as expected for this method⁸. The narrow shift in ratings between rounds suggests that further iteration would be unlikely to produce substantial convergence and aligns with the literature - emphasising the importance of stability in Delphi responses as an indicator of saturation, rather than the pursuit of consensus for its own sake⁸. The study was undertaken within UK General Surgery, and transferability to other surgical specialties cannot be assumed; however, given broadly comparable workplace constraints and curricular structures across surgical specialties, the agreed domains may be informative beyond General Surgery and should be tested in other contexts. Finally, free-text comments were organised descriptively using the Kirkpatrick framework to support curriculum development rather than to generate an exhaustive qualitative account; this purposeful approach provides utility to surgical educators.

Future considerations

Implementation should prioritise integration of EBM within existing ST3–ST8 educational structures rather than through the addition of new curricular components, utilising established regional teaching, national online provision,

and routine clinical learning opportunities. The study supports a progressive, scaffolded approach in which foundational EBM skills are introduced early and developed longitudinally, aligning with existing models of surgical skill acquisition. Qualitative findings highlight variability in supervisory capability and access to evidence resources, indicating the need for targeted faculty development and more equitable resource provision across training sites. Supervisory capability represents a substantive systemic challenge - EBM integration will require not only curricular change but investment in faculty development to ensure supervisors are equipped to support evidence-based reasoning in routine practice. Participants also identified time pressures, service demands, and hierarchical clinical cultures as barriers to behavioural change, suggesting that implementation strategies should embed EBM within everyday clinical activities and explicitly model evidence-based reasoning. While mapping EBM competencies to the Capabilities in Practice (CiPs)²¹ represents a potential future direction, the absence of consensus on workplace-based assessment suggests this would require further consultation and piloting before implementation; this should favour low-stakes, formative approaches while assessment infrastructure and supervisor readiness are developed²³. Coordinated use of national and regional educational resources may support consistency while allowing local flexibility. Finally, pilot implementation could be evaluated using contemporary frameworks for complex interventions, with attention to contextual influences, implementation fidelity, mechanisms of change, and educational impact across training environments^{24–26}.

Conclusion

The findings of this study provide a stakeholder-informed foundation for improved integration of EBM competencies within General Surgery training in the UK, while highlighting assessment of EBM competencies through workplace-based mechanisms as an unresolved area requiring further evaluation.

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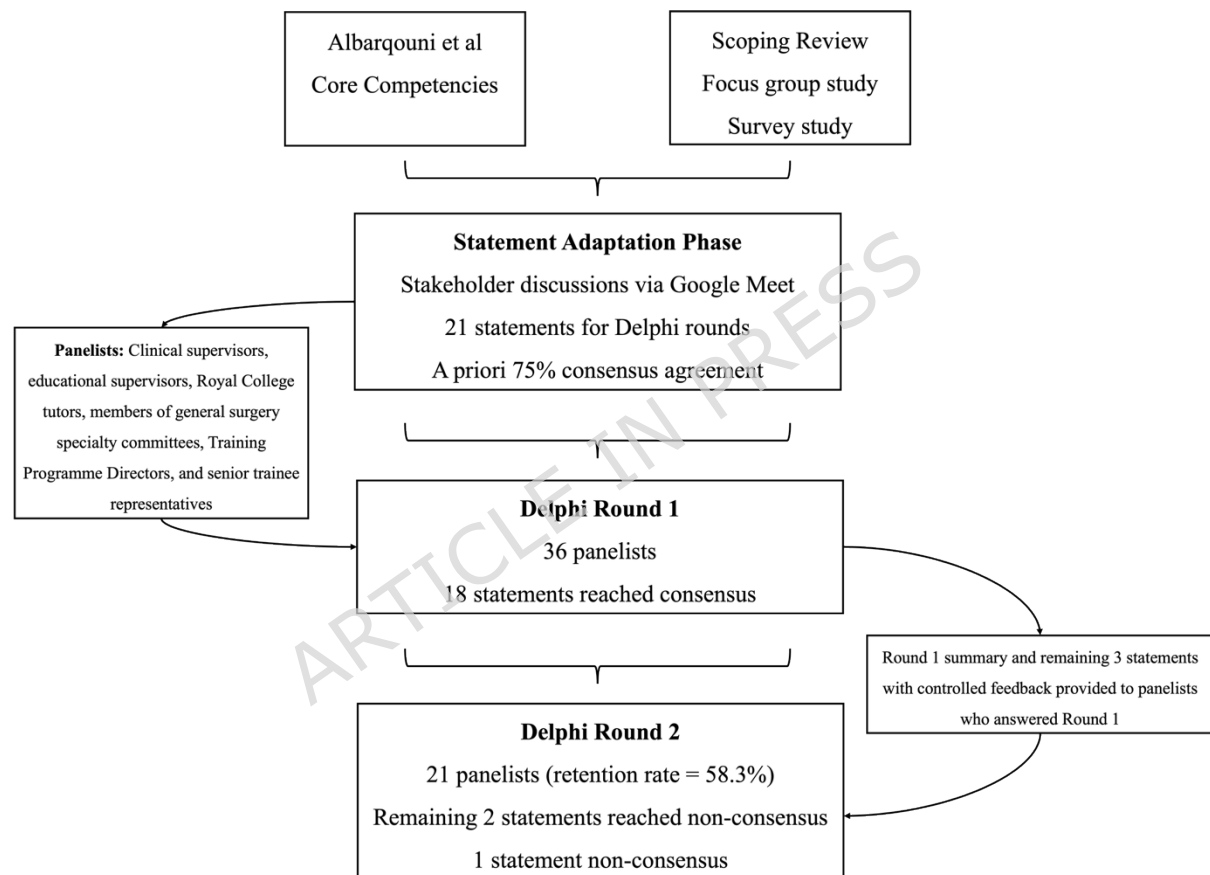


Figure 1 Delphi Flow Diagram

Statement number	Statement (verbatim)	Agreement (%)	Median (IQR)	Consensus achieved
1	EBM training should be integrated into the ST3–ST8 General Surgery curriculum.	94	5 (1)	Yes
2	The “explain” component of the Core EBM competencies Consensus should be	89	4 (1)	Yes

	taught during General Surgery training.			
3	The “mention” component of the Core EBM competencies Consensus should be taught during General Surgery training.	78	4 (1)	Yes
4	EBM should be taught throughout the six years of General Surgery training.	97	5 (1)	Yes
5	Should a relevant General Surgery clinical question arise in the trainees’ surgical practice, they should be able to convert it into structured, answerable formats (i.e. Patient–Intervention–Comparison–Outcome [PICO]).	81	4 (1)	Yes
6.1	EBM teaching should be facilitated through regional teaching.	86	5 (1)	Yes
6.2	EBM teaching should be facilitated through national teaching.	81	4 (1)	Yes
6.3	EBM teaching should be facilitated through courses/workshops.	86	4 (1)	Yes
6.4	EBM teaching should be facilitated through journal clubs.	94	4.5 (1)	Yes
7	The surgical trainee should be able to formulate clinical questions based on the clinical situation such as treatment, diagnosis, prognosis, or aetiology.	97	5 (1)	Yes
8	The trainee should be able to easily access EBM resources.	100	5 (0)	Yes
9	Surgical trainees should be able to construct and execute search strategies for clinical questions and obtain adequate answers.	100	5 (1)	Yes
10	The surgical trainee should be able to critically appraise and interpret systematic	94	5 (1)	Yes

	reviews and meta-analyses.			
11	The surgical trainee should be able to critically appraise and interpret treatment studies.	95	5 (1)	Yes
12	The surgical trainee should be able to critically appraise and interpret diagnostic accuracy studies.	89	5 (1)	Yes
13	The surgical trainee should be able to critically appraise and interpret qualitative studies.	83	4.5 (1)	Yes
14	The surgical trainee should be able to apply critically appraised evidence in clinical decision-making.	92	5 (0)	Yes
15	The surgical trainee should be able to communicate evidence-based decisions effectively to patients.	92	5 (0)	Yes
16	The surgical trainee should be able to communicate evidence-based decisions effectively to colleagues.	94	5 (0)	Yes
17	The surgical trainee should be able to evaluate the outcomes of applied evidence and adjust practice accordingly.	92	5 (1)	Yes
18	EBM competencies should be assessed within the predefined General Medical Council (GMC) General Professional Capabilities by the supervisory team and reviewed at Annual Review of Competence Progression (ARCP).	64	4 (2)	No
19	EBM competencies should be summatively assessed in Multiple Choice Question (MCQ) format in the FRCS Part 1 examination.	72	4 (2)	No

20	EBM competencies should be summatively assessed in OSCE/Viva format in the FRCS Part 2 examination.	78	4 (1)	Yes
21	Practice of EBM should be assessed through existing work-based assessments in the surgical trainees' portfolio by their supervisory team and reviewed at ARCP by the ARCP panel.	58	4 (1)	No

Table S 1 Round 1 Results

Statement number	Statement (verbatim)	Agreement (%)	Median (IQR)	Consensus achieved
18	EBM competencies should be assessed within the predefined GMC General Professional Capabilities by the supervisory team and reviewed at Annual Review of Competence Progression (ARCP).	90.5	4 (1)	Yes
19	EBM competencies should be summatively assessed in MCQ format in the FRCS Part 1 examination.	81	4 (1)	Yes
21	Practice of EBM should be assessed through existing work-based assessments in the surgical trainees' portfolio by their supervisory team and reviewed at ARCP by the ARCP panel.	57.1	4 (1)	No

Table S 2 Round 2 Results

Kirkpatrick level	Focus	All verbatim comments
Level 1: Reaction	Perceived relevance, acceptability, and feasibility of EBM within surgical training	<p>"This is essential."</p> <p>"I don't think this is controversial."</p> <p>"Fundamental."</p> <p>"Not sure if this is required."</p> <p>"Cannot see any value in this."</p> <p>"There is already a lot to teach trainees, so this needs to be tempered by what can realistically be applied to the curriculum."</p> <p>"With an overcrowded curriculum the emphasis should be on technical skill acquisition."</p>
Level 2: Learning	Knowledge acquisition and skills development	<p>"This is a difficult skill that takes time to learn and get right."</p> <p>"Some knowledge is important."</p> <p>"Learning how to MeSH is essential."</p> <p>"Specificity/sensitivity is a bare minimum."</p>

		<p>“Qualitative studies are poorly understood amongst medics.”</p> <p>“Need to define at what level but some understanding is essential.”</p>
Level 3: Behaviour	Application of EBM in clinical and educational practice	<p>“This is important for incorporating findings into clinical practice.”</p> <p>“This can be complex in day-to-day life.”</p> <p>“Limitations as has to follow hospital guidelines/protocols and their trainer choice.”</p> <p>“Barrier is independence of practice as a trainee.”</p> <p>“How else will you be able to introduce new practices without convincing your colleagues.”</p>
Level 4: Results	Impact on patient care, training quality, and professional outcomes	<p>“Required for improving clinical practice.”</p> <p>“This is essential for high quality patient focussed care.”</p> <p>“This provides strong evidence for what we do.”</p> <p>“This is the whole point.”</p> <p>“This will set up residents for their future learning as a consultant.”</p>
Cross-cutting (assessment and systems)	Assessment feasibility and training system constraints	<p>“Portfolio assessments remain broadly poorly delivered.”</p> <p>“Introducing more WBAs is not the best way to do this.”</p> <p>“Supervisors would not know their Chi-2 from the t-tests.”</p> <p>“MCQs are not high fidelity enough.”</p> <p>“Viva seems a sensible method for assessment.”</p> <p>“Keen to see how a WBA assessment would be introduced and how it would be assessed in a small DGH where there is no research portfolio”</p>

Table S 3 Qualitative comment mapping to the Kirkpatrick framework for curriculum development