

# BMJ Open Barriers and facilitators for implementation of a national recommended specialty core-curriculum across UK medical schools: a cross-sectional study using an online questionnaire

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## ABSTRACT

**Objectives** The National Health Service (NHS) Long-Term plan published in 2019 set out healthcare reforms to meet the healthcare demands of UK. Undergraduate specialty core-curricula like dermatology aligns well to the training needs of the future workforce but lacks representation, consistency and implementation. This study explores the barriers and facilitators influencing the implementation of a specialty-specific (dermatology) national core-curriculum across UK medical schools.

**Design** A constructivist approach was used to develop an online questionnaire and data collected using mixed methodology.

**Participants** Undergraduate dermatology teaching leads across all UK medical schools.

**Results** 30 out of 42 UK medical schools responded to the survey (71%). 16 out of 30 (53%) responders were unaware of the planned Medical Licensing Assessments (MLA) for all UK graduates in 2024–2025; 43% were unaware if dermatology was mapped to national standards; 50% were unsure if the dermatology was blueprinted on school curricula. Barriers to implementation included competing NHS service commitments, the specialty not seen as a priority and difficulty influencing curricula changes at school level. Facilitators included workforce planning and transparency in funding to support leadership in undergraduate education. Domains identified for curriculum implementation were: (1) awareness of the role of General Medical Council and the MLA, (2) medical education training for teaching leads, (3) lack of recognition and resources for leadership, (4) skills development to map, blueprint and assess specialty core-components, (5) medical school and specialty engagement.

**Conclusions** This study identifies the potential barriers and facilitators to specialty specific core-curricular implementation across UK medical schools. Lack of standardised training in medical education, time and resources undermine the role of specialty teaching leads as medical educators. Medical school engagement with specialties with mutual support would aid the forthcoming educational reforms.

## Strengths and limitation of this study

- The cross-sectional questionnaire helped reach a specific target audience (dermatology undergraduate leads or equivalent) with relevant questions applicable to the participants.
- The mixed methods approach helped to understand the potential barriers and facilitators for a specialty (dermatology) core-curriculum implementation across UK medical schools.
- The limitations of the study were the variable response rate using the free text options via an online questionnaire.
- The geographical spread of medical school responses was not known and may have biased the findings.

## INTRODUCTION

The state of medical education and practice in UK report 2020 looking at workforce data has shown that for the longer term, we need more doctors with the right balance of expert generalists and specialists.<sup>1</sup>

The National Health Service (NHS) of the UK is underpinned by general practitioners (GPs), who remain the first point of contact for patients and provide long-term continuity of care. To provide a sustainable service to patients, the UK needs approximately half of medical school graduates to pursue a career in family medicine or general practice.<sup>2</sup>

A recent scoping review of UK undergraduate (UG) curricula revealed that specialty-specific core curricula were developed due to concerns regarding patient safety, disease burden and needs of the society or a perceived lack of adequate representation, teaching or assessments in medical school curricula.<sup>3</sup> For dermatology, there is no formal requirement for any UG training, with limited ad



hoc assessment as part of general medical training.<sup>4</sup> A survey of final year UK medical students showed that only 65% felt that they had the skills to adequately assess patients with skin disease while only 52% felt they had the skills to adequately manage them.<sup>5</sup> For this purpose, UG training with specialty-specific standards is vital. The Future Doctor Programme published by Health Education England (2020) describes the vision and expectations of doctors in the UK and sets the tone for future UG educational reforms.<sup>2</sup>

The General Medical Council (GMC) outlines standards for all stages of training, including UG medical education. Keeping patients at the heart of it all, these standards and requirements are organised around five themes: learning environment and culture; educational governance and leadership; implementation and assessments and supporting both educators and learners.<sup>6</sup> Medical schools and local education providers involved in UG training have to ensure that agreed learning outcomes and capabilities are met as per GMC standards.<sup>7</sup> To demonstrate that graduates from all UK medical schools meet the agreed standards and are well prepared to practice medicine as Foundation Year doctors, the GMC also plans to introduce a national Medical Licensing Assessment (MLA) in 2024–2025.<sup>8</sup> The MLA will test the core knowledge, skills and behaviours needed for safe practice for all UK medical students as well as international medical graduates, before attaining the licence to work in UK.<sup>8</sup> Dermatology as a clinical specialty is included in the content map of the MLA and UK medical schools would need to align their curricula accordingly.<sup>9</sup> The British Association of Dermatologists (BAD) recommends a national UG curriculum to support UK medical schools on the minimum competencies needed for a graduate to safely care for patients with skin disease.<sup>10</sup> These recommendations have been recently updated and aligned to the MLA content map.<sup>11</sup>

There have been concerns of feelings of inadequacy among junior doctors and GPs due to a lack of training at UG levels for some specialties.<sup>12</sup> With over 13 million primary care consultations for skin diseases each year<sup>13</sup> and most GP postgraduate training schemes having no dermatology, improving minimum UG dermatology teaching and learning standards across UK medical schools would help address the training gaps experienced by GPs and junior doctors

The objective of our study was to determine the potential barriers and facilitators to implementation of a national recommended UG specialty-specific core curriculum, using dermatology as a representative specialty.

## METHODS AND ANALYSIS

### Methods

#### Development of the questionnaire study

The questionnaire study aimed to identify the possible barriers and facilitators to implementation of a

recommended national core-curriculum using dermatology as a specialty across UK medical schools.

There are 42 medical schools across UK, with majority based in England and Universities established from 1413 (University of St Andrews Medical School), to the more recent ones in 2019 (University of Sunderland).<sup>14</sup> A cross-sectional questionnaire was designed and developed for dermatology UG teaching leads or equivalent staff at all UK medical schools.

We used the principles of constructivism to design and develop the questionnaire study.<sup>15</sup> The constructivist approach aided in the assimilation of knowledge and experience gained via multiple sources of learning to formulate the questionnaire study. To prepare the questionnaire, multiple data sources were used to triangulate and gather comprehensive information on barriers and facilitators to specialty curriculum implementation. These included: a review of literature relating of articles pertaining to the barriers and facilitators in UG curricula (2001–2019); a scoping review of literature on development of UG specialty curricula in UK and subsequent publication of ‘Do we need a core-curriculum for medical students? A scoping review’<sup>3</sup>; document review of meeting minutes of the BAD UG education board meetings (2018–2019); document review of University of Nottingham (UoN) medical school specialty leads committee meeting minutes where dermatology was included (2018–2019); focus group discussions with UG leads and experts across other specialties at UoN; and studying questionnaire survey designs in educational research and UG dermatology to gather data about medical education programmes and current practice.<sup>16–18</sup>

The components of the questionnaire which were identified as important to curriculum implementation related to UG educational leadership, the delivery and assessment of the clinical course, the stakeholders involved and the factors which could help or hinder implementation of dermatology curriculum at the respective medical schools (online supplemental file). The prepared questionnaire was sampled, reviewed, revised and piloted by UG leads of other specialties which also recommend a national UG core-curricula, like Ear Nose and Throat (ENT), Paediatrics and Palliative Care Medicine to check for suitability, language, relevance and generalisability across their specialties.

#### Design of questionnaire

We adopted a mixed methods approach for the design of the questionnaire to provide a more comprehensive understanding on what helps or hinders a clinical specialty curriculum (dermatology) implementation at medical schools. The questionnaire gathered both quantitative and qualitative data to provide contextual considerations, with the use of open-ended questions and opportunities for free text writing. The final questionnaire took approximately 10 min to complete and participants were assured that the responses would be anonymised (online supplemental file). A participant information sheet and consent

form were developed and added before the start of the online questionnaire. All participants were informed that participation or withdrawal would not affect their role in any way. All questions in the questionnaire were optional, that is, the person could choose not to answer any question they deemed to be sensitive or unaware or for any other reason. No personal data were collected on the questionnaire.

#### Participant identification and dissemination of the questionnaire

The questionnaire was aimed at teaching leads responsible for UG dermatology, at the respective UK medical schools. As UG teaching leads for the specialty, they could provide useful insight into the educational activities conducted at local medical school levels, share their experience as educators, the perceived barriers and facilitators to implementation of dermatology curriculum at their school and what interventions they may consider helpful. Permission was taken from the BAD to contact the UG leads who were also BAD members to participate in the questionnaire study, where no UG lead was identified, medical school deans were contacted via email to identify the UG leads or equivalent for dermatology at those schools. A formal request was made to the BAD for administrative support for identification of participants and dissemination of the questionnaire. The questionnaire was circulated and disseminated via the BAD as per the BAD Policy for questionnaire surveys, using the Jisc (formerly Britol online survey, BOS) questionnaire<sup>19</sup> supported by UoN (online supplemental file). The questionnaire study was open for a duration of 6 weeks in January 2020 and reminder emails sent to complete after 2 weeks. The anonymised results were sent to the lead researcher. The design and development of the questionnaire study were presented at the annual BAD conference, 2020.<sup>20</sup>

#### Data analysis

Data were collected anonymously and stored in accordance with the General Data Protection Regulation and Data Protection Act 2018 and analysis performed using Microsoft Excel software. A thematic analysis was

performed on the free text responses collected on three comment boxes, which provided contextual framework for comments and responses of participants' own experience at their school: (1) factors that determined if dermatology was taught and assessed at their school, (2) barriers to specialty curriculum implementation and (3) facilitators to dermatology implementation. The purpose of the analysis was to identify aspects UG leads could highlight at their own schools that was helpful or hindering towards specialty curriculum implementation. Coding and subtheme development were driven by the content of the comments.<sup>21</sup> Codes sharing similar meaning were amalgamated into subthemes and subthemes were mapped into overarching themes. In addition, free-text comment boxes were included throughout the questionnaire asking participants if there was anything else they would like to add about their experiences. We used the Standards for Reporting Qualitative Research guidelines to report our qualitative findings.<sup>22</sup>

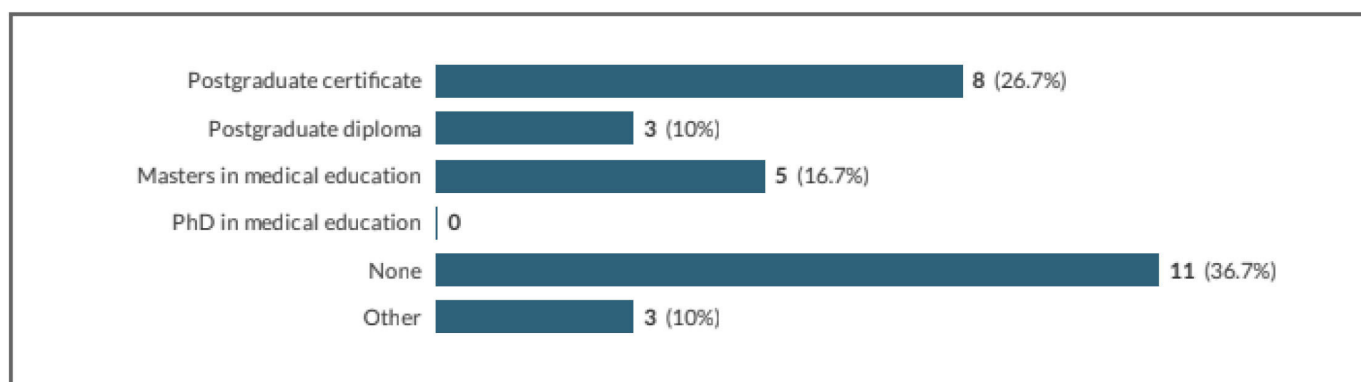
#### Results and data analysis

The response rate of the questionnaire was 71% (30/42 schools responded). As the results of the questionnaire were returned as anonymised, no comment could be made about geographical spread of individual medical schools. The results of the study were analysed under the component headings of the questionnaire: role of teaching leads, current practice for dermatology UG education and placements, the role of GMC and upcoming MLA, tools to help curriculum implementation (eg, mapping, blueprinting and assessments) and any perceived barriers and facilitators for specialty core-curriculum implementation at respective schools.

#### Teaching leads

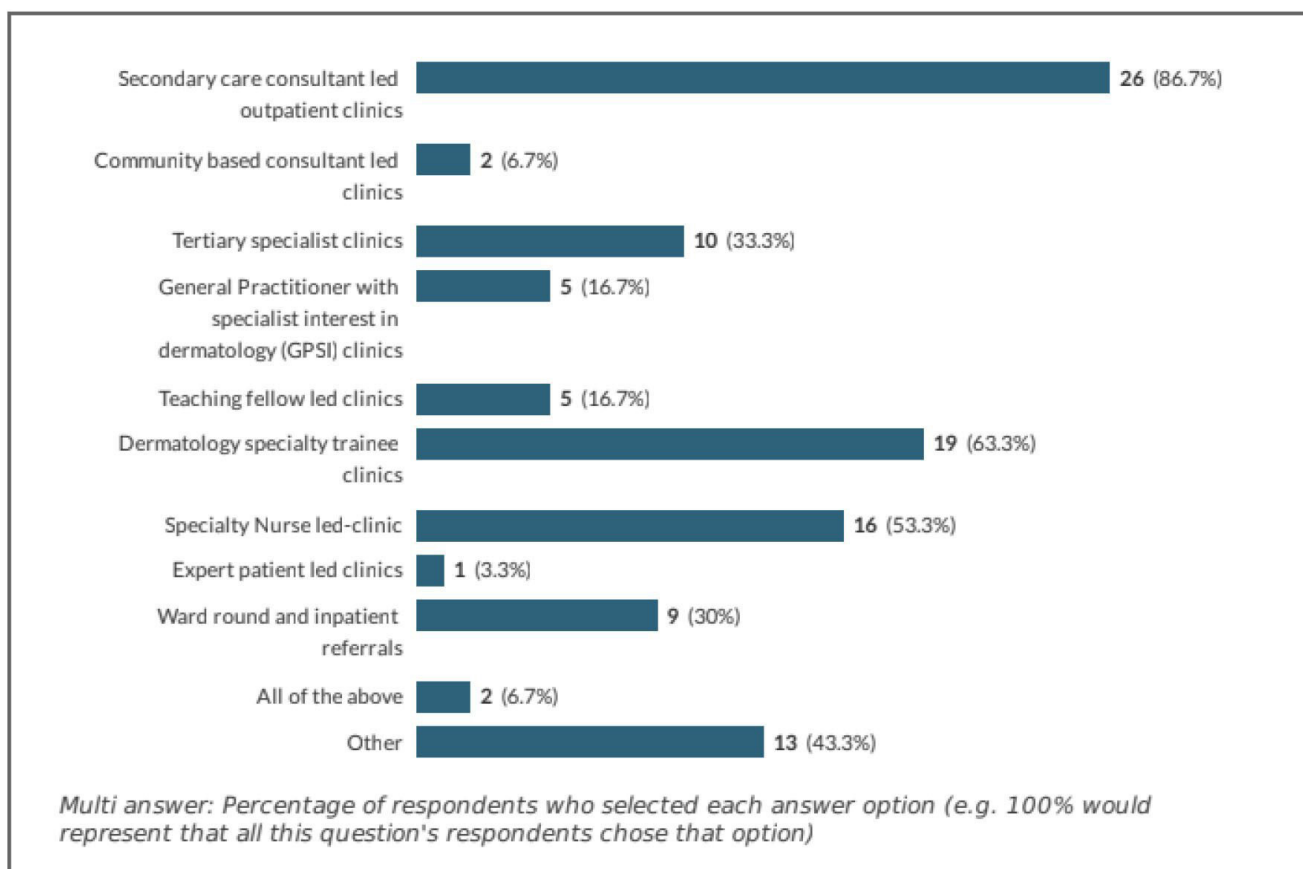
Of the 30 responders, 29 reported to have an UG lead for dermatology at their medical school, with 16 responders (53%) being current dermatology teaching leads. These were dermatology consultants with dual roles being active clinicians as well as responsible for dermatology teaching at their respective schools. Five others had either been an UG lead or had taken on academic roles as curriculum

Do you have teaching qualifications in addition to your primary medical qualifications?



**Figure 1** Teaching qualifications of undergraduate leads.

## In what setting is dermatology taught at your medical school (tick all that apply)?



**Figure 2** Clinical placements for undergraduate dermatology teaching.

director or senior lecturer. One responder reported dermatology being taught in the general practice module. In terms of having a teaching qualification to support their role as UG leads (figure 1), 11 (36%) reported having no teaching qualifications; 9 had a postgraduate certificate in medical education; 5 had a masters in medical education, 3 had a postgraduate diploma, 1 had supplemented their medical education through online courses and 1 was a fellow of the higher education academy. Of the 26 responders, 17 (65%) underwent a formal appraisal for their UG lead role and felt this helped their progression and reflection on educational related activities.

### Clinical course

Dermatology was a compulsory placement at 26 (89%) medical schools. The length of placement at medical schools varied. At eight schools, dermatology placement was limited to less than 5 days; six schools had 1 week placement, six schools had 2 weeks placement and three schools had 4 weeks placement. Only two schools had 5 weeks placement and one school had no dermatology placement at all.

Dermatology clinical teaching for medical students occurred most frequently in secondary care consultant outpatient clinics (86%), along with specialty trainee clinics (63%) and attending specialty nurse clinics (53%)

(figure 2). Teaching opportunities were present during tertiary specialist clinics (33%), at ward rounds and inpatient referrals (30%), GPs with a specialist interest in dermatology (GPwSI) and teaching fellows in dermatology also contributed to UG teaching (16% each). Interprofessional training by GPwSI and specialist nurses as well as postgraduate dermatology specialty trainees provided a wide scope of teaching delivery for medical students in their clinical placements.

### Curriculum mapping

Twenty six (86%) of the 30 respondents were aware of the BAD national UG curriculum. However, only 13 (43%) were aware if dermatology at their medical school was mapped to the BAD curriculum.<sup>10</sup> Over half (17) of the respondents were not confident to undertake a mapping exercise at their school. Factors reported by which would help UG leads conduct a mapping exercise included medical school support (eg, IT, administrative) (76%), funding and time (63%), use of mapping tools (60%) and faculty training (50%). Majority of the responders (20/30) preferred curriculum mapping exercise to be undertaken by the medical school curriculum lead and team with specialty-specific input.



### Blueprinting and assessments

The GMC intends to introduce a national MLA for all graduates who want to practice in the UK.<sup>8</sup> The MLA scheduled to be rolled out in 2024–2025 will be for all UK medical students. In the questionnaire study, over half 16/30 (53%) of the respondents were unaware of the upcoming MLA. As a result, they were unsure how the MLA could influence dermatology teaching and assessment at their respective medical schools. When asked about dermatology assessments at respective medical schools, 15/30 (50%) of the responders were unaware if dermatology assessments were blueprinted on their medical school curricula. However, schools were assessing dermatology in their curriculum via some form of formative or summative assessments or both. Formative assessments included use of computer-based multiple choice questions (MCQs), extended matching questions (EMQs), electronic learning log and interactive online clinical cases. Clinical exposure to dermatology was assessed with objective structured clinical examinations (OSCEs), case-based discussions, mini clinical examinations, practical skills like suturing and taking skin swabs, clinical prescribing and use of logbooks. For summative assessments, majority of the schools 19/30 (63%) used a combination of both MCQs/EMQs for knowledge-based assessments and OSCEs for skills assessments.

Factors to help improve and implement dermatology assessments in year-end medical school examinations included funding and time to support this activity, use of assessment templates, medical school support (eg, IT,

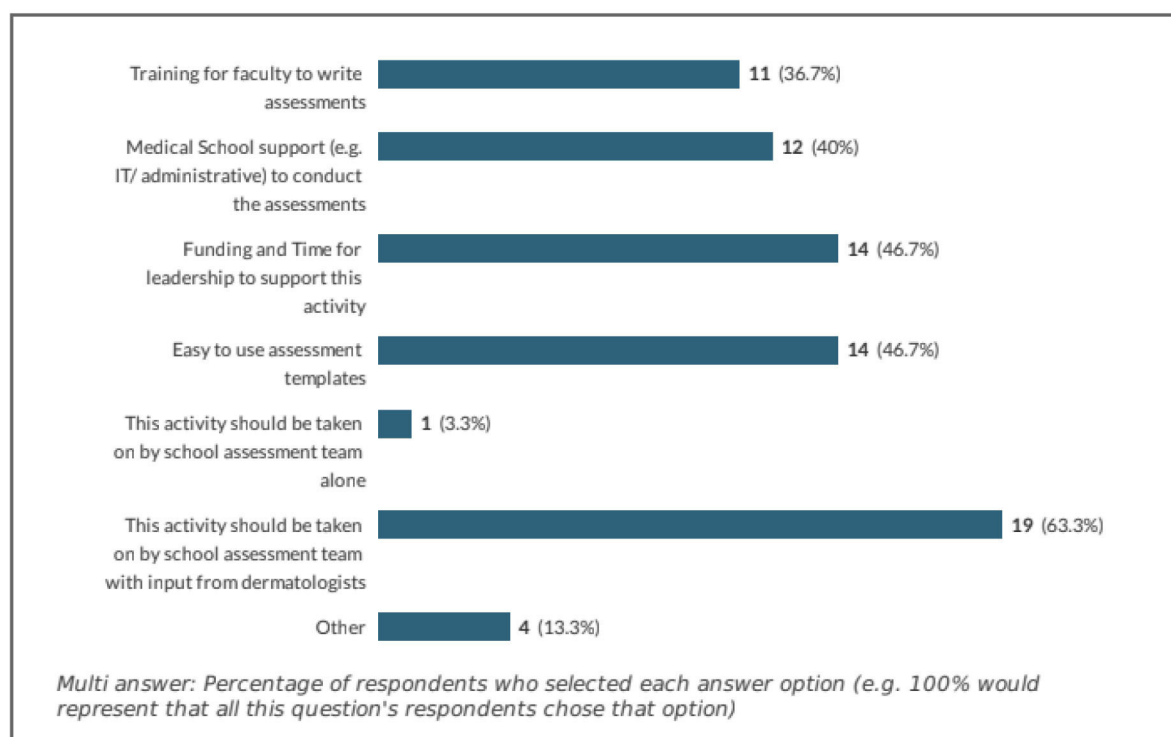
administrative) and faculty training to write assessments. Nineteen out of 30 (63%) responders felt that assessment writing and clinical assessment preparation should be undertaken by the medical school assessment team with input from specialty leads on their subject (figure 3).

### Qualitative analysis and perceived barriers and facilitators to dermatology curriculum implementation

There were a total of 50 responses to the three free text questions pertaining to what determined dermatology being taught and assessed at the respective medical schools and what were the perceived barriers or facilitators to specialty curriculum implementation. Several comments indicated recurring issues which emerged in all comment boxes. An individual respondent could contribute to more than one subtheme if their free-comment covered several issues. These comments with shared similar meaning were amalgamated into subthemes. These subthemes included clinical teachers or staffing; engagement at curriculum/medical school level for dermatology as a specialty; funding/recognition for teaching and relevance of UG specialty leadership to support curriculum implementation. The subthemes are illustrated with quotes in qualitative data tables 1–3.

The free text comments provided concurrence to the quantitative data on barriers to specialty curriculum implementation. Half the respondents (15/30) felt that busy NHS service commitments meant there was inadequate time for UG teaching. Thirteen (48%) felt that dermatology was not deemed a priority in medical school

What factors would help you implement or improve dermatology assessment at your medical school?(tick all that apply)



**Figure 3** Factors to facilitate and implement dermatology assessments.

**Table 1** Summary of subthemes for ‘in your experience or clinical practice what factors determine whether dermatology is taught and assessed at your school’

Themes	Subthemes	Number of comments	Quotes (examples)
Facilitators/ barriers	Clinical teachers/ staffing	6	Specialty input from enthusiastic teachers Good support and guidance from dermatology consultants It is always taught within our department. We are a small department and make every effort to create a timetable to fulfil curriculum requirements How keen the dermatologists are to engage
	Curriculum/ medical school	6	Up until now dermatology teaching has been good. However, the curriculum is under review and we are being marginalised and the amount of dermatology teaching is being drastically reduced Engagement with medical dean, curriculum planners and assessment teams We are undergoing curriculum review at present, Dermatology will still be taught on the new curriculum but the emphasis will be taken away from secondary care led teaching complimented by primary care, to what looks to be a more primary care driven model, complimented by secondary care. Constructive alignment dermatology is core to our UG medical programme therefore it is mapped and blueprinted within our summative assessments
	Recognition	3	It's certainly not influenced by dermatologists not enough time or assessment, or support for local hospital teaching
	UG lead	5	Pressure from undergrad lead (regional) This is a new world to me—that I am progressing out of the need to improve UG teaching in dermatology—but this is done as best I can without dedicated time to do this (but job planning due imminently - so this can be formally factored in) Having a Consultant specialist lead with an interest in medical education and commitment towards clinical dermatology being taught and assessed at school Input from Dermatology undergraduate lead and consultant and SAS buy in
		Total:20	

UG, undergraduate.

curricula or the current school curricula had no space to add dermatology. UG leads (33%) felt that dermatology was being marginalised at medical schools in favour of other subjects. More than a quarter respondents felt it was difficult to be able to influence changes at medical school level for UG dermatology curriculum implementation and assessments (figure 4).

Perceived facilitators to specialty implementation included the presence of an UG dermatology teaching lead, their commitment and input towards driving dermatology UG education. Recognition of educational leadership with transparency in funding was considered important to enable curriculum facilitation. The availability of dermatology clinical staff and their enthusiasm towards medical student teaching helped in curriculum delivery. Responders felt that better workforce planning to support UG teaching could be achieved with support of dermatology teaching fellows, specialist nurse-led teaching and GPwSI in dermatology. Other facilitators included student feedback regards lack or inadequate dermatology within curriculum as well as collaboration with dermatology research faculty.

Thus, on analysis of the quantitative and qualitative data in our questionnaire study, the main domains deemed pertinent to specialty-specific (dermatology) core-curriculum implementation were: (1) awareness of the

role of the GMC and the planned MLA for all UK graduates in 2024–2025, (2) medical education training for UG teaching leads, (3) lack of recognition and resources for leadership, (4) skills development to map, blueprint and assess specialty core-components and (5) medical school and specialty engagement.

## DISCUSSION

### Principal findings

This study explored the barriers and facilitators to a specialty-specific (dermatology) curriculum implementation across UK medical schools from the perspective of UG teaching leads. The use of an online questionnaire study with the help of the BAD administration team helped to reach the target audience (dermatology teaching leads) with a response rate of 71%. Given that the mean response rate for web-based surveys reported in a meta-analysis of 49 studies was found to be 39.6%,<sup>23</sup> our questionnaire study generated a good response rate. The adoption of mixed methodology in the questionnaire with anonymous free text responses allowed for responders to comment on the perceived barriers and facilitators, providing contextual understanding on the issues at their individual medical schools.

**Table 2** Summary of subthemes for ‘in your experience or clinical practice what factors would you consider as barriers to implementation of the dermatology curriculum’

Subthemes	Number of comments	Quotes (examples)
Clinical teachers/ staffing	5	Lack of Dermatologists in local hospitals where students do 'Medicine' attachments (during which Dermatology experience is meant to be gained) Unwillingness to teach Not sure if there are barriers ... just need time to ask the questions and immerse myself in the all the proposed changes - and to make contact with the leads and offer help to develop the programme the offer from district general hospitals
Curriculum/ medical school	5	Dermatology is dealt with reasonably well because we were responsible in curriculum design but enlargement of student numbers and difficulty in concur Pressure on the curriculum The BAD curriculum is rightly ambitious and comprehensive, but it cannot be delivered when the medical school only allows a x day clinical placement. On the other hand, with currently available clinical resources in dermatology in the region, and levels of willingness to take students in clinic, it would be difficult to increase the duration.
UG lead	2	Less SPA time for teaching UG Lack of time for dermatology educators. My job plan has 0.25 SPA which is for undergraduate and post graduate education support. I am TPD for dermatology trainees as well at my hospital.
Clinical pressures	3	Overbooked clinics Long waiting lists Workload volume
Total:15		

UG, undergraduate.

There were several domains found to be relevant to implementation of a specialty core-curriculum at medical schools. These included the need for standardisation of training and skills in medical education for UG teaching leads, in particular, regards curriculum mapping, blue-printing and assessments. There was a perceived lack of recognition of the UG specialty lead role and a need for better engagement with the medical schools. Adequate time and resources for undertaking the educational lead role and curriculum delivery were other factors to influence specialty-specific implementation. The role of GMC and the planned MLA for all UK medical graduates was important for UG leads to be aware of, to enable alignment of specialty core-curricula with the regulatory body's recommendations.

### Role of UG specialty teaching leads

The study highlights the role reliance of the UG teaching lead as the ‘specialty champion’ to guide and enable the core-curriculum implementation. The presence of a specialty teaching lead, with their commitment and input towards dermatology UG curriculum implementation was considered an important determinant for teaching and assessment of dermatology at the medical school level. UG leads were seen to have dual roles of being clinicians as well as performing UG teaching activities. Teaching leads, as jobbing dermatologists, provide vital clinical skills teaching in outpatient and inpatient settings with the help of patients presenting with acute or chronic skin diseases or skin cancers, an essential aspect for student competencies. UG leads in the questionnaire felt

constraints with time and resources to devote towards UG education. Formalising and standardising the UG lead role would help prioritise dedicated time in job plans for its delivery and allow student teaching and assessments to be more structured. A survey of the practice and experience of clinical educators in UK secondary care similarly reported having restricted time for preparation and delivery and that teaching activities were often completed in their own time.<sup>24</sup> The dedicated time for professional development and teaching activities would enable UG leads to be involved in the medical school curriculum planning activities and help in understanding why and how specialty curricula fit at their respective medical schools.

### Implications for clinicians as educators in medical schools

We observed in our study a third of the UG leads had no teaching qualification, suggesting a lack of formal training in medical education. This need for formal training in aspects of curriculum development and implementation was apparent in our study, where responders reported a lack of confidence and awareness on conducting mapping exercises, blueprinting and assessments for the specialty.

Guiding principles with prerequisite knowledge and skills in medical education among UG leads would help facilitate delivery of the core-curriculum with the use of appropriate teaching and assessments methods. Most of the training received for educational roles for clinicians relates to postgraduate teaching, delivered by the individual hospital Trusts and the Deanery, with some training by external sources like the Royal Colleges and

**Table 3** Summary of subthemes for ‘in your experience or clinical practice what factors would you consider as facilitators to implementation of the dermatology curriculum’

Subthemes	Number of comments	Quotes (examples)
Clinical teachers/ staffing	4	<ul style="list-style-type: none"> <li>▶ If we had more people with time to teach, we would just need more time with the students</li> <li>▶ We have a teaching fellow, changes each academic year - for us this is a registrar who helps with course development and delivery, in return the trust funds a PGCE or equivalent. They do the PGCE in their own time and have no actual time allocated to their role but it is still a great help and popular with registrars to date</li> <li>▶ Staffing issues</li> <li>▶ Teaching fellow</li> </ul>
Curriculum/ medical school	6	<ul style="list-style-type: none"> <li>▶ Being on good terms with colleagues at other trusts in the same medical school</li> <li>▶ Development of awareness around importance of learning Dermatology, as its often considered as not so important specialty, despite of skin being the largest organ of the body</li> <li>▶ Flexibility in the timetable to facilitate thread of dermatology throughout undergraduate education from clinical skills through to final year</li> <li>▶ National lesson plans for example, updated eLectures, CBD, etc mapped to realistic set of curriculum requirements</li> <li>▶ Medical school agreeing to find time in student time table for dermatology</li> <li>▶ Adequate administrative support</li> </ul>
Recognition	3	<ul style="list-style-type: none"> <li>▶ Recognition for teaching</li> <li>▶ The biggest factor is recognition by the NHS of the importance of teaching in delivering current and future care. It is the first role/activity to be dropped by management and colleagues when workforce shortages occur, yet it is the biggest driver for our future workforce to join the dermatology faculty of clinicians</li> </ul>
UG lead	2	<ul style="list-style-type: none"> <li>▶ Regular meetings of module leads with the med school dermatology lead as already happens at our medical school.</li> <li>▶ Increased support and time in my job plan and SIFT funding</li> </ul>
Total:15		

CBD, case-based discussion; NHS, National Health Service; PGCE, Post Graduate Certificate in Education; SIFT, Service increment for training; UG, undergraduate.

Specialty Associations.<sup>24</sup> The standards and framework for UG medical education could be proposed by universities and deans in medical education for clinicians undertaking a dual role as UG teaching leads. The GMC advises medical schools to ensure appointing UG teaching roles based on competence, aptitude and role modelling, rather than experience or clinical teaching alone.<sup>25</sup> Post-graduate qualification in medical education as a foundation towards educational leadership roles would support clinicians to be more effective in their role as educators in medical schools.

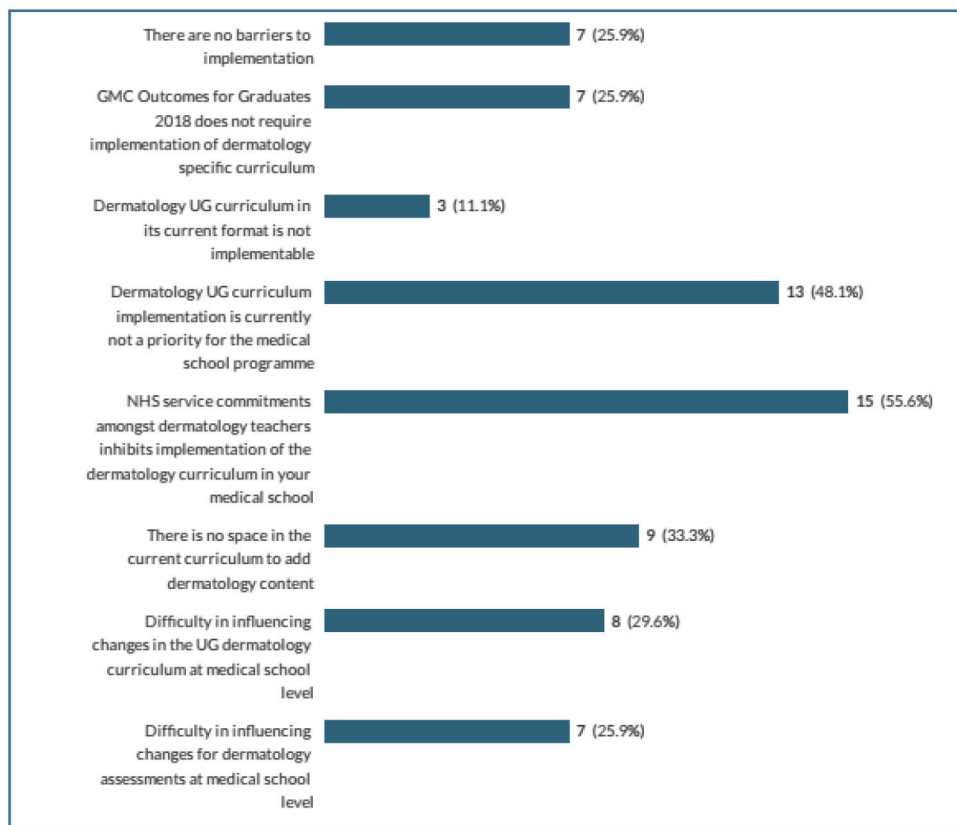
In our study, there seemed to be a lack of awareness and understanding on the role of GMC as a regulator for UG training across all UK medical schools. Half the responders in our study were unaware and unsure how the upcoming MLA set out by the GMC would impact curriculum implementation. Unless clinicians and UG leads have a role at the medical school or University level, they may be unaware of the evolving changes and not be involved in pertinent discussions relevant to curriculum planning or assessments. The GMC in their upcoming MLA has dermatology included within its content map and UK medical schools would need to align their

curricula accordingly.<sup>9</sup> Keeping the MLA into consideration, the BAD have recently updated and aligned its national recommendations on the UG curriculum.<sup>11</sup> The UG leads as clinicians could guide medical school curriculum directors or school deans on what clinical teaching activities, placements and personnel would be best placed to deliver the curricular content and assess the intended learning outcomes.

#### Implications for clinicians as educators in the NHS

UG leads in clinical specialties often undertake the role of a medical educator in conjunction to their busy clinical activities and schedules. Our study reported inadequate time due to competing NHS service clinical commitments as a barrier towards UG teaching. The GMC also advocates that teachers and trainers have dedicated time in their job plans to deliver their educational responsibilities and undertake their own training and development.<sup>25</sup> Discussions during yearly Consultant appraisals and University educational governance meetings with the NHS Trusts could provide opportunities to support and align the role of clinicians as UG educators. A national survey among anaesthetic College Tutors in UK revealed similar





**Figure 4** Barriers to undergraduate dermatology BAD curriculum at UK medical schools. BAD, British Association of Dermatologists; GMC, General Medical Council; NHS, National Health Service; UG, undergraduate.

inadequacies with regards to training in medical education and considered appraisal and assessment courses the most valuable in helping professional development in their role.<sup>26</sup> The BAD campaigns for improved and more dermatology training at UG level, especially since almost a quarter of patients seen in general practice (GP) are for skin-related conditions, and only few (20%) GP training schemes teach dermatology.<sup>27</sup> BAD recommends reductions in patient numbers in clinics for consultants supervising and training other doctors and medical students.<sup>27</sup> This could vary (typically one patient slot/individual) but may mean (up to 30%) further reduction in patient numbers to support teaching in clinical practice.<sup>27</sup> NHS service commitments could be enhanced by improving workforce planning and involving specialty trainees and nurses, teaching fellows, GPwSI in dermatology and other interprofessional educators to support UG dermatology teaching.

#### Bridging the gap between UG specialty educators and medical schools

Medical schools and educators' employers have clear guidance from the GMC to ensure UG teachers have dedicated time in their job plans to undertake the educational responsibilities and their training and development be reflected through appraisals.<sup>25</sup> The questionnaire study reflected a need for UG specialty leads to be supported on aspects essential to curriculum implementation.

Medical education-related training activities like curriculum mapping and assessment writing could be held by the medical schools and supported by specialty societies through conferences, workshops or seminars. The Teaching Excellence Framework introduced for higher education and adopted by most universities measures excellence in three areas: teaching quality, learning environment and the educational and professional outcomes achieved by students.<sup>28</sup> Availability of adequate resources for teaching is increasingly important in the current environment of financial challenges. Allocation of funding, traditionally, is perceived to be biased towards research or delivery of direct patient care.<sup>29-31</sup> While research and patient care are crucial, it is also important to raise the status of teaching and training. Mutual engagement between the stakeholders would enable curriculum planners to adopt innovative teaching methods (eg, use of teledermatology in clinical placements) as well as ensure assessment standards for specialty-specific content across medical schools.

#### Strengths and limitations of the study

The cross-sectional questionnaire helped reach a specific target audience (dermatology UG leads or equivalent) with relevant questions applicable to the participants. The sampling of UG leads responsible for the specialty curriculum implementation provided appropriate representation for meaningful contribution to the data. The



mixed methods approach helped to understand the potential barriers and facilitators for a specialty (dermatology) core-curriculum implementation across UK medical schools. With the responses to the questionnaire being anonymous, opinions shared via free text responses provided rich perspectives among the participant group. Since the participants were UG educators at their respective schools, the 'natural' setting allowed for perceptions of institutional culture and practices, reasons for success or failures for curriculum implementation at their respective schools. However, the free text responses using the online questionnaire had a variable response rate. In addition, the anonymous responses also meant that the geographical spread of medical schools was not known and may have biased the findings.

### Future research

#### Perspective from deans of medical education

The need for cohesiveness and collaboration between clinical educators and medical education departments at University or medical school level was apparent in the questionnaire study. Responders reported feeling that their specialty was being marginalised with little ability to impact change at university level. In a survey across members of the German medical education board, medical educators faced similar challenges with limited academic recognition, and insufficient institutional and financial support.<sup>32</sup> It would be important to gather the perspective of deans of medical education across UK medical schools on the factors which help or hinder implementation of a specialty core-curriculum.

### Conclusions

This online cross-sectional questionnaire study has identified important facilitators and barriers to specialty core-curriculum implementation at UK medical schools. There were knowledge gaps among specialty UG leads with respect to mapping and blueprinting of core UG curricula and the proposed implementation of the MLA in 2024–2025. Lack of standardised training in medical education, time and resources undermine the role of specialty teaching leads as medical educators. NHS trusts need to allow adequate time within job plans to support UG specialty teaching delivered by a multiprofessional and multispecialty workforce. Medical schools could provide more formalised oversight and governance to the UG specialty leads to ensure they are aware and meet UG training requirements at national level. Medical school engagement with specialties with mutual support would aid the forthcoming educational reforms.

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