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Mapping the undergraduate dermatology curriculum – a useful tool towards implementation of national recommendations

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Summary

Despite the high prevalence of skin complaints in primary and secondary care, dermatology undergraduate (UG) education remains inconsistent across medical schools. The British Association of Dermatologists (BAD) published a revised national undergraduate curriculum in 2016 to guide UK medical schools on minimum competencies required in dermatology. A curriculum mapping study was conducted to determine the alignment of the BAD UG curriculum with the dermatology curriculum of the University of Nottingham (UoN) School of Medicine. Of the 70 intended learning outcomes (ILOs) for dermatology in the medical school, 55 (79%) were mapped to the BAD curriculum, 14 (20%) required modifications to align them with the BAD ILOs, 2 BAD outcomes were unspecified in the current curriculum, and 1 outcome overlapped with others and was deemed redundant. Curriculum mapping is a useful tool to standardise local dermatology ILOs to national recommendations and provides transparency to stakeholders for implementation of the dermatology curriculum.

Report

Each year, 24% of the population in England and Wales seeks help from primary care doctors regarding a skin complaint.[1] Despite this, dermatology education in the UK is sparse, variable and even absent from medical school curricula and general practice training.[2] In 2016, the British Association of Dermatologists (BAD) published a revised national undergraduate (UG) curriculum to provide guidance on the minimum dermatological competencies required for all medical graduates.[3] The General Medical Council (GMC) Outcomes for graduates 2018 provides standards that medical schools must deliver to enable graduates to achieve the necessary knowledge and skills.[4]

We conducted a curriculum mapping exercise at one of the UK's largest medical schools, the University of Nottingham (UoN) School of Medicine, to determine the alignment of local dermatology curriculum with current BAD UG recommendations. An electronic searchable

database was created to map five key areas: intended learning outcomes (ILOs) as per BAD 2016 document and the GMC's Outcomes for Graduates 2018; core content; learning opportunities; teaching delivery and assessments methods. Each dermatology-specific ILO was also mapped to the location of teaching delivery and teaching faculty involved.

Of the 70 ILOs for dermatology in the medical school curriculum, 55 (79%) were mapped to the BAD curriculum (examples demonstrated in supplementary material 1). Fourteen ILOs (20%) required modifications to align them with the BAD learning outcomes. Figure 1 demonstrates an example of modification required to align with the BAD learning outcome. Two BAD ILOs were not specified in the current curriculum and one objective was identified as redundant. All ILOs were mapped to Outcomes for Graduates 2018.

For learning opportunities, 67/70 (96%) ILOs were mapped to experiential learning in outpatient dermatology clinics. These were supplemented with e-learning modules, small-group teaching, and practical skills sessions. The core dermatology content in the medical school curriculum aligned to all domains of the BAD curriculum. Medical teachers included consultant dermatologists, specialty doctors, dermatology trainees and a dermatology teaching fellow. Specialist nurses contributed to teaching 20/70 (29%) of ILOs.

68/70 (97%) of the ILOs were sampled in the assessment programme. These included students undergoing end of year written exams and a dermatology objective-structured clinical examination (OSCE) station. The dermatology teaching faculty participated in preparing the formative and summative assessments which were peer reviewed, standard set, blueprinted to ILOs and scrutinised by an external examiner. Some learning outcomes were challenging to assess within our assessment formats due to their complexity (e.g. *describe how a multidisciplinary team would manage leg ulcer optimally*) or required integrating with other skills (e.g. *demonstrate how to obtain samples for bacterial testing* would be insufficiently discriminatory as an OSCE station, unless integrated with other skills in a simulated encounter).

Though the BAD national curriculum does not specify teaching and assessment methods, the mapping exercise revealed how undergraduate dermatology was being taught and assessed at UoN. The study helped to demonstrate how learning opportunities were being organised to support delivery within a two-week compulsory dermatology clinical placement. The process of curriculum mapping allowed us also to identify gaps in teaching and assessments. Gaps included BAD ILOs that were neither taught (e.g. manifestations of lymphoedema) nor assessed (e.g. the management of acne scarring) currently or needed modifications (e.g. how to perform skin scrape for mycology currently taught but not specified) to current UoN ILOs. The mapping exercise aided

in signposting teaching opportunities in outpatient clinics by providing a wide range of clinical exposure with student attendance at skin cancer clinics, general clinics, volunteer or expert patient clinics, and specialist nurse clinics. It also helped recognise the role of inter-professional teaching with nurse-led education on phototherapy, dressings and wound care.

Students achieved experiential learning and gained the necessary clinical competencies through direct observation of their clinical skills observed by dermatology Consultants, specialty trainees and teaching fellow. Student feedback has been consistently excellent regarding content delivery with 132/134 (98.4%) of students in the current academic year (2018-19) agreeing the placement helped them achieve their course objectives.

Our curriculum mapping study showed that at the UoN School of Medicine, there was good alignment of the dermatology ILOs to the BAD and GMC Outcomes for Graduates. It has also allowed transparency for all stakeholders to demonstrate how the curriculum was being implemented.

Education, learning and assessment have undergone transformation in medical schools. Essential dermatology related skills must be both taught and assessed in comparative performance-based tests such as OSCEs rather than total reliance on knowledge-based assessment. The inclusion of dermatology in summative assessments has the potential to drive learning these essential skills in undergraduate clinical placements.[5] The Miller's triangle of professional competency is the framework upon which 'doing' sets the benchmark standard.[6] An example of how competence in a dermatology learning outcome using the framework of the Miller's pyramid on assessing skills and competencies is demonstrated in our adaptation (Fig. 2).

We recognise the time constraints and limited resources for mapping national recommended specialty curricula within medical schools. Involvement of dermatology UG leads in curriculum mapping at respective medical schools could help schools review their current dermatology practice and support ways to implement the BAD 2016 undergraduate curriculum.

Learning Points

- A national undergraduate curriculum was published by the BAD in 2016 with the aim of reducing variability in UK medical schools.

- Curriculum mapping enables visualisation of the current medical school curriculum and the relationships between key areas.

- The curriculum map can delineate content gaps or overlaps, which can be mapped against the national curriculum.

- Other medical schools could perform a mapping exercise to assist in the implementation of the BAD undergraduate curriculum.

- Standardisation in dermatology outcomes across medical schools should ensure that graduates have the minimum competencies required for the safe care of patients with skin disease.
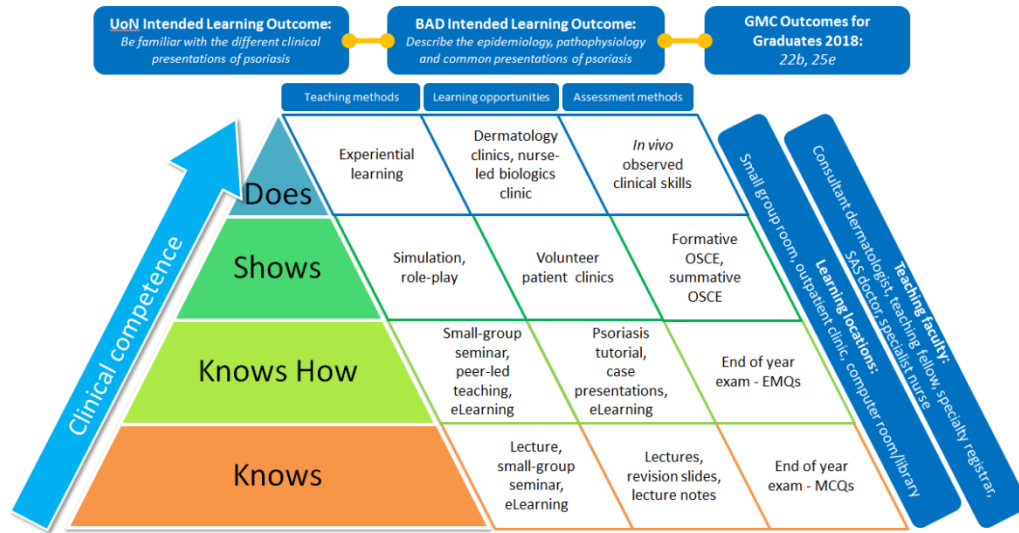
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UoN: Be able to discuss prognosis and management of pigmented lesions with patients.

BAD: Explain the two-week-wait pathway and the role of the skin cancer multidisciplinary team to patients and their carers.

Be able to discuss prognosis and management of pigmented lesions with patients, including the two week wait pathway and role of the MDT.

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