Redefining Medical Competencies for an Oral Medicine Specialty Training Curriculum Using a Modified Delphi Technique

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Abstract: This article describes the development of medical competencies for oral medicine specialty training in the UK and Ireland by a collaborative working group using a modified Delphi technique. The current specialty training curriculum for oral medicine (OM) in the UK was developed by a working group including members of the British Society for Oral Medicine (BSOM) and members of the Specialty Advisory Committee for Additional Dental Specialties (SACADS) and adopted by the UK General Dental Council (GDC) in 2010. When the curriculum was developed, the entry requirements for specialty training in OM included undergraduate degrees in both dentistry and medicine. At the time of adoption, the requirement for a medical degree was removed. Medical competencies were assumed to have been delivered in medical undergraduate and postgraduate training. Accordingly, there was a need to define the medical competencies for OM specialty training to benefit trainees, trainers, and assessors. In 2018, a group comprising specialty trainers, recent former specialty trainees, and current specialty trainees in OM held face-to-face meetings in addition to email discussions and developed an updated curriculum document to better reflect the medical competencies required in specialty training. A collaborative modified Delphi approach was used to evaluate medical foundation competencies and to include only those that were considered relevant to OM specialty training. A list of relevant and achievable medical competencies was determined that has been approved by SACADS and will be incorporated into a revised OM curriculum from the UK GDC. The newly agreed-upon document for medical competencies in OM specialty training will serve as a reference for trainees, trainers, and assessors and reflects a successful use of a modified Delphi approach.

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This article describes the development of and agreement to a set of medical competencies for oral medicine specialty training in the United Kingdom (UK) and Ireland by a collaborative working group using a modified Delphi technique. The aim was to supplement the existing specialty training curriculum published by the UK General Dental Council (GDC) in 2010.[1] These medical competencies, and the Delphi method of selection, may be useful for similar oral medicine training programs outside of the UK. In the UK, the GDC defines the specialty of oral medicine as "oral health care of patients with chronic recurrent and medically related disorders of the mouth and with their diagnosis and non-surgical management." It is a specialty that looks after those under its care in outpatient settings, and its practitioners will liaise and advise where needed with medical and surgical colleagues for the care of inpatients.

Prior to its publication in 2010, the draft oral medicine (OM) curriculum was developed by a working group with stakeholders representing OM consultants and trainers from the UK and Ireland, OM specialty trainees, educational experts, and a lay representative.[1] The draft curriculum was submitted to the Specialty Advisory Committee for Additional Dental Specialties (SACADS) for consideration and ratification prior to submission and publication by the GDC. The SACADS consists of four specialty subgroups: oral medicine, oral microbiology, dental and maxillofacial radiology, and oral and maxillofacial pathology. Each of the four SACADS subgroups acts as a mini-SAC for its specialty.

The current (2010) OM curriculum was prepared over approximately two years and comprises 54 pages of detail on training outcomes and assessment.[1] Its early development was informed by a two-page curriculum document produced by the

Joint Advisory Committee for the Additional Dental Specialties (JACADS), the predecessor of SACADS, and published in 1999. The JACADS document described the entry criteria into specialty training in OM and mandated the possession of both dental and medical qualifications and training, allowing full registration with the GDC and UK General Medical Council (GMC). Whilst the 2010 GDC OM curriculum is in most areas extremely detailed, some of the medical competencies are less well defined—the assumption being that they would be gained through formal medical education and training. In the 2010 OM curriculum, entry to specialty training no longer mandates possession of a registerable medical qualification as an essential requirement, and the length of OM specialty training is increased to five years, with an allowance of two years for those trainees with a registerable medical qualification. The competencies in the OM curriculum remained the same as they had been prior to 2010.

In the years following introduction of the 2010 GDC OM specialist list, specialty registrars in possession of a dental qualification or both medical and dental qualifications continued to be accepted into OM training programs. Postgraduate dental deans, training program directors, and specialty trainees have used GDC curriculum guidance to inform training content, outcomes, and assessments. Specialty trainees complete workplace-based assessments as part of training and are subject to regular review in the Annual Review of Competence Progression (ARCP) process. Towards the end of training and prior to application for entry to the GDC specialist list in OM, trainees must take the Intercollegiate Specialty Fellowship Examination (ISFE) in oral medicine. This exam is coordinated by the dental faculties of the four Royal Colleges of Surgeons in England, Scotland (Glasgow and Edinburgh), and Ireland. The ISFE has a clinical component and uses the GDC OM curriculum to identify areas for assessment. As time has passed, specialty trainees, training program directors, and ISFE examination boards have sought greater clarity on what medical competencies ought to be included in an OM training program and therefore also to be considered for the ARCP and in the ISFE assessment.

In 2019, the GDC published an updated version of its 2015 "Standards for Specialty Education," which includes the statement, "For clinical procedures, the program provider should be assured that the specialty trainee is safe to treat patients in the relevant skills at the levels required prior to treating patients."[2] It is incumbent on trainers and trainees in oral medicine to make sure that the skills, including medical skills, are appropriate and defined in the training program. The apparent lack of clarity on medical competencies was becoming a problem, and a group of OM clinicians came together with the aim of bringing greater clarity to the issue and adopting robust methods to identify and adopt these competencies. These defined medical competencies will guide trainees, their consultant trainers, training program directors, and postgraduate dental deans who are ultimately responsible for delivering a comprehensive specialty training program in OM. This article describes the process of developing these medical competencies for OM and its outcomes.

Methods

In 2018, a group of consultant trainers and specialty trainees in OM organized a working group to develop greater clarity in the medical competencies that ought to be included in OM specialty training programs. This group produced an agreed-upon list of these competencies to aid all interested parties. The working group was a subgroup of the British Society for Oral Medicine (BSOM) council and had representation from consultant trainers, recent former trainees, and specialty registrars in OM.

Since the assumed medical competencies were derived from undergraduate medical degree courses and codified in the immediate post-qualification years of medical training (Foundation Training), the first stage of the process was to review the collection of current medical competencies described by the UK Foundation Program Office (UKFPO) in its document "The UK Foundation Programme Curriculum."[3] The UKFPO facilitates the development and operation of the medical foundation program on behalf of the four UK health departments (England, Wales, Scotland, and Northern Ireland) in the National Health Service (NHS). The foundation program runs over two years; after the first year of hospital practice, a newly qualified, provisionally registered doctor can gain full registration with the GMC. The foundation program curriculum includes a syllabus that describes the medical and other competencies to be gained in medical foundation training, from which 20 medical competencies to be considered by the group were derived. A further 15 competencies were taken from the GMC document "Outcomes for Provisionally Registered Doctors with a Licence to Practice."[4]

These 35 competencies were to be considered by the working group, and a recognized valid method was needed to achieve agreement. In 1996, Adler and Ziglio described their use of the Delphi technique, building on the description by Brown at the Rand Corporation in 1968.[5,6] The Delphi method is a well-established method for generating curriculum content as this process represents expert consensus and can be considered an evidence-based process in educational research.[7] The technique uses face-to-face meeting and voting on each item successively until a consensus is reached. A modification of this method has been described in which mail or email is used to achieve consensus.[8] The method used by this OM working group was a combination of the two: face-to-face meetings supported by email circulation of documentation and discussion. Following advice from the chair of the previous working group (that developed the 2010 curriculum), the level of consensus was set at 90% or above to accept or reject a proposed medical competency.

Results

Proceeding through the timeline (Table 1), the working group considered all 35 medical competencies derived from medical training curricula. For each of the proposed medical competencies, the choices were to accept, reject, or note that the competency was already included in the GDC OM specialty training curriculum.

A summary of the outcomes is shown in Table 2, Table 3, and Table 4. Table 3 includes the rationale

Table 1. Timeline of modified Delphi approval/rejection of proposed medical competencies for oral medicine

Delphi Timeline	Key Date	Action and Location
Preliminary work	March 2018	BSOM Council, Liverpool Face-to-face meeting Formation of Curriculum Development Working Group
Round one: 1st questionnaire	March 2018	First draft of oral medicine medical competencies document prepared and circulated by email
Round one: compiling responses	May 2018	BSOM Conference, Dundee Face-to-face meeting Consideration of medical competencies and voting
Round two: 2nd questionnaire	July 2018	Draft document circulated by email Comments received
Round two: compiling responses	July 2018	Revision of medical competencies document
Round three: 3rd questionnaire	July 2018	Draft final version of medical competencies circulated Minor edit suggestions incorporated Final document prepared
Round three: compiling responses	August 2018	Final version considered at BSOM Council Minor edits incorporated
Resolution and report	August 2018	SACADS, London Final version approved

BSOM=British Society for Oral Medicine; SACADS=Specialty Advisory Committee for Additional Dental Specialties

Table 2. Medical competencies accepted by working group

No.	Medical Competency
6	Demonstrates understanding of the principles of health promotion and illness prevention.
9	Demonstrates leadership skills.
10	Communicates clearly in a variety of settings.
12	Has demonstrated the ability to learn in the workplace.
14	Demonstrates engagement in career planning.
15	Acts professionally.
17	Behaves in accordance with ethical and legal requirements.
21	Venepuncture.
30	Injection, intramuscular.

Table 3. Medical competencies rejected by working group

No.	Medical Competency	Reason for rejection
7	Manages palliative and end of life care under supervision.	Inpatient management
22	IV cannulation.	Inpatient management or for dental sedation (in oral surgery or special care dentistry)
23	Prepare and administer IV medications and injections.	Inpatient management
24	Arterial puncture in an adult.	
25	Blood culture from peripheral sites.	
26	Intravenous infusion including the prescription of fluids.	
27	Intravenous infusion of blood and blood products.	
28	Injection of local anaesthetic to skin.	In oral surgery or oral & maxillofacial surgery
29	Injection, subcutaneous (e.g., insulin or LMW heparin).	Inpatient management
31	Perform and interpret an ECG.	
32	Perform and interpret peak flow.	
33	Urethral catheterization (male).	
34	Urethral catheterization (female).	

Table 4. Competencies considered already to be present in oral medicine (OM) curriculum or overall General Dental Council (GDC) guidance

No.	Medical Competency	Where Present
1	Recognizes, assesses, and initiates management of the acutely ill patient.	OM curriculum: B6, Medical emergencies
2	Recognizes, assesses, and manages patients with long-term conditions.	OM curriculum: B4, Interface of oral & systemic disease
3	Obtains history, performs clinical examination, formulates differential diagnosis and management plan.	OM curriculum: A1, History taking OM curriculum: A2, Clinical examination OM curriculum: A3, Investigations OM curriculum: A4, Patient management
4	Requests relevant investigations and acts upon results.	OM curriculum: A4, Patient management
5	Is trained and initiates management of cardiac and respiratory arrest.	OM curriculum: B6, Medical emergencies
8	Works effectively as a team member.	OM curriculum: generic components—teamworking
11	Recognizes and works within limits of personal competence.	GDC UK: standards for the dental team
13	Keeps practice up-to-date through learning and teaching.	OM curriculum: generic components—teaching and training
16	Delivers patient-centered care and maintains trust.	GDC UK: standards for the dental team
18	Makes patient safety a priority in clinical practice.	OM curriculum: generic components—patient safety
19	Contributes to quality improvement.	OM curriculum: generic components—quality improvement
20	Performs procedures safely.	OM curriculum: generic components—patient safety
35	Airway care including simple adjuncts (e.g., Guedel airway or laryngeal masks).	OM curriculum: B6, Medical emergencies

Sources: OM curriculum appears in Felix DH, Atkin PA, Nolan A, et al. Specialty training curriculum for oral medicine. General Dental Council, UK. 2010. At: www.gdc-uk.org/api/files/OralMedicineCurriculum.pdf. Accessed 1 May 2019. Source for GDC UK is General Dental Council. GDC standards for the dental team. 2013. At: standards.gdc-uk.org/Assets/pdf/Standards%20for%20the%20Dental%20Team.pdf. Accessed 1 May 2019.

for why a medical competency was rejected (typically related to inpatient management outside of OM practice or being relevant to a different dental specialty). Table 4 shows where in the OM curriculum a medical competency was already present or formed part of all GDC dental registrants' practice. Of the 35 competencies considered, nine were accepted, 13 were rejected, and 13 were considered to already be represented in the OM curriculum.

Discussion and Conclusion

The medical competency working group agreed that the use of a modified Delphi method was

effective in helping to define those medical competencies to be adopted by the SACADS for current OM training and recommended for inclusion in a future update of the UK GDC curriculum for OM specialty training. In the short term, the BSOM subgroup has agreed to circulate the competencies to the training program directors looking after the specialty registrars currently in training in the UK and Ireland. This list of medical competencies may also be of use for other OM training programs outside of the UK and Ireland. The modified Delphi method described and successfully used for the OM curriculum medical competencies may be readily adopted by other dental specialty curriculum working groups addressing similar problems.

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Disclosure

The authors reported no conflicts of interest.

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