COMMENTARY

O-Health-Edu: A vision for oral health professional education in Europe

James Field[1] | Jonathan Dixon[2] | Julia Davies[3] | Barry Quinn[4] |
Denis Murphy[5] | Sibylle Vital[6] | Corrado Paganelli[7] | Ilze Akota[8] |
Gabor Gerber[9] | Valerie Roger-Leroi[10] | Maria Cristina Manzanares-Cespedes[11] |
Stephanie Tubert-Jeannin[12]

[1]Cardiff University, Cardiff, UK

[2]The University of Sheffield, Sheffield, UK

[3]Malmö University, Malmö, Sweden

[4]University of Liverpool, Liverpool, UK

[5]Association for Dental Education in Europe, Dublin, Ireland

[6]Universite Paris Cite, Paris, France

[7]University of Brescia, Brescia, Italy

[8]Riga Stradins University, Riga, Latvia

[9]Semmelweis Egyetem, Budapest, Hungary

[10]University of Clermont-Auvergne, Clermont-Ferrand, France

[11]Universitat de Barcelona, Barcelona, Spain

[12]University of Clermont-Auvergne, Clermont-Ferrand, France

Correspondence
Field James, University Dental Hospital, Heath Park campus, Cardiff University, CF14 4XY Cardiff, Wales, UK.
Email: fieldj2@cardiff.ac.uk

Funding information
Erasmus+ A2 cooperation for innovation and the exchange of good practices / KA203 Strategic partnerships for higher education (2019-2022)

Abstract

This consensus paper reports on the process of developing a renewed vision for Oral Health Professional (OHP) education across Europe, and forms part of a larger EU-funded collaborative Erasmus+ project, "O-Health-Edu." The vision aligns with the World Health Organisation milestones (2016) and resolutions (2021), and EU4Health programme (2020) objectives - and projects 20 years into the future, to 2040. This longitudinal vision takes a multi-stakeholder perspective to deliver OHP education that acts in the best interests of both students and patients, and sits within the context of a wider strategy for general health. Included, it is an infographic to help communicate the vision to various stakeholders of OHP education.

KEYWORDS
consensus, education, Europe, oral health, students, World Health Organisation

1 | BACKGROUND

This position paper represents an outcome from a larger EU-funded collaborative Erasmus+ project, "O-Health-Edu." The project aims to better understand the existing state of Oral Health Professionals' (OHP) education in Europe and to develop a common vision for this education. The ultimate aim is to improve the ability of OHPs to

meet the oral health needs of the European population. It is understood that promoting oral health will result in improved overall health, and a reduction in health inequalities—and indeed this objective is supported by the recent introduction of the EU4Health programme,[1] which, in part, aims to "strengthen health systems and the healthcare workforce". A major determining factor in this regard, is access to relevant, comprehensive and equitable people-centred

---

*World Health Organisation definition: "53 countries, covering a vast geographical region from the Atlantic to the Pacific oceans"

health services. The way in which relevant health professionals are educated, trained, and deployed, will determine each country's (and in turn, Europe's) capacity and capability to meet population health needs.

The term Oral Health Professional includes Dentists, Dental Therapists, Dental Hygienists, Dental Technicians and Dental Nurses (assistants). Considering the extensive remit of OHP education, and the lack of previous reviews of OHP education, the initial part of the project involved a scoping review.[2] The review focussed on the *reporting* of OHP education in Europe. The main finding was that there is limited published knowledge on educational practise and organisation across Europe.

The scoping review further identified four principal reporting themes, which helped the authors to summarise the current state of how OHP education was reported within Europe - these were:

- Dental (educating dentists) programme-level data
- Dental discipline-level data
- Other OHP data, and
- Postgraduate dental education and continuing professional development (CPD).

The findings are considered in more detail below:

1.1 | Programme and discipline-level data (dental)

Dental educators have a number of useful published guidelines at their disposal, that provide recommendations for how OHP education should be delivered at both a programme level (e.g.[3-5]), and discipline-level (e.g.[6-11]). As would be expected, the programme-level data offers local insights into the developing OHP workforce - such as student demographics, admissions and study length—however, these data provided little insight at a *European* level. The discipline-level data highlighted educational practices - such as sub-course duration, timing of courses within programmes, teaching methods, educational settings/resources, and assessment. Despite these snapshot examples of programme and discipline-level data, it is unclear exactly how OHP education is *currently* being delivered across the breadth of Europe. As such, the scoping review identified the need to collect contemporaneous pan-European data about current OHP education practice.

1.2 | Other OHP and postgraduate data

The scoping review found that most sources reporting on other OHP education (other than dentists), focused on dental hygienist education. There were no readily identifiable/searchable documents that reported on dental nursing, therapy or technology education. Of the data reported for dental hygienist education, common data themes presented were: length of study, scope of practice, regulation, educational attainment and historical aspects of dental hygiene education. Similarly, postgraduate education, specialty training and CPD, had a similar lack of reporting on educational practices. Sources

regarding delivery of CPD generally originated from nations with regulated CPD activity.[12] Again, it is, unclear how other OHPs engage with CPD across Europe - and this has implications for workforce training and development.

1.3 | Publication patterns

The scoping review identified some publication patterns that may be restricting the accessibility of published information. Firstly, many of the included sources were published in journals dedicated to dental education only. Secondly, there were a number of publications known to the author team that were not found in the searches undertaken. The authors postulated that this may be due to a lack of appropriate Medical Subject Headings (MeSH) keyword attribution, or the sources were not all published in journals - instead, some being available through organisational websites. It is also apparent that publications do not represent activity across the full breadth of Europe and there is, therefore, a need for a broader and more comparative view.

As a result, the scoping review concluded with a number of recommendations for the future reporting of OHP education in Europe, in order to begin to better meet the health needs of the European population:

- Collection of comprehensive, educationally-driven programme-level data on OHP education across Europe;
- Continued publication of discipline-level curricula, in line with the Graduating European Dentist[3] recommendations, in order to facilitate best practice;
- Collection of impact data regarding the implementation of published core and specialty curricula;
- Increased reporting of faculty-level data, including staff numbers, clinical and research experience and educational qualifications;
- Increased reporting of postgraduate/specialty training and CPD, across all disciplines;
- Consistent use of MeSH keywords for publications in dental education;
- Creation of a centralised online toolkit, to facilitate the collection, organisation, display and analysis of pan-European data relating to OHP education.

2 | THE ORAL HEALTH NEEDS OF THE EUROPEAN POPULATION

In 2016 the World Health Organisation (WHO) published its strategy for human resources for health.[13] The overall aim of the strategy was to renew efforts for Universal Health Coverage in order to meet UN sustainable development goals. The strategy makes particular reference to "ensuring equitable access to health workers within strengthened health systems" (p8). Clearly, an important part of this "access" relates to the education/training and deployment of healthcare professionals across Europe. Objective 2 of the strategy references this explicitly, stating that action must "take account of labour

market dynamics and *education policies*; to address shortages and improve distribution of health workers".

The WHO strategy document outlines several milestones that relate to the education and training of OHPs, and these are outlined below (,[13] p9):

2.1 | Milestones by 2020

- All countries have established quality assurance mechanisms for health training institutions
- All countries are making progress on health workforce registries to track health education

2.2 | Milestones by 2030

- All countries are making progress towards improving the course completion rates in medical, nursing and allied health professionals training institutions
- All countries are making progress towards halving their dependency on foreign-trained health professionals, implementing the WHO Global Code of Practice

At present, the milestones in relation to OHP education and training across Europe are at risk of being missed, primarily due to a lack of data reporting. As recommended by the O-Health-Edu scoping review,[2] several measures require immediate implementation in order to:

- Collect the necessary data to analyse the current European position
- Develop a suitable action plan to collect missing data
- Develop a suitable action plan to meet the WHO[13] milestones that form part of global objective 2.

In 2021 the WHO also published a resolution on Oral Health[14] - a global strategy for tackling oral diseases for consideration by WHO governing bodies. The resolution urges member states to "reorient the traditional curative approach" and "move to a preventive promotional approach" to oral health. It also calls on member states to strengthen cross-sectoral collaboration across key settings to promote healthy habits and lifestyles. Following a call for feedback in May 2021, the draft was reviewed. ADEE, which represents the vast majority of the European OHP education institutions, proposed modifications to integrate the consideration of the essential role of the educators, the students, and the educational institutions, in the WHO Strategy for Oral Health.

3 | O-HEALTH-EDU AND A VISION FOR OHP EDUCATION IN EUROPE

O-Health-Edu's vision for the education of OHPs in Europe aligns with the WHO milestones[13] and resolutions,[14] and EU4Health

programme[1] objectives - and projects 20 years into the future, to 2040. This longitudinal vision takes a multi-stakeholder perspective to deliver OHP education that acts in the best interests of both students and patients, and sits within the context of a wider strategy for general health.

The vision accounts for the fact that medical curricula today are fundamentally different in content and approach to those written 50–100 years ago.[15,16] As such, there is a greater emphasis on:

- Evidence-based medicine and evidence-based pedagogy
- Integrated curricula, and an outcome-based education
- Student-centred learning
- Staff/Faculty whose primary role is that of an educator
- Inter-professional education
- Accounting for societal needs

There is also a shift away from more traditional, scholarly academic curricula, to curricula which share components that are (amongst others) socially efficient and socially reconstructive.[17] Contemporaneous OHP curricula are already being constructed to align to this vision[3,18] and as such there is already greater emphasis on:

- Meeting the health needs of the population
- Serving the needs of society
- Training for skills required specifically in the workplace
- A focus on competence, capability and lifelong learning
- Deliberate practice and reflection
- Learning-outcome-programmed curricula
- Sustainability
- Empowering OHPs to have vision and to take action

3.1 | Process

Between September 2020 and February 2021, The O-Health-Edu consortium, in conjunction with ADEE, invited an open pan-European consultation on the different elements of the Vision. As well as comprehensive responses from ADEE member institutions and interested individuals, responses were also received from international, national and regional associations, regulators, industrial partners, and student representatives (Table 1). A total of 96 responses were received.

When reviewing each element of the Vision, the O-Health-Edu team took each comment on individual merit. The involvement of multiple stakeholders (educators and clinicians, international and national bodies, regulators and students) has enabled the creation of a shared vision, built through consensus. The vision is represented diagrammatically in Figure 1, and comprises the following elements:

- An integrated curriculum which educates and empowers students of oral health professions to work together collaboratively and synergistically, and as part of a wider healthcare team, in the best interests of their patients.
- A contemporaneous curriculum ensuring clinical and professional capability, which is grounded in evidence-based

TABLE 1 List of international, national and regional associations, regulators, industrial partners, and student representatives who responded to the consultation

International associations
Association for dental education in Europe
European dental hygienists federation
World Health Organisation
Regulatory bodies
French dental council - ordre français des chirurgiens-dentistes
General dental council, UK
Malta medical council
O-Health-Edu quality committee
National and regional associations
Brazilian dental education association
British dental association
Industrial partners
GlaxoSmithKline consumer healthcare
Student representatives
European dental students' association
International association of dental students

*Note*: Individual and school responses are not included.

education and practise, and which promotes an ethos of lifelong learning.

- A quality-assured curriculum that is responsive to local population demands and variance, whilst maintaining the minimum EU standards that facilitate the mobility of qualified oral health professionals across Europe.
- Inclusive entry criteria, and dynamic curricular approaches that provide effective and accessible education for a diverse range of learners, and their associated learning needs.
- Curricula that embed social responsibility longitudinally throughout programmes, ensuring that OHPs are responsive to the future health needs of their patients, their society, and their environment.
- Clear and demonstrable independent quality assurance of educational programmes that meets a regulatory standard, including evaluation, accreditation and recognition of OHP educators. Each school's students should be considered as a critical component of internal quality assurance processes.
- Curricula that draw on best practice from across the academic community, and that consider the interests of wider stakeholders (such as regulators, postgraduate training institutions, industrial and digital innovations, and health care systems) for better-preparing graduates for the workplace.

FIGURE 1 A Vision for OHP education in Europe

FIGURE 2 An example report card that from the O-Health-Edu data hub (please note that this is an example and may be subject to change. For a live version please visit the data hub directly)
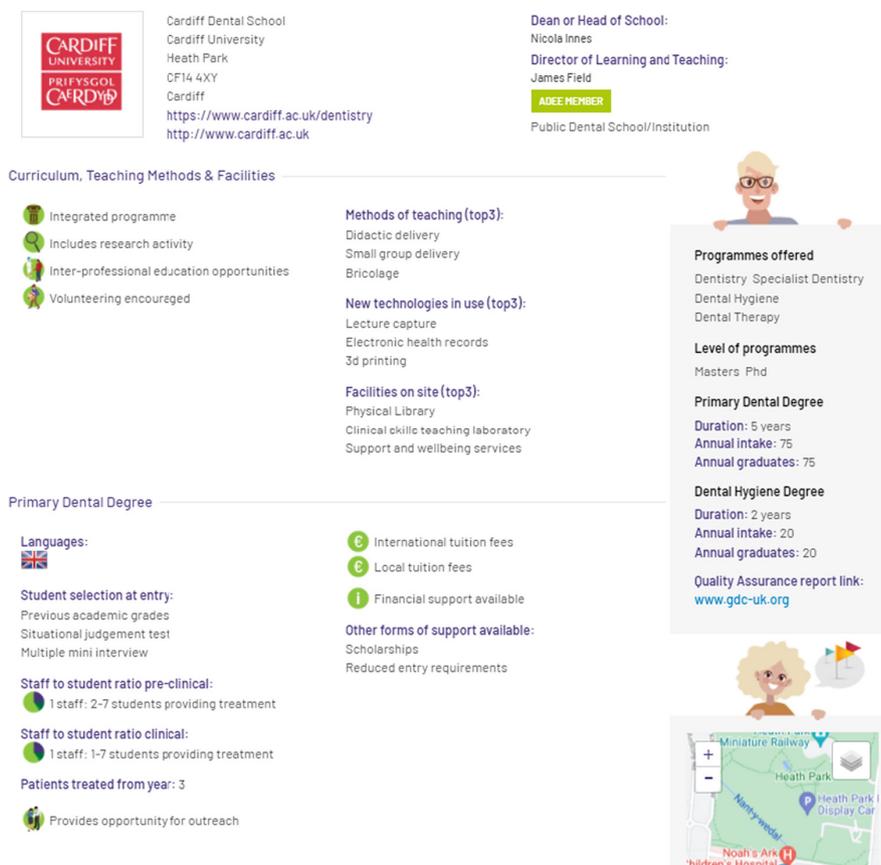
4 | ACCESSIBILITY AND DISSEMINATION

The O-Health-Edu team worked alongside a design company to create a visual which represented the Vision elements in an accessible way. After several iterations it was decided that the most understandable method involved creating a visual that represented a "community of academic practice" with a natural progression through the expected stages of OHP Education. As such, the visual lists the Vision elements to the left, but also represents these diagrammatically on the right. It also became apparent to the team that there was a need to reword the Vision elements for certain user groups using less technical and academic terminology, to make them more accessible and understandable. The user groups that were being discussed included potential students, their parents, school-teachers, and the general public. The modified vision elements are represented in Appendix 1. Whilst the team, alongside the design company, strived to make the visual as understandable as possible, we also make reference to the online glossary of OHP educational terms, "Articulate" to assist in its interpretation.[19] This can be found, with free online access, at https://o-health-edu.org/articulate.

5 | NEXT STEPS

The next stage of the O-Health-Edu project is to collect comprehensive, educationally driven programme-level data on OHP across Europe. At the time of writing, this process was already underway.

This will enable the project to address the milestones outlined in the World Health Organisation strategy for human resources for health,[13] the WHO resolution on Oral Health[14] and other EU Health Programmes. It also improves the visibility of Oral Health Professional programmes across Europe, to all interested stakeholders. This information is accessible at https://o-health-edu.org/ohe-datahub-directory.

The O-Health-Edu data hub presents a "summary card" for each institution that has created a profile (such as that shown in Figure 2). ADEE will invite member schools to sign a charter based on the Vision, and an indication will be made on each report card, for schools that agree to align with the charter—and champion the Vision through the ways in which they deliver their OHP programmes.

CONFLICT OF INTEREST

No conflict of interest has been declared by the authors.

DATA AVAILABILITY STATEMENT

Data sharing is not applicable to this article as no new data were created or analysed in this study.

ORCID

James Field https://orcid.org/0000-0002-5462-4156
Jonathan Dixon https://orcid.org/0000-0002-3499-175X
Julia Davies https://orcid.org/0000-0001-5888-664X
Denis Murphy https://orcid.org/0000-0002-0097-0280
Sibylle Vital https://orcid.org/0000-0001-6352-2525
Corrado Paganelli https://orcid.org/0000-0003-1085-3587
Maria Cristina Manzanares-Cespedes https://orcid.org/0000-0002-4585-4953

REFERENCES

1. EU (2020): European Union (EU) 2020- Proposal for a REGULATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL on the establishment of a Programme for the Union's action in the field of health –for the period 2021–2027 and repealing Regulation (EU) No 282/2014 ("EU4Health Programme") COM/2020/405 final, https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52020PC0405. Accessed May 19, 2022.
2. Dixon J, Manzanares-Cespedes C, Davies J, et al. O-HEALTH-EDU: a scoping review on the reporting of oral health professional education in Europe. *Eur J Dent Educ*. 2021;25:56-77. doi:10.1111/eje.12577
3. Field JC, Cowpe JG, Walmsley AD. The graduating European dentist: a new undergraduate curriculum framework. *Eur J Dent Educ*. 2017;21(S1):2-10. doi:10.1111/eje.12307
4. Jones ML, Hobson RS, Plasschaert AJ, et al. Quality assurance and benchmarking: an approach for European dental schools. *Eur J Dent Educ*. 2007;11(3):137-143. doi:10.1111/j.1600-0579.2007.00446.x
5. Manogue M, McLoughlin J, Christersson C, et al. Curriculum structure, content, learning and assessment in European undergraduate dental education. *Eur J Dent Educ*. 2011;15:133-141.
6. Bennett JH, Beeley JA, Anderson P, et al. A core curriculum in the biological and biomedical sciences for dentistry. *Eur J Dent Educ*. 2020;24(3):433-441.
7. Huggare J, Derringer KA, Eliades T, et al. The Erasmus programme for postgraduate education in orthodontics in Europe: an update of the guidelines. *Eur J Orthod*. 2014;36(3):340-349. doi:10.1093/ejo/cjt059
8. Matthan J, Cobb M, McHanwell S, Moxham BJ, Finn GM. The anatomical Society's Core anatomy syllabus for dental undergraduates. *J Anat*. 2020;236(4):737-751. doi:10.1111/joa.13133
9. Mattheos N. Teaching and learning in implant dentistry: reflecting on achievements and challenges. *Eur J Dent Educ*. 2014;18(Suppl 1):1-2.
10. Sanz M, Saphira L. 1st European consensus workshop in implant dentistry university education. Competencies in implant therapy for the dental graduate: appropriate educational methods. *Eur J Dent Educ*. 2009;13(Suppl 1):37-43. doi:10.1111/j.1600-0579.2008.00544.x
11. Schulte AG, Pitts NB, Huysmans MC, Splieth C, Buchalla W. European Core Curriculum in Cariology for undergraduate dental students. *Eur J Dent Educ*. 2011;15(Suppl 1):9-17.
12. Bullock A, Kavadella A, Cowpe J, Barnes E, Quinn B, Murphy D. Tackling the challenge of the impact of continuing education: an evidence synthesis charting a global, cross-professional shift away from counting hours. *Eur J Dent Educ*. 2020;24(3):390-397. doi:10.1111/eje.12514
13. World Health Organisation (WHO) 2016 - Global strategy on human resources for health: Workforce 2030, https://www.who.int/hrh/resources/global_strategy_workforce2030_14_print.pdf. Accessed December 13, 2021
14. World Health Organisation (WHO) 2021 – Resolution on Oral Health EB138.R1 https://www.who.int/news/item/27-05-2021-world-health-assembly-resolution-paves-the-way-for-better-oral-health-care. Accessed December 13, 2021.
15. Flexner A. *Medical Education in the United States and Canada: A Report to the Carnegie Foundation for the Advancement of Teaching. Bulletin No. 4*. Merrymount Press; 1910.
16. Riggs G. Commentary: are we ready to embrace the rest of the Flexner report? *Acad Med*. 2010;85(11):1669-1671. doi:10.1097/ACM.0b013e3181f5ced4
17. Schiro M. *Curriculum Theory: Conflicting Visions and Enduring Concerns*. SAGE Publications; 2013.
18. Jongbloed-Zoet C, Nyblom Y, Bol E, Field JC. A common European curriculum for dental hygiene. *Eur J Dent Educ*. 2020;24:611-615. doi:10.1111/eje.12501
19. Davies JR, Field J, Dixon J, et al. (2022). ARTICULATE: A European glossary of terms used in oral health professional education. *Eur J Dent Educ*. doi:10.1111/eje.12794

APPENDIX 1

The vision for the intended user groups of students, parents and patients

- A curriculum that teaches students to treat the patient and their needs as a whole, and as a team, rather than learning subjects separately.
- A curriculum which is up-to-date, that makes sure students are safe and ready to work independently in practice, and prepares students for directing their own future learning
- A curriculum that considers the oral health needs of the local population, but also meets national or European standards, so that qualified OHPs can confidently move across the EU to work
- Entry requirements to programmes that consider students' diverse backgrounds, and teaching methods that account for all learner needs
- A curriculum which teaches students to care for their society, the environment, and the health needs of their population within which they work
- A curriculum that is checked by a regulator, and which considers the opinions of students.
- The selection of teaching staff who have the right qualifications and skills
- A curriculum that makes it easier for students to enter the workplace and practice without the need for extra support