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ORIGINAL ARTICLE

Stakeholder perceptions of gerodontology education for final year Australian dental school curricula

Angie Nilsson BChD, MHPEd, GAICD | **Louise Young** | **Rebecca Evans** | **Ernest Jennings** | **Andrew Lee**

College of Medicine and Dentistry, James Cook University, Townsville, Australia

Correspondence
Angie Nilsson, James Cook University, 1 James Cook Drive, Douglas, Townsville, Queensland 4811, Australia.
Email: angie.nilsson@jcu.edu.au

Abstract

Aim: The study explored the perceptions of final-year Australian dental students, directors of nursing, and consumer representatives toward geriatric education provided at Australian undergraduate dental schools. Findings will strengthen and inform future curricula design for dental schools.

Methods: Semi-structured interviews and focus groups were conducted through videoconferencing and in-person interviews, and analyzed using thematic analysis.

Results: Thematic analysis found the major themes to include relationships, curriculum variation, resources, and in-service learning experiences. The participants found gaps in the current delivery of undergraduate dental education. Solutions included greater resourcing through funding and time allocated to supervisors and a curriculum dedicated to gerodontology.

Conclusions: Healthcare professional curriculum design must consider the needs of the learners and stakeholders involved in the health of older people. The focus group participants found multiple barriers and gaps to achieving what is required to adequately prepare dental graduates for an older, frail, and care-dependent population. For curricula to be successful, policymakers and education providers must find solutions to ensure that the oral health needs of older Australians are addressed and managed appropriately.

KEYWORDS
curriculum, dental, dentist, education, gerodontology

1 | INTRODUCTION

There has been international recognition that there will be increasing pressure on the dental profession to manage the oral health of a growing population of older, frail, and care-dependent people who will also be retaining their teeth into older age.[1–5] For dentists to be prepared to manage the pool of patients who are frail and care-dependent, there is a need to ensure the education for entry-to-practice programs considers the stakeholders involved in the curriculum.[6] A needs assessment of these stakeholders such as dental school academics, dental students, aged

care workers, and consumers, is required to inform future dental school curriculum design with the social responsibility that is expected of Australian dental schools.[7,8] This is further supported by the recent addition from the Australian Health Practitioner Regulation Agency (Ahpra) detailing requirements for the Interprofessional Collaborative Practice Statement of Intent.[9] Ahpra's recognition that team-based care improves healthcare outcomes and experiences is a step to embedding interprofessional collaboration across the health system, including through education and training.

The barriers and facilitators to the integration of oral health care for older people are complex, and the compartmentalized culture in which oral health is viewed within general health care is a problem that requires systems-level change.[10] Curriculum design for health professionals should consider the needs of the population and the needs of the learners,[6] acknowledging that the workforce for a population should be prepared for the healthcare needs of that population.[4,6] The relevant preparation would incorporate the appropriate knowledge, attitudes, and skills in gerodontology.

Gerodontology is the branch of dentistry dealing with the oral health of older people and sits under the specialist discipline of Special Needs Dentistry. Australian dental schools have a variation in program length with several dental schools having entry-to-practice programs as a four-year postgraduate course as opposed to a five-year undergraduate course.[11] On graduation from both undergraduate and postgraduate dentistry programs, the graduate can register with Ahpra as a dentist.[12] Gerodontology is not recognized as an individual specialty in Australia, and there are no mandatory requirements to include gerodontology within the curriculum. However, the Australian Dental Council (ADC) as the accrediting authority for dental (dentist) programs revised the professional competencies of the newly qualified dental practitioner in 2023 to include a need for a demonstration that all the competencies take into account "aging persons requiring additional care or residing in residential and aged care facilities".[13]

The aim of this study sought to answer the research question: "What are the perceptions of final-year Australian dental students, directors of nursing in high-care residential aged-care facilities, and consumer representatives of older people toward entry-to-practice gerodontology education?". Findings from the study along with findings of studies with other stakeholder groups, were intended to inform the design of gerodontology curricula to prepare graduate dentists for a growing older dentate population. There is currently a paucity of literature exploring gerodontology education in Australia with no studies investigating gerodontology for Australian programs for entry-to-practice as a dentist.[14]

2 | METHODS

Participants for the study included final-year students from all nine Australian dental schools enrolled in programs allowing entry-to-practice as a dentist on graduation, directors of nursing (DONs), and consumer representatives from peak bodies of advocacy groups of older people. Only students in their final year of dental school were included to provide a comparable point of exposure across much of their curriculum and any gerodontology education prior to graduation.

The focus groups aimed for group sizes of 5–8 participants as this is an optimal number to encourage in-depth, rich discussion.[15] It was recognized prior to commencement that this may not be possible logistically due to varying factors, for example, participant recruitment delays, the coronavirus disease 2019 (COVID-19) pandemic,[16] and varying participant availability. Recruitment of participants was through the researchers' networks, dental school student associations, and the Australian Dental Student Association.

The interviews were conducted between July 2022 and March 2023 using videoconferencing and one in-person semi-structured interview. Data analysis used Braun and Clarke's thematic analysis framework,[17] a widely used framework in qualitative health research.[18] Two authors (Angie Nilsson and Rebecca Evans) reviewed the data independently as de-identified transcriptions with the first author (Louise Young) using an iterative process and immersion of data to find overlaps and similarities of codes. The themes were cross-checked by all three coders to reach the final themes with a consensus agreement.[19] All interviews were conducted by the first author (Angie Nilsson) and transcribed using Microsoft Teams live transcription during the recording with verbatim confirmed with file notes. All participants were offered the transcripts for viewing and reliability checking.

The participants were given information and consent sheets prior to the interviews and all responses were de-identified. Ethics approval was obtained by the James Cook University Human Research Ethics Committee (approval number H8288).

3 | RESULTS

Seven final-year dental students, five consumer representatives from peak advocacy groups for older people, and three DONs at aged care facilities providing high-care

TABLE 1 Final themes students.

Major themes	Subthemes
Preferences for gerodontology	• Exposure • Practical learning
Barriers to gerodontology	• Time pressure • Availability of Special Needs Dentistry clinics or clinical placements • Attitudes to geriatric dentistry
Variation in learning	• Supervisor quality/experience • Undergraduate/postgraduate program and international program graduate expectations

TABLE 2 Final themes directors of nursing (DONs) and consumer representatives.

Major themes	Sub-themes
Interrelations between stakeholders	• Support of staff • Role of the aged care worker in oral health
Resources	• Unappealing work for dentists • Funding
Quality of life	• Ageism • End-of-life care
Curriculum content	• Knowledge of aging trajectory and managing the frail care-dependent older patient • On-site learning

services participated in interviews and focus groups. Of the nine Australian universities offering programs for entry-to-practice as a dentist on graduation, final-year students from seven dental schools participated in focus groups.

Trending themes from initial coding were formed by the first author (Angie Nilsson) and, through iterative discussion, adapted and agreed upon by the second and third authors (Rebecca Evans and Louise Young). Immersion into the data further with file notes and mind mapping refined key themes that addressed the research question "What are the perceptions of the stakeholders towards gerodontology education?". The final themes and associated subthemes for students are provided in Table 1 and include: 1. Preferences for gerodontology, 2. Barriers to gerodontology, and 3. Variation in learning is a major theme. Table 2 provides the themes for the DONs and consumer representatives: 1. Interrelations between stakeholders, 2. Resources, 3. Quality of life, and 4. Curriculum content also displays the sub-themes linked to each of the major themes.

3.1 | Interrelations between stakeholders

The DONs and consumer representative groups (CRs) identified a need for dental professionals to understand the role of residents, families, and aged care workers. DON3 said; *'you'd want them to have a good understanding of the role of the carers and nurses in those facilities'*, with DON2 supporting this sentiment; '*They can help us too, they can help the staff*'.

Knowledge gaps were noted by both DONs and CRs. The consumer representatives found their own experiences of managing frail, older family members pointed to a lack of oral health literacy. Consumer X referred to her mother; '*she's not educated enough in herself to take care of her teeth*', whereas Consumer Q found the gap in education was evident with aged care staff; '*The staff* (*and that includes the nurses*) *don't understand the importance of oral health*'. This was mirrored in one DON's reflection of aged care staff's lack of knowledge of adequate oral health education within their training to prepare for managing older people's dental hygiene routine:

You always need to do education and training, so that's definitely going to be something we would be looking for [dentists providing education and training to staff] (DON1).

The data from the dental students did not focus on the relationship between aged care workers and supporting the staff and families involved in residential aged care facilities. The student focus groups revealed wide variations in experiences and explored how those variations were expressed within dental programs and across dental schools nationally and internationally.

3.2 | Curriculum variation

Students received wide variations in the amount of gerodontology content and methods of learning. They were cognizant that within their own peer groups in the same program, their preparedness was often dependent on fortuity and timing. Student 2 captured this sentiment: '*it depends on individual experiences as well, so, I've had more experiences with elderly patients than some other people just because* [of the experience on placement or clinics]'.

Supervisor variation was noted by several students with Student 5 remarking the ability to supplement didactic information provided by the program was dependent on who was supervising the clinical skills: '*I found that for us, it's very dependent on the individual supervisor*'. The student went further to detail the importance of quality supervision: '*I learned more clinically than I ever would've during our lectures, but I think if you didn't have that luck with*

supervisors, it would've been probably quite different'. Student 2, however, felt that the supervision at the school was more consistent due to the training of the supervisors although still very individual to a particular student's experience. The consistency was also attributed to the nature of the employed supervisors as they were academic staff as opposed to practicing dentists who might be supplementing their clinical work with supervising dental students:

'It depends a lot on the individual experiences of every demonstrator [supervisor], but also, we have demonstrators that are not from outside (like not general) [dentists providing supervision as part-time] and, generally speaking, all our supervisors undergo training. So, they're normally prepared to answer any questions (Student 2)'.

Continuing from inter-program variations in learning and teaching, the ability for students to choose elective placements did not exist for Students 5 and 1. When asked whether these students would find time to have elective options, Student 1 was firmly negative in the response to having additional electives. Student 5's learning experience was through individual discipline clinics and felt these were similar to electives, although being taught as compulsory components of the program. There was a consideration, however, that this did not include the ability to specifically manage special needs patients:

'We have a dedicated paeds [paediatric] clinic 1 day a week, and we used to, in previous years, have dedicated pros [prosthodontic], endo [endodontic], oral surg [oral surgery], and that sort of thing. So, I don't think it'd be bad to have half a day in the special needs department or something else' (Student 5).

Student 5 also noted the variation between didactic teaching and the timing of when students in various schools managed clinical work: *'I just noticed something based on what Student 6 was saying is that I think the timetables must be really different across all the unis, because at least for us, we don't have any lectures anymore. We finish our lectures in fourth year and now we just have 4 days of clinic a week'*. The reference had been to Student 6 contemplating the amount of time available to use for in-service learning at residential aged care facilities. With the variation to other students in the final year, it was felt that it would be reasonable to include more content into the curriculum but the barrier to in-service learning was the availability of supervisors:

'It's more I think there's not enough dentists or clinicians who are actually going to these residential facilities to do dental treatment' (Student 6).

With the first two themes relatively distinct between the two groups, there were two themes that emerged where overlapping stakeholder needs and preferences were identified. The first of these was barriers to achieving an ideal gerodontology education for final-year students due to limited resources.

3.3 | Resources

The DONs struggled with having dentists visit the facilities by identifying several barriers including proximity, financial pressure, and the challenge of managing patients outside of a dental surgery. The proximity issues were noted by DON1, '*first thing, they will be located somewhere very far, and they don't want to travel far*'.

The DONs' focus on resources was not attributed to financial pressure so much as human resources and staffing. DON3 felt there was a lack of comprehension in general, '*there's a lack of understanding between the teams and how things work…having understanding of the pressure of workloads in those places, why things don't happen necessarily the way you would want it to*'. This was recognized by consumers as well with Consumer Z noting, '*There's staff shortages because of COVID, it's worse than the situation though…I think it's always been an issue… it's a common problem that low there's a staffing problem in the residential aged care homes*'. Funding from governments was given as a factor by Consumer Q '*They're* [aged care facilities] *very limited in what they can supply for the resources that they're given by the state governments and the Commonwealth government*'. Financial barriers to residents and families were evident in Consumer X's comment, '*the affordability for the elderly, they just can't afford their dental procedures, it's just way too much it's very expensive*'.

Resourcing from the student's point of view was focused on limited time as a resource. This time issue was not only ascribed to the compacted schedule of the student curriculum but the university academics' ability to contribute time. Student 5 considered this to be an issue where dental schools and public health clinics worked in conjunction for student clinics, '*most of them* [Special Needs Dentistry specialists] *don't have the chance to supervise undergraduates because they either don't have the time, or they have to organize a collaboration between our university and the health system. So, the bureaucracy is a bit messy*'.

This barrier to education theme is linked to the ability to realize the preferred learning experiences of stakeholders through in-service learning.

3.4 | Practical learning experiences

All stakeholders voiced preferences for in-service learning with practical face-to-face experiences. This was suggested in varying forms, including mobile dental vans, with DONs 2 and 3 in agreement that using mobile dental van

services as a learning environment was necessary as part of dental student training. DON3 reflected that if dental students received in-service exposure to learning, they would be able to see the challenges as well as provide clinical interventions. These challenges were expressed as not only due to behavioral difficulties experienced by patients living with advanced dementia but also the challenges experienced by staff in the facilities, '*it would have to be practical exposure probably placement stuff…you'd want them to have a good understanding of the role of the carers and nurses in those facilities too*'.

An intention for in-service learning to be a mandatory component with an experienced supervisor was expressed by Consumer Q; '*I would make certain as part of it* [dental curriculum]*, it should be compulsory, that they do visit the places with someone with a lot of experience… they've got to see it face-to-face. That's number one* [priority]'. Consumer X likened practical placements in aged care facilities to an apprenticeship and as a hands-on job there was a necessity that this occurred on site, '*you go into that place* [aged care facility] *and you're taught the practical side of it. Not just on paper. So, you need that practical. In anything in life, I think it's important to have that practical*'.

While there was generalized consensus that hands-on experience was preferable, a holistic approach to learning was emphasized by Student 6 with case discussion, patient-based learning, and support by Special Needs specialist dentists giving a rounded learning experience:

Only in 5th year, did we get more information from our special needs lecturer who gave us that extra confidence in managing specific medical conditions that were, will be, might be necessary in the future (Student 6).

There was a sentiment through the focus group and interview discussion that there was futility in achieving preferred education delivery due to the lack of timing, funding, and adequate supervision.

4 | DISCUSSION

Clinical exposure and hands-on learning were preferred to didactic teaching, although didactic lectures have been recognized as providing time-poor schedules a chance to fit gerodontology components into the curriculum. The link to learning communication techniques through patient exposure strengthened the students' preferences for greater clinical experiences. This aligns with pedagogical knowledge of deep learning through practical experience[20] and should be considered when constructing educational frameworks for health professionals.[21] Further to this, meaningful learning experiences for health professionals may be varied across a student cohort to provide strategies that drive deep learning.[22]

Accreditation standards may be interpreted differently by the dental schools, allowing for students to graduate with diversity in perceived strengths and weaknesses. The variations in learning are challenging to address due to differences in course length, limited available mentors and SND lecturers, and resources to provide in-service learning in aged care facilities. Resourcing solutions could include consideration of a post-graduate internship program to address the gaps in knowledge and skills, similar to medicine.

Ahpra works with the Dental Board of Australia to ensure that Australia's registered dental practitioners are suitably trained, qualified, and safe to practice.[12] Ahpra has committed to improving health outcomes by drafting an 'Interprofessional Collaborative Practice statement of intent',[23] inviting health providers and education sectors to support the statement. This is reflected in the data from the focus group participants with a strong desire for integration and interprofessional education across dental training to the stakeholders involved in the oral health of older people. There was an emphasis on bi-directional learning with educating families, staff, and patients in oral hygiene management and the behavioral management and communication skills that dental students would gain. Modelling communities of practice[24,25] in this manner was preferred to be provided at the residence of the care-dependent older person whether it was as a mobile service or in the facility. This strengthens existing knowledge on perceptions of DONs and carers for the provision of care in RACFs[26,27] as well as the success of placement programs on student knowledge.[21,28]

Where historically healthcare may have been provided as a transactional experience,[29] the accepted collaborative model of care that is patient-centred[30,31] and empowers the consumer with their healthcare choices, is still viewed as needing further improvement.

Curriculum development should encompass the health needs of the population as well as the learner needs with evidence pointing to meaningful and practical learning experiences.[6,20,32] While it is known that learning outcomes are improved with clinical learning rather than didactic alone, it is essential that the planning of undergraduate gerodontology education in Australian dental schools considers the need to provide students with supervisors who are experienced in the management of geriatric patients. This is supported by evidence from dental school academics advocating for quality supervision in special needs dentistry[33] and a need to plan for future mentors and special needs dentistry academics. As the specialist branch of dentistry with gerodontology within its discipline, this group of specialists is essential for the future sustainability of the workforce able to manage the care of frail, older, care-dependent people.

Limitations to the study included the possibility that students participating may have had an interest in gerodontology themselves, thereby influencing the discussion with a preference for gerodontology learning. Consideration should also be given to the variations that may have occurred with clinical time allocated to students during this period as well as periods of lock-down where comparable teaching and lockdown pre-pandemic may have elicited different perceptions of stakeholders. An overarching discussion comparing other stakeholder groups, such as dental school academics involved in undergraduate gerodontology curricula, would also provide another lens to the themes identified in the study.

5 | CONCLUSION

Dental students, Directors of Nursing, and consumer representatives voiced a need for greater collaboration and improvement in education delivery to enable improvement in health outcomes and individual experiences. This was perceived as futile unless appropriate resourcing and quality supervision were supported.

There is an overwhelming growth of older, frail, and care-dependent people compelling geriatric-specific oral health care from the Australian workforce of dentists.[5,34–36] Stakeholder perceptions are required to inform a gerodontology curriculum that is appropriate to the healthcare requirements of the population. For curricula to be successful, policymakers and education providers must find solutions to prepare future dentists to ensure that the oral health needs of Australian older people are addressed and managed appropriately.

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ORCID

Angie Nilsson BChD, MHPEd, GAICD https://orcid.org/0000-0003-2208-6055

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