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Australian dental school academics' perceptions of gerodontology education in the undergraduate curriculum

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Abstract

Introduction: Australia's rapidly growing population of dentate, frail, care-dependent older people require graduates skilled in managing the health needs of this patient group. The perceptions of academics teaching gerodontology may inform future dental curricula recommendations. This study explored the perceptions of gerodontology education amongst Australian dental school academics.

Materials and Methods: All nine Australian dental schools providing entry-to-practice dentistry programs were invited to participate in semi-structured interviews. Academics from six dentistry programs took part, and the data were analysed using a thematic approach.

Results: The three main themes identified from interviews included 'clinical exposure', 'organisational levers', and 'sociological barriers'. The attitudes of students, as well as society and health professionals, were seen as strongly influential in preparing the workforce for managing the oral health of older people. The themes inter-linked with a knock-on effect where societal attitudes and organisational levers impact on the ability to successfully support students' preparation for gerodontology practice. Limited resources were barriers to achieving ideal learning and teaching and continued upon graduation as oral health care for older people was perceived as undervalued and under-resourced.

Conclusion: There has been a continued cycle of failure in healthcare schemes and advocacy for the improvement of oral health for older people which has contributed to the inadequate preparation of dental graduates for managing frail and care-dependent older people. Organisational, societal, and political change is needed to support the education of dental students in this area to ensure graduate dentists are competent to manage the oral care needs of this growing population.

KEYWORDS
aged care, gerodontology, special needs dentistry, undergraduate education

1 | INTRODUCTION

Dental professionals globally are experiencing the effects of an increasing population of frail, and care-dependent patients who are retaining their teeth into older age.[1–6] As the restorative cycle tends to move dentition into more complex restorative management, the older patient is more likely to have prosthodontics that are also increasingly difficult to manage if they are frail and care-dependent.[7]

When patients transition to residential facilities, they are less likely to receive regular dental checks and maintenance, resulting in rapid deterioration of their dentition.[8] The increase in an older dentate population finds dentists needing to manage patients with increasing medical complexities controlled by polypharmacy as well as changing oral structure. This combination of decreased dental maintenance, complex medical history, and complex restorative dental work in the mouth has the potential for catastrophic outcomes affecting both oral and general health.[9–12]

In Australia, gerodontology is addressed in post-graduate training for Special Needs Dentistry (SND) with dentists being the only dental professional able to progress to specialist training in SND. While specialists in SND receive specific training in gerodontology, all dentists are deemed competent to provide health care for older people upon graduation. Therefore, there is a need to consider the readiness of newly graduated dentists to manage frail and care-dependent people. Six of the nine Australian dental schools offer undergraduate programs, and three offer a graduate entry course and all allow students to graduate with the ability to register under the National Registration and Accreditation Scheme (the National Scheme).[13] The focus of this study was the education of dental students in programs allowing them entry-to-practice as a dentist. The use of 'undergraduate' programs in this study is synonymous with all the Australian dental programs allowing entry-to-practice as a dentist on graduation.

In Australia, gerodontology is usually taught under the umbrella discipline of SND or incorporated into other dental subjects, rather than having a separate, focussed subject within curricula.[14] Each school has their own curriculum and structure accredited against the Australian Dental Council (ADC)/Dental Council (New Zealand) accreditation standards for dental practitioner programs (the Standards).[15] The current accreditation standards for Australian dental schools do not specifically require SND to be taught as a discrete subject nor is there a requirement to include gerodontology education in the curriculum.[16] The revised dental competencies, which came into effect in 2023, detail a need for demonstration of all competencies taking into account 'groups or populations at increased risk of harm or poor oral health… likely to include… ageing persons requiring additional care or residing in residential and aged care facilities' (p. 8).[17]

The perceptions of stakeholders involved in the management of the older patient's oral health are needed to develop future gerodontology education for students preparing for entry to practice as a dentist. Understanding the views of educators directly involved with delivering the SND Component (or gerodontology component if available) may identify potential gaps and strengths in the current education being provided in Australian dental schools. This may provide insights into how the workforce can be better prepared to manage the older patient through dental school education provided in the entry-to-practice programs.

This study is timely as it responds to the call for greater inclusion of gerodontology in the dental school curriculum.[18] The objective was to explore the attitudes and perceptions of dental school academics involved in teaching gerodontology in entry-to-practice programs to inform development of gerodontology education in future undergraduate dental curricula.

2 | METHODS

2.1 | Participants, setting, and ethics

All nine dental schools were invited to participate in the study. Where there was no specific gerodontology lecturer, an SND lecturer or Head of School were invited to participate. The participants were given information and consent forms prior to interviews, and all responses were de-identified. Ethics approval was obtained through the James Cook University Human Research Ethics Committee (approval number H8288).

2.2 | Data collection and analysis

A qualitative, explorative study design was used to provide broad discussion of health educators' perceptions[19] of gerodontology curricula and allow distillation of common themes.[20] Semi-structured interviewing was employed to ensure key topics were consistently discussed while allowing for in-depth answers and probing which may not have been anticipated in the initial interview guide. The framework for the interview guide used the approach of Kallio et al.[21] and was informed by relevant literature[22–30] and influenced by instruments used to measure the educational environment of dental schools.[31] The pilot interview guide (Appendices 1 and 2) used open questions with further follow-up inquiry and potential probing questions. Questions were tested with dentists involved in teaching entry-to-practice dental students to assess validity and comprehension of questions. All interviews were conducted by the first author (AN) via Microsoft Teams videoconference and transcribed using live transcription during the recording. The verbatim transcriptions were confirmed with file notes during immersion of the data and were an iterative process. All participants were offered the transcripts for reviewing and reliability checking; none of the participants requested this.

Braun and Clarke's[21] thematic analysis framework was used in data analysis which was also facilitated by NVivo 12 (QSR International) software to index and identify codes and key themes. The first author (AN) sought to find overlaps and similarities of codes through immersion with the data. Two authors (RE and LY), experienced in qualitative research methods, independently reviewed the de-identified transcriptions as reliability coders to confirm the coding used by the master coder (AN). The themes were then cross-checked by all three coders to facilitate production of final themes. This inductive analysis used an iterative process to organise the qualitative data with differences reconciled by consensus discussion.[32]

De-identification of the transcripts included removal of place names to protect participants' anonymity.

3 | RESULTS

Six dental schools responded with a staff member from each willing to participate in a semi-structured interview. Two dental schools did not respond, and one dental school declined to participate with no reason given. Participants included one Head of School, four SND lecturers, and one gerodontology lecturer. The interviews were conducted by the first author between November 2021 and April 2022.

Using Braun and Clarke's[21] framework for analysis, initial codes were generated with a codebook (Table 1) used to refer to the transcripts and determine reliability of coding with the two independent coders. The overarching themes developed are illustrated (Figure 1) showing a mind map of the stories that were woven between the themes. The final themes and sub-themes evolved from this initial thematic analysis by consensus discussion with the independent coders.

3.1 | Thematic analysis

3.1.1 | Theme 1: Clinical exposure

> Without that undergraduate clinical experience of the aged mouth…then, students aren't really that prepared.
>
> (Academic X)

TABLE 1 Codebook from the interviews.

Codes
Attitudes and ethics
Challenges of managing older people
Champions and advocates
Performance of dental schools
Inequity of subject allocation to SND or geriatric
Lack of resources
Organisational silos and interdisciplinary learning
Supervisors and mentors
Preparedness
Hands-on clinical experience
Importance of rational care planning
Knowledge on prosthetics
Standards of competency
ADC competencies
Risks to patients where scope of practice limited

Theme 1 links the perceptions of preparedness of not just students and graduates but that of the supervisors and mentors for a future dental workforce. A need for greater clinical exposure to frail and care-dependent older people was identified. A limited pool of SND specialists and skilled supervisors added to the barriers to achieving high-quality gerodontology teaching and learning.

Clinical experience

The amount of clinical time allocated to gerodontology was seen not only as a contributing factor to preparedness in terms of skills and knowledge but also to improving attitudes of clinicians. The exposure was not just important in terms of having patient experiences with geriatric patients, but to have meaningful learning experiences associated with these exposures, whether it would be service-based learning or through mentors. Academic Y described this perception:

> If you've never spoon escalated a carious lesion, then I have zero hope that you'll be able to do that in a patient with dementia or with autism (and that's not through any fault of their own they've just not had the opportunity).
>
> (Academic Y)

Supervisors

Quality mentors and supervisors were discussed as a necessity for providing role-modelling opportunities and for teaching students appropriately. There was also the idea that these role models would select and mentor future champions for older people and graduates interested in Special Needs Dentistry. Academic X described the flow of teaching at the dental school to provide a limited number of experiences to students as 'it sort of self-selects individuals that are more interested in gerodontology'. Further to this, the importance of role-models would lead to better learning outcomes by inspiring progression, as illustrated in the following comment: 'that [clinical experience] will drive students to learn and to progress, but also inspire that deep learning rather than the surface learning' (Academic X). There was an understanding that mentoring was necessary not only before graduation but continuing past graduation as Academic Z describes 'recognizing that the graduate isn't the finished article' was weaved into the theme of organisational levers in the form of vocational training programs.

A lack of appropriately equipped supervisors was a barrier to providing quality gerodontology exposure to students. Importance was placed on clinician awareness to provide patient-centred oral health planning to people approaching frailty and with deterioration of cognitive capability. The gap in student and graduate dentist attitudes (as well as knowledge and skills) to apply rational care planning was experienced by academics. In particular, the story of

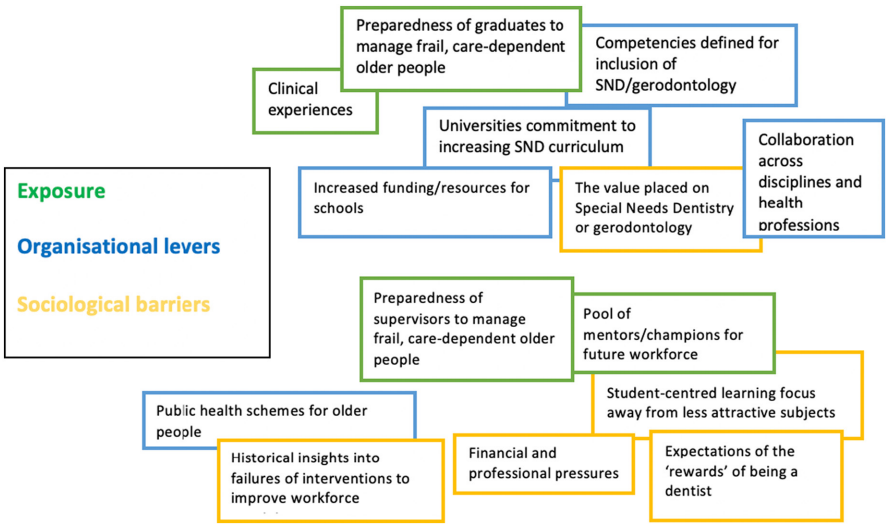

FIGURE 1 Sub-themes mind map.

an octogenarian having dental extraction and driving home alone without the dentist considering adequate sociological support for the patient was described: 'I had a patient a couple of weeks ago that needed some teeth taking out -I was helping one of the dentists because of the treatment planning- the lady was 80 years old, and she was coming 25 kilometres for a dental appointment and coming down the freeway. And I said, "you know, are you going to be alright? You're have two teeth taken out that you've got to drive back" …and "Oh no, I'm fine!" [imitating patient saying she was fine] She's like fiercely, staunchly, independent was 81 or 82 or something but that dentist involved had not thought about that at all, you know. So, I think we really do not have our next generation very well prepared… and a lot of the stuff that we have been reading about and talking about, with this huge avalanche of older people coming towards the profession (me being one of them!) …I just do not think we are prepared for it' (Academic V).

Preparedness

References were made linking the life trajectory of the patient and lack of preparedness of dentists to manage older people. There was importance in defining the change in the patient; not to just being older chronologically, but the increasing biological, pharmacological, and medical complexities as part of the frail and care-dependent older person. This was identified as the gap in graduate preparedness with comments such as 'what we've been trying to push for a lot in some of those gerontology workshops is the pre-dependent planning… because we know that by the time they move from 75 to 80…the chances of them having a catastrophic medical event or having dementia is pretty high' (Academic Y).

Thoughts around how ideal student exposure to older people and geriatric dentistry might be described included acknowledgement that didactic teaching alone would not improve preparedness of the graduate; 'I think it is difficult to prepare people just based purely on didactic [teaching]… without that undergraduate clinical experience of the aged mouth…then, students aren't really that prepared' (Academic X). Exploring preparedness elicited direct responses from the participants with a feeling that organisational levers (Theme 2) were involved in forming the barriers as illustrated by Academic Z: 'I don't feel they're particularly well prepared. Full stop, never mind just the elderly'.

Academic Y noted that in respect to organisational levers, 'in terms of the minimum competency set', competencies could be set as a minimum to assess graduates but limitations remained in having sufficient clinical exposure to enable the assessment. These levers are explored in the second theme, 'organisational levers', with academics attempting to provide reasoning behind the failures of a prepared dental graduate workforce.

3.1.2 | Theme 2: Organisational levers

> Like Swiss cheese, there will be a lot of enablers that move into that space.
>
> (Academic Y)

The theme 'organisational levers' centred around the barriers and enablers to achieving an ideal learning space for gerodontology and developing a well-prepared workforce for older frail and care-dependent patients. This included factors associated with universities, professional organisations, and political bodies as a conduit for a 'utopic' learning scape regarding oral care needs of the target older population.

Resources in universities

Interviewees felt that many of the current barriers to providing the ideal gerodontology education could be addressed by changes within universities. Potential strategies included:

- Improving the integration of gerodontology and Special Needs Dentistry across other disciplines within dentistry.
  - 'There's supposed to be within [institution] an interprofessional collaborative practice program…the one that's within the medical school has no dental input into it at all and the one that's within the dental school only talks about technicians and prosthetists' (Academic Z).
- Increasing resources to allow for high-quality supervision.
  - 'The problem is those [clinical placements] are very resource intensive activities. You need small groups and an academic with them, so in terms of efficiency the universities are very poorly resourced for that' (Academic X).
- Supportive structures to develop more Specialists in Special Needs Dentistry.
  - 'I believe…if I want to teach or if I want to provide individualized teaching, it needs to come from me because I'm a specialist in that area. But if you want to teach 70 students from the same cohort, it wouldn't be only me because I don't have the capacity to attend every single undergraduate clinic' (Academic Q).

Providing quality clinical exposure for students was found in the first theme of the results. However, the concept of exposure also ran through the organisational levers theme as an opportunity for universities to increase the time dedicated to teaching and clinical experience of care for frail and care-dependent older people with comments such as:

- 'It would be perhaps more useful if we were able to have a more structured approach to allocating patients. However, that then becomes very labour intensive, both in terms of allocation and the monitoring' (Academic Z).
- 'There was a time when University X were doing it well because X had a domiciliary service and the students taken along did get exposure…it was part of the undergraduate curriculum' (Academic X).

Although the academics were clear in their view that good-quality clinical exposure would improve learning outcomes, universities were perceived as reducing the clinical experiences over time. There was also discussion about formalised training programs to address gaps in graduate preparedness for gerodontology. An organisational change was suggested by Academic Z: 'The ultimate support system is something like vocational training… recognizing that the graduate is a safe beginner and needs some mentoring afterwards' with a warning that outcomes affect the dentist as well as patient in terms of safe-keeping their registration; 'you know, for as much as anything for the protection [registration] of the new graduate'.

Competencies

The need for organisations to deliver on the competencies required for accreditation of dental school programs by the Australian Dental Council (ADC)[15] was understood as a shaping mechanism for graduate attributes. The link between preparedness and organisational levers was evident when exploring the enablers and barriers to improving preparedness. The ability to assess competency to produce safe and prepared graduates was limited by the students' exposure to clinical experience as discussed in Theme 1, but the competencies themselves were seen as an enabler to drive change in organisations. Academic Z went further to identify the ADC as playing an integral part in reducing the learning gap for geriatric dentistry 'I think until the ADC actually specifies something about the age more clearly or about managing special care patients including elderly, frail…a lot of [dental] schools will just put that in the too hard basket'.

There was further discussion around the accountability of dental schools in providing evidence of specific learning for accreditation with reflections on how this compares to international dental schools. The General Dental Council in the United Kingdom (UK) was noted as including preparation to practice post-graduation. Exposure and preparedness with supported mentoring was linked, with one participant identifying vocational training programs in the UK. The compulsory Vocational General Dental Practitioner training, which includes mentoring, was reflected on as 'the ultimate support system is something like vocational training or general professional training' (Academic Z).

Recruitment and remuneration

The Medicare Benefits Schedule (MBS) as the Australian government health funding scheme has introduced schemes for accessing dental care which would target priority populations.[33] Participants felt there were levers that could be pulled at the organisational level of government including how MBS funds older people. Funding models for oral health were met with trepidation due to historic misuse of government schemes, such as the MBS Chronic Disease Dental Scheme (CDDS),[34,35] and a concern that the fee-for-service model of care was contributing to poor care. The pressures of a productivity-based healthcare system were seen as a barrier: 'everybody, regardless of whether it's community or private, a lot of our KPIs are productivity-based and trying to provide domiciliary care is going to be low productivity' (Academic X). This in turn was perceived as a driver for recruitment and inability to provide quality supervisors for students with Academic V noting, 'It may be emotionally and intellectually demanding trying to deal with a whole lot of complexities [in gerodontology]…and not financially rewarding'.

The inadequate number of specialists in Special Needs Dentistry was a self-perpetuating problem for future-proofing the workforce for an older dentate population observed by Academic Y; 'We need more [SND] specialists with additional training to be able to carry forward this work not only in tertiary centres but across all hospitals'. This was affirmed by Academic W who discussed the potential in capacity building, 'The university is looking at establishing a specialist program [in gerodontology] in the next two to three years so that will change things a lot as well… and I think once you've got your own workforce then you've got a few more options'.

This sub-theme of recruitment and remuneration linked into the third theme where the barriers to provision of an ideal gerodontology curriculum were not only due to dental schools' limited capacity to increase resources but also a lack of willingness to change due

to the preferences of students. This is explored in the third theme 'sociological barriers'.

3.1.3 | Theme 3: Sociological barriers

> It's about what's seen to be fashionable or acceptable in the general dental community…and being a special needs specialist is "why would you want to work with that cohort of patients?"
>
> (Academic V)

The theme on sociological barriers includes the perception that students lack an interest in gerodontology which drives the inability to have an ideal curriculum from the SND academics' perspective. The value placed on SND from dental schools was lacking and a continued failure in advocacy efforts for older people was observed.

Lack of appeal

While providing dental care for older people in aged care facilities was seen as an altruistic part of the dental profession, the financial inequity and less appealing aspect of the physical work provided was seen as reasons for dentists and students to avoid being involved in gerodontology. Remuneration is discussed in this sub-theme as an attitudinal issue and later in the sub-theme 'pressure of financial rewards' in greater depth as attitudes and the financial needs of a graduating student are interwoven.

Sociological barriers to ideal learning for gerodontology were discussed by participating academics. When probed for a utopic vision of how gerodontology education might look for the entry-to-practice curriculum, the sub-theme of clinician 'comfort' in supporting treatment of frail and care-dependent older people identified a problem in trying to achieve the ideal. This was illustrated in one academic's view: 'Having undergraduate students have access to experienced clinicians who are comfortable in providing treatment in…gerodontology is where I would see the ideal world' (Academic X). Students competent on graduation to potentially go back into the workforce pool of supervisors were instead taking alternative jobs on graduation more likely to generate a better income and less strenuous. Graduates were also viewed to be seeking jobs that provided a greater source of increased clinical skills development, such as prosthodontics. These insights of comfort and preference were reflected in several participant comments with Academic W reflecting on supervisor comfort:

> Often there are practitioners who themselves aren't comfortable treating these [older] patients, let alone watching a dental student treating them.
>
> (Academic W)

The confirmation that general dentists and students are not drawn to the area of gerodontology was touched with concern that this could lead to naïve and inexperienced dental professionals providing care to older people outside their scope or competency:

> What's going to happen is that there's going to be a whole lot of clinicians… young clinicians, who go out with extended scope within a limited scope…that's a recipe for disaster, but it's happening., I'm very scared about that.
>
> (Academic Y)

Pressure of financial rewards

Concern that less money is generated by work on care-dependent older people was a notion weaved throughout the themes and subthemes. Along with the attitudes and perceived discomfort of managing older people was the pressure of new graduates to do work that would be more financially rewarding; A conversation was recalled by one academic; 'They think about the funds that they will generate as a result of that personal income, and they want to do things that are exciting [botulinum toxin injections and orthodontics]' (Academic V). Working on the attitudes of students towards providing care to older people was important to counteracting this problem; 'I think the attitude part is very important because you've got to get past the attitude of "If I'm doing that [gerodontology], I'm not treating patients. I'm not making money"' (Academic Z).

There was a sense of urgency to remove the barrier associated with perceptions of managing older people before students entered practice. The introduction of SND into later stages of dental programs was seen as aiding the perceptions students had built about where their clinical focus would be on graduation; Academic Q considered the timing of Special Needs learning as part of this problem; 'Unfortunately SND always comes very late in year 4 when they had already made their mind about how important it is to become a dentist… to make money or how you can make more money by doing cosmetic treatment'.

Failure of advocacy and interventions

Historical health schemes set up to help manage patients with chronic diseases (CDDS) were seen as a failure in the management of older people and feeding into the poor attitudes of dentists providing reasonable care. Academic Y details the additional workload for SND Specialists: 'We found that with the chronic diseases model, the number of you know things that we were mopping up'. The movement of older people into aged care facilities and being away from society and the profession's radar was noted; 'I just think we're going to get more and more behind in caring for people in those facilities because they're hidden. They're hidden from our population they're hidden from our profession' (Academic V). This extended into the logistical problems of managing older frail and care-dependent people and the ease with which patients who do not physically present to general dental practices can lead to ignoring of the healthcare needs of this patient cohort.

There was also a feeling that failure of health schemes did not absolve the patient from contributing to the abuse of the schemes as it was perceived that patients also sought to 'milk the system' for what they thought they were entitled to. Academic Y described the patient's part in this failure:

> I'm sure there would have been plenty of patients going in and saying, look, I'm entitled, I want to get those two crowns now because I've got this money from the government to get those two crowns that I would never have gotten for myself because they are asset rich and cash poor…and you know they're retirees and they would have said, "OK, well that's fine. Just do the filling or I'll pay for the cleans and I'll come back for the clean for my periodontitis but do this crown now".
>
> (Academic Y)

The responses associated with this theme had a defeatist tone, participants doubting that positive change and improvement would occur. This was summarised in a sense of hopelessness by one academic:

> …Do you think it's going to get better?
>
> (Researcher AN)

> Honestly, no…I'm seeing increasing cohorts of students who think coming in paying lots of money means 'I'm going to leave with my ticket. Failure is not an option. I bought it'…I think increasingly the motivation here is, sadly, money.
>
> (Academic Z)

4 | DISCUSSION

This study sought to provide insights into the perceptions and attitudes of dental school academics to gerodontology in the entry-to-practice dental school curricula. The interview analysis found areas in the current Australian dental school curriculum that were perceived as barriers or enablers to providing the academics' ideal gerodontology curriculum at learner, organisation, and societal levels. There have been no other studies to compare the perceptions of SND academics regarding undergraduate gerodontology education. The themes arising from the interviews, however, were not dissimilar to gerontology education studies from other health professions where educators felt attitudes were an important part of learning[36] and barriers included sociological factors and limited access to experts.[37] Resources across the academics' experience with organisations meant staff were needing to do more with less; this included less skilled supervisors and less available time for teaching. There was recognition this was not necessarily limited to SND alone but challenging for teaching in general in universities. This has been recognised in other studies, not just limited to healthcare professional courses.[38,39]

The results indicated that greater resources and commitment to SND as part of the undergraduate or entry-to-practice curriculum could improve the negative attitudes and some of the sociological barriers to the preparation of the dental workforce for an older, frail, and care-dependent person. The academics felt that gerodontology was undervalued by organisations, students, and the general profession, in comparison to other dentistry disciplines, and there was a fatalistic sense the workforce would continue to be unprepared for the needs of the older population until these problems had been addressed. The sociological barriers of ageism within society, the healthcare system, and education system, have been reflected in literature on nursing education[37] as well as in medicine, highlighting attitudinal change needed to improve the learning environment.[40] There has been progress with organisational enablers for change occurring: the ADC's revised dental competencies of the newly qualified dental practitioner made a pointed change in the competencies to include social responsibility as well as professionalism.[17] Recognition of care-dependent older people in residential facilities at increased risk of harm or poor oral health continues to be the discussion point from Specialists in SND and advocates of older people.[17,41] This is perhaps where change will transpire; to set the benchmark for expectations of dental schools achieving accreditation rather than through funding of educational institutions where the financial and resource pressures exist in all disciplines.

Optimism in the discussions centred on the future champions of gerodontology and existing role models within SND, that they may propel replenishment of properly skilled supervisors. Enablers centred around the exposure students were gaining by actively learning from clinical experiences and on clinics from competent mentors and supervisors. There were opportunities noted in using rational care planning and linking subjects across the curriculum to better prepare students for gerodontology on graduation. The use of interdisciplinary learning would lend itself to deeper learning and ability to progress beyond basic knowledge and skills,[42] providing an aid to organisation efficiencies where resources are scarce,[43] and potentially improving people's health outcomes.[44]

On the other hand, there was also a pervading sense of pessimism that positive change would occur. Although the interviewees were from different Australian dental schools, the academics were unanimous in their view that the workforce was not being adequately prepared for Australia's growing older, frail, and care-dependent population. This was not limited to the preparation of managing this cohort of patients alone but extended to the teaching of SND as the umbrella speciality discipline for gerodontology. To enable replenishment of appropriately skilled supervisors and specialists, there was a lens on students who had a natural talent for this area of dentistry or were drawn towards the subject and potential future specialists in the discipline. The need to increase this pool of future champions seemed stymied by the limited resources and availability of good quality mentors for students. This

realisation, along with the view political and organisational levers may not improve the outcomes for frail older people in residential facilities, gave the participant responses a feeling of defeatism that there would be no improvement as had been observed over several decades of advocacy in the area. With the knowledge that the future lies with the graduating workforce, urgency would be required to ensure the value of gerodontology and SND is instilled in the attitudes, skills, and knowledge of newly qualified dentists.

The sense of pessimism that students would not be adequately prepared on graduation was coupled with the need to change society's view on older people's oral (and general) health to improve and sustain the provision of care to a frail and care-dependent population. Dentistry is not generally included in the MBS and does not remunerate practitioners when visiting aged care facilities in contrast to other visiting health professionals such as doctors, podiatrists, and optometrists. This may continue to reinforce the attitude that oral health is less valued by society[45] and was reflected in the sub-theme of financial barriers and perceptions that there was less value placed on learning when the challenging work of dentistry in aged care facilities is poorly remunerated. The interviewees talked of schemes that had been in place to manage oral health care for people with chronic disease[34] but had fallen short of meeting the needs of older people. Where governments develop future schemes to address the oral health of older people, it is imperative that stakeholders are involved in the process to ensure that intended outcomes are achieved.

Limitations to the study included having six Australian dental schools participating in the interviews rather than all nine. However, the major themes that emerged were largely reflected across the participating schools, and a consistent pattern of barriers and enablers was seen across the interviews. Another limitation to consider was the interviews took place during periods of 'lockdown' during the COVID-19 pandemic, where the ability to provide 'normal' teaching may have affected the academics' contributions and answers. However, this study does provide a view of dental academics' perspectives on gerodontology education, and further research of other stakeholders involved in the education of dentists is needed to provide a rounded view of the needs of a future gerodontology curriculum for entry-to-practice dental students.

5 | CONCLUSION

Australian dental school academics responsible for preparing students to be competent in managing an older frail and care-dependent population on graduation found multiple failures in the current system. The resources available for adequate teaching of gerodontology falls short of what is needed for the needs of older patients and seen to be progressively deteriorating without organisational and systems-level intervention. While accreditation authorities for dental programs have moved away from prescribing curricula, mechanisms must be considered for newly graduated dentists to ensure they can provide for the needs of the general population. Older people, will constitute a quarter of the Australian population by 2050.[5,6] Organisations involved in the education of dentists have the social responsibility to manage the process and outcomes.

With a cycle of failure in the face of continued advocacy to make meaningful change, a collaborative effort across organisations with the power to influence change in dental school curricula is essential. Further stakeholder engagement in the delivery of gerodontology education is required to inform the design of an optimal Australian gerodontology curriculum. The baseline for Australian dentists at entry-to-practice does not appear sufficient as a benchmark for managing a population of older patients that is growing rapidly. Sharing of resources for time allocation to various dentistry disciplines is limited. How exposure to gerodontology occurs for dental students is a paradoxical discussion that is necessary to ensure our future dentists are equipped with the skills, knowledge, and attitudes needed to serve this population on graduation.

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CONFLICT OF INTEREST STATEMENT

The authors declare no conflicts of interest.

DATA AVAILABILITY STATEMENT

Data available on request due to privacy/ethical restrictions.

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APPENDIX 1

Semi-structured questions for pilot interview guide

Main questions	Follow-up questions	Further probing questions
Describe what the current program does well or not so well in gerodontology	What is good about this area? How has this been seen to be an area that is done well?	Is the school benchmarking the curriculum from another university or source?
Are there things that could be done differently in gerodontology education?	What needs to be improved? Who needs to be involved? Why does it need to be improved?	Are you aware of what other schools are teaching? Is there integration of subjects across different disciplines?
If you could have a vision of what gerodontology education looked like for Australian dental schools, what would it be?	What are the barriers to this vision? What are the enablers?	What would you change?
What does the future look like for graduates with the current gerodontology education?	Are they prepared? Can education influence their preparedness?	Are our supervisors and specialists equipped to prepare the students?

APPENDIX 2

Initial theme mind map