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REVIEW

Bridging the Australian medical-dental divide

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SUMMARY
Since dentists are inaccessible for many Australians, many people choose to present to primary medical care facilities for management of their dental and oral problems. Many primary care doctors have minimal formal dental education and training. Despite having a limited scope of practice in the dental field, some primary care doctors feel obligated to provide assistance to patients with these presentations, particularly in emergency situations. This systematic review found many primary care doctors in Australia had low levels of knowledge, education and training, and confidence with regard to the management of a variety of dental and oral complaints. The solution to providing equitable and accessible dental care in Australia is not straightforward and will require multiple approaches, including further training for primary care doctors on how to manage common dental presentations, particularly for presentations that are urgent in nature.

Key Words
Primary care; dental care; clinical competence; dental education

ABSTRACT

Background

Dental care in Australia is expensive; there are limited private health insurance options and Australia doesn't offer universal coverage. People present to primary care doctors with dental and oral health issues, but physicians have limited training in dental health.

Aims

This study aimed to review primary care doctors' perspectives of managing dental presentations.

Method

We conducted a systematic review of MEDLINE, CINAHL, and PubMed for English-language articles published between January 1, 2000, and May 1, 2019.

Conclusion

This systematic review found primary care doctors have low levels of knowledge, education and training, and confidence to manage a variety of dental and oral complaints. Recommendations to help Australians with dental and oral problems include further education and upskilling of primary care doctors to effectively manage a range of common dental presentations, improving referral systems to dentists, improving communication between the two fields, allocating funding for the prevention of common conditions, and establishment of dental services in hospital emergency departments (EDs) particularly outside of business hours. Despite these recommended

approaches, ultimately, the most effective and efficient way to provide equitable dental care in Australia is via a universal scheme such as "Denticare".

BACKGROUND

Australians find it difficult to access dental services for many reasons, including large out-of-pocket fees, lack of private health insurance, limited dentist operating hours and proximity to dentists, and poor health literacy.[1-4] As a result, many patients commonly present to primary medical facilities—emergency departments (up to 3.8 per cent of presentations)[3] or general practices—to receive care for their dental problems.[1-3] The underlying problem with patients presenting to medical facilities is that many primary care doctors (PCDs) have a limited scope of practice in diagnosing and managing dental (eg, toothaches) or oral issues (eg, oral cancer). This is most likely due to both a historic and current lack of formal training in the area,[4,5] and can often lead to a disparity between patient expectations and some PCDs' clinical capabilities. Despite their lack of formal training and knowledge, many PCDs feel obligated to provide assistance to patients who present with dental issues, particularly in emergencies.[4] For the patient, this can mean suboptimal or even detrimental management; recidivism is common, and patients may re-present in worse condition.[4-6]

METHOD

We conducted a systematic review of English-language articles published between January 1, 2000, and May 1, 2019, and available on MEDLINE, CINAHL, and PubMed. We searched using the following MESH terms:

MESH terms: "Primary Health Care", "Family Practice", "Physicians", "Emergency Medical Services"
Subject: "general practice", "practice patterns, physicians", "general practitioners"

and

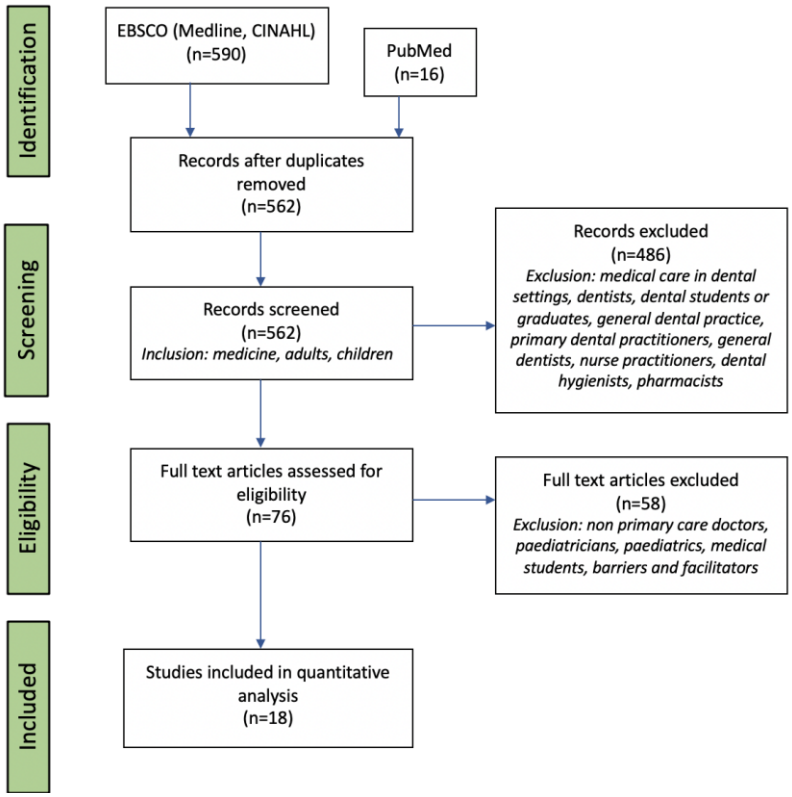
MESH terms: "Anesthesia, Local", "Anesthesia, Dental", "Emergency Treatment", "Dental Care", "Tooth Injuries", "Oral Health", "Dental Health Services", "Surgery, Oral"

and

MESH terms: "Education", "Curriculum", "Clinical Competence", "Attitude of Health Personnel" Subject: "inservice training", "seminars and workshops"

We completed primary relevance assessment by analysing the article title and abstract. Subsequently, we selected studies for eligibility via a full text review and applied inclusion and exclusion criteria (Figure 1). Following our analysis of the final yield of papers, we decided to complete a narrative synthesis due to an extensive amount of heterogeneity in the study design, study populations, and reporting outcomes between all articles. Furthermore, we used a thematic analysis to identify patterns across the range of data identified in the search.

Figure 1: PRISMA flow diagram



RESULTS

Our database search generated 606 results, and following the removal of duplicates and the application of exclusion and inclusion criteria, we included 18 articles in the final review. In total, 1,564 general medical practitioners, 467 emergency physicians, and 872 unclassified medical doctors were included in the study. The thematic analysis revealed three major themes: knowledge, education and training, and confidence (Table 1).

DISCUSSION

It was not surprising to find that although there were some areas of strength such as identifying common oral cancer risk factors,[11–14] most PCDs had insufficient knowledge, education and training, and confidence in diagnosing and managing dental and oral conditions. These findings are supported by previous research.[21–23] In addition, it was interesting to find that some doctors believed that it was not their responsibility to manage patients with these presentations. This finding is supported by prior literature,[21] demonstrating that in regard to oral health management, currently, there is an unclear description of the scope of practice for oral health management and subsequently the role of Australian medical professionals.

Despite their lack of knowledge, education, and training to manage dental and oral health issues, it is encouraging that most PCDs are interested in upskilling (between 63–94 per cent).[7,8,11,13–15,20] Further training on the management of the most common dental presentations, including dental

abscesses, toothaches, and dental caries, is required, particularly when urgent in nature. Methods to do this have been explored, including an Australian study that demonstrated that 6 months after a multimodal education intervention, there were sustained improvements in self-reported proficiency in dental emergency topics covered in the workshop.[24] In addition, further education and training delivered in the form of lectures has been shown to improve clinician knowledge and confidence in managing dental presentations.[25]

Table 1: Themes and findings

Themes	Findings
Knowledge	Most PCDs both reported and were found to have insufficient knowledge surrounding topics of general and specific dental and oral conditions, such as oral cancer and traumatic dental injuries.[7–16] In addition, some doctors felt they were not qualified to examine the mouth,[13] nor was it their responsibility to do so.[13,17] Although our systematic review yielded mixed results, most studies found a positive correlation between dental education and training, and increased levels of dental health knowledge[10, 12], while, age, gender, years of practice or professional level generally were not associated with increased levels of knowledge.[11, 12, 18,19]
Education and Training	This review found that most PCDs had received none or very limited education and training in dental and oral health care, either as an undergraduate, postgraduate, or in continuing medical education (CME).[8,10,11,13,16,17] One study found that the majority of PCDs sourced information from scientific journals (85 per cent) and continue education courses (52 per cent).[14] Furthermore, the vast majority of PCDs (between 63 - 94 per cent) expressed a desire to improve their understanding of relevant dental topics.[7, 8, 11,13–15,20]
Confidence	Overall, PCDs had very little confidence in themselves and their colleagues to diagnose and manage a range of dental– and oral–related presentations.[15,17,20] One study found that only 34 per cent of GPs felt confident in their ability to detect an oral malignancy,[20] while another study found a lack of confidence in managing dental avulsions.[17] It was reassuring to find that both undergraduate and postgraduate teaching, and increasing grade or seniority improved clinicians' confidence in diagnosing and managing oral cancer.[17, 20]

Other recommended measures to provide high quality and more equitable dental care in Australia include improving referral systems to dentists, improving communication between the two fields, and allocating funding for the prevention of common conditions such as dental caries, especially for our most vulnerable population groups.[5,26,27] It has also been suggested that during times of reduced dental care access—ie, outside of normal business hours, especially on weekends—emergency dental services should be established in hospital EDs.[26] Despite these measures, ultimately, the most effective and efficient way to provide equitable dental care in Australia is via a universal scheme such as "Denticare".[5,28,29] For the patient this will mean

treatments are performed by more specialised personnel and management is more definitive, thus reducing the likelihood of representation and costs associated.[5]

Limitations

We note several limitations. The studies included were limited to the English language. There was a large degree of heterogeneity between most articles in both study design and reporting outcomes, leading to poorly comparable results, which made it difficult to pool our samples and results. Due to a low yield of papers, we could not include articles from different countries with vastly different healthcare systems. It was not possible to compare situations in other countries with the Australian healthcare system.

CONCLUSION

This systematic review revealed PCDs had low levels of knowledge, education and training, and confidence regarding the management of a variety of dental and oral complaints. PCDs need further training on how to manage common dental presentations, particularly those urgent in nature. It is reassuring to discover that most PCDs have a desire to upskill and that methods such as multimodal workshops have been shown to be effective. Despite this, as raised by many front-line doctors, there is a question as to where their scope of practice ends, and that they cannot be expected to definitively manage all dental conditions in the same way a dentist does. Therefore, training doctors alone will not be an efficient way to address this issue. It is vital strategies are implemented to increase dentist accessibility; including improving referral systems, communication between the two fields, and providing after hours dental services at hospital EDs. Ultimately, to be able to provide high quality and equitable dental care in Australia, the most effective and efficient method is via a universal healthcare scheme, a dental counterpart to "Medicare" such as the proposed "Denticare"—that is, a universal dental scheme that provides a basic package of dental services to all Australians either at no cost or a subsidised cost.

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