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The antibiotic prescribing practices of New Zealand general dentists

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Abstract

Background and objectives: Antimicrobial resistance is an important threat to human health. This study evaluated the current antibiotic prescribing practices of New Zealand (NZ) dentists and provides discussion on areas of improvement in antimicrobial stewardship.

Methods: This study involved two sources of data: (1) A questionnaire was distributed to a random sample of 300 practising NZ general dentists. Participants were asked about their frequency of prescribing antibiotics for common dental conditions, the antibiotic they would choose to treat irreversible pulpitis or third molar pericoronitis, barriers to providing surgical treatment, confidence in selecting antibiotics, and their interest in relevant professional development activities. (2) Community dispensing data from the National Pharmaceutical Collection were used to describe dentist antibiotic dispensing patterns over time.

Results: The questionnaire participation rate was 33%. Most participants were trained in NZ and worked in private practice. Two-thirds of participants would prescribe antibiotics for the management of third molar associated pericoronitis and one-quarter would prescribe antibiotics when treating patients with irreversible pulpitis. 5-Day courses of antibiotics were preferred, with variation observed in follow-up practices. From 2017-2024, the overall number of antibiotic courses dispensed in NZ per 1000 population consistently increased (38 courses per 1000 population in 2017, to 52 in 2024) for dental prescribers. The opposite trend was seen amongst medical prescribers.

Conclusions: Wide variations exist in antibiotic prescribing practices among NZ dentists, and a high proportion did not follow available guidelines. There is considerable room for improvement in antibiotic prescribing among NZ dentists.

Introduction

Antimicrobial stewardship is essential in evidence-based dental practice. Antimicrobial resistance (AMR) has been described as one of the greatest threats to human health. Despite efforts of health regulators around the world to combat this global issue, the incidence of infections and the spread of multi-drug-resistant organisms continues to rise (Sukumar *et al*., 2019; Huemer *et al*., 2020), and resistance to drugs previously considered "last-resort" is now occurring at rising frequency (Urban-Chmiel *et al*., 2022).

An antibiotic prescription that is given without a clear indication or in excess may be contributing to the burden of AMR (Sukumar *et al*., 2019; Huemer *et al*., 2020). Localised, acute dental problems should be managed with surgical intervention. In the absence of spreading infection or systemic symptoms antibiotics are not indicated in otherwise healthy patients. Examples of dental interventions include exodontia, debridement of the pulp, or incision and drainage of an abscess. When clinical signs of a spreading infection and/or systemic involvement are present, antibiotics should be used in conjunction with surgical intervention. Antibiotics should not be used as standalone therapy or as an alternative to surgical intervention (Cope *et al*., 2018; Agnihotry *et al*., 2019; Schmidt *et al*., 2021).

Relevant New Zealand (NZ) guidelines for antibiotic prescribing are available from various sources. The National Heart Foundation of New Zealand provides a guideline for prophylactic antibiotic use to prevent infective endocarditis (Ellis-Pegler *et al*., 2008). Additional treatment guidelines are available from the Best Practice Advocacy Centre New Zealand (BPAC NZ) and the New Zealand Dental Association (NZDA). The use of amoxicillin, clindamycin or clarithromycin to prevent endocarditis development in at-risk patients is advised. At risk patients include those who have prosthetic heart valves, a history of endocarditis, or rheumatic heart disease, among others. Dental procedures that involve manipulation of gingival tissue, the periapical region of teeth, or perforation of the oral mucosa require antibiotic prophylaxis (Ellis-Pegler *et al*., 2008). For the management of a severe dental infection with systemic symptoms or diffuse, tense swelling, amoxicillin or metronidazole are recommended as first-line treatment and erythromycin as an alternative (Best Practice Advocacy Centre New Zealand, 2024). The NZDA advises against the prophylactic use of antibiotics for patients who have had orthopaedic joint replacements (NZDA, 2018).

Other evidence-based guidance for the prescribing of antibiotics is available in the international literature. Examples include guidance from the European Society of Endodontology regarding the use of antibiotics in cases where avulsed teeth are replanted (Segura-Egea *et al*., 2018). Other examples include literature supporting the use of antibiotics in the management of medication-related osteonecrosis of the jaw (Nicolatou-Galitis *et al*, 2019), and severe periodontal disease (Liaw *et al*., 2019). Dentists should utilise this literature to support their clinical decision making where NZ guidelines are unavailable, and the evidence deemed robust. However, it highlights a lack

of clear, easily accessible guidelines for NZ clinicians, the complexities surrounding antimicrobial prescribing and an opportunity for further research.

Oral health practitioners have a responsibility in the prevention of AMR and to provide evidence-based care. A UK review of dental prescribing found that only 19% of antibiotic prescriptions were given according to clinical guidelines. Many factors are known to influence prescribing decisions. In the dental setting, some of these factors include the use of an individual practitioner's clinical judgement, variation in available guidelines, time limitations, patient demands and other treatment failures (Cope *et al*., 2016). In a similar Australian review of dental antibiotic prescribing, it was found that antibiotics were overprescribed 13-88% of the time depending on the clinical scenario (Teoh *et al*., 2019).

Prescribing by non-medical prescribers (NMP) including dentists in NZ has increased. In 2016 1.8% of prescriptions in NZ were issued by an NMP. Independent from population increase, this figure rose to 3.6% in 2019 (Rughunandan *et al*., 2021). The therapeutic class of drugs most often prescribed by dentists is antibacterials, followed by analgesics (Rughunandan *et al*., 2021). There is lack of published data on the antibiotic prescribing practices of NZ general dentists, particularly regarding indications for prescribing and antibiotic selection.

This study aimed to investigate the current antibiotic prescribing practices of NZ dentists, with a focus on understanding the antibiotics being prescribed, and the conditions they are being prescribed for. Additionally, it sought to identify trends seen in the dispensing of antibiotics over the period from 2017 to 2024, contributing insights into patterns and areas of improvement in antimicrobial stewardship.

Methods

Survey

This study was approved by the Sir John Walsh Research Institute and reviewed by the University of Otago Human Ethics Committee (reference 24/0497).

A random sample of 300 general dentists was taken from the Dental Council of New Zealand's register, all of whom had consented to share their email addresses for health services research.

An electronic questionnaire (Qualtrics survey platform) was distributed via email invitation with unique survey links. The survey was open for responses for four weeks from 11 November 2024 to 9 December 2024. No incentives for completing the questionnaire were offered. All completely answered questions were analysed and reported. The full questionnaire used in this study is available from the corresponding author upon reasonable request.

The first section of the questionnaire sought demographic details including years of practice, Health NZ region of practice, country of training, whether the participant lived in an urban or rural area and if they worked in private or public settings.

The second section of the questionnaire asked about current antibiotic prescribing practices for common dental conditions. A table of dental diagnoses was provided which included irreversible pulpitis, pericoronitis, acute periapical periodontitis, and localised alveolar osteitis, among others. Participants were asked to indicate how often they would prescribe antibiotics for these conditions. Options included "never", "less than half the time", "about half the time", "most of the time" and "always". Follow up questions were asked about antibiotic selection for the diagnoses of irreversible pulpitis and pericoronitis associated with a third molar tooth. A list of antibiotics was given and the option for a free text entry response was included. Provided response options were: "no antibiotic prescription", "amoxicillin", "Augmentin", "metronidazole", "erythromycin or other macrolide antibiotic", "clindamycin", "doxycycline", "cefaclor or cefalexin" and "other". Participants could select multiple options, and the questions referred to a localised dental condition, with no systemic symptoms.

This section also included a question about the typical duration for which practitioner's prescribe antibiotics. Response options of 3, 5, 7, or 10 days, as well as a free text 'Other' option were provided. Additional questions addressed how frequently the respondent would prescribe antibiotics to patients with a history of joint replacement and usual follow-up practices. Other questions asked about the frequency of prescribing antibiotics over the phone without a clinical assessment, and how often prescriptions were issued in lieu of providing surgical intervention.

The final section of the questionnaire covered other key issues including perceived barriers to providing surgical treatment. Participants were also asked about their engagement in prescribing-related continuing professional development, their confidence in selecting antibiotics for prophylaxis or treatment and whether they viewed cost as a barrier to patients filling prescriptions.

Survey data were analysed utilising Stata-18.5 (StataCorp, College Station, Texas). The responses were cross tabulated against the general dentists' demographic data discussed above. Chi-squared tests were used to test the statistical significance of observed differences.

Community antibiotic dispensing analysis

De-identified community antibiotic dispensing data from the National Pharmaceutical Collection were used to identify the antibiotics commonly selected by dentists and the frequency at which these antibiotic courses were being dispensed to patients. Data for the period February 2017 to December 2024 were available and reviewed. The dataset used was a pre-existing one aligned with the community laboratory testing locations of Awanui Laboratories, which covers roughly 70% of the NZ population. As such, data from Te Manawa Taki, Midcentral, and West Coast health districts were not included. The data captures all antibiotics dispensed by prescription from all professional groups (including dentists, doctors and nurse prescribers).

Population-adjusted dispensing rates over time were determined for all dispensed antibiotic courses prescribed by dentists, nurse prescribers and medical professionals. Population data were sourced from the 2023 Census population and dwelling counts, disaggregated by ethnic group, and age, as well as from the 2023-base Estimated Resident Population for non-census years. Dispensing count data was used to determine the five most

common antibiotics prescribed by dentists over the period February 2017 to December 2024.

Results

Demographics

The survey participation rate was 33%, with 94 general dentists responding (Figure 1). Those who responded included practitioners from all Health NZ regions except Tairāwhiti and the West Coast. The majority of participants were trained in NZ (72.3%) and were in private practice (89.4%). Most reported working in a larger NZ city, such as Auckland, Hamilton, Tauranga, Wellington, Christchurch or Dunedin (73.0%) (Table 1).

Prescribing frequency

Variation in practitioner prescribing frequency for various dental conditions was observed (Figure 2). Participants indicated that they would often prescribe antibiotics for the management of periapical periodontitis (42.8%), and localised alveolar osteitis (20.2%). While 26.2% indicated that they would never prescribe antibiotics for the management of tooth avulsion. No statistically significant difference was observed by country of training, region of work, or practice setting (public or private). Although two-thirds of the participants would prescribe antibiotics for the prophylaxis of prosthetic joint infection less than half the time, there is a proportion who prescribe often.

Specific antibiotic selection

Participants were asked about prescribing choices for the management of pericoronitis associated with a third molar tooth. Most indicated that they would normally issue a prescription, while a third indicated they would not (36.0%). Of those who would issue a prescription 43.0% indicated that they would prescribe amoxicillin (Table 2). The majority (74.4%) of participants would not prescribe antibiotics for the management of irreversible pulpitis. However, some participants indicated they would use amoxicillin, co-amoxiclav and clindamycin (Table 2). Recently qualified dentists with 0–19 years of experience were significantly more likely than their counterparts with 20+ years of experience to opt for “no antibiotic” as the preferred treatment for both pericoronitis ($p = 0.029$) and irreversible pulpitis ($p = 0.019$).

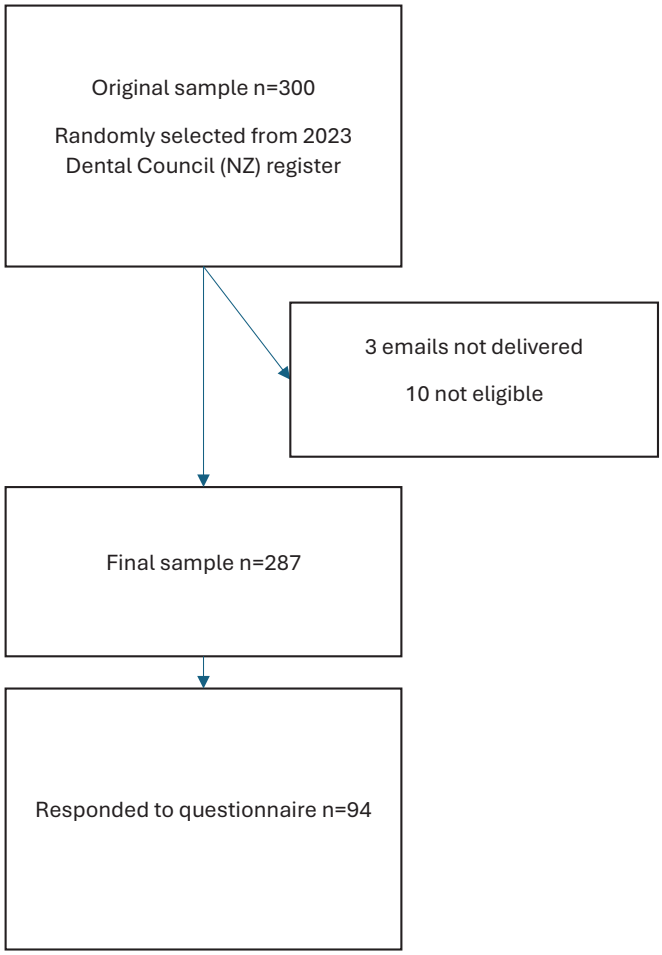

Figure 1. Sample selection and participation

Table 1. Participant demographic data

	This study (%)		Workforce survey 2022 (%)		*p* value
Years practising					
1-10	31	(33.0)	592	(33.1)	
11-20	22	(23.4)	332	(18.6)	
21+	41	(43.6)	863	(48.3)	0.470
Type of employment					
Private	84	(89.4)	2,075	(89.6)	
Public	10	(10.6)	240	(10.4)	0.933
Place of training					
NZ	68	(72.3)	1,971	(68.6)	
Australia	2	(2.1)	146	(5.1)	
Other	24	(25.5)	757	(26.3)	0.406
Region of practice					
Northern – Te Tai Tokerau	29	(31.3)	761	(38.4)	
Midland – Te Manawa Taki	16	(17.0)	316	(16.0)	
Central – Te Ikaroa	18	(19.2)	380	(19.4)	
South Island – Te Waipounamu	30	(32.0)	530	(27.0)	0.511

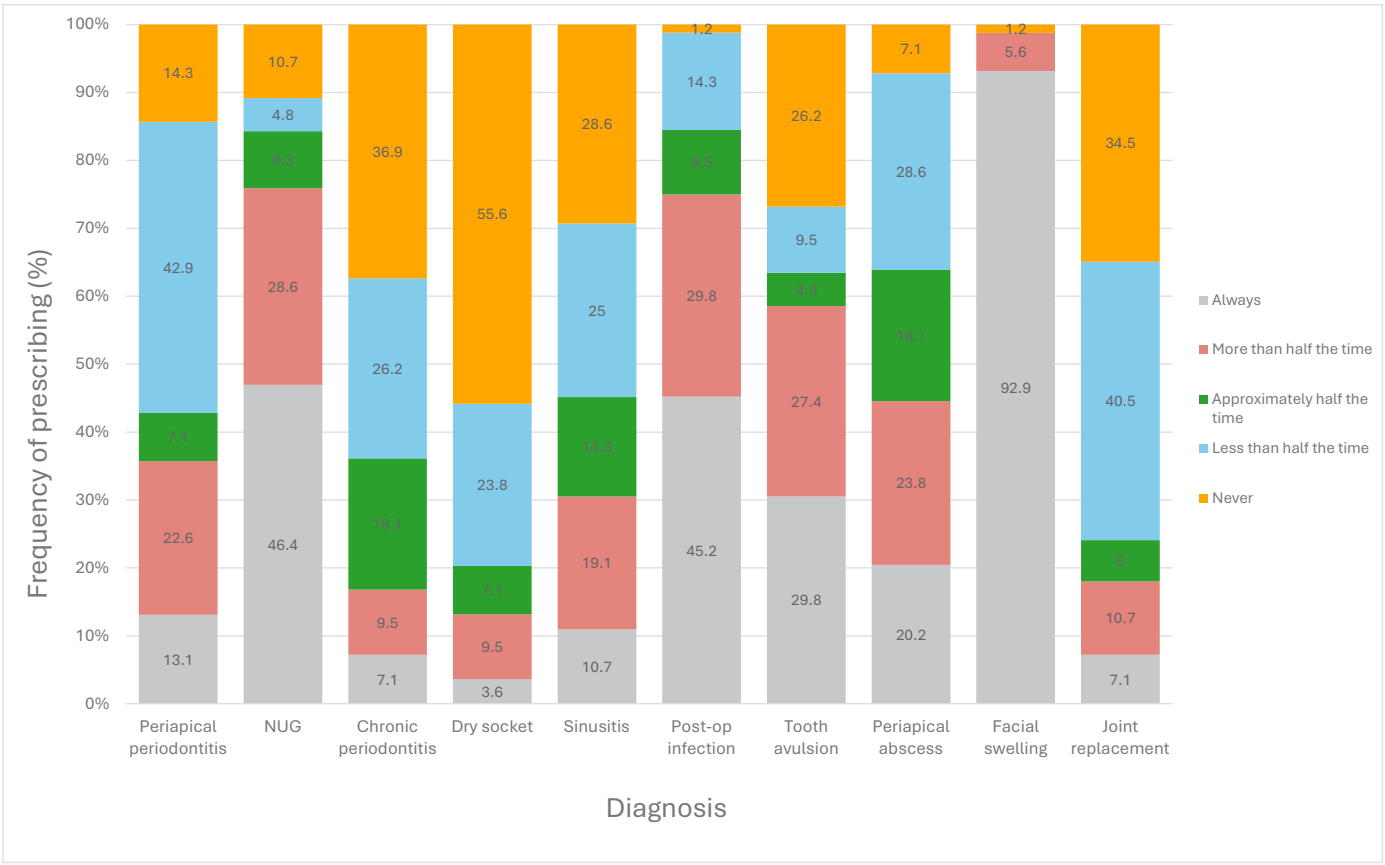

Figure 2. Frequency of general dentist prescribing any antibiotic for various dental conditions

Table 2. Proportion of dentists prescribing specific antimicrobials for pericoronitis and irreversible pulpitis

	Practitioner experience					Total	
	0-19 Years		20+ Years				
	n	%	n	%	*p* value	n	%
Third molar associated pericoronitis							
No antibiotic	20	47.6	11	25.0	0.029	31	36.0
Specific antibiotic							
Amoxicillin	15	35.7	22	50.0	0.181	37	43.0
Augmentin	5	11.9	9	20.5	0.283	14	16.3
Metronidazole	17	40.5	14	31.8	0.271	31	36.0
Macrolide	0	0.0	1	2.3	-	1	1.2
Clindamycin	0	0.0	2	4.5	-	2	2.3
Doxycycline	0	0.0	0	0.0	-	0	0.0
Cefaclor or Cefalexin	0	0.0	0	0.0	-	0	0.0
Irreversible pulpitis							
No antibiotic	36	85.7	28	63.6	0.019	64	74.4
Specific antibiotic							
Amoxicillin	9	21.4	12	27.3	0.528	21	24.4
Augmentin	5	11.9	6	13.6	0.810	11	12.8
Metronidazole	3	7.1	3	6.8	0.953	6	9.0
Macrolide	0	0.0	1	2.3	-	1	1.2
Clindamycin	1	2.4	1	2.3	-	2	2.3
Doxycycline	0	0.0	0	0.0	-	0	0.0
Cefaclor or Cefalexin	0	0.0	0	0.0	-	0	0.0

Course duration, prescribing over the phone, and follow-up practices

Most participants (80.2%) reported prescribing five-day courses of antibiotics most frequently, though course durations varied between three and eight days. Additionally, half (55.8%) acknowledged occasionally providing antibiotic prescriptions over the phone without a clinical assessment, with no notable differences based on the region of practice. For follow-up, 44.8% of participants phone patients for a review more than half the time they prescribe antibiotics. Meanwhile, 53.6% pre-book review appointments for patients in over half of such cases, and 31.4% rely on patients to initiate follow-up contact.

Continuing professional development, and confidence in antibiotic selection

Regarding continued practice improvement, 18.2% of participants had not done any post graduate learning regarding antibiotics or their prescribing within the last 5 years. The majority (65.9%) had done personal reading, and 40.9% had attended lectures or webinars. Just over one third thought that the best way to improve knowledge is with improved undergraduate teaching. However, most felt that attending lectures or webinars along with personal reading is the most useful way to ensure they are keeping up with best practice standards.

Participants' sense of confidence in prescribing antibiotics for prophylactic and treatment purposes varied (Figure 3). A moderate proportion (23.9%) indicated being somewhat or less than somewhat confident in assessing the extent of systemic involvement of a dental infection. When there are no clear guidelines available for antibiotic selection 35.7% of participants indicated they would contact the patients GP for advice more than half of the time. This did not vary by practice location, country of training, or years of experience.

Barriers to providing surgical care

Regarding barriers to providing surgical treatment, 17.4% of participants indicated they would often prescribe antibiotics as an alternative to providing surgical treatment. The majority (80.2%) indicated they only sometimes do this. Time constraints during consultations emerged as a common barrier leading to antibiotic prescriptions. Other factors, such as the demands of a busy practice, complex treatment procedures, treatment costs, diagnostic uncertainty, and patient requests for antibiotics, were identified as occasional obstacles.

Prescription cost as a barrier to providing surgical care

When considering prescription costs alone, 34.5% of participants reported that, over the past 12 months, cost was never a factor preventing patients from obtaining prescribed antibiotics. A small proportion (14.3%) said it was sometimes a barrier and the remaining 51.2% said they could not provide a reasonable estimate to answer the question. However, 65.5% of participants agree that reducing the dental prescription cost back to $5 (NZD) would improve patients access to medicines such as antibacterials. Only 9.5% disagreed with this statement.

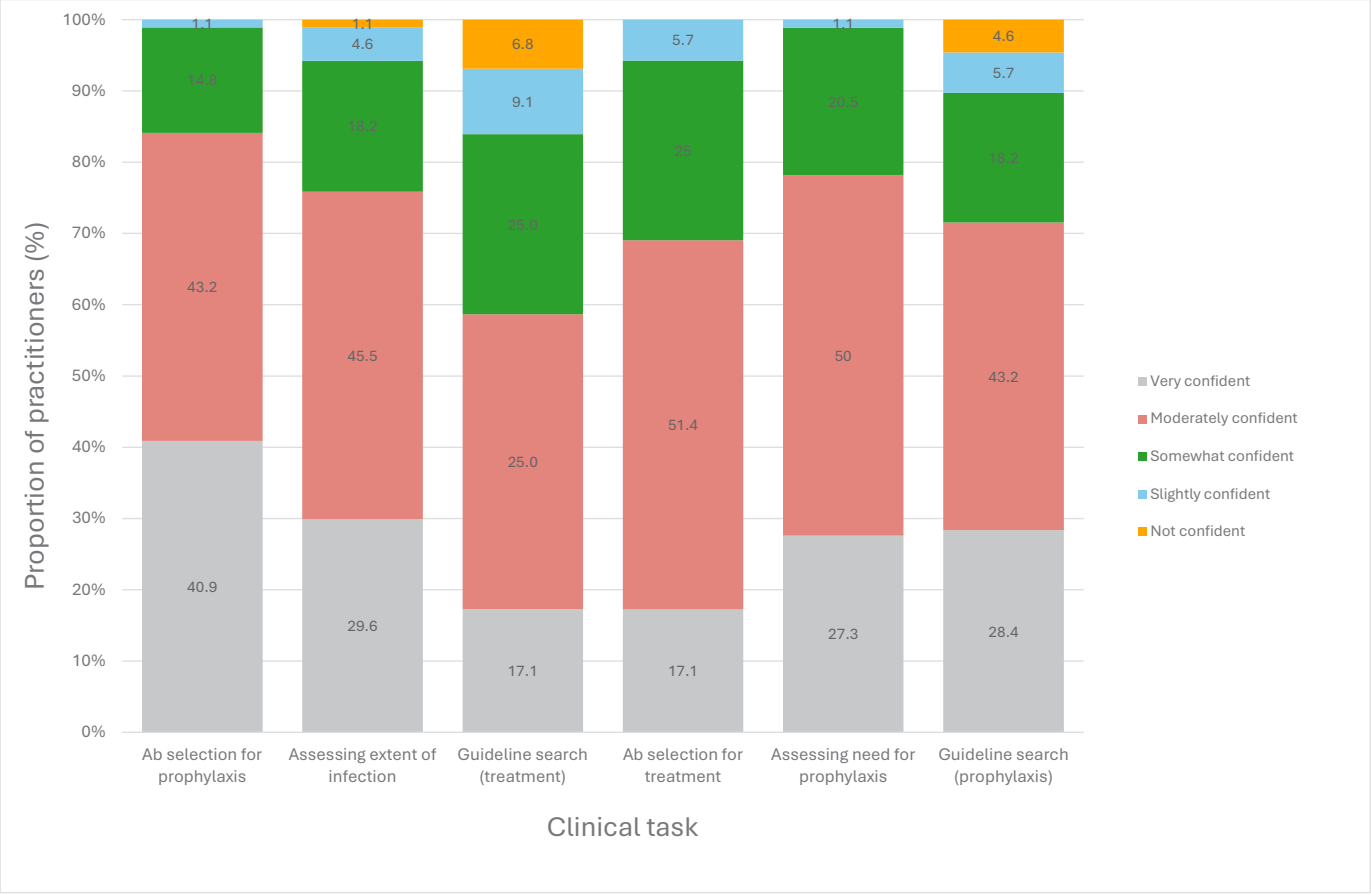

Figure 3. Practitioner confidence in selecting antibiotic guidance and treatment regimens

Antibiotic dispensing over time

Data on community antibiotic dispensing reveals that the five most frequently dispensed antibiotics by dental prescription are amoxicillin, Augmentin, metronidazole, clindamycin, and erythromycin (Figure 4). These 5 antibiotics represent 96% of all antibiotics dispensed by dental prescription. The number of courses of these antibiotics dispensed has increased between 2017 and 2024, with a large increase in the number of amoxicillin and Augmentin courses being dispensed.

Along with this, the total number of any antibiotic course dispensed by dental prescription has shown a consistent increase. Population-adjustment indicates this is independent of population growth. Between 2017 and 2024, the annual dental antibiotic dispensing rate rose from 38 to 52 courses per 1000 population, an increase of nearly 37%. In contrast, the frequency of any antibiotic prescription dispensed from the medical profession has largely decreased during this period (Figure 5).

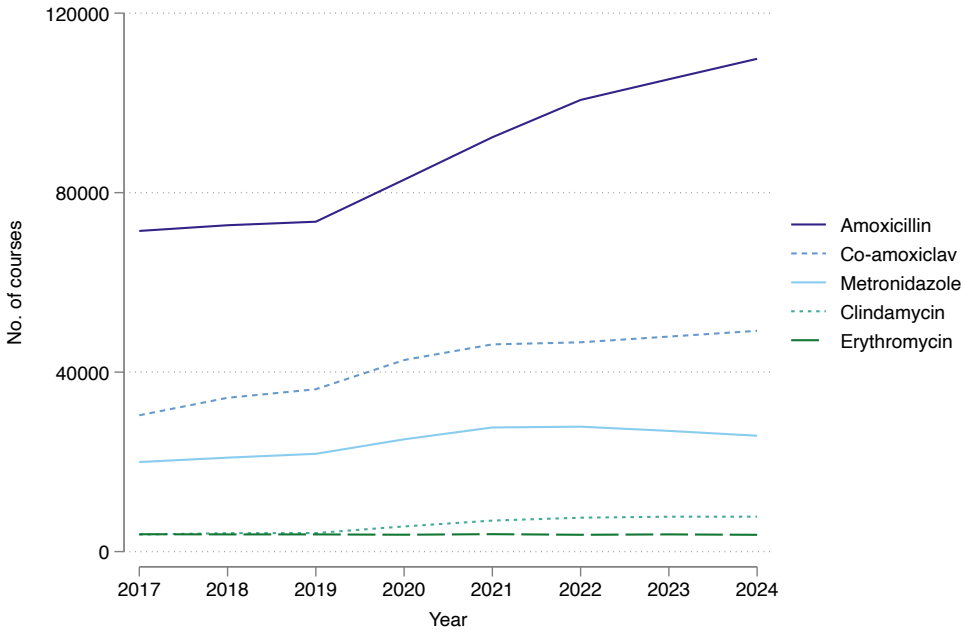

Figure 4. The five most common antibiotics prescribed by dentists 2017-2024. Data obtained from the National Pharmaceutical Collection and exclude the Te Manawa Taki, Midcentral, and West Coast health districts

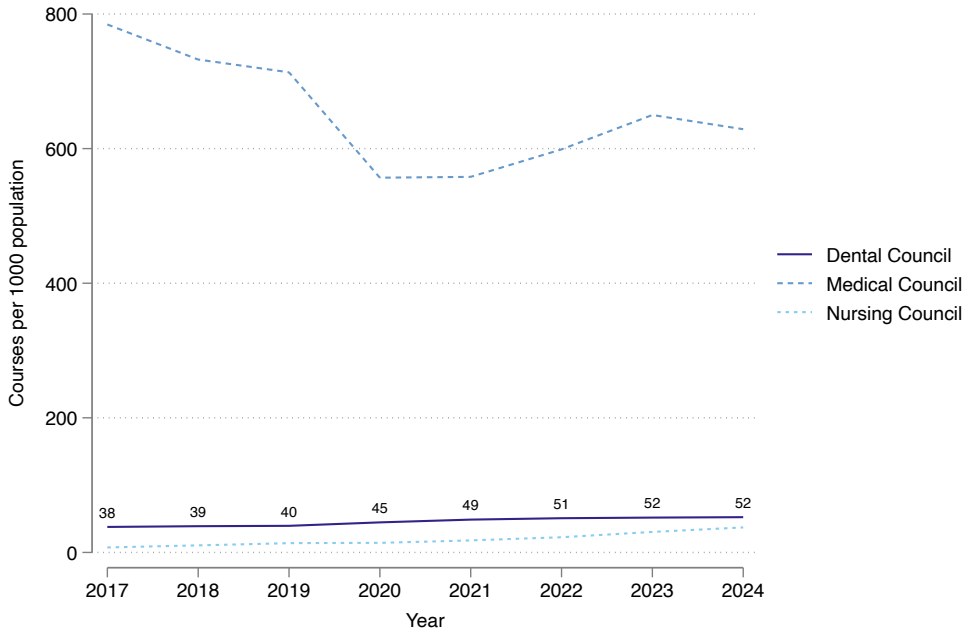

Figure 5. Antibiotic courses dispensed by professional groups per 1000 population over time. Numbers are provided for dental prescribing for ease of visualization. Data obtained from the National Pharmaceutical Collection and exclude the Te Manawa Taki, Midcentral, and West Coast health districts

Discussion

This study identified themes of unnecessary antibiotic use for common conditions that general dentists encounter on a near-daily basis. This is similar to observations from other countries (Cope *et al*., 2016; Teoh *et al*., 2019). Some participants indicated that they would give antibiotic prescriptions for the management of irreversible pulpitis, periapical periodontitis and periapical abscess. Available evidence in the international literature and the standard of care for the management of these conditions is immediate removal of the pulp from the affected tooth or tooth extraction (Teoh *et al*., 2019; Cope *et al*., 2018; Agnihotry *et al*., 2019). The exploration of reasons for prescribing in the management of these conditions was outside the scope of this study.

Acute periapical abscesses emerge as a result of pre-existing periapical periodontitis, which itself stems from irreversible pulpitis. These conditions can be thought of as a continuum of the same dental pathology. A periapical abscess is characterised by the accumulation of pus in the peri-radicular tissues and if left untreated can spread. A systematic review in 2018 recommended the removal of the source of inflammation by surgical measures, possibly including incision and drainage of a localised swelling. Systemic antibiotics are only recommended when there is evidence of spreading infection (cellulitis, lymph node involvement, diffuse swelling) or systemic symptoms (fever, malaise; Cope *et al*., 2018).

A wider range of antibiotics were prescribed for third molar associated pericoronitis than for irreversible pulpitis. Further research into the reasons for selecting antibiotics could provide important information into the prescribing practices of NZ general dentists. Most cases of pericoronitis are resolved with local intervention, including debridement and irrigation. The use of chlorhexidine and the removal of the antagonist tooth are useful considerations. Surgical removal of the tooth during the acute phase remains controversial. Antibiotics are advised only in the cases of spreading infection or systemic involvement. If pus is drained it can be sent for microbial culture before the use of antibiotics. Limited evidence supports the preferential use of any of the most commonly selected antibiotics in severe cases (Schmidt *et al*., 2021).

Dentists who graduated within the last 19 years were more likely to opt against prescribing an antibiotic for the management of irreversible pulpitis and third molar associated pericoronitis. This could be due to their more recent undergraduate teaching reflecting up to date evidence. Similar findings were observed in Australian dentists (Teoh *et al*., 2019).

Most participants preferred prescribing 5-day courses of antibiotics, though preferred follow-up practices varied. Limited randomised controlled trials and systematic reviews exist to support antibiotic prescriptions for dental conditions, which naturally extends to a lack of guidance on appropriate course lengths and appropriate follow up. This highlights the need for comprehensive trials and further research along with the ongoing development of clinical guidelines.

Half of the participants indicated that they would prescribe antibiotics for the management of localised alveolar osteitis ("dry socket"). Despite not being a condition of bacterial infection–rather a failure of healing due to lysis of the blood clot after an extraction. Similar observations were made of dentists practicing in Australia (Teoh *et al*., 2019). Similarly, most participants indicated that they would prescribe antibiotics for the management of necrotising ulcerative gingivitis (NUG). Local debridement, likely with the use of local anaesthesia and the use of 0.2% chlorhexidine mouthwash until symptoms resolve is the recommended management. Metronidazole is the drug of choice for NUG where systemic involvement or persistent infection persist despite local measures (Scottish Dental Clinical Effectiveness Programme, 2025).

This study highlights that the use of antibiotic prophylaxis to prevent prosthetic joint infections is still a common practice among dentists. However, a comprehensive code of practice from the NZDA (2018) advises against this approach, which aligns with international guidelines. This recommendation includes patients who are immunocompromised. The authors emphasize that daily activities expose individuals to much higher levels of oral-induced bacteraemia compared to dental procedures. The bacteraemia caused by dental procedures is typically brief and low-grade, making it insufficient to result in haematogenous seeding of prosthetic joints. In addition, alpha-haemolytic streptococci and anaerobes, which are associated with oral bacteraemia, are rarely the cause of prosthetic joint infections (Manning *et al*., 2020).

Common barriers to providing surgical treatment, and consequently resorting to antibiotics as an alternative, identified in this study align with findings from Australia and the UK (Teoh *et al*., 2019; Cope *et al*., 2016). The most frequently cited challenge is time constraints during consultations. This is likely a result of the financial pressures in private dental practice and the necessity of maintaining a sustainable business model. Overcoming time-related limitations remains a significant hurdle. Dentists should exercise constraint in prescribing antibiotics when a diagnosis is unclear or if patients are pushing for this to be done. Consideration of professional responsibility and antimicrobial stewardship should factor into decision making.

This study found that only about one-third of participants felt confident in assessing the extent of systemic infection involvement. Similarly, a study of final-year dental students in the Asia-Pacific region reported comparable findings (Ghafoor *et al*., 2025). These results highlight a potential need for further education among dentists in this area. The ability to confidently assess systemic involvement is likely to play a critical role in the decision-making process regarding antibiotic prescriptions (Ghafoor *et al*., 2025; Schneider-Smith *et al*., 2023).

Confidence in selecting antibiotics for treatment of prophylaxis varied. As did confidence in searching for evidence to support decision making. This is similar to what was observed in Australia (Teoh *et al*., 2019). This isn't surprising given that evidence is not collated for the NZ practitioner, and practice standards change with ongoing research. Further work to collate this information into a NZ guideline would likely be helpful for the general dentist.

The five antibiotics most frequently dispensed by dental prescription (amoxicillin, Augmentin, metronidazole, clindamycin and erythromycin) accounted for 96% of all antibiotic courses dispensed since 2017. This may reflect confidence that these agents provide adequate microbial coverage for common oral pathogens. However, the data also suggest a tendency toward overall overprescribing. Notably, Augmentin was the second most frequently dispensed antibiotic, despite the absence of available guidelines supporting its use as a first-line agent. Easily accessible NZ guidelines would undoubtedly benefit the NZ general dental practitioner.

Since 2017, the total number of any antibiotic courses dispensed by dental prescription has been steadily increasing. A notable surge in 2020, during the COVID-19 pandemic, may be attributed to the reduced opportunities for providing surgical care. Interestingly, even after the pandemic, the number of antibiotic courses dispensed by dentists has continued to rise. In comparison, medical dispensing declined during the pandemic, increased slightly post-pandemic and is generally trending down. Further investigation into why antibiotics dispensed from dental prescribing is increasing despite medical dispensing declining could have great impacts on addressing the growing challenge of AMR.

The development of NZ based guidelines for antibiotic prescribing in dentistry is likely to enhance consistency and bolster general dentists' confidence in decision-making. Until such guidelines are established, international literature offers several practical considerations. Clinicians should account for the patient's individual context – including their ability to achieve source control through timely dental intervention, clinical stability/presentation of the patient, and psychosocial or economic factors (Devar *et al*., 2023). Surgical management remains paramount as antibiotics alone are ineffective for treating dental disease if the tooth remains in-situ (Teoh *et al*., 2019; Cope *et al*., 2018; Agnihotry *et al*., 2019). While intravenous therapy is sometimes used, randomised controlled trials comparing IV and oral antibiotics in severe odontogenic infections are lacking. In most cases, a short course of oral antibiotics-such as a three-day regimen with planned clinical review should be considered appropriate (Devar *et al*., 2023). Discussion with local oral and maxillofacial surgery services should be considered if there is concern of clinical deterioration or if you wish to seek advice regarding intravenous therapy.

This study's strengths, include a high participation rate and a sample that closely reflects the general dentist workforce (Table 1). Its limitations include the unavailability of antibiotic dispensing data for certain regions. However, this gap in available data is unlikely to significantly affect the findings given the clear overall trend observed in available dispensing data. Additionally, the dispensing data lacked a link to clinical indication, thereby precluding any meaningful interpretation regarding the rationale behind medication use. Additionally, there is a possibility of response bias, where participants may have reported what they believed to be the correct answer rather than their actual prescribing practices. This could lead to underreporting of the true differences and variations in dentists antibiotic prescribing practice.

Conclusion

This study found variation in antibiotic prescribing practices by NZ dentists, including practices that may be inconsistent with best practice and published guidelines. From 2017 to 2024 the annual dental antibiotic prescribing rate increased by 37%. Further development of evidence-informed prescribing guidelines for general dental practitioners will play a crucial role in promoting safe and effective antibiotic use while helping to mitigate risk for AMR.

Author contributions

Conception and design of the study – All authors
Data collection – ER, MB, JB
Data analysis and interpretation – ER, MB, JB
Drafting the article – ER, MB, JB
Critical revision of the article – All authors
Final approval of version to be published – All authors

Conflict of interest

The authors declare no conflicts of interest

Ethics statement

This study was approved by the Sir John Walsh Research Institute and reviewed by the University of Otago Human Ethics Committee (reference 24/0497). Locality approval was also obtained from the CCDHB Clinical Governance Group, Clinical Audit and Research Committee. Consultation with the Ngāi Tahu Research Consultation Committee was carried out prior to commencement of the study.

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