

Taking a Bite Out of Antibiotic Prescribing: Encouraging Antimicrobial Stewardship in Dentistry

April 15, 2024

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Disclosures

- Disclosures:
- Funding:
 - Manchester-Melbourne-Toronto Research Fund (K. Born, C. Martine, S. Sutherland, Singhal, S)
 - Choosing Wisely Canada Societies Grand (K. Born, S. Sutherland, C. Fulop)

Overview



Problem and Significance



Pre-workshop focus group discussions



Workshop to develop a strategic dental AMS agenda



Recommendations

Problem and Significance



- Prescribing **antibiotics in dentistry** is inherent to dental practice
- **10% of all antibiotics** prescribed in healthcare worldwide
- Up to **80% of dental antibiotic prescriptions** may be **unnecessary**
- **Need** for a dental **stewardship framework, consensus,** and **coordination**
- **AMR**—recognized as one of the **top ten threats to global health** by the World Health Organization

Purpose

- With the purpose of gaining insights into stakeholders' perspectives on dental AMS and inform a subsequent workshop



Pre-workshop focus group discussions

Methodology

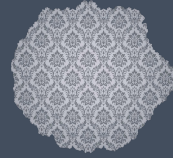
Exploratory qualitative research

- **Sampling and Recruitment:** 22 stakeholders (dentists, physicians, pharmacists, AMS experts, policy leaders and regulators); purposive and snowball sampling
- **Data Collection:** Four focus group discussions (one time, one hour, each)
 - Interview guide- Two domains of questions:
 - 1) main drivers of dental over-prescription
 - 2) potential strategies for stewardship in dentistry
- **Analysis:** Inductive thematic analysis

Findings

Over-prescription drivers in dentistry

Antibiotic stewardship in dentistry



Main themes

Old Patterns

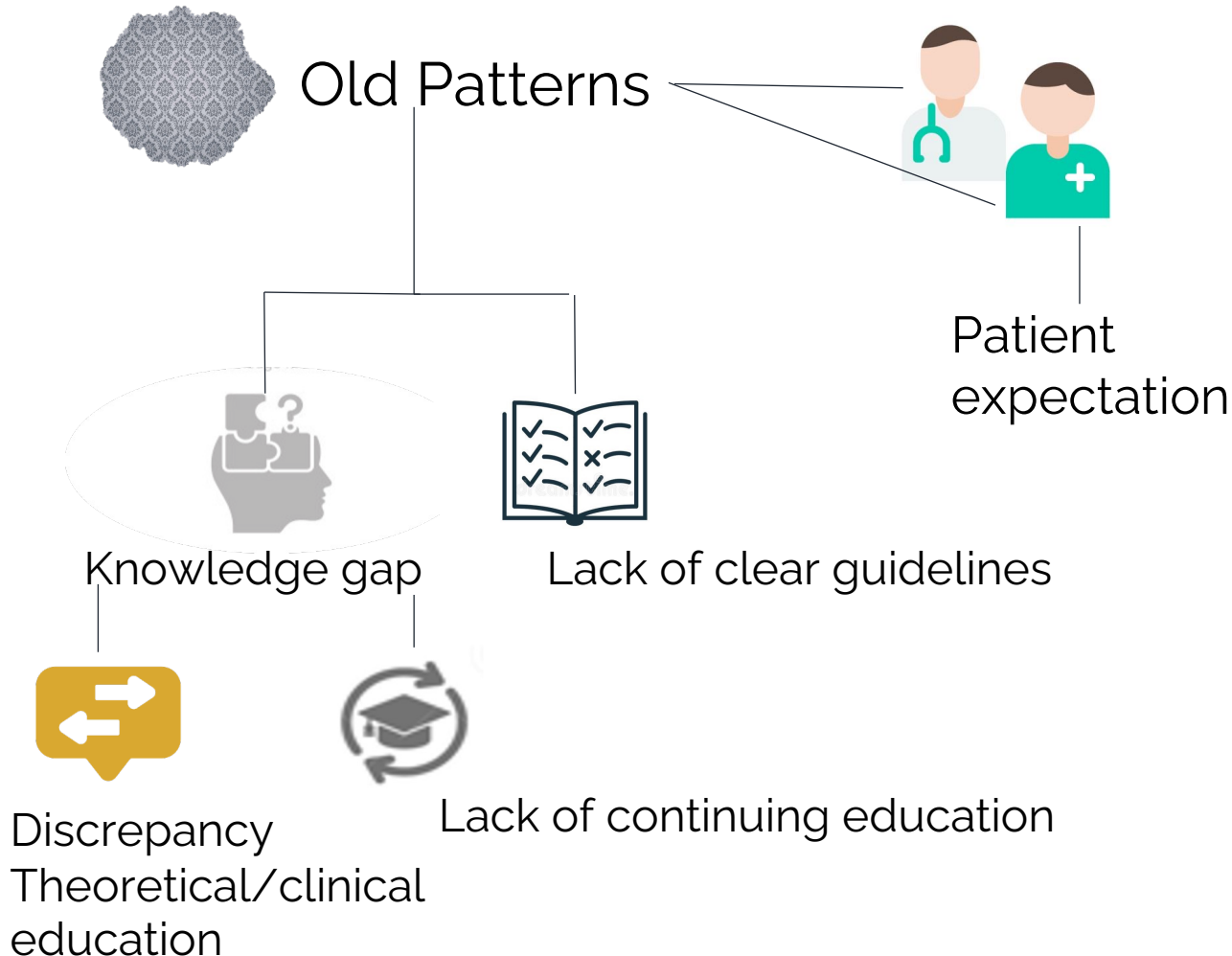
Band-aid solution

Fear and risk aversion

Behavioural change

No need to reinvent the wheel

Over-prescription drivers in dentistry



- “Those [dentists] who are a number of years out may stick to old patterns [of prescribing] that were taught from the pulpit”
- “I have an infection, I need an antibiotic, this [prescription in such cases] is normal, why aren't you giving it to me?”

Over-prescriptions drivers in dentistry (cont.)



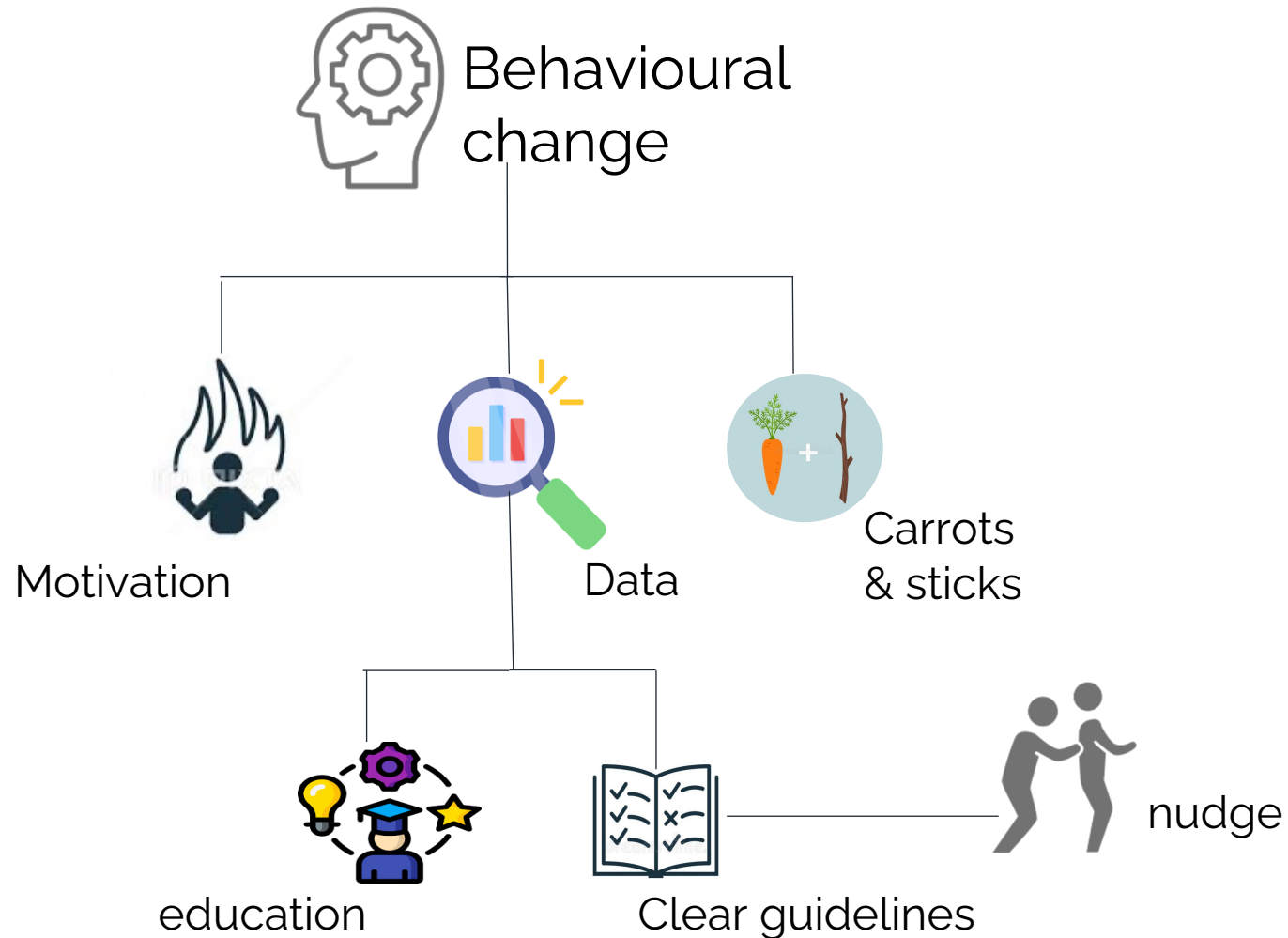
Fear and risk aversion



Band-aid solution

- “If I don't do it [prescribe antibiotics], then God forbid, this huge, horrible outcome happens. . . Because what's really the risk of, of giving the antibiotic really, right? . . . that's [AMR] sort of like, it's kind of like climate change”
- “Rather than try and squeeze them [patients] in at the end of the day, we prescribed an antibiotic to get them through to Monday. . . just put a Band-Aid on something”

Antibiotic stewardship in dentistry



- “if you don't get the why components [for prescribing antibiotics], [it] doesn't matter how many guidelines you've got. . . . correct that behavior. And that's the big challenge because the biggest barrier to stewardship is the human brain”

Antibiotic stewardship in dentistry (cont.)



No need to reinvent the wheel

- "I don't think we should try to reinvent the wheel. . . if we can, not reinvent the wheel . . . I think then we can get somewhere. Don't reinvent the wheel, take the info from other places"
- In medicine, we've done a lot of work around audit and feedback. . . . if dentists were to receive a piece of paper to say that this is the prescribing that you've done this month, and this is what happened with your peers . . . you know, that's, that's one way to help with respect to prescribing habits

Pre-workshop

Policy insights

1 Findings resonate with those found in medicine

- “Diagnostic uncertainty” → Fear and risk aversion
- “Time pressures and quick fixes” (Public Health Agency of Canada, 2019)
- Guidelines (Dickson et al., 2017) → Nudging

2 Dental AMS strategies can be modeled after tested interventions

3 Success of AMS actionable plan

↓
strong
commitment to
change

Workshop - October 2023

Collaborative: MMT

Sharing innovations
and best practices in
Antimicrobial
Stewardship

- Pre-workshop findings
- The UK Experience and Understanding Behaviour Change
- Australian AMS Initiatives
- American Dental Association - AMS Guidelines for Dentists
- The BC Experience
- Public Health Ontario – Community Antibiotic Stewardship
- Using Antibiotics Wisely Campaign



Workshop

Breakout Sessions

1. Establish 3 priorities for action and collaboration
2. Out of these priority themes which require immediate action?



Workshop:

Breakout session # 1



Key themes

1 Data

- Difficult to obtain
- Lack of effective communication
- Need of mandated data: support guidelines, education and evaluation

2 Education

- Training and re-training
- Guidelines
- Knowledge mobilization

3 Accountability

- Treated as a controlled substance
- Record-keeping
- Monitoring systems

Workshop:

Breakout session # 2

Primary
objectives
chosen for
actionable plan

- 1 Data
- 2 Education



Data collection

Objectives

- Track usage
- Develop guidelines
- Address evidence/practice gaps
- Plan and evaluate AMS interventions
- Address providers' fear and patients' expectations
- Prevent complications and comorbidities

Data collection

Nationally:

- Line-listed, anonymized prescriptions
- drug, dose, duration, indication, and broad prescriber demographics
- Non-Insured Health Benefit plan data/Canadian Forces Dental Services
- Canadian Institute for Health Information
- Canadian Dental Care Plan

Provincially:

- Guiding individual practitioners prescribing behaviors through audit and feedback, mentoring and coaching

Education

Two environmental scans:

- Dental education curricula in all ten dental faculties
- Continuing education courses offered by regulatory colleges and dental associations

Education

- Address the discrepancy between theoretical and practical education
- Mandatory CE courses
- Use of behavioral change theories
 - Behaviour Change Wheel (BCW)
 - Social Behaviour Change Communication (SBCC) theory.
- Development of specific tools



USE ANTIBIOTICS WISELY
Not All Bugs Need Drugs

Antibiotics don't treat a cold or the flu

Antibiotics should be taken only as directed

Lower your risk of illness by keeping your hands clean and vaccinations up to date.
Talk to your healthcare provider for more information.

CANADA.CA/ANTIBIOTICS

Public Health Agency of Canada / Agence de la santé publique du Canada

Canada

The poster features a woman sneezing into her elbow and a doctor talking to a patient. It includes icons for a pill and a calendar.



ANTIBIOTICS:
THREE QUESTIONS TO ASK
YOUR HEALTH CARE PROVIDER

1) Do I really need antibiotics?
Antibiotics fight bacterial infections, like strep throat, whooping cough and bladder infections. But they don't fight viruses – like common colds, flu, or most sore throats and sinus infections. Ask if you have a bacterial infection.

2) What are the risks?
Antibiotics can cause unwanted side effects such as diarrhea and vomiting. They can also lead to "antibiotic resistance" – if you use antibiotics when you don't need them, they may not work when you do need them in the future.

3) Are there simpler, safer options?
The best way to treat most colds, coughs or sore throats is with plenty of fluids and rest. Talk to your health care provider about the options.

Talk about what you need, and what you don't.
To learn more, visit www.choosingwiselycanada.org/antibiotics

Choosing Wisely Canada

The poster has a teal header and includes logos for the Department of Health, the Public Health Agency of Canada, and the Choosing Wisely Canada campaign.

Final remarks

- Workshop report: beginning of a concerted effort to coordinate a dental AMS agenda
- Challenges and opportunities
- Canadian dentists and healthcare leaders are well positioned to provide national and global leadership

TAKING A BITE OUT OF ANTIBIOTIC PRESCRIBING



*A workshop report on
developing a sustainable
antimicrobial stewardship
strategy for Canadian dentistry:
January 2024*

Think Pair Share

- What is something new that you learned from the presentation?
- What surprised you?

References:

Dickson, C., Taljaard, M., Friedman, D. S., Metz, G., Wong, T., & Grimshaw, J. M. (2017). The antibiotic management of gonorrhoea in Ontario, Canada following multiple changes in guidelines: an interrupted time-series analysis. *Sexually Transmitted Infections*, 93(8), 561-565.

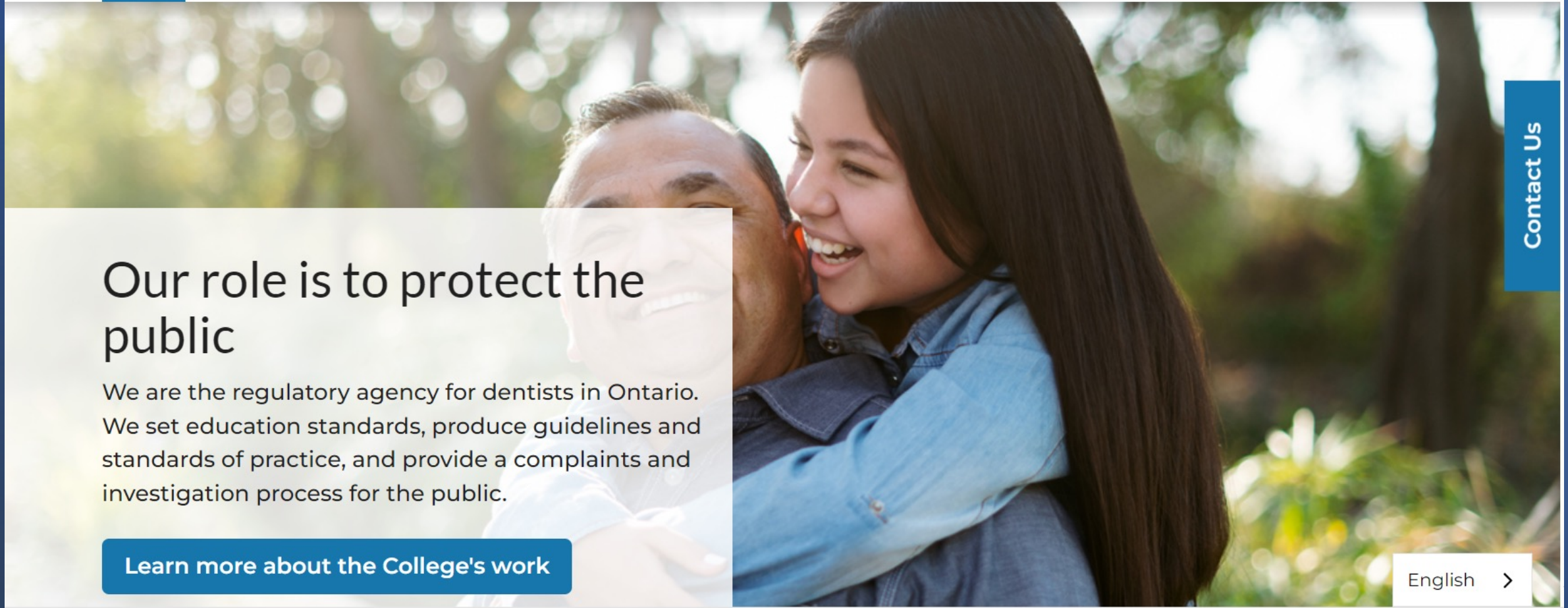
Public Health Agency of Canada. (2019). *Handle with care: Preserving antibiotics now and into the future - Chief Public Health Officer of Canada's 2019 Spotlight Report*. Ottawa, ON

Simeoni, M., Saragosa, M., Laur, C., Desveaux, L., Schwartz, K., & Ivers, N. (2022). Coping with 'the grey area' of antibiotic prescribing: A theory-informed qualitative study exploring family physician perspectives on antibiotic prescribing. *BMC Primary Care*, 23(1), 1-11.

Sutherland, S., Born, K., & Singhal, S. (2022). Moving the needle on dental antibiotic overuse in Canada post COVID-19. *CCDR*, 48(11/12), 502

Weiss, K., Blais, R., Fortin, A., Lantin, S., & Gaudet, M. (2011). Impact of a multipronged education strategy on antibiotic prescribing in Quebec, Canada. *Clinical infectious diseases*, 53(5), 433-439.

World Health Organization. Global action plan on antimicrobial resistance. 2015



Contact Us

Our role is to protect the public

We are the regulatory agency for dentists in Ontario. We set education standards, produce guidelines and standards of practice, and provide a complaints and investigation process for the public.

Learn more about the College's work

English >

Statutory Obligations



Regulated Health Professions Act, 1991, S.O. 1991, c. 18

Versions Regulations under this Act Revoked/spent regulations under this Act

<i>O. Reg. 201/23</i>	<i>USE OF DOCTOR TITLE</i>
<i>O. Reg. 508/22</i>	<i>REGISTRATION REQUIREMENTS</i>
<i>O. Reg. 262/18</i>	<i>PRESCRIBED OFFENCES - HEALTH PROFESSIONS PROCEDURAL CODE</i>
<i>O. Reg. 261/18</i>	<i>INFORMATION PRESCRIBED UNDER SUBSECTION 23 (2) OF THE HEALTH PROFESSIONS PROCEDURAL CODE</i>
<i>O. Reg. 260/18</i>	<i>PATIENT CRITERIA UNDER SUBSECTION 1 (6) OF THE HEALTH PROFESSIONS PROCEDURAL CODE</i>
<i>O. Reg. 39/02</i>	<i>CERTIFICATES OF AUTHORIZATION</i>
<i>O. Reg. 107/96</i>	<i>CONTROLLED ACTS</i>
<i>O. Reg. 59/94</i>	<i>FUNDING FOR THERAPY OR COUNSELLING FOR PATIENTS SEXUALLY ABUSED BY MEMBERS</i>

Dentistry Act, 1991, S.O. 1991, c. 24

Versions Regulations under this Act Revoked/spent regulations under this Act

<i>O. Reg. 27/10</i>	<i>QUALITY ASSURANCE</i>
<i>O. Reg. 205/94</i>	<i>GENERAL</i>
<i>O. Reg. 853/93</i>	<i>PROFESSIONAL MISCONDUCT</i>

Print Download



Are dentists maintaining their knowledge, skills and judgment?

Do they have access to current guidelines?

What keeps us
up at night?

Does their care reflect the latest scientific evidence?

Is it consistent with the standard of care?

How will we know?



How does our role as a regulator support antimicrobial stewardship?

Set	Expectations
Support and monitor	Continuing Education
Assess	Ongoing competence
Address	Complaints

Set Expectations

- Articulate legal, professional and ethical obligations through Standards of Practice and resources
- Dentists are expected to maintain:
 - the standard of practice of the profession
 - adhere to the expectations described in documents
 - maintain knowledge and skill through CE

RCDSO | Royal College of Dental Surgeons of Ontario

Approved by Council – December 2023
Related Resources: [Virtual Care FAQs](#)

STANDARD OF PRACTICE

Members are reminded that dentists are obligated at all times to maintain the standards of practice of the profession including those published by the College. A member who fails to comply with a standard published by the College or the generally accepted standards of practice of the profession may be acting in a manner that could result in allegations of professional misconduct.

Virtual Care

CONTENTS	EXECUTIVE SUMMARY
EXECUTIVE SUMMARY 1	This Standard of Practice articulates requirements for the use of technology when providing and supporting the delivery of dental care to patients remotely (i.e., virtual care). This Standard of Practice applies to direct patient care only (i.e., interactions between dentists and patients) and does not address indirect patient care (e.g., consultations between health care providers and referrals). ¹ A companion resource, Virtual Care FAQs , has also been developed to provide additional information and guidance (e.g., on consultations and referrals, cross-border virtual care, and liability protection).
DEFINITIONS 1	DEFINITIONS
PRINCIPLES 2	Ontario dentists are registrants of the Royal College of Dental Surgeons of Ontario (RCDSO).
REQUIREMENTS FOR VIRTUAL CARE 2	Virtual care (also known as “teledentistry”) includes, but is not limited to, the use of electronic information, imaging, communication, and patient engagement technology to provide and support the direct delivery of dental care to patients remotely. Virtual care does
Assessing the Appropriateness of Virtual Care ... 2	
Providing Virtual Care 3	
• Identifying the Patient and Dentist 3	
• Obtaining Consent for Virtual Care and Recording 3	
• Ensuring the Setting and Technology is Appropriate 3	
• Protecting Privacy and Confidentiality 4	
• Recordkeeping 4	
Ontario Dentists Providing Virtual Care Across Borders 4	
Licensing Requirements when Providing Virtual Care to Ontario Patients 5	

¹ Requirements for referrals to another dentist for consultation and/or treatment purposes can be found in RCDSO’s [Most Responsible Dentist Practice, Advisory and Dental Recordkeeping Guidelines](#).

RCDSO - STANDARD OF PRACTICE

VIRTUAL CARE **1**

Support & monitor continuing education



Assess ongoing competence – Practice Enhancement Tool (PET)



- All dentists assessed after 5 years in practice and every 5 years thereafter
- Includes questions about antimicrobial stewardship
- Encouraging dentists to use their PET results to plan CE

Address Complaints


RCDSO | Royal College of Dental Surgeons of Ontario

RCDSO Portal Login Find a Dentist

About RCDSO Complaints and Investigations Standards, Guidelines and Resources Permits and Renewals Become a Registered Dentist


Home / Complaints and Investigations / Our Complaints and Investigation Process / File a concern or complaint

Do you have a concern or complaint against a dentist?




Make a complaint against a dentist

Filing a complaint requires your involvement. Once submitted, a representative from the College will contact you to discuss the next steps. Complaints **cannot** be anonymous, your identity will be made known to the dentist and the process can take up to a year to complete.



Share concerns about a dentist with the RCDSO

Share a concern about a dentist with the College. We may reach out to you to discuss your concern. If you choose this option, we will evaluate the concerns and the College's Registrar will assess possible next steps.



I'd like to speak to someone before making a complaint

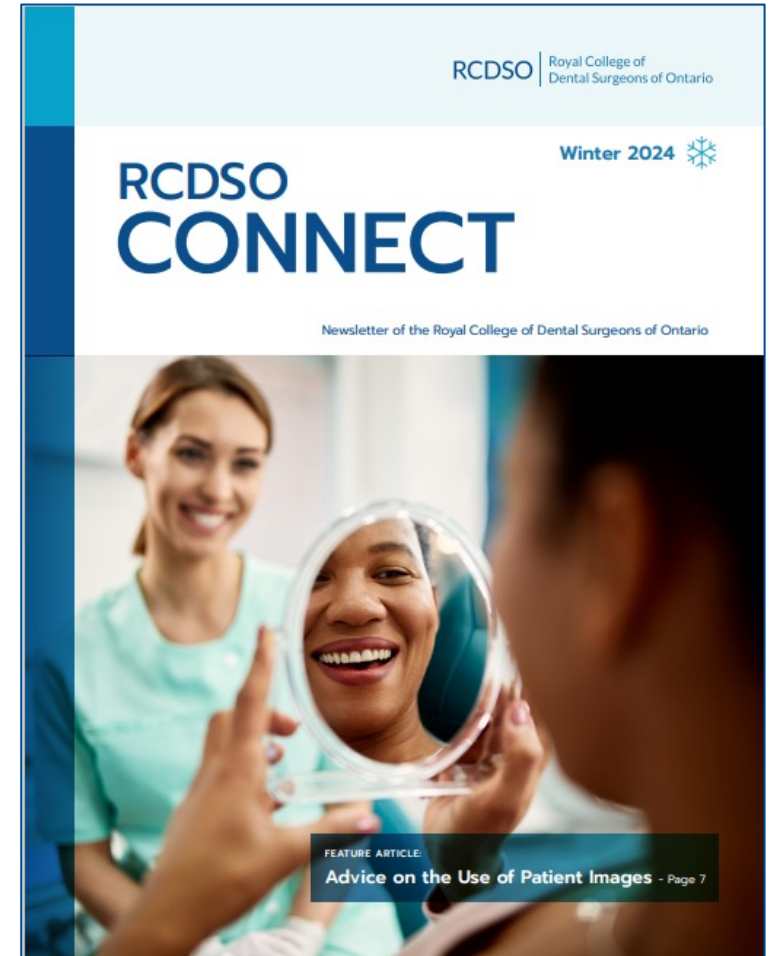
Speak to someone to get more information before deciding if you want to share a concern or make a complaint.

Contact Us

English >

Communicate to the Profession

- RCDSO Connect – Virtual Town Hall
- [RCDSO Connect Newsletter](#)
- Updates on issues we're following posted on our [YouTube channel](#).
- Direct emails to all
- Customized emails



RCDSO News and Resources

Frequently Asked Questions - Antibiotic Prophylaxis

FAQ Search

Know what you're looking for? Enter a few keywords and click search.

Contact Us

What is the current guideline on antibiotic prophylaxis for patients with total joint replacement ?

In 2016, an inter-professional consensus statement was developed through collaboration between three organizations – the Canadian Dental Association (CDA), the Canadian Orthopedic Association (COA) and the Association of Medical Microbiology and Infectious Disease (AMMI). At the November 2017 meeting, Council approved a recommendation to support this consensus statement, in which the following conclusions were advanced:

- Most transient bacteremia of oral origin occurs outside of dental procedures.
- The significant majority of prosthetic joint infections are not due to organisms found in the mouth.
- Few prosthetic joint infections have a clearly defined relationship with dental procedures.

There is no reliable evidence that antibiotic prophylaxis prior to dental procedures prevents prosthetic joint infections.

What are the recommendations under this consensus statement ?

- Patients should not be exposed to the adverse effects of antibiotics when there is no evidence that such prophylaxis is of any benefit.

English >

FAQ-style messages

- Current guideline on antibiotic prophylaxis
- Recommendations from the RCDSO to dentists
- How to handle a disagreement between dentist and physician

Similar approach for infective endocarditis

Next Steps

- Applied Health Research Question (AHRQ) –
 - a question posed by a health system policymaker or provider to obtain research evidence to inform planning, policy and program development that will benefit the entire Ontario health system.
 - Accesses the data repository held by the Institute for Clinical Evaluative Sciences (IC/ES) and expertise of data scientists
 - Question – antibiotic use and variations among dentists to support antibiotic stewardship

And then what?

- Share results with dentists, the public and system partners:
 - antibiotic prescribing patterns
 - Variation
- Actions may include:
 - updating RCDSO Standards,
 - CE requirements
 - New CE approaches (e.g., audit and feedback)



Discussion: A National Dental AMS Strategy

- How can we move the needle on dental anti-microbial stewardship?
- What advice do you have for our team?
- What can Choosing Wisely Canada do?

