

Early Childhood Caries Prevention Guidance for Parents in Canada: A Cross-Jurisdictional Analysis of Recommendation Consistency and Evidence Certainty

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Abstract

Background

Early childhood caries (ECC) affects nearly half of Canadian children by the age of 6, and its treatment is the most common day surgery performed on children in Canada. Parents receive prevention advice from provincial, territorial, and federal public documents; however no single body currently coordinates the existing recommendation content, and whether these documents agree with one another or with the current literature has not been examined. Because ECC is largely preventable through home-based care, the accuracy and consistency of this guidance may influence how parents understand and implement recommended preventive behaviours. This analysis documents parent-facing caries prevention recommendations for children aged 0 to 6 years across Canadian jurisdictions, identifies convergence and divergence of guidance, and appraises the certainty of evidence supporting each recommendation.

Methods

An environmental scan located parent-directed guidance from 13 of Canada's 14 jurisdictions. Ontario was excluded because no provincial-level recommendations were identified. From available documentation, 195 recommendations were extracted and grouped into 39 themes: 23 common and 16 unique. Each theme was appraised against supporting and contradicting literature and rated for certainty using a GRADE-informed framework.

Results

No theme reached a High-certainty rating. Ten were rated Moderate, 23 Low, and 6 Very Low. Jurisdictions diverged on when flossing should begin, when pacifier use should cease, how sugar frequency is approached, and when children can brush unattended.

Conclusion

With some exceptions, Canadian jurisdictions largely agree on recommendations for parents. Supporting evidence is often limited, in part because many behaviours cannot ethically be evaluated through randomized trials. Several identified inconsistencies may be addressed through revisions to wording and content, and a shared national template may help reduce interjurisdictional variation.

Background

Early childhood caries (ECC), defined as decay affecting any primary tooth in a child under six years of age, is among the most common paediatric diseases in Canada [1]. Left untreated, ECC can progress quickly, causing pain, infection, and difficulties with eating, sleeping, and normal speech development [1]. More

severe cases may require restorative dental surgery under general anaesthesia in hospital. Indeed, treatment of ECC represents the most common day surgery performed on younger Canadian children [2]. The Canadian Institute for Health Information estimates that roughly 19,000 of these procedures occur in children between the ages of one and five, incurring hospital costs of around \$21.2 million annually, not counting practitioner fees and family travel [3]. Data collected in 2007–2009 indicated that 46.6% of Canadian six-year-olds had experienced ECC [4].

Despite the considerable burden of ECC, determining its national prevalence is challenging because no nationally representative survey examining ECC in children under six has been conducted in Canada. Consequently, researchers have relied on regional studies and on dental surgery rates as indirect measures of severe disease prevalence [1]. Surgical burden also appears to vary by geography and income. Children in the lowest quintile undergo day surgery for caries about 2.5 times as often as those in the highest quintile, with Saskatoon notably holding the highest rate of any major Canadian city [3].

Most caries in this age group is preventable, and effective measures can be implemented at home by parents and caregivers, including brushing twice a day with fluoride toothpaste, limiting sugary foods and drinks, and early dental visits [5, 6]. Accordingly, clear guidance written for families is a key prevention tool, providing simple instructions caregivers can follow at home. In Canada, responsibility for producing these guidelines is divided among provincial, territorial, and federal governments, with no formal mechanism to ensure consistency across jurisdictions. As a result, families in different parts of the country may receive materially different advice. To date, no published synthesis has compared caries prevention recommendations provided to parents of young children across Canada or assessed their consistency with peer-reviewed evidence.

This study identified official parent-facing guidelines for children aged 0 to 6 years issued by provincial, territorial and federal governments, extracted individual recommendations, and grouped them into shared themes and jurisdiction-specific entries. Each theme was appraised against existing evidence, including both supporting and contradictory findings. The aims were to document existing jurisdictional recommendations, identify areas of agreement, divergence, and gaps, and to evaluate those recommendations against the current evidence base.

Methods

This study employed an environmental scan and comparative policy analysis with structured appraisal of existing evidence. Recommendations were extracted from official parent-facing guidance in each jurisdiction, appraised against peer-reviewed literature, and mapped to shared or jurisdiction-specific themes. Data were organized within a centralized database for comparative and thematic evaluation.

All fourteen Canadian jurisdictions that issue health guidance were considered: ten provinces, three territories, and the federal government. Official parent-facing oral health guidance for children aged 0 to 6 years was sought from each jurisdiction. A document was deemed eligible if it disseminated information

produced at the provincial, territorial, or federal level, addressed oral health for that age group, and was intended for caregivers.

Individual recommendations were the unit of analysis. A recommendation was defined as any actionable instruction directed at parents or caregivers to promote or maintain their children's oral health. Recommendations from each jurisdiction were recorded verbatim within jurisdiction-specific worksheets. Each worksheet was organized by applicable age group and primary focus (e.g., infant hygiene, maternal self-care, and dietary habits). Recurring recommendations were linked to an original entry to avoid duplicate evaluation. Where recommendations were similar but differed in depth, additional content was evaluated separately and documented accordingly.

Recommendations were then grouped into overarching themes. A theme that appeared in two or more jurisdictions was treated as common, whereas a theme that appeared in only one was classified as unique. For each common theme, the grouped analysis recorded its presence or absence across jurisdictions and the total number of jurisdictions in which it appeared, so that agreement and divergence could be readily identified. A per-jurisdiction count recorded how many distinct themes each jurisdiction included. This figure differs from a jurisdiction's raw recommendation count, as some issued several recommendations that correspond to a common theme.

Following thematic classification, a separate evidence-appraisal process was undertaken. Each theme was appraised against peer-reviewed literature. To promote balanced evidence appraisal, every entry included searches for supporting and contrary evidence, which were recorded in separate columns. Searches were primarily performed in PubMed using search terms relevant to the content of each recommendation. The study design of each cited source was verified prior to labelling, allowing meta-analyses, systematic reviews, and randomized trials to be distinguished from observational or consensus-based work. Finally, a brief recommendation statement was created for each guideline.

Subsequently, each theme was assigned a certainty-of-evidence rating using a GRADE-informed framework based on the Grading of Recommendations, Assessment, Development, and Evaluation (GRADE) approach [7]. Four tiers were used: High (systematic reviews or meta-analyses of randomized controlled trials), Moderate (randomized trials with limitations such as risk of bias, inconsistency, or small sample size, or strong and consistent observational evidence), Low (observational studies or randomized trials with considerable limitations), and Very Low (case reports, expert opinion, or consensus-based guidance) [8]. The highest level of available evidence established the initial certainty rating, which was adjusted where methodological limitations or inconsistencies were present. Consequently, certainty ratings in this study reflected both the design and quality of cited evidence. The evidence sources used to inform individual ratings are detailed in Supplementary Table S2.

Claude (Anthropic), a large language model, was used to assist in locating relevant candidate papers and revising the manuscript for grammatical errors.

Results

Parent-directed guidance meeting the inclusion criteria was identified in 13 of Canada’s 14 jurisdictions: 9 provinces, all 3 territories, and the federal government (Table 1). Ontario was the sole exception, with no provincial-level documentation directed at parents, highlighting a gap in available recommendations.

Table 1
Parent-directed oral health guidance documents by jurisdiction.

Jurisdiction	Document Title	Source	Reference
Alberta	Good Oral Health	Alberta Health Services	[9]
British Columbia	A Best Chance Guide to Parenting your 6- to 36-Month-Old (Baby’s Best Chance); Healthlink BC	Government of British Columbia/HealthLink BC	[10]
Manitoba	Dental health; Early Childhood Tooth Decay	Government of Manitoba; Winnipeg Regional Health Authority	[11]
New Brunswick	Loving Care	Government of New Brunswick	[12]
Nova Scotia	Public Health Parenting Supports	Nova Scotia Health	[13]
Newfoundland and Labrador	Life Stages (Health information)	Eastern Health/Newfoundland and Labrador Health Services	[14]
Prince Edward Island	Early Childhood Tooth Decay	Health PEI	[15]
Quebec	From Tiny Tot to Toddler	Institut national de santé publique de Québec (INSPQ)	[16]
Saskatchewan	Growing Up Healthy	Saskatchewan Health Authority	[17]
Northwest Territories	Tooth Tips for Babies (Ages 0–1)	Government of Northwest Territories	[18]
Nunavut	Caring for Your Child’s Mouth	Government of Nunavut	[19]
Yukon	Lift Your Child’s Lip	Government of Yukon	[20]
Government of Canada	Oral health for children	Public Health Agency of Canada/Health Canada	[21]
Ontario	None identified	N/A	N/A
Ontario lacked provincial-level documentation			

The 13 jurisdictions yielded a total of 195 individual recommendations. The number of recommendations within each jurisdiction ranged from as little as 6 in the Northwest Territories to 36 in Manitoba. The Government of Canada issued 28 recommendations, while most other jurisdictions issued between 10 and 20. Overlap and recurrence were common, with many recommendations appearing across multiple jurisdictions in nearly identical form. Grouping these recommendations by content identified 39 distinct

themes. Of the 195 recommendations, 179 mapped to 23 themes shared by two or more jurisdictions, while the remaining 16 were unique recommendations specific to single jurisdictions. Comparative analysis focused primarily on the shared themes. Table 2 summarizes the distribution of recommendations across jurisdictions.

Table 2
Recommendation count by jurisdiction.

Jurisdiction	Source Recommendations	Common Themes	Unique Themes	Distinct Themes per Jurisdiction
Alberta	11	9	2	10
British Columbia	12	12	-	12
Manitoba	36	32	4	18
New Brunswick	17	17	-	15
Nova Scotia	17	16	1	15
Newfoundland and Labrador	12	11	1	12
Prince Edward Island	8	7	1	7
Quebec	10	10	-	9
Saskatchewan	20	20	-	15
Northwest Territories	6	6	-	6
Nunavut	11	10	1	11
Yukon	7	7	-	7
Government of Canada	28	22	6	18
Total	195	179	16	155

Distinct themes are based on how many separate categories are touched by that jurisdiction, which might be less than the total number of recommendations, as some would fall under the same category.

Among the 23 shared themes, C01 (wiping an infant's gums with a clean damp cloth) was present in 12 of 13 jurisdictions, while C02 (using a rice grain-sized amount of fluoride toothpaste for children younger than 3 years) appeared in 11. Themes C03 (avoiding bottles at bedtime) and C04 (parental oral hygiene to reduce bacterial transfer) were each identified in 10 jurisdictions, whereas C05 (brushing twice daily) and C06 (limiting sugar intake) appeared in 9 jurisdictions (Table 3). Beyond these highly represented themes, coverage steadily declined, with multiple themes appearing in only 2 to 8 jurisdictions.

Table 3
Common themes by coverage and certainty.

Reference #	Theme	Jurisdictions that include	Jurisdictions that exclude	Jurisdiction count	GRADE-informed certainty
C01	Wipe infant's gums with damp cloth	SK, AB, BC, MB, NB, NS, NL, QC, NT, NU, YT, GoC	PEI	12	Very Low
C02	Grain-of-rice fluoride toothpaste (< 3)	SK, AB, BC, MB, NB, NS, NL, PEI, QC, NT, NU, GoC	PEI, YT	11	Moderate
C03	No bottle in bed	SK, MB, NB, NS, NL, PEI, QC, NU, YT, GoC	AB, BC, NT	10	Low
C04	Parents keep their own mouths healthy	SK, BC, MB, NB, NS, NL, PEI, NU, YT, GoC	AB, QU, NT	10	Low
C05	Brush child's teeth twice a day	SK, AB, BC, MB, NB, NS, QC, NT, GoC	NL, PEI, NU, YT	9	Moderate
C06	Limit sugary food/drink intake	SK, AB, BC, MB, NB, NS, PEI, NU, GoC	NL, QC, NT, YT	9	Moderate
C07	Floss once teeth touch	SK, AB, BC, NS, NL, NT, NU, YT, GoC	MB, NB, PEI, QC	9	Low
C08	Child lacks dexterity to brush alone	SK, AB, BC, MB, NB, NS, NL, GoC	PEI, QC, NT, NU, YT	8	Low
C09	First dental visit/regular care	SK, AB, NB, NS, PEI, QC, YT, GoC	BC, MB, NL, NT, NU	8	Low
C10	Start brushing at first tooth eruption	SK, AB, BC, MB, NL, QC, NT, GoC	NB, NS, PEI, NU, YT	8	Moderate
C11	Lift the lip to check teeth	SK, BC, MB, NB, NS, YT, GoC	AB, NL, PEI, QC, NT, NU	7	Very Low
C12	Transition to open cup	SK, BC, MB, NB, NS, NU, GoC	AB, NL, PEI, QC, NT, YT	7	Low
References informing each certainty rating are provided in Additional file 1, Supplementary Table S1;					
Jurisdiction abbreviations: AB: Alberta; BC: British Columbia; MB: Manitoba; NB: New Brunswick; NS: Nova Scotia; NL: Newfoundland and Labrador; PEI: Prince Edward Island; QC: Quebec; SK: Saskatchewan; NT: Northwest Territories; NU: Nunavut; YT: Yukon; GoC: Government of Canada					

Reference #	Theme	Jurisdictions that include	Jurisdictions that exclude	Jurisdiction count	GRADE-informed certainty
C13	Pea-sized fluoride toothpaste (3+)	SK, AB, BC, MB, NL, GoC	NB, NS, PEI, QC, NT, NU, YT	6	Moderate
C14	Never sweeten pacifier	MB, NB, NS, NL, PEI, GoC	SK, AB, BC, QC, NT, NU, YT	6	Low
C15	Teach child to spit toothpaste	SK, AB, BC, MB, NL, GoC	NB, NS, PEI, QC, NT, NU, YT	6	Moderate
C16	Brush together/model behavior	AB, NB, NS, NU, QC, GoC	SK, BC, MB, NL, PEI, NT, YT	6	Low
C17	No constant sipping/grazing	MB, NB, NS, NL, QC	SK, AB, BC, PEI, NT, NU, YT, GoC	5	Low
C18	Hold baby during feeding	MB, NB, NS, YT	SK, AB, BC, NL, PEI, QC, NT, NU, GoC	4	Low
C19	No-fluoride brushing for under 3 not at risk of tooth decay	MB, NB, NS, NT	SK, AB, BC, NL, PEI, QC, NU, YT, GoC	4	Very Low
C20	Keep toothpaste out of reach	AB, MB, NB, NS	SK, BC, NL, PEI, QC, NT, NU, YT, GoC	4	Very Low
C21	Breastfeeding supports jaw development	SK, MB, NU	AB, BC, NB, NS, NL, PEI, QC, NT, YT, GoC	3	Low
C22	Discourage prolonged pacifier use/thumb-suckling	NL, QC, GoC	SK, AB, BC, MB, NB, NS, PEI, NT, NU, YT	3	Low
C23	Professional topical fluoride application	PEI, GoC	SK, AB, BC, MB, NB, NS, NL, QC, NT, NU, YT	2	Moderate
References informing each certainty rating are provided in Additional file 1, Supplementary Table S1;					
Jurisdiction abbreviations: AB: Alberta; BC: British Columbia; MB: Manitoba; NB: New Brunswick; NS: Nova Scotia; NL: Newfoundland and Labrador; PEI: Prince Edward Island; QC: Quebec; SK: Saskatchewan; NT: Northwest Territories; NU: Nunavut; YT: Yukon; GoC: Government of Canada					

Under the GRADE-informed framework, none of the 23 common themes received a High certainty-of-evidence rating; 7 were rated Moderate, 12 Low, and 4 Very Low. The Moderate-certainty themes covered fluoride toothpaste amounts (C02, C13), brushing twice daily (C05), limiting sugar (C06), brushing from the first tooth (C10), spitting without rinsing (C15), and professional topical fluoride application (C23). Themes

rated Very Low were wiping an infant’s gums (C01), lifting the lip (C11), water-only brushing for low-risk children younger than 3 years (C19), and keeping toothpaste out of reach (C20). The remaining themes were rated Low, largely because they were supported by observational evidence or consensus rather than controlled trials (Table 3).

Sixteen recommendations were unique to a single jurisdiction and were unevenly distributed. The Government of Canada accounted for 6 of these recommendations, Manitoba for 4, Alberta for 2, and Nova Scotia, Newfoundland and Labrador, Prince Edward Island, and Nunavut for 1 recommendation each (Table 4).

Table 4
Unique recommendations by jurisdiction and certainty.

Reference #	Recommendation	Jurisdiction	GRADE-informed certainty
U01	Daily cleaning removes plaque	Alberta	Low
U02	Stay up-to-date on dental appointments	Alberta	Low
U03	Choose toothpaste brands labeled “recognized by the CDA”	Manitoba	Very Low
U04	Too much toothpaste can cause permanent discolored spots on teeth	Manitoba	Moderate
U05	Do not use food to comfort/sooth child	Manitoba	Low
U06	Use a teething ring rather than teething biscuits	Manitoba	Low
U07	Massage baby’s gums with clean finger	Nova Scotia	Very Low
U08	Some babies might need fluoride drops after 6 months (if recommended)	Newfoundland and Labrador	Low
U09	Ensure child receives optimal fluoride	Prince Edward Island	Low
U10	Hold brush at 45 degrees with bristle aimed at the gum	Nunavut	Low
U11	As permanent teeth appear, ask about dental sealants	Government of Canada	Moderate
U12	Never give fluoridated mouthwash to children < 6 years old	Government of Canada	Low
U13	For infant formula, municipal tap water/municipal bottled water are safe to use (except carbonated/mineral)	Government of Canada	Low
U14	Introduce solid foods at ~ 6 months & transition from formula to whole cow’s milk at 1 year	Government of Canada	Low
U15	Do not rinse mouth with water after brushing (so fluoride keeps protecting teeth)	Government of Canada	Moderate
U16	Reduce sugar before bed because there is less saliva to rinse away acids during sleep	Government of Canada	Low
References informing each certainty rating are provided in Additional file 1, Supplementary Table S2			

Applying the GRADE-informed framework, none of the 16 unique recommendations received a High-certainty rating; 3 were rated Moderate, 11 Low, and 2 Very Low. The recommendations assigned

Moderate ratings were U04 (excess toothpaste and fluorosis), U11 (dental sealant use), and U15 (not rinsing after brushing). All unique recommendations are summarized in Table 4.

Across all 39 themes, none reached a High-certainty rating; 10 were rated Moderate, 23 Low, and 6 Very Low. Consequently, nearly three-quarters of all categories were assigned either Low or Very Low certainty ratings (Tables 3 and 4).

Discussion

Canadian jurisdictions were consistent in recommending many core oral health measures. Brushing twice daily with fluoridated toothpaste, limiting sugar intake, avoiding bottles at bedtime, and starting oral care as soon as the first tooth appears were recommended across most jurisdictions (Table 3; C03, C05, C06, C10). These recommendations were broadly consistent with available evidence. However, several areas of disagreement remain.

Although several recommendations are supported by randomized trials and systematic reviews, including Cochrane reviews, no theme received a High-certainty rating because supporting reviews themselves were generally assessed as Moderate certainty or lower, most commonly due to risk of bias and heterogeneity among included studies (Additional File 1, Supplementary Table S2). High-certainty evidence supports fluoride toothpaste use, but recommended age-specific amounts have not been directly tested against caries outcomes. Evidence for professional fluoride varnish application and dental sealants was rated Moderate for similar reasons. Many Low- and Very Low-certainty ratings reflect recommendations that cannot be ethically or practically evaluated through randomized trials, leaving observational evidence as the primary source of support. The discrepancy between the confidence with which these recommendations are communicated to parents and the certainty of the underlying evidence is a key finding of this analysis.

Recommendations for flossing onset varied across jurisdictions (Table 3; C07). Evidence-based recommendations support beginning flossing once any two teeth touch [22]. This recommendation is consistent with guidance provided by British Columbia, Nova Scotia, Newfoundland and Labrador, and the Government of Canada. In contrast, Saskatchewan and Yukon advise initiating flossing only after molar eruption or after the emergence of all primary teeth, with Yukon specifically suggesting an age of 2 to 3 years. Nunavut presents a distinct gap in guidance, recommending that caregivers floss their children's teeth without explicitly stating when to begin. These inconsistencies in caregiver guidance could be addressed by aligning recommendations across jurisdictions to advise initiating flossing once any two teeth touch.

Newfoundland and Labrador recommends ceasing pacifier and thumb-sucking habits by 4 to 5 years of age (Table 3; C22), which differs from current evidence indicating that the risk of pediatric malocclusion increases when these habits persist beyond 3 years of age [23]. In contrast, Quebec recommends ceasing these habits by 18 months of age, highlighting a substantial variation in guidance between jurisdictions. Given the association between prolonged pacifier and thumb-sucking habits and malocclusion,

recommendations could be strengthened by encouraging discontinuation before 3 years of age, thereby aligning guidance with current evidence.

Guidance on sugar consumption frequency (Table 3; C06, C17) varied considerably across jurisdictions. While limiting the amount of sugar consumed is a common recommendation, evidence indicates that the frequency of sugar intake is also strongly associated with caries development [24]. Only Prince Edward Island sets an explicit frequency target, and only British Columbia directly addresses the need to limit the frequency of sugar consumption. Other jurisdictions, including Manitoba, New Brunswick, Nova Scotia, Saskatchewan, and the Government of Canada, address this concept indirectly through recommendations discouraging constant sipping throughout the day, whereas the remaining jurisdictions do not address sugar-consumption frequency at all. Jurisdictions could strengthen existing guidance by including explicit recommendations on the frequency of sugar consumption, thereby emphasizing that frequency also contributes to caries risk.

Recommendations regarding brushing age and technique (Table 3, C08; Table 4, U10) appear to overestimate the manual dexterity of young children. Nova Scotia recommends independent brushing beginning at 3 years of age, the Government of Canada links brushing capacity to a child's ability to write their name, and Nunavut recommends holding a toothbrush at a 45-degree angle to the gumline using the Bass technique [25]. All three recommendations assume a level of manual dexterity that children aged 3 to 5 years are unlikely to have developed. Evidence suggests that children lack the dexterity to effectively brush alone until around ages 7 to 8 [25], and current guidance advises that parents continue brushing their children's teeth until around age 6 [26]. Poorly defined supervision thresholds may result in parents withdrawing supervision before children can brush effectively, while simultaneously promoting techniques that may be impractical for children. Greater alignment with developmental capacity could be achieved by extending the period of supervised brushing and recommending the Fones circular technique, which is simpler for children to learn [25].

Multiple jurisdictions recommend against sharing spoons or cleaning soothers/pacifiers with one's mouth (Table 3, C04), citing the transmission of caries-causing bacteria as the primary justification. Although the recommendation itself remains prudent, the rationale can frame dental caries as communicable. This is particularly evident in Nunavut, where caries is described as spreading from parent to child. However, current literature increasingly challenges this characterization, instead describing caries as a non-communicable, biofilm-sugar-driven disease [27]. In this case, the rationale underlying the recommendation is inconsistent with current evidence and could place an unnecessary burden on caregivers.

For some recommendations, the available evidence does not support a single definitive approach. A clear example is whether low-risk children under the age of 3 years should brush with fluoridated toothpaste or with water alone (Table 3; C19). Current Canadian and American guidance differs on whether fluoride use should be based on caries risk. The Canadian Dental Association (CDA) recommends that for children aged 0–3 years, the use of fluoridated toothpaste should be determined by assessed caries risk, with water-only brushing recommended for children not considered at risk [28]. In contrast, the American

Academy of Pediatrics (AAP) recommends using fluoridated toothpaste for all children from eruption of the first tooth, limited to a grain-of-rice amount before 3 years of age and without any risk-based exceptions [5]. Canadian jurisdictions advise caregivers in accordance with the national position. However, the divergence between Canadian and American recommendations suggests that a definitive best-practice approach has not yet been established.

Additional uncertainty is evident in recommendations regarding infancy fluoride exposure. Newfoundland and Labrador is the only jurisdiction that provides guidance on fluoride-drop use in infancy, noting that some babies may require fluoride drops after 6 months of age, but only if recommended by a dental professional (Table 4; U08). Evidence is mixed, with benefits being reported in high-risk children, while other studies find weak or inconsistent effects on primary teeth (Supplementary Table S2). The Government of Canada's recommendation to use municipal tap water for infant formula carries a small risk of fluorosis in the permanent dentition, but this is overwhelmingly mild and cosmetic, without adverse health outcomes, and is outweighed by the benefits of caries prevention [5].

Dental visit frequency, which was addressed by multiple jurisdictions (Table 3, C09), also reflects an area of ongoing uncertainty. To date, no ideal recall interval for dental visits has been established for young children [29]. Accordingly, jurisdictions generally recommend regular check-ups, but do not specify timelines or frequency. As evidence regarding recall intervals evolves, these recommendations may be further refined.

Because no single body coordinates the content of guidance documents across jurisdictions, recommendations may persist in their original form despite the emergence of new evidence. Guidance documents also differ considerably in scope and depth between jurisdictions, further contributing to interjurisdictional variation (Tables 1 and 2). Consequently, families in different parts of Canada may receive substantially different recommendations regarding the same oral health topics. This variation may disproportionately affect populations already experiencing a greater burden of early childhood caries, including children living in the territories and in lower-income households [3, 30]. A shared, evidence-informed template could reduce variation and provide families with consistent and equitable oral health information. The presence of potentially beneficial recommendations unique to individual jurisdictions further supports this approach, as several recommendations appear suitable for broader adoption.

Limitations and Strengths

Several limitations should be considered when interpreting these findings. The appraisal was conducted by a single reviewer; therefore, inter-rater reliability could not be assessed, and the resulting ratings reflect the judgement of a single individual. The framework was GRADE-informed rather than a formal application of GRADE; the tiers and design hierarchy were consistently applied, but full evidence profiles were not produced. Only publicly available, parent-facing documents were included, and internal guidance was therefore beyond the scope of this analysis. Ontario was excluded because no equivalent provincial-level guidance document could be identified. Additionally, some documents may have been revised after the initial search dates, potentially affecting findings. Finally, similar recommendations varied in the depths of

their claims, and a singular certainty rating for a broad theme might not adequately reflect all recommendations.

Despite these limitations, this analysis has several strengths. It included guidance from 13 of 14 jurisdictions and evaluated 195 source recommendations. Each recommendation was appraised against evidence that both supported and challenged the recommendation, and every rating was supported by a documented rationale identifying the studies that informed the assessment. Furthermore, identified divergences were generally specific and actionable, most often suggesting wording changes.

Several limitations could be addressed in future research. The use of dual independent reviewers and reporting of inter-rater agreement would strengthen the reliability of the appraisal process. Additionally, Ontario could be incorporated through the inclusion of public health unit documents.

Further studies

This analysis provides a baseline for future research. Repeating the review after several years would assess whether jurisdictions revise guidance as evidence emerges, with the present dataset serving as a comparison benchmark. The certainty ratings also identify evidence gaps: no study has compared toothpaste amounts for caries outcomes, and no trial has evaluated whether lift-the-lip screening reduces dental decay. Some topics, such as breastfeeding and night-time bottle use, are difficult to evaluate through randomized trials due to ethical or practical constraints. Whether the documented divergences correspond to differences in caregiver behavior or early childhood caries prevalence warrants further investigation. Additionally, developing and piloting a shared guidance template could determine whether greater consistency across jurisdictions is achievable. More broadly, this study demonstrates the value of systematically evaluating guidance against the underlying evidence base. Similar evaluations in other areas of health guidance could help identify opportunities to better align recommendations with current evidence and support informed decision-making related to health and wellbeing.

Conclusion

Canadian jurisdictions largely agree on advice provided to parents regarding preventing caries in young children, although notable differences persist in the content, wording, and timing of certain recommendations. The present analysis also finds that the evidence supporting jurisdictional recommendations was limited, with no recommendation reaching High certainty, and approximately three-quarters rated as Low or Very Low certainty. This largely reflects the nature of the recommendations, as many feeding and behavioral practices cannot ethically or practically be evaluated through randomized trials. Most identified issues could be addressed through wording modification and updates. A broader concern is that no authoritative bodies coordinate recommendation content, resulting in misaligned statements and delayed updates. A shared template that jurisdictions could adapt may reduce variation and provide caregivers and parents with consistent recommendations supported by the strongest available evidence.

Abbreviations

AAP
American Academy of Pediatrics
AB
Alberta
BC
British Columbia
CDA
Canadian Dental Association
ECC
early childhood caries
GoC
Government of Canada
GRADE
Grading of Recommendations, Assessment, Development and Evaluation
MB
Manitoba
NB
New Brunswick
NL
Newfoundland and Labrador
NS
Nova Scotia
NT
Northwest Territories
NU
Nunavut
PEI
Prince Edward Island
QC
Quebec
SK
Saskatchewan
YT
Yukon.

Declarations

Ethics approval and consent to participate: Not applicable. This study analyzed publicly available documentation and did not involve human participants.

Consent for publication: Not applicable

Availability of data and materials: All data analyzed or generated during this study are included in this published article and its additional file.

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Authors' contributions: KA conducted the environmental scan, extracted and organized recommendations, appraised supporting evidence, and drafted the manuscript. LM supervised and guided the study, contributed to the study design and evidence appraisal framework, and critically revised the manuscript. All authors read and approved the final manuscript.

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