

## Resolution on Fluoride Varnish Programs for Children at Risk for Dental Caries

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**TO:** Chair and members of the Board of Health

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**PREPARED BY:** Dr. Robert Hawkins, Dental Consultant

**APPROVED BY:** Andrea Roberts, Director, Family Health

*Original signed document on file*

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**SUBMITTED BY:** Dr. Nicola J. Mercer, MD, MBA, MPH, FRCPC  
Medical Officer of Health & CEO

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## Recommendations

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It is recommended that the Board of Health:

1. **Receive this report for information.**
2. **Submit the Draft Resolution “Fluoride Varnish Programs for Children at Risk for Dental Caries” to the Association of Local Public Health Agencies (aLPHa), attached as Appendix “A”, for approval.**

## Key Points

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- Fluoride varnish is effective for reducing tooth decay among children at risk for dental caries.
- Population-based programs, such as fluoride varnish programs (FVP) in elementary schools, are no longer funded by the Healthy Smiles Ontario (HSO) program.
- Support from aLPHa would assist public health units in their advocacy to have the Ministry of Health and Long-Term Care allow fluoride varnish programs to be funded by the HSO program.

## Discussion

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Fluoride varnish is an evidence-based practice that is recognized as safe and effective for reducing the risk of tooth decay.<sup>1</sup>

Wellington-Dufferin-Guelph Public Health (WDGPH) currently provides fluoride varnish applications to students in seven high risk elementary schools. These schools were selected because a high proportion of children were identified with urgent dental needs during oral health screenings by WDGPH. This initiative started in the 2007-2008 school year at one school, Centre Peel Public School, which had a high percentage of children with urgent dental needs (30%). After four years, this percentage was reduced to 17% and based on this positive result the program was expanded to additional schools.<sup>2</sup> The percentage of children with urgent dental needs at Centre Peel has continued to fall to approximately 5%. A cost/benefit analysis indicates that considerable savings were achieved in terms of payments to dentists for restorative treatment. From 2008-2014, it is estimated that between 670 and 780 cavities have been prevented in students at Centre Peel. If treatment costs were divided between private (60%) and provincial programs (40%), savings of between \$132,000 and \$155,000 are estimated.<sup>3</sup>

On November 2, 2016, the Board of Health was informed of changes in the funding model for oral health programs which occurred as a result of the integration of government-funded dental care for children into the new HSO program.<sup>4</sup> Two key points of that report were:

- From 2010 to 2015, the costs of WDGPH's FVP were paid through the HSO budget which is 100% provincial. Total cost was approximately \$19,884 for the 2014-2015 school-year.
- As of January 1, 2016, population-based or universal interventions such as FVPs are no longer included as eligible expenses under the new HSO program.

Although the Board of Health has decided to fund the FVP through the base budget, the continuation of population-based preventive programs needs to be ensured by allowing them to be funded as part of the new HSO program. Not only do these interventions reduce disease prevalence, they also reduce oral health-related costs for individuals, governments and businesses both directly and indirectly (e.g. less time off work and school for dental care).

## Conclusion

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The FVP at WDGPH has been effective in reducing tooth decay among the elementary school-aged children in those schools that received the intervention. As a result of changes in the funding model for oral health programs, population-based programs are no longer funded by HSO and public health units have had to find other means of funding these programs or they have been discontinued.

Support from ALPHA would assist public health units in their advocacy to have the Ministry of Health and Long-Term Care allow FVPs to be funded by the HSO program.

## Ontario Public Health Standard

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Population-based programs, such as FVPs in elementary schools, are not part of the Ontario Public Health Standards. Note: Preventive oral health services in public health clinics are included in the HSO protocol. HSO is Requirement #12 under Child Health.

## WDGPH Strategic Direction(s)

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Health Equity

We will provide programs and services that integrate health equity principles to reduce or eliminate health differences between population groups.

Organizational Capacity

We will improve our capacity to effectively deliver public health programs and services.

Service Centred Approach

We are committed to providing excellent service to anyone interacting with Public Health.

Building Healthy Communities

We will work with communities to support the health and well-being of everyone.

## Health Equity

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Public health programs, such as the FVP, help to address health inequities by targeting preventive interventions towards high risk populations. Children in these schools have difficulties accessing regular dental care and by providing this service in schools barriers to access can be overcome. Day surgery rates for dental care are 3.9 times as high for children from the least (versus the most) affluent neighbourhoods, and are 3.1 times as high for children from rural (versus urban) neighbourhoods.<sup>5</sup>

## Appendices

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Appendix “A” - Draft Resolution for alPHa Resolutions Session 2017 – Fluoride Varnish Programs for Children at Risk for Dental Caries.

## References

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1. Marinho VCC, Worthington HV, Walsh T, Clarkson JE. Fluoride varnishes for preventing dental caries in children and adolescents. Cochrane Database of Systematic Reviews 2013, Issue 7.
2. WDGPH BOH Report BH.01.03.02.1711 Evaluation of the Fluoride Varnish Program at Centre Peel Public School. June 2011. Available from: <https://wdgpublichealth.ca/content/boh-report-bh0103021711-june-1-2011>
3. WDGPH BOH Report BH.01.FEB0415.R03 Fluoride Varnish Initiative. February 2015. Available from: <https://wdgpublichealth.ca/content/boh-report-%E2%80%93-bh01feb0415r03-february-4-2015>
4. WDGPH BOH Report BH.01.NOV0216.R18 Fluoride Varnish program in High Risk Elementary Schools. Available from: <https://www.wdgpublichealth.ca/board-health/board-health-meetings/november-2-2016-agenda/fluoride-varnish-program-high-risk>
5. Canadian Institute for Health Information. (2013). Treatment of Preventable Dental Cavities in Preschoolers: A Focus on Day Surgery Under General Anesthesia. Ottawa, ON: CIHI.

## Appendix “A”

### DRAFT RESOLUTION FOR aIPHa RESOLUTIONS SESSION (2017)

**TITLE:** Fluoride Varnish Programs for Children at Risk for Dental Caries

**SPONSOR:** Board of Health for Wellington-Dufferin-Guelph Public Health

#### BACKGROUND

Fluoride varnish is an evidence-based practice that is recognized as safe and effective for reducing the risk of tooth decay. Wellington-Dufferin-Guelph Public Health (WDGPH) currently provides fluoride varnish applications to students in seven high risk elementary schools. These schools were selected because a high proportion of children were identified with urgent dental needs during oral health screenings by WDGPH. This initiative started in the 2007-2008 school year at one school, Centre Peel Public School, which had a high percentage of children with urgent dental needs (30%). After four years, this percentage was reduced to 17% and based on this positive result the program was expanded to additional schools.<sup>1</sup> The percentage of children with urgent dental needs at Centre Peel has continued to fall to approximately 5%. A cost/benefit analysis indicates that considerable savings were achieved in terms of payments to dentists for restorative treatment. From 2008-2014, it is estimated that between 670 and 780 cavities have been prevented in students at Centre Peel. If treatment costs were divided between private (60%) and provincial programs (40%), savings of between \$132,000 and \$155,000 are estimated.<sup>2</sup> On November 2, 2016, the Board of Health for WDGPH was informed of changes in the funding model for oral health programs which occurred as a result of the integration of government-funded dental care for children into the new Healthy Smiles Ontario (HSO) program.<sup>3</sup> Two key points of that report were:

- From 2010 to 2015, the costs of WDGPH’s Fluoride Varnish Program (FVP) were paid through the HSO budget which is 100% provincial.
- As of January 1, 2016, population-based or universal interventions such as FVPs are no longer included as eligible expenses under the new HSO program.

Although the Board of Health for WDGPH has decided to fund the FVP through the base budget, the continuation of population based preventive programs needs to be ensured by allowing them to be funded as part of the new HSO program. Not only do these interventions reduce disease prevalence, they also reduce oral health-related costs for individuals, governments and businesses both directly and indirectly (e.g., less time off work and school for dental care).

#### WHEREAS

In Ontario, 23% of Junior Kindergarten, 31% of Senior Kindergarten and 44% of Grade 2 children have at least one tooth that has experienced tooth decay (i.e. filled or decayed tooth);<sup>4</sup>

#### WHEREAS

Dental caries is a preventable disease and untreated tooth decay may lead to pain, infection, abscesses, tooth loss, chewing problems, poor nutritional status, poor self-esteem, and may negatively affect school performance, ability to learn, and growth and development;<sup>5</sup>

**WHEREAS**

Dental surgery to treat severe tooth decay is the leading cause of day surgery among children five years and under. Approximately 19,000 of these operations are performed each year in Canada at a cost of \$21.2 million. This cost is only a fraction of the true cost because it does not include the cost of dental treatment or travel;<sup>6</sup>

**WHEREAS**

A Cochrane evidence-based review reported that the application of fluoride varnish is an effective intervention to reduce the risk of dental caries and reverse early carious lesions.<sup>7</sup> This review found a 43% reduction in decayed, missing and filled tooth surfaces among permanent teeth and a 37% reduction among primary teeth;

**WHEREAS**

Biannual topical fluoride applications are recommended by the Centres for Disease Control and Prevention for the prevention of dental caries in children at risk.<sup>8</sup> Primary care clinicians are also recommended to apply fluoride varnish to the primary teeth of all infants and children starting at the age of primary tooth eruption;<sup>9</sup>

**WHEREAS**

The application of fluoride varnish is not a regulated act and does not require a lengthy course of training to learn application techniques and contraindications for use. Fluoride varnish is safe, easy to apply, well accepted by young children and can be provided by a variety of public health and primary care workers (e.g., oral health/dental staff, physicians, nurses, medical assistants);

**WHEREAS**

Fluoride varnish can be readily applied in different community outreach locations and does not require the use of dental equipment or special applicators;

**WHEREAS**

By reducing the risk and incidence of dental caries, FVPs reduce the costs of restorative dental treatment (i.e. dental fillings) and other costly dental treatments, such as root canal therapy, crown and bridge, and dentures.

**WHEREAS**

Ontario public health units conduct annual screening of elementary schools in order to classify schools as low, moderate or high screening intensity based on the percentage of Grade 2 children with two or more decayed teeth;

**NOW THEREFORE BE IT RESOLVED** that the Association of Local Public Health Agencies (alPHA) petition the Ontario Government to provide funding through the HSO program for the implementation of school and community-based programs which use fluoride varnish to reduce the risk of tooth decay among children at risk for dental caries.;

**AND FURTHER** that alPHA write to all boards of health in Ontario encouraging them to start a FVP for children at risk, if they have not already done so.

## REFERENCES

1. WDGPH BOH Report BH.01.03.02.1711 Evaluation of the Fluoride Varnish Program at Centre Peel Public School. June 2011. Available from: <https://wdgpublichealth.ca/content/boh-report-bh0103021711-june-1-2011>
2. WDGPH BOH Report BH.01.FEB0415.R03 Fluoride Varnish Initiative. February 2015. Available from: <https://wdgpublichealth.ca/content/boh-report-%E2%80%93-bh01feb0415r03-february-4-2015>
3. WDGPH BOH Report BH.01.NOV0216.R18 Fluoride Varnish program in High Risk Elementary Schools. Available from: <https://www.wdgpublichealth.ca/board-health/board-health-meetings/november-2-2016-agenda/fluoride-varnish-program-high-risk>
4. Ito D. Summary of 2009-15 Oral Health Screening: Results from Participating Ontario Health Units. Ontario Association of Public Health Dentistry. November 2015.
5. King A. Oral Health – More Than Just Cavities. A Report by Ontario’s Chief Medical Officer of Health. April 2012.
6. Canadian Institute for Health Information. Treatment of Preventable Dental Cavities in Preschoolers: A Focus on Day Surgery under General Anaesthesia. 2013.
7. Marinho VCC, Worthington HV, Walsh T, Clarkson JE. Fluoride varnishes for preventing dental caries in children and adolescents. Cochrane Database of Systematic Reviews. 2013, Issue 7.
8. Centers for Disease Control and Prevention. Recommendations for using fluoride to prevent and control dental caries in the United States. Morbidity and Mortality Weekly Reports 2001;50 (RR-14): 1-42.
9. U.S. Preventive Services Task Force. Final Update Summary: Dental Caries in Children from Birth Through Age 5 Years: Screening. September 2016.