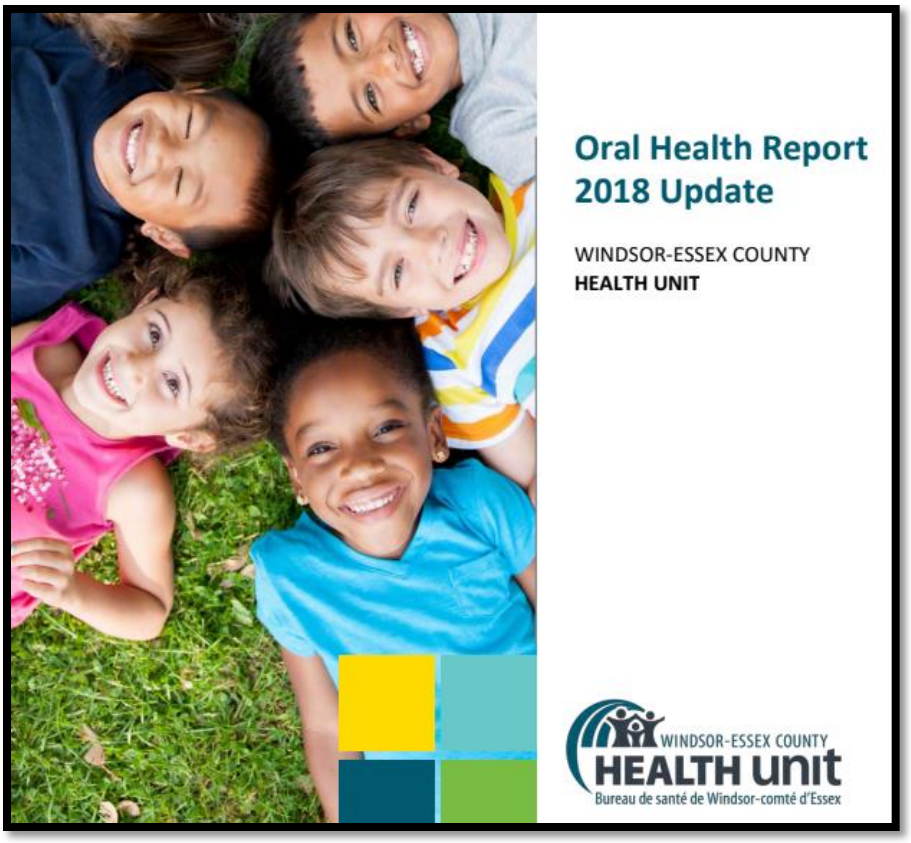


A CLOSER LOOK

BEHIND THE NUMBERS

By: Richard St. Denis

January 2019

INTRODUCTION: The Windsor Essex County Health Unit presented their 2018 Oral Report to Windsor City Council (and other County Municipalities) for the specific purpose of convincing the re-introduction of fluoride into the drinking water. Some of the data in their report is carefully chosen to present a picture any reasonable person should draw, some of the same pre-determined conclusions they are striving to achieve. This Oral Report is not written from an objective point of view. It is written to support their conclusions.

This report you are reading now is designed to take a closer look at the data they presented and show there are two sides to every story and data set. There is actually some good news in their report as well.

Please note that any charts, graphs or data that are highlighted in a black box are taken directly from the 2018 Oral Report presented by the Health Unit. Then we can take a look at what they are really saying about the connection between our oral health and the best methods to prevent dental issues, especially in our children, but also for all people that rely on the water supplied by Windsor.

Their Oral Report is not authored by anyone with a chemical background, and I don't pretend to have a chemical background either. We just want to present you with both sides of the fluoride story.

At Windsor City Council on December 17, 2018 the clean water advocates were labelled as "cherry picking" the results. Let's take a look at the other side that wants fluoride in the water to see their selections. The 2018 Oral Report was provided but only charts that favour the conclusions were brought forward. This report will look at some of the others charts and data provided in the Oral Report. No new charts are included in this review, only analysis of information provided.

ABOUT THE AUTHOR OF THIS REPORT.

Richard St. Denis – a lifelong resident of the City of Windsor.

I have served three 3 year terms as the Lake Erie Region Director for Great Lakes United. This was a bi-national organization with a focus on the water quality and conservation of our Great Lakes system.

As a two term "Prevent Cancer Now" (PCN) Board member, the focus of this Canadian national body is working to prevent cancer before it starts. The mission is to reduce exposure to any chemicals in an attempt to mitigate risk. While some chemicals may or may not cause cancer, the best approach is always to avoid if at all possible, including the ingestion of fluoride.

Currently, my full time employment for the last 11 years has been as an Environmental Specialist. This means looking after our environment on many levels including water.

Working with Unifor Local 444 Environment Committee, I have been a delegate for nearly two decades and served 8 years as Recording Secretary. This group works to educate the public on matters important to create a better community. We participate in many events including Earth Day, Code Green and Waste Reduction Week programs just to name a few.

When my son was in grade 3, I was a chaperone for a class field trip to one of the first Essex Children's Waterfest events. Since then, Unifor Local 444 has been sponsoring this event every year to educate nearly 4,000 children on water quality and conservation. We need to protect our water moving forward. The best way to do that is with the next generation and give them the tools to make things better.

Oral health profile of Windsor-Essex County:

- Nearly 1 in 4 residents report having no dental insurance coverage.
- Just over 1 in 10 households with a child between 1 and 6 years, saw a dental professional for their child for the first time before their child's first birthday
- There is an average of 921 emergency department visits each year for problems related to oral health.
- The estimated average total cost for emergency dental visits is $508,259 per year in Windsor-Essex County.
- Over 9 in 10 visits to the emergency departments were by adults (18+) with the highest rates observed in young adults between 20 to 29 years of age.
- Each year, there is an average of 1,323 day surgeries for oral health (caries-related) reasons with the rates of day surgeries consistently higher in children (1 to 17 years) between 2010 and 2016.
- Approximately 4 in 5 residents in Windsor-Essex County support community water fluoridation.
- None of the nine municipalities in Windsor-Essex County fluoridate their water supplies.

If one in 4 residents don't have dental insurance, that means that 3 in 4 do have insurance. For any children not covered, Ontario has a program called Healthy Smiles. While Ontario added 70,000 additional spaces and increased income levels to allow more people to qualify, this region has REDUCED the number of people using this service by 49%, even as the need increased by 13%.

Just over 1 in 10 children between 1 and 6 saw a dentist before their first birthday. There is no indication if this is a good trend or a bad trend. We don't know if this is an improvement or not. The Oral Report also does not address why parents don't take their children to the dentist before they celebrate their first birthday, or how adding fluoride to the drinking water will change that.

921 emergency department visits – again we don't have context to know if this a trend in the right direction or not. It is just an average over time. Emergency room and physician visits are covered by provincial health care and do not require private insurance coverage.

This report will not repeat the same conflicts on every chart. Context is important, especially when it comes to trends.

Approximately 4 in 5 residents support fluoridation – a telephone survey is not the best way to make long-term decisions on the health of our community.

Oral health assessment in schools and preventative services in Windsor-Essex County:

- In the 2016/2017 school year, 18,179 children from 119 schools were screened for oral health issues. Between 2011/2012 to 2016/2017, the percentage of children with decay and/or requiring urgent care has increased by 51%.
- A three-fold increase in the proportion of children eligible for topical fluoride was observed between the 2011/2012 and 2016/2017 school years.

This is one of the most important charts used to argue for adding fluoride into the drinking water, but just how accurate is the data presented?

For the 2016-2017 school year, this program conducted screenings at 119 school facilities. Nineteen (16%) of these schools had high intensities of tooth decay among grade 2 students. Compared to Ontario data (from 28 Public Health Units) for 2015-2016 (the latest school-year for which provincial data was available), 3477 school facilities were screened and 518 (15%) were considered to have high screening intensities (Ontario Ministry of Health and Long-Term Care, 2016). The number of school facilities where dental screening was conducted and the intensity of tooth decay among Grade 2 students are reported in **Table 6** for the Windsor-Essex County population.

According to the provincial data presented on page 28, it says 16% of grade 2 students had tooth decay while the provincial average is 15%. An increase of 51% claimed by the Oral Report does not factor in the student population density or changes to it. Compared to the rest of Ontario, Windsor is very close with grade 2 students only 1% higher.

A three-fold increase in students eligible for topical fluoride and yet they want to say adding it to water will help even more. If this region has tripled the students eligible for topical fluoride, that should have more of an impact than adding it to our drinking water. Eligibility for topical fluoride is based on fluoride in the water, so it makes sense they give more topically, which is the best way to improve oral health care. Forcing fluoride on people that do not want it in their water does nothing to help people who don't drink water. It also does not control the dosage of fluoride per person since everyone gets the same amount, whether you are a small child or a large man or very young or elderly.

To prevent oral health issues, it is recommended to brush twice a day, floss once a day, visit the dentist regularly, and eat a healthy diet (Canadian Dental Association, 2010). Regular professional oral health care is an important part in maintaining good oral health, as it involves prevention, diagnosis, and treatment of issues such as cavities and gum disease, in a timely manner (College of Dental Hygienists of Ontario, 2014).

The College of Dental Hygienists make several recommendations for the prevention of oral health issues. NONE of these include adding fluoride to the drinking water. <u>The two best methods are proper cleaning and diet</u>.

The lack of coverage and access to oral health care is a key barrier for good oral health. There are several other indicators that can act as barriers to good oral health, including, education level, income, age, where you live (urban or rural), and immigrant status. Compared to the rest of the population, immigrants receive less preventative services and more treatment, and experience more negative oral health outcomes (Canadian Academy of Health Sciences, 2014). This is important for Windsor-Essex County given the large immigrant population in the region. Furthermore, a recent systematic review found that newcomer families (refugees and immigrants) have poor oral health and face several barriers to using dental care services (Reza, et al., 2016), including language, navigating a new health care system, and lack of financial resources.

Many of the charts and graphs discuss increases in oral health issues, but none of them break down who is involved. With larger numbers of immigrants to the area, we just don't have data to determine if this is driving the increases shown in the Oral Report. Only by identifying the proper cause can a realistic and meaningful conclusion be made that will have positive results moving forward. Income levels are cited as a possible cause of poor oral hygiene yet you can buy a fluoridated toothpaste at the dollar store. The Health Unit also gives away free toothpaste. <u>This is not a social justice issue.</u> There are programs available to help anyone that wants it or needs it. Water does not spend much time on the teeth since most gets ingested. Fluoride does not help your teeth much from the blood stream, yet can have potential side effects on other organs in the body. While the medical community does not have proof of this, they also cannot disprove it either. Lack of evidence is not evidence. When in doubt, leave it out.

Objectives

The purpose of the 2018 update of the Oral Health Report is to provide an overview of the oral health status in Windsor-Essex County. This report is a refresh of the 2016 Oral Health Report, in which the population health data and information relevant to the new Ontario Public Health Standards have both been updated. Specifically, this report is intended to:

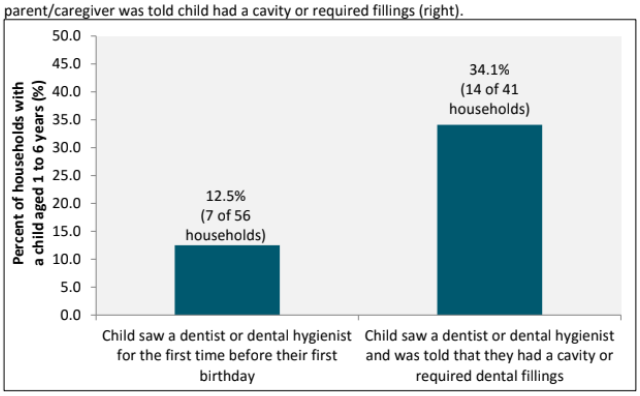
1. Address a request for information on oral health status in correlation with a 5-year moratorium on community water fluoridation in the City of Windsor.
2. Provide an oral health profile of the Windsor-Essex County population using available assessment and surveillance data for the period of 2011 to 2017.
3. Provide recommendations based on local data for the improvement of oral health within Windsor-Essex.

The objectives of the Oral Report start by suggesting a review of fluoridation in the water supply. The review provided needs to look at multiple facets of oral health care in more detail. Fluoride is only one approach and delivery of that fluoride can be achieved with other methods such as toothpaste, mouthwash, school programs and dental visits. It does not need to be in the water supply.

Early Childhood Dental Habits

Only 13% of households with a child between the age of one and six years reported that the child saw a dentist or dental hygienist for the first time before their first birthday (**Figure 2**). Moreover, in 34% of households where the child saw a dental professional, the parent/caregiver was told that the child had a cavity or required dental fillings.

Figure 2. The percentage of households in Windsor-Essex County with a child between 1 and 6 years that saw a dental professional: for the first time before their first birthday (left); parent/caregiver was told child had a cavity or required fillings (right).



Source: Rapid Risk Factor Surveillance System (RRFSS), Jan-Apr 2016 and Jan-Apr 2017, Windsor-Essex County Health Unit

Earlier the Oral Report suggested 1 in 10 (10%) children under the age of one was to see a dentist. This report says 12.5% (chart) to 13% (wording). This means we have an increase in people taking young children to the dentist. It would stand to reason that more people going to the dentist would result in more findings. Time frames for graphs and charts and trends would also be helpful with interpreting the data and possible trends.

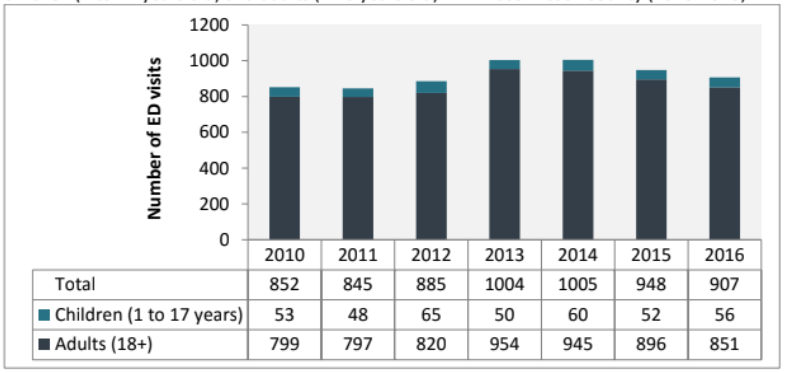
Community Support for Community Water Fluoridation

Support for community water fluoridation was assessed as part of the RRFSS survey in 2015, and Windsor-Essex County Health Unit's Community Needs Assessment survey in 2016 (see **Figure 4**). Both surveys showed similar results regarding support for community water fluoridation.

According to the survey results, the vast majority of adult residents in Windsor-Essex County support community water fluoridation (75% according to RRRFS, and 78% according to the Community Needs Assessment Survey).

Surveys need to always be put into context. This does not actually say who the people were that participated in the survey. Did they send the survey to dentist offices or physicians? I have not found one single person that knew about or participated in this survey. Were you part of this survey? What were the questions asked and answers offered as multiple choices? Details on the survey and a copy of the actual information provided to those responding would help to determine usefulness of results. Based on the Oral Report data, only 1/3 of 1% of the total water users were surveyed. Using the percentage approval provided works out to just 1/4 of 1% of the people using water that support fluoridation in the drinking water. Not a large enough sample to claim support.

Figure 5. The annual number of oral health-related emergency department (ED) visits by children (1 to 17 years old) and adults (≥ 18 years old) in Windsor-Essex County (2010-2016)

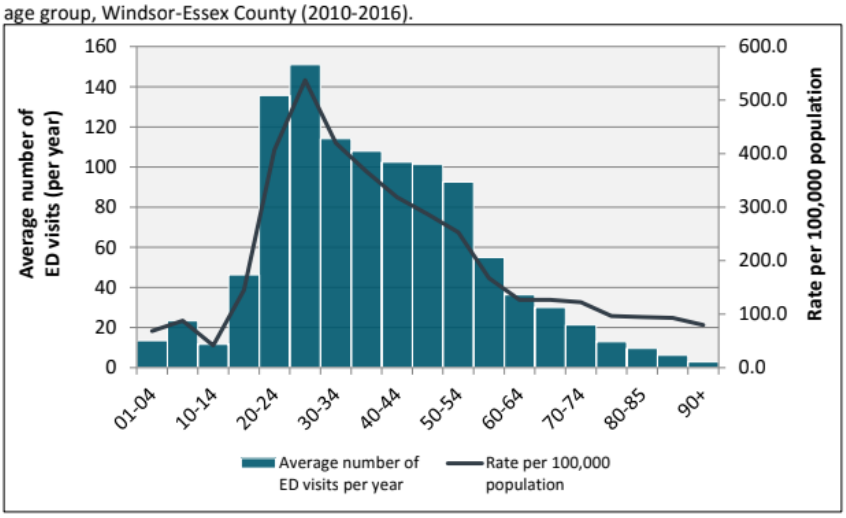


	2010	2011	2012	2013	2014	2015	2016
Total	852	845	885	1004	1005	948	907
Children (1 to 17 years)	53	48	65	50	60	52	56
Adults (18+)	799	797	820	954	945	896	851

Source: Ambulatory Emergency External Cause [2010-2016], Ontario Ministry of Health and Long-Term Care, IntelliHEALTH ONTARIO, Date Extracted: [March 19, 2018].

The greatest increase on the total occurred while fluoride was in the water between 2010 and 2013. The number actually decreased to 907 while there was no fluoride in the water. Same for children. Largest increase is shown during fluoridation. 53 in 2010 compared to 56 in 2016 is only a small overall increase over seven years. The adult highest report in 2013 at 954 went down to 851 by 2016 with no fluoride in the water.

Figure 6. Average number of oral health-related emergency department (ED) visits and rate by age group, Windsor-Essex County (2010-2016).



Source: Ambulatory Emergency External Cause [2010-2016], Ontario Ministry of Health and Long-Term Care, IntelliHEALTH ONTARIO, Date Extracted: [March 19, 2018].

If you follow the black line on the graph showing rate per 100,000 residents, children up to the age of 20 and seniors over the age of 60 are below the average for emergency room visits. To suggest fluoride in water helps these two groups goes against the data provided in this graph. This graph also does not break the numbers down by long-time residents or newcomers to the region since the area had a significant increase in population. It also lumps 7 years of data into one.

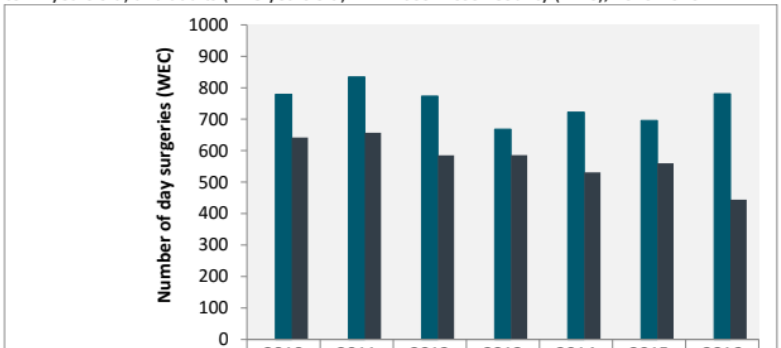
Table 1. Oral health conditions of children (1-17 years old) visiting the emergency department in Windsor-Essex County (2010-2016).

Diagnosis (ICD-10-CA Code)	Number of ED visits (2010-2016)	Percent of all ED Visits for OH Conditions (%)
Periapical abscess without sinus (K047)	194	50.5%
Toothache, not otherwise specified (K0887)	90	23.4%
Chronic gingivitis (K051)	39	10.2%
Dental caries, unspecified (K029)	19	4.9%
Cellulitis and abscess of mouth (K122)	14	3.6%
Temporomandibular joint disorder, unspecified (K0769)	10	2.6%
Acute gingivitis (K050)	8	2.1%
Acute periodontitis (K052)	6	1.6%
Impacted teeth (K011)	< 5	1.0%

Source: Ambulatory Emergency External Cause [2010-2016], Ontario Ministry of Health and Long-Term Care, IntelliHEALTH ONTARIO, Date Extracted: [March 19, 2018].

The report shows 385 children visited emergency department over a seven year period averaging 55 per year (4.5 per month). It does not show a trend if they are getting more or less as a result of fluoride. It does not tell you if any of these visits are repeats for the same patient. It also does not compare oral health visits to other types of visits to emergency room services. Are these visits from Windsor born residents, immigrants or people new to the area?

Figure 7. The number of day surgeries for oral health (caries-related) issues among children (1 to 17 years old) and adults (≥ 18 years old) in Windsor-Essex County (WEC), 2010-2016.

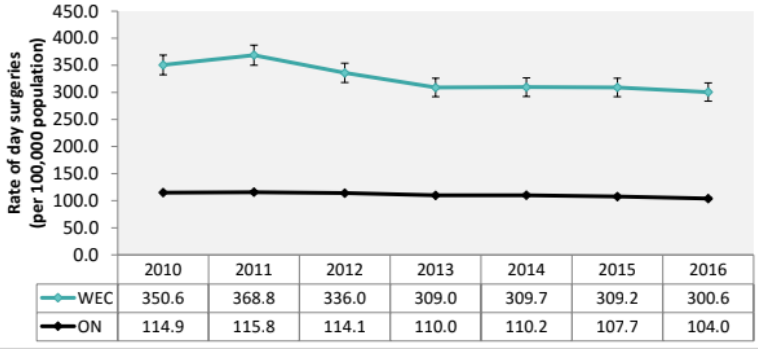


	2010	2011	2012	2013	2014	2015	2016
Total	1421	1491	1358	1254	1253	1256	1225
Children (1 to 17 years)	779	834	773	668	722	696	781
Adults (18+)	642	657	585	586	531	560	444

Source: Ambulatory Emergency External Cause [2010-2016], Ontario Ministry of Health and Long-Term Care, IntelliHEALTH ONTARIO, Date Extracted: [March 19, 2018].

This graphs shows total day surgeries was higher with fluoride in the water. In 2010 it was 1,421 but dropped to 1,225 by 2016 without fluoride in the water. Children virtually unchanged from 779 to 781. However, adults show significant improvement from 642 down to 444 (39.8% decrease in need for service). Windsor Councilor Gignac asked for adult data but this was not referenced. She was told this Oral Health Report was focused on children.

Figure 8. The rate of day surgeries for oral health (caries-related) issues in Windsor-Essex County (WEC) and Ontario (ON), 2010-2016.

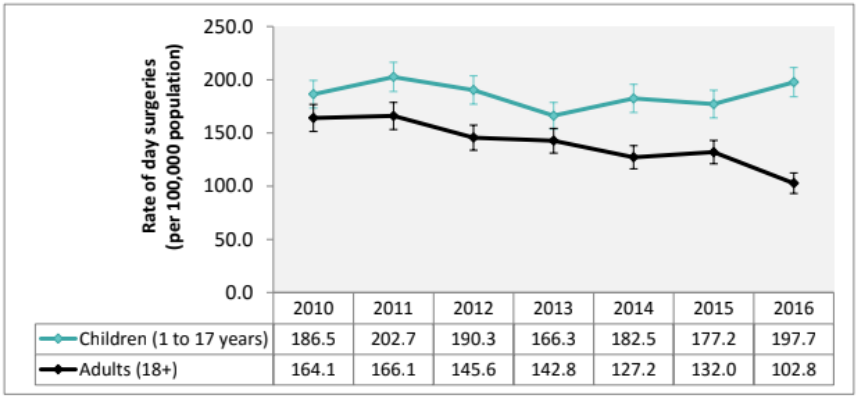


	2010	2011	2012	2013	2014	2015	2016
WEC	350.6	368.8	336.0	309.0	309.7	309.2	300.6
ON	114.9	115.8	114.1	110.0	110.2	107.7	104.0

Source: Ambulatory Emergency External Cause [2010-2016], Ontario Ministry of Health and Long-Term Care, IntelliHEALTH ONTARIO, Date Extracted: [March 19, 2018].

This chart does show Windsor is higher than the provincial average, (suggesting other factors involved); but we have always been there both before fluoride and after fluoride in our water. Important to note that in 2010 we had 350.6 for day surgeries but that dropped to 300.6 by 2016 (a 14.3% decrease in day surgeries for oral health). We are improving faster than the provincial average during the time covered by this graph.

Figure 9. The rate of day surgeries for oral health (caries-related) issues among children (1 to 17 years) and adults (≥ 18 years old) in Windsor-Essex County (WEC), 2010-2016.



	2010	2011	2012	2013	2014	2015	2016
Children (1 to 17 years)	186.5	202.7	190.3	166.3	182.5	177.2	197.7
Adults (18+)	164.1	166.1	145.6	142.8	127.2	132.0	102.8

Source: Ambulatory Emergency External Cause [2010-2016], Ontario Ministry of Health and Long-Term Care, IntelliHEALTH ONTARIO, Date Extracted: [March 19, 2018].

Important to note that children actually show the highest number of day surgeries of oral health issues <u>while fluoride was still in the water</u> in 2011. <u>Adults show a dramatic decrease</u> from 164.1 to 102.8 (37.4% decrease without fluoride in the water). Windsor City Council asked the Medical Officer about Adult data and he indicated the study was designed for children. This chart was never called to their attention because it shows adults had good results.

The following school screening results for Windsor-Essex County uses information extracted from OHISS (2011/2012 to 2016/2017 school years) to describe the oral health status of children in JK to Grade 8 who participated in the school screening program. This program is not able to screen all children but, of the children (in JK to Grade 8) living in Windsor-Essex County, an average of 35% of all children in this age group are screened each year through the school screening program. Of the JK, SK, and Grade 2 children in publicly funded schools in Windsor-Essex County, approximately 91% are screened each year through school screening program. The other nine percent were either absent or were excluded during the day of the screening.

Only 35% of all the children between JK and Grade 8 were screened. This means that 65% of the students were not part of this study.

The focus of the study was on JK, SK and grade 2 only.

Table 5. Oral health screening of children at schools in Windsor-Essex County (2011-2017).

School Year	Students Screened	Students Absent	Students Excluded/Refused
2011-2012	14,764	1,200 (7.4%)	333 (2.0%)
2012-2013	20,373	1,494 (6.7%)	572 (2.5%)
2013-2014	21,104	1,319 (5.7%)	696 (3.0%)
2014-2015	14,649	873 (5.5%)	458 (2.9%)
2015-2016	17,005	1,052 (5.6%)	692 (3.7%)
2016-2017	18,179	1,195 (6.0%)	606 (3.0%)

Source: Oral Health Information Support System [2011-2017], Ministry of Health and Long-Term Care (Accessed April 12, 2018).

Note the number of students screened in the first year was 3,415 lower than the final year on this report. With more students the likelihood of more findings is probable. Severity of findings is also not detailed enough. Finding and fixing issues early prevents them from becoming larger issues in the future. That is the point of the screening.

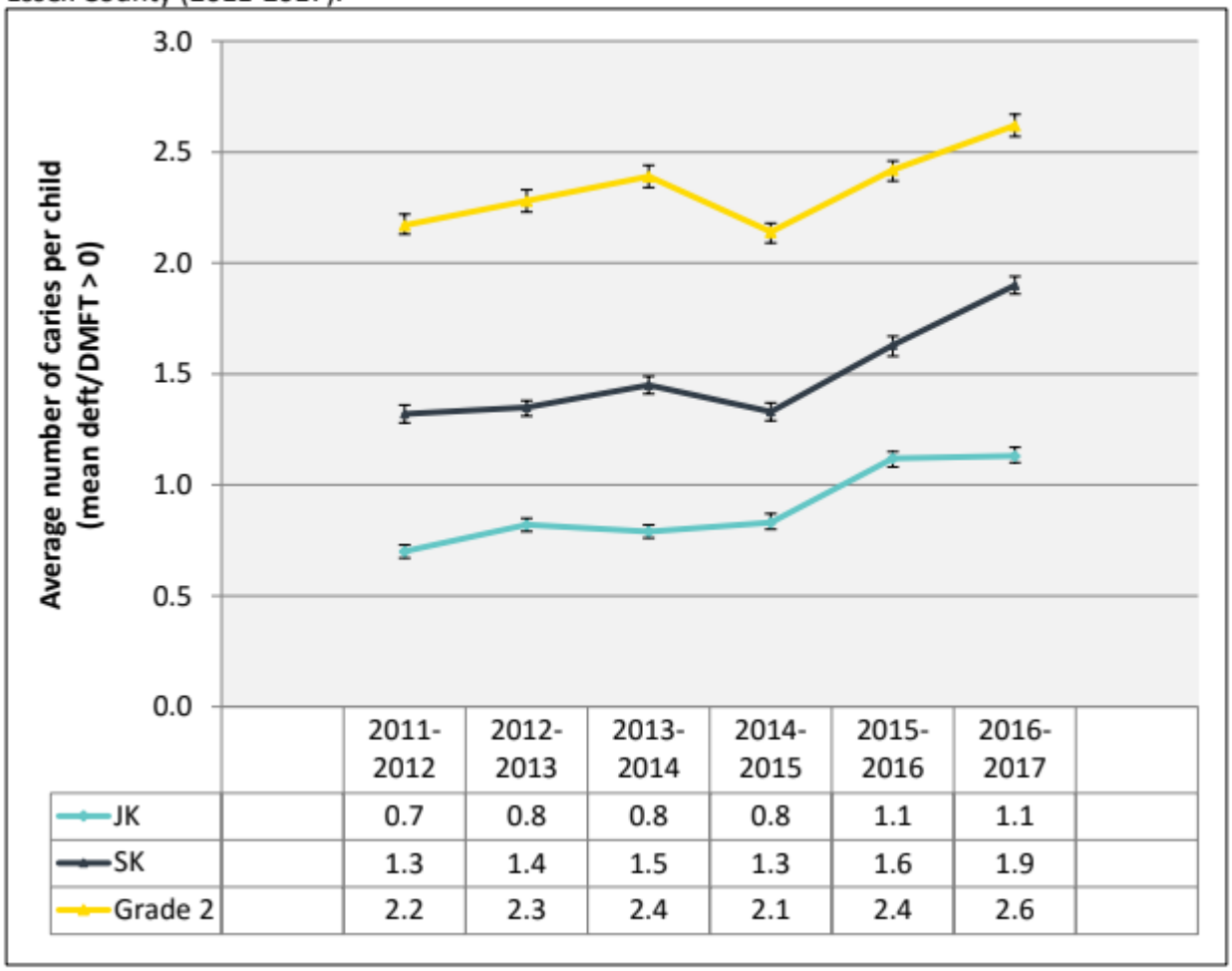
Table 6. The number of school facilities screened in Windsor-Essex County (2011-2017) and the intensity of tooth decay among Grade 2 students at those facilities.

School Year	Facilities Screened	High Intensity Facilities	Medium Intensity Facilities	Low Intensity Facilities
2011-2012	120	13 (10.8%)	12 (10.0%)	95 (79.2%)
2012-2013	116	10 (8.6%)	13 (11.2%)	93 (80.2%)
2013-2014	114	16 (14.0%)	13 (11.4%)	85 (74.6%)
2014-2015	116	11 (9.5%)	18 (15.5%)	87 (75.0%)
2015-2016	115	24 (20.9%)	14 (12.2%)	77 (67.0%)
2016-2017	119	19 (16.0%)	11 (9.2%)	89 (74.8%)

Source: Oral Health Information Support System [2011-2017], Ministry of Health and Long-Term Care (Accessed April 12, 2018).

This is the report for grade 2 students only that the Oral Report cites as alarming, claiming a 51% increase in high intensity findings. However, we are only talking about going from 13 to 19. Also, medium and low intensity finds both drop by a total of 7. So overall there is a decrease. This chart only shows a shift. It also does not indicate how many at each facility. Is one student at a school considered a finding to cause the facility to be shown as high intensity? Again, this is not broken down by year to see if this is showing a trend. Also not broken down by demographics to see if these are immigrants or Windsor born. This is important to determine what role, if any, fluoride has on the outcome.

Figure 13. The deft/DMFT index of screened children by school grade and school year, Windsor-Essex County (2011-2017).



	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017
JK	0.7	0.8	0.8	0.8	1.1	1.1
SK	1.3	1.4	1.5	1.3	1.6	1.9
Grade 2	2.2	2.3	2.4	2.1	2.4	2.6

Source: Oral Health Information Support System [2011-2017], Ministry of Health and Long-Term Care (Accessed April 12, 2018).

This report is also in need of better explanation. JK went from .7 to 1.1 (which can be stated as .4 of one cavity OR 57% increase). If you want to alarm people with statistics, use the 57% increase. Or to be fair, use the .4 of one cavity over a sever year period.

For SK the increase is .6 of one cavity, and for grade 2 the increase is .4 of one cavity. This is over a period from 2011 to 2017. It does not take into account changing school populations over the same period of time. SK also had slight improvement right after fluoride was removed. Same slight drop for grade 2 when fluoride was removed. No real trend to justify fluoride in the water had any impact one way or the other.

Table 8. Trends of the core indicators for oral health as identified by the Association of Public Health Epidemiologists in Ontario, Windsor-Essex County (2011-2017).

Indicator	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	Overall Trend
deft/DMFT index*	1.02	1.09	1.13	1.10	1.38	1.52	49% ↑
Caries-free children* (%)	77%	75%	73%	73%	69%	67%	13% ↓
Children with urgent dental needs (%)	7.6%	7.3%	8.7%	11.5%	10.8%	11.9%	57% ↑
Children with decay and/or urgent dental needs (%)	9.9%	9.7%	11.8%	15.1%	14.1%	14.9%	51% ↑
Children eligible for topical fluorides (%)	14.9%	26.5%	36.5%	38.1%	40.3%	49.9%	235% ↑
Children eligible for fissure sealants (%)	2.3%	2.6%	3.3%	4.4%	6.0%	10.8%	370% ↑
Fluorosis Index – moderate or severe fluorosis *+ (%)	0	0	0	0	0	0	0% -

Source: Oral Health Information Support System [2011-2017], Ministry of Health and Long-Term Care (Accessed April 17, 2018).

This chart raises several questions. Line one indicates a steady increase with fluoride in the water between 2011 and 2014. Then a decrease when fluoride was removed by 2015. So you cannot blame the removal of fluoride in 2013 with increases years later starting 2016 and 2017. These numbers do not match the 2016 Oral Health Report and some increases occur with fluoride in the water.

Line two shows a 5% decrease with fluoride in the water and a 6% decrease after. Water with and without fluoride did not have a significant difference in this number, yet the chart is being used to convince fluoride to be added back.

Line 3 and 4 bounce all over, going down and up, and down and up. There is no identifiable trend yet the original Oral Health report wants to claim a 57% and 51% increase respectively. Increases with fluoride in the water must be taken into consideration as well as after the removal.

Children eligible for topical fluoride shows a dramatic increase because of how the criteria are determined. The Health Unit says when no fluoride is in the water they become eligible. That does not mean fluoride in water is the best method to deliver it. The right approach is to apply fluoride topically anyway.

Table 10. The number of children eligible for the Healthy Smiles Ontario-Emergency and Essential Services Stream (HSO-EESS) program presenting to the Windsor, Essex, and Leamington oral health clinics (2011-2017).

Year	Number of Children Screened			Number of HSO-EESS Eligible Children (%)			Total HSO-EESS Eligible Children
	Windsor	Essex	Leamington	Windsor	Essex	Leamington	
2011	2122	297	1106	935 (44%)	91 (31%)	435 (39%)	1461 (41%)
2012	1338	140	671	685 (51%)	55 (39%)	359 (54%)	1099 (51%)
2013	1348	65	593	706 (52%)	32 (49%)	265 (45%)	1003 (50%)
2014	1205	55	564	608 (50%)	20 (36%)	269 (48%)	897 (49%)
2015	1082	117	543	547 (51%)	38 (32%)	280 (52%)	865 (50%)
2016	1319	12	753	731 (55%)	2* (17%)	427 (57%)	1160 (56%)
2017	1082	0	1024	617 (57%)	-	545 (53%)	1162 (55%)

Source: Internal records, Windsor-Essex County Health Unit.
*Essex clinic closed in February 2017

Let's review this chart for Healthy Smiles Ontario program usage in Windsor and surrounding areas. Windsor screened 2,122 in 2011 but only 1,082 in 2017 (that is a 49% decrease in screenings). The number of eligible children over that same period rose from 44% to 57%. Note that Leamington change was 1,106 to 1,024 which is just a 7% decrease compared to Windsor decrease of 49%. For 2017 Windsor and Leamington screened almost the same number of children for the Healthy Smiles Ontario program.

CONCLUSION:

There are several ways to interpret graphs and data. The most important aspect is to be complete and transparent with how the data was collected and for what time frame. It is also critical to assess the participants in the data. If the goal is to determine how best to deal with an issue, then we first need to find out who the issue affects the most, if anyone.

There has been an increase in new citizens in this region over the time covered by the study according to Stats Canada. These people have not been factored into any of the graphs or charts provided by the Oral Health Report, yet could potentially be a large factor in the results. If they come from a third-world country drinking contaminated water; that is important information to include in the study. Only people that lived in the area when fluoride was in the water should be included in the study after it was removed. Nowhere in the 39 page is Oral Report this addressed properly.

Another key factor is the employment rates for the region. In 2013 this area had the highest unemployment rate in the country. Today we have one of the lowest. People with jobs have more money and more benefits so they go to the dentist more often. This could also account for some of the differences in the graphs. Many of the statistics in the Oral Report do not break down by year, so a trend pre-and-post fluoride is not possible. Also many groups, such as the American Dental Association have Fluoride Committees to update their policy.

The severity of the finds is also not sufficient to draw conclusions. As a parent, if the dentist finds less than a half of one cavity in my son, I think that is a good thing. We found it early giving opportunity to correct it early before it gets worse and becomes a larger issue.

Please do not be intimidated by percentages or numbers, but rather look closely at the data presented. The Oral Report was written with pre-determined conclusion in mind, to re-fluoridate the water. It was not presented objectively and that is the purpose of this summary report. We want you to look closely at <u>BOTH sides and ask questions about presentations</u>. Don't just take one side of the debate at their word, but rather look at the entire picture. Hopefully, this report will help give you a balanced approach to the entire report and findings.

Something else that is concerning is the historical data presented by the 2018 Oral Report and how it does not match the 2016 Oral Report. All data prior to 2016 should be identical, with only 2017-18 being added. Also, increases claimed by the report start in 2010-11 which include increases while fluoride was still in the water. If claims are being made that fluoride causes issues then only post fluoride data should be included. Increases with fluoride in the water are included in the reporting.

Proponents of water fluoridation often present a long list of medical and dental organizations that officially endorse the fluoridation of water. What proponents fail to mention, however, is that very few developed countries have been convinced by this list. In fact, over half of the world's population that drinks fluoridated water now lives in the United States. In western Europe, over 97 percent of the population drinks non-fluoridated water (and yet, their tooth decay rates are generally lower than the tooth decay rates in the U.S.).

Proponents of fluoridation like to claim that no one who opposes fluoridation is credible. A number of prominent Nobel Prize-winning scientists, however, have opposed the practice. One such scientist, Dr. Arvid Carlsson, won the Nobel Prize in Medicine/Physiology in 2000 for his research on neurotransmitters in the brain. In a 2005 interview, Dr. Arvid Carlsson noted that "fluoridation is against all modern principles of pharmacology. It's obsolete. I don't think anybody in Sweden, not a single dentist, would bring up this question anymore."

More and more people are looking at fluoride and deciding there are better ways to protect your oral health besides adding it to drinking water. People that want fluoride will lead you to believe that all of the leading authorities are on their side. Here is a listing of qualified people and groups that believe fluoride in water is not the way to go any longer.

860 Nurses (RN, MSN, BSN, ARNP, APRN, LNC, RGON)

629 DC's (Doctor of Chiropractic, includes M Chiro)

582 MD's (includes MBBS)

537 PhD's – includes DSc (Doctor of Science); EdD (Doctor of Education); DrPH (Doctor of Public Health)

378 Dentists (DDS, DMD, BDS)

176 ND's (Doctor of Naturopathic Medicine)

109 Lawyers (JD, LLB, Avvocato)

106 Pharmacists (Pharm.D, B. Pharm, DPh, RPH)

130 RDHs (Registered Dental Hygienist); also DH, RDHAP, EFDA, RDAEF, RDN, LDH

72 Acupuncturists (LAc – Licensed Acupuncturist, and, MAc -Master Acupuncturist)

48 DO's (Doctor of Osteopathic Medicine)

32 Veterinarians (DMV, VMD, BVMS)

20 OD (Doctor of Optometry)

22 PA-C (Physician Assistant – Certified); also MPAS and RPA-C

Magda Aelvoet, MD, Former Minister of Public Health, Belgium

Rosalie Bertell, PhD, Regent of the Board, International Physicians for Humanitarian Medicine, Geneva, Switzerland

Arvid Carlsson, Nobel Laureate for Physiology or Medicine, 2000.

Theo Colborn, PhD, co-author, Our Stolen Future

Ken Cook, President, Environmental Working Group (EWG)

Pat Costner, PhD, retired Senior Scientist, Greenpeace International

Ingrid Eckerman, MD, MPH, President, Swedish Doctors for the Environment (LFM), Stockholm, Sweden

Sam Epstein, MD, author, "Politics of Cancer" and Chairman, Cancer Prevention Coalition

Doug Everingham, former Federal Health Minister, Australia

Lois Gibbs, Executive Director, Center for Health, Environment, and Justice, Goldman Prize Winner (1990), Falls Church, VA

Andy Harris, MD, former national president, Physicians for Social Responsibility, Salem, OR

Vyvyan Howard, MD, PhD, Past President, International Society of Doctors for the Environment

Robert Isaacson, PhD, Distinguished Professor of Psychology Emeritus, State University of New York at Binghamton

Stephen Lester, Science Director, Center for Health, Environment, and Justice

Hardy Limeback, PhD, DDS, Former President, Canadian Association of Dental Research

William Marcus, PhD, Former chief toxicologist of the EPA Water Division, Boyds, MD

Peter Montague, PhD, Director of Environmental Health Foundation

Raul Montenegro, PhD, Right Livelihood Award 2004 (known as the Alternative Nobel Prize), President of FUNAM, Professor of Evolutionary Biology, National University of Cordoba, Argentina

Ted Schettler, MD, Science Director, Science and Environmental Health Network

Kathleen M. Thiessen, PhD, Senior Scientist. SENES Oak Ridge, Inc.

Dr. Bill Hirzy

Dr. Paul Connett

Rosalie Bertell, PhD, Regent of the Board, International Physicians for Humanitarian Medicine, Geneva, Switzerland,

Theo Colborn, PhD, co-author, Our Stolen Future

Ken Cook, President, Environmental Working Group

Pat Costner, retired Senior Scientist, Greenpeace International

Ron Cummins, Director, Organic Consumers Association

Ingrid Eckerman, MD, MPH, President, Swedish Doctors for the Environment (LFM), Stockholm, Sweden

Sam Epstein, MD, author, “Politics of Cancer” and Chairman,Cancer Prevention Coalition

Jay Feldman, Executive Director, Beyond Pesticides

Lois Gibbs, Executive Director, Center for Health, Environment, and Justice

Andy Harris, MD, Former National President, Physicians for Social Responsibility

Vyvyan Howard, MD, PhD, Past President, International Society of Doctors for the Environment

Stephen Lester, Science Director, Center for Health, Environment, and Justice

Peter Montague, PhD, Director of Environmental Health Foundation

Ted Schettler, MD, Science Director, Science and Environmental Health Network

FIVE Goldman Prize winners (2006, 2003, 1997,1995, 1990)

LULAC, the largest Hispanic civil rights organization;

Andrew Young, the former Mayor of Atlanta and Ambassador to the United Nations;

Dr. Gerald L. Durley, a clinical psychologist, environmentalist, and Pastor of the Providence Baptist Church in Atlanta;

Reverend Bernice King (the daughter of Dr. Martin Luther King).

More than 60 communities in the Great Lakes Basin on both sides of the border have removed fluoride from their drinking water.