

Improved oral health
and general health in children
linked to structural measures
reducing sugars intake

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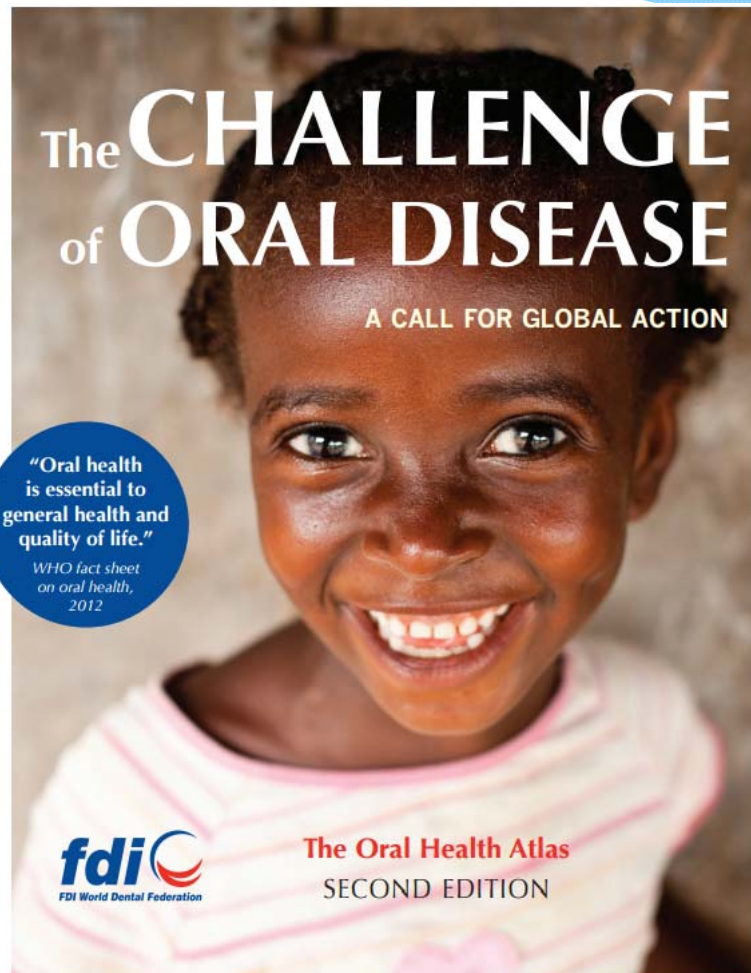
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Agenda

- * Dental caries
- * Sugar and caries
- * WHO sugar guidelines
- * Reformulation of products
- * Oral health and general health

FDI World Dental Federation Atlas and Data Hub



*The Challenge of Oral Disease –
A call for global action*
by FDI World Dental Federation
H Benzian & D Williams

www.fdiworldental.org/atlas

FDI World Dental Federation Atlas and Data Hub

FDI Data Hub for global oral health



Maps for all years

[Home](#) | [Maps per year](#) | [Maps per timespan](#) | [Tables](#)

Worldwide view for:

Indicator

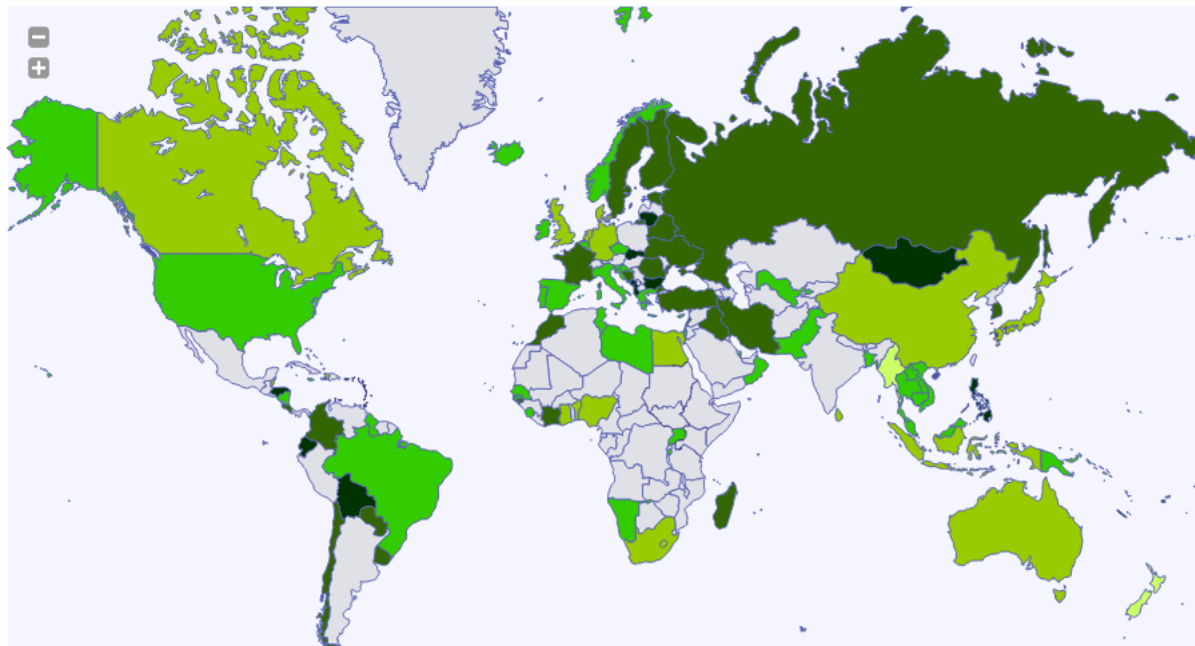


in Year

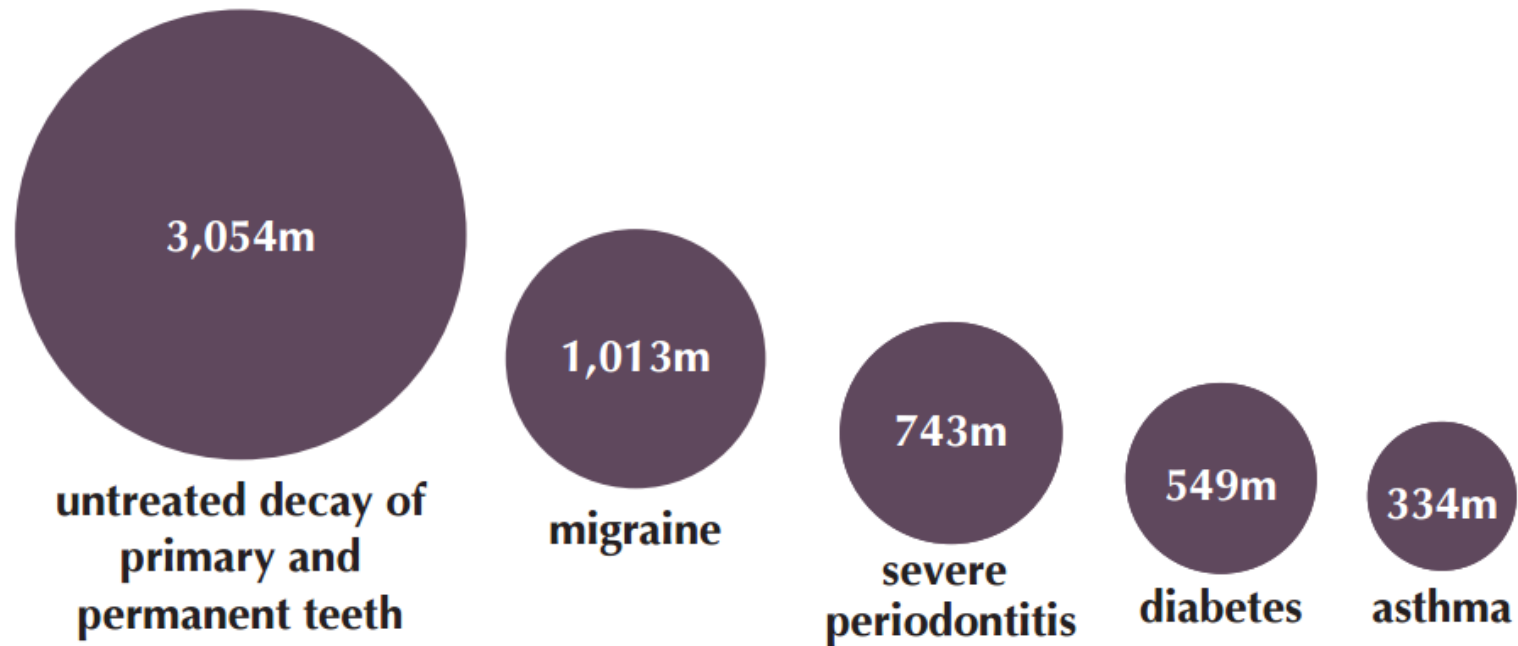


All available data

Caries - Prevalence (%) for 12 years old A small blue speech bubble icon with a white 'i' inside, likely providing more information about the data.



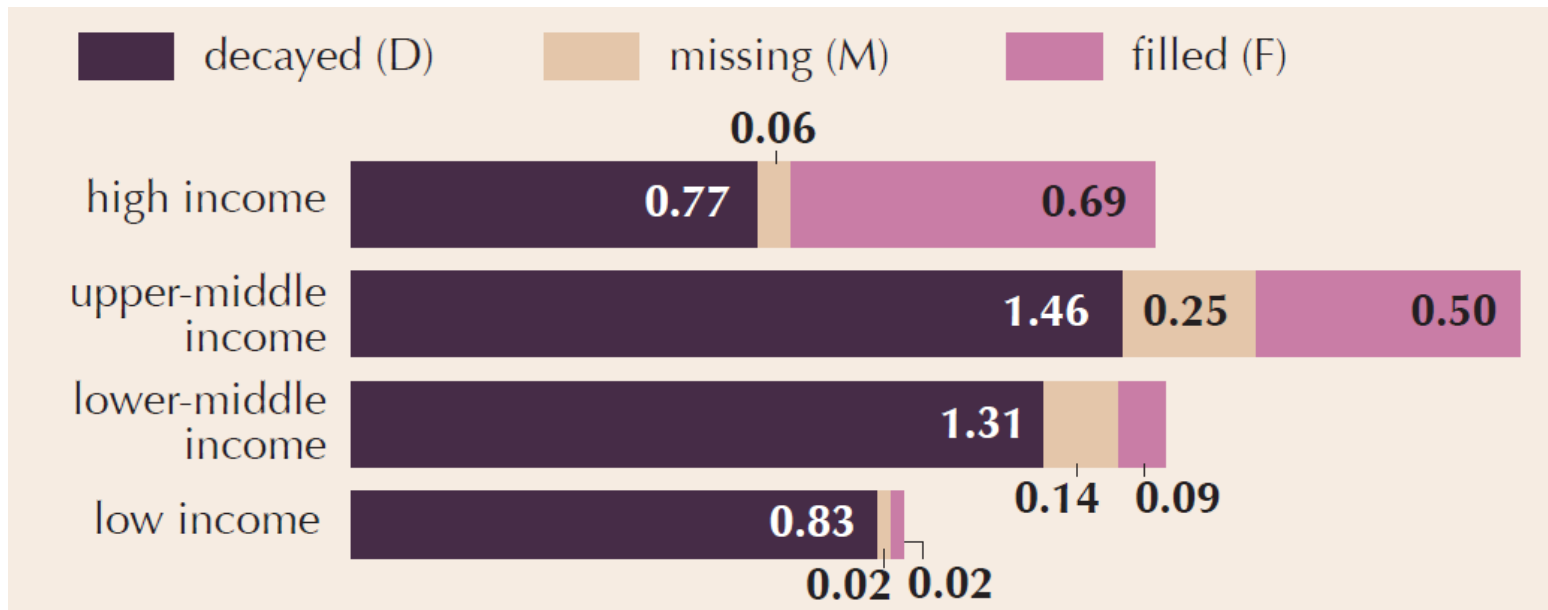
Most common diseases



Dental caries

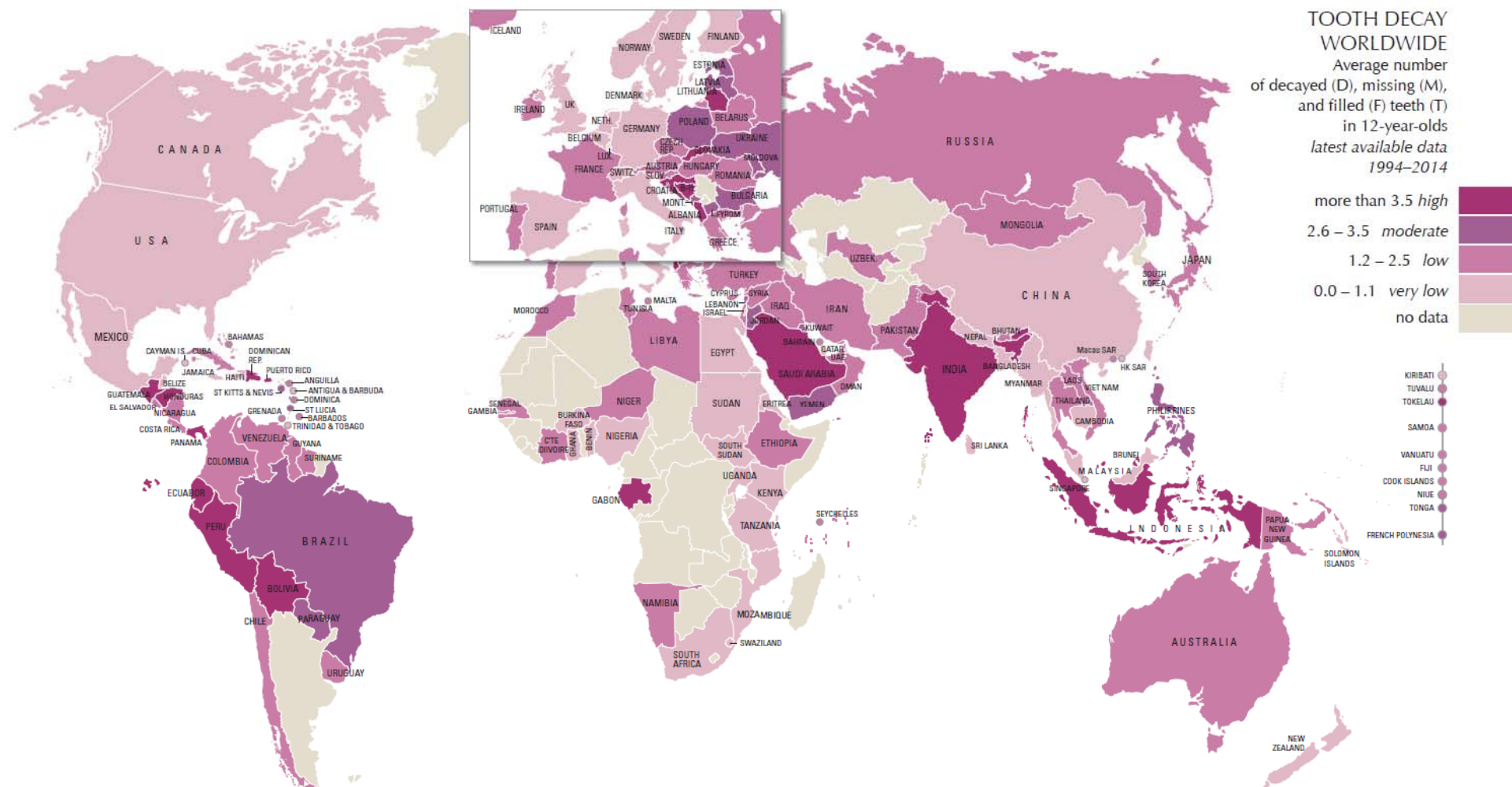
- * Dental caries (tooth decay) is the most widespread chronic disease worldwide
- * The most prevalent condition out of 291 diseases included in the Global Burden of Disease Study
- * The most common reason children are admitted to hospital in Western countries
- * In New Zealand 2500 \$ to remove teeth in children with general anesthetic, 5000 children <7y had extraction (4Mio)
- * One fourth of US adults aged 65 and older have lost all of their teeth and one in five persons of any age has untreated dental caries

Global distribution of tooth decay



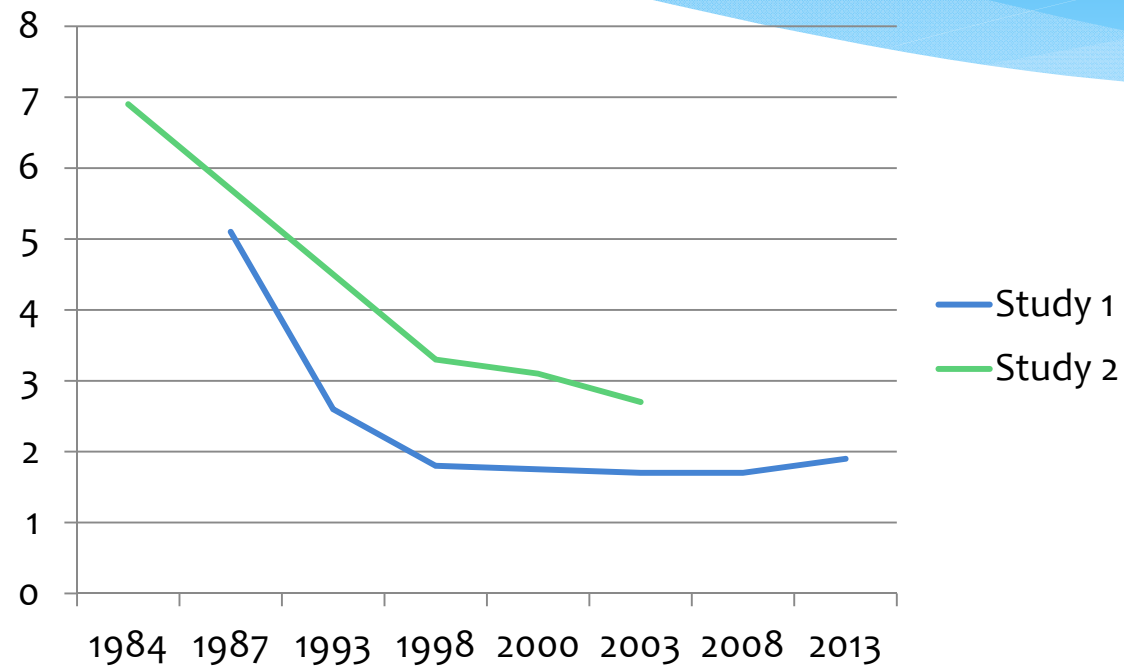
Average number of affected teeth for 12-year-olds by country income group

Worldwide DMFT 2.3 (12 y)



From *The Challenge of Oral Disease – A call for global action* by FDI World Dental Federation.
Maps and graphics © Myriad Editions 2015

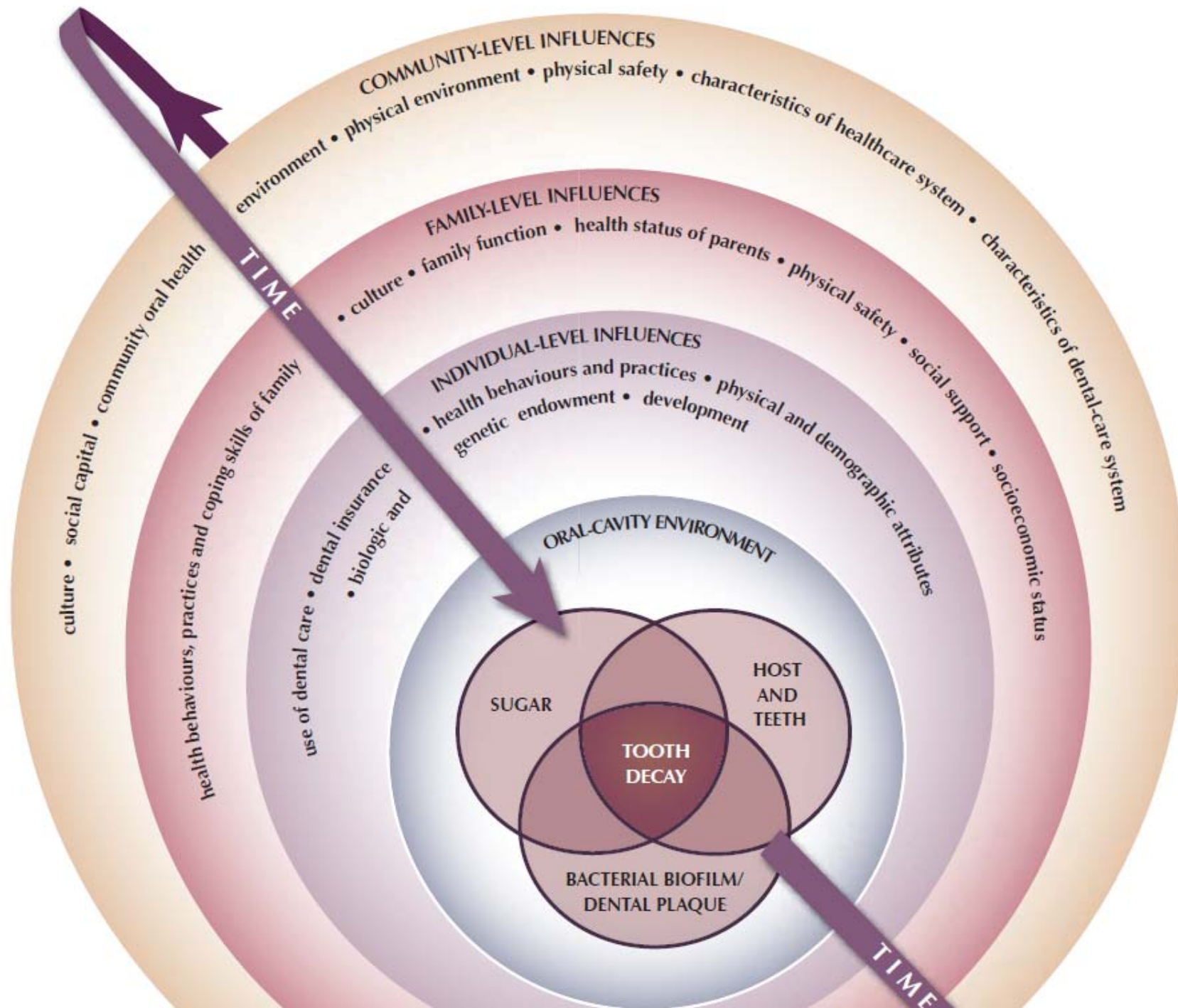
Oral health status in Slovenia (DMFT)



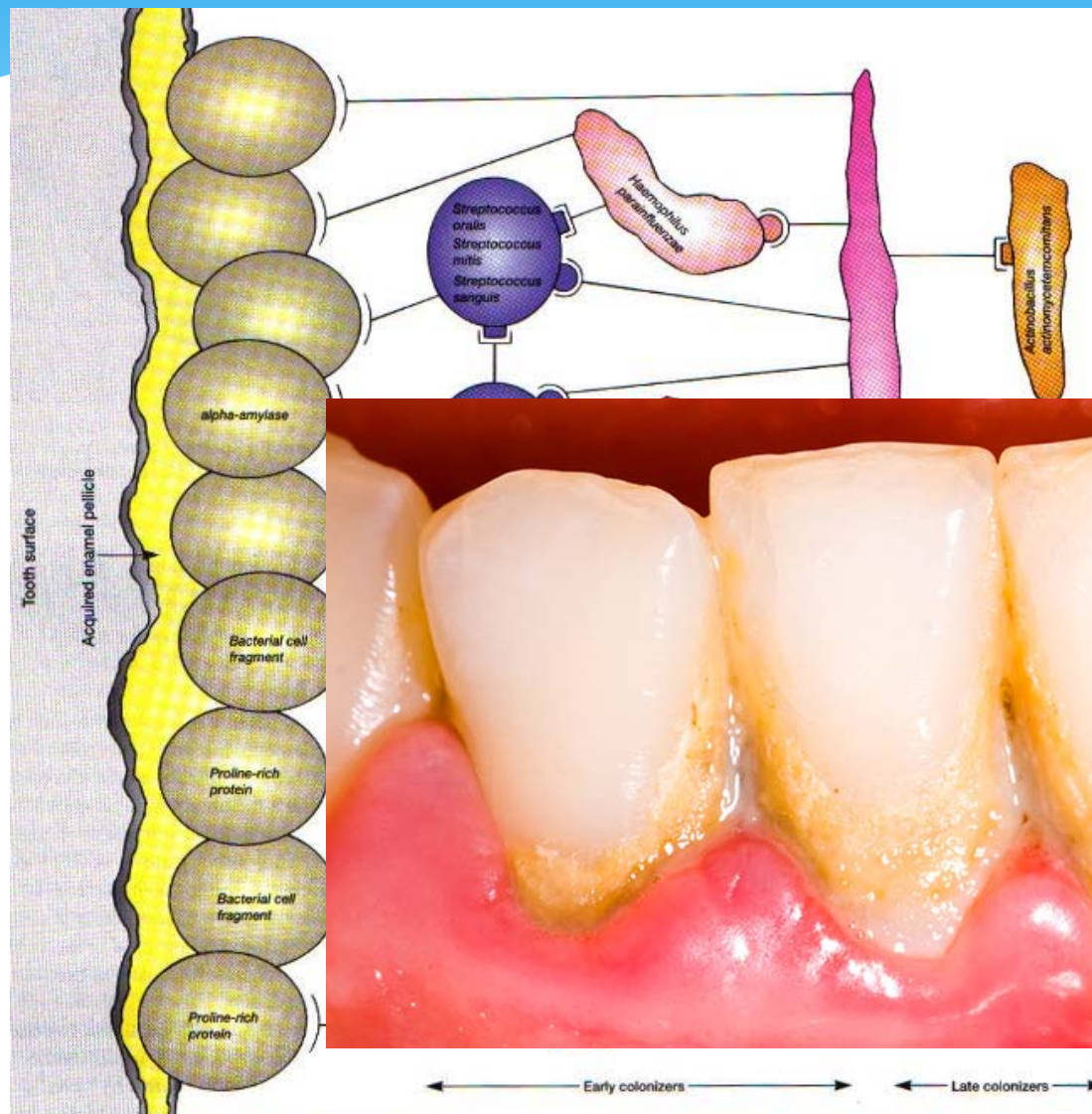
* Data courtesy of Dr Barbara Artnik (Ljubljana)

Oral health status in the region

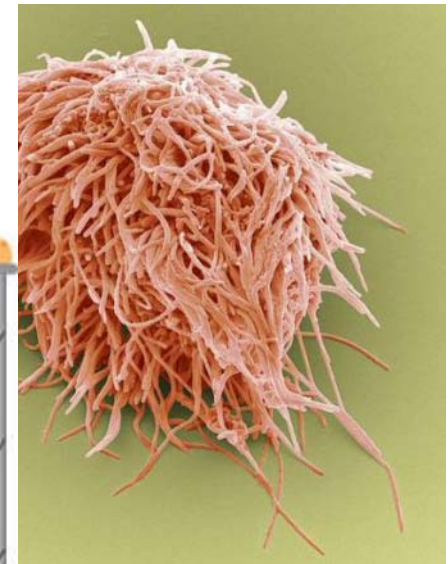
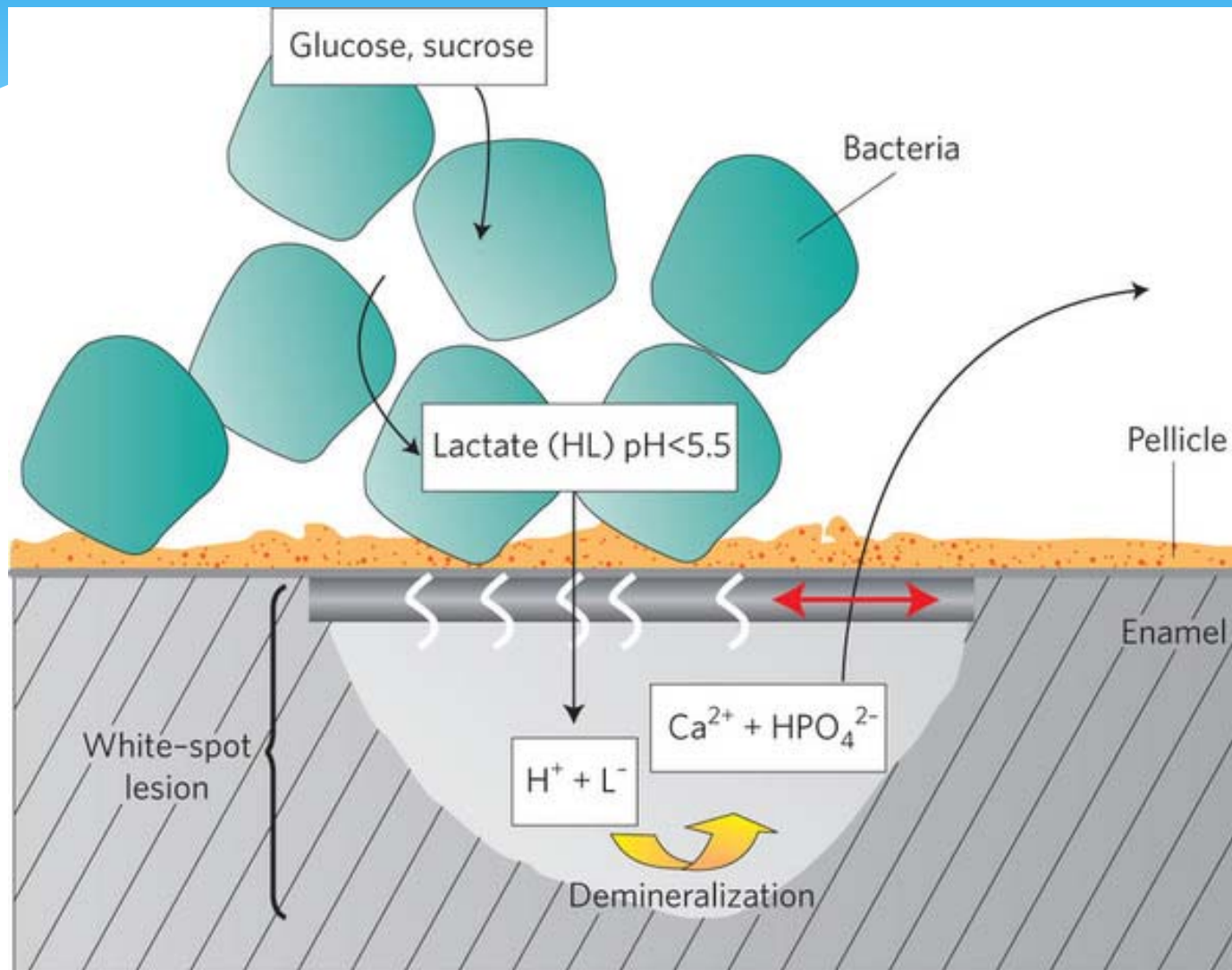
Country	Year	DMFT
Slovenia	1998	1,8
Bosnia and Herzegovina	2004	4,2
Croatia	2010	4,8
Serbia	2012	2,45
Italy	2005	1,09
Italy	2004	1,1
Switzerland	2009	0,82



Plaque formation



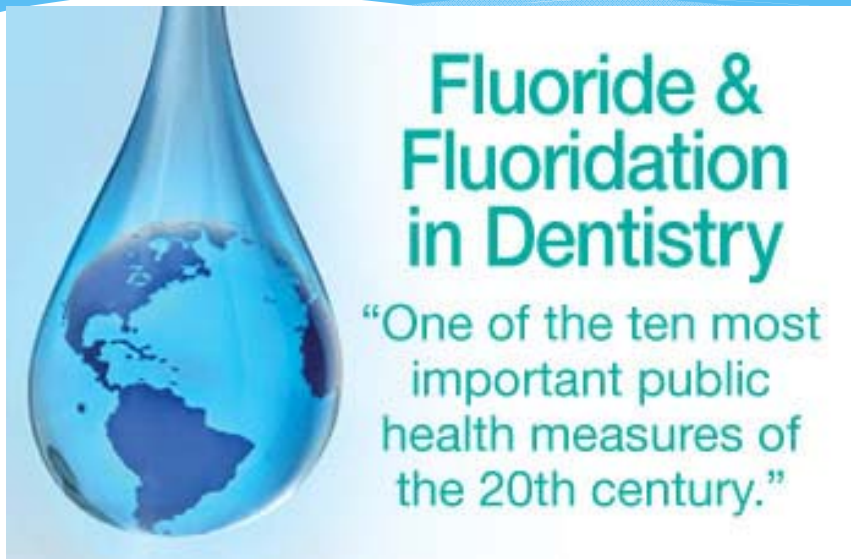
Demineralisation



Dental caries



Exposure to fluoride



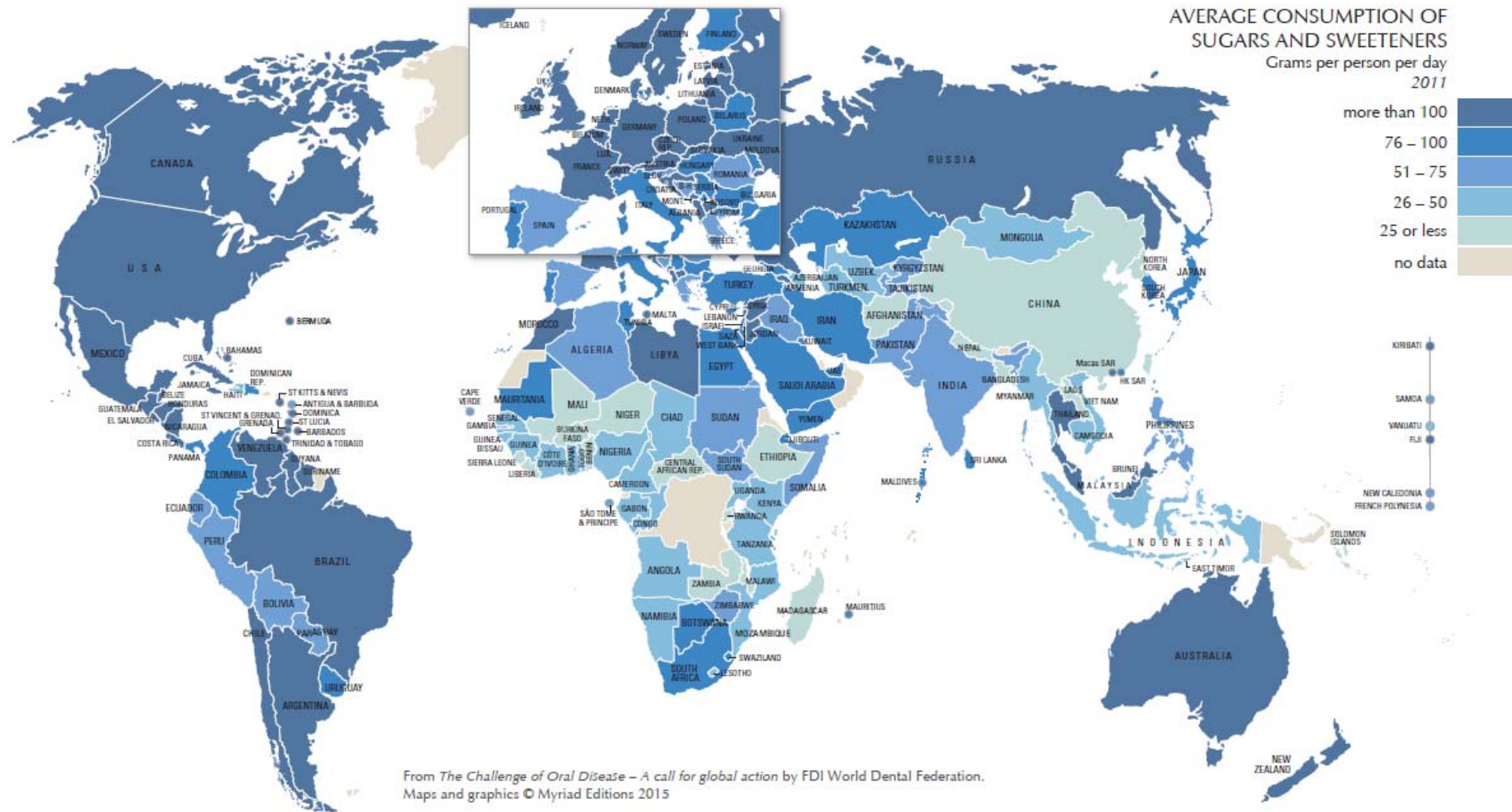
Prevention and access to care in the region

Country	Water fluoridation	Salt fluoridation	Free access to oral health care for children	Part of primary health care
Slovenia	No	No	Yes	Yes
Bosnia and Herzegovina Croatia	No	Yes	Yes	Yes
Serbia	No	No	Yes	Yes

Classification of sugars

- * Dietary sugars = all naturally occurring or added sugars
- * Added sugars = all mono- and disaccharides added by consumers or manufacturers, including white, brown, raw, corn syrups, high fructose corn syrup
- * Free sugars = all mono- and disaccharides added to food, plus those sugars naturally occurring in honey, syrups and fruit juices and concentrates (WHO 2015)

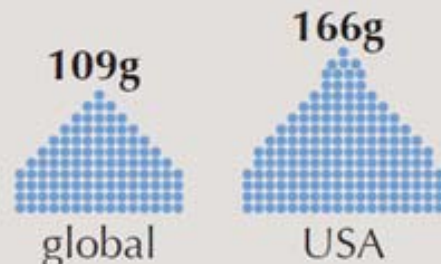
Sugar consumption



Sugar facts

Sugar consumption

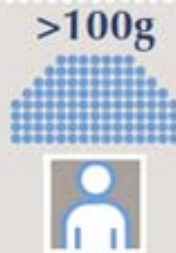
Average sugar and sweetener consumption per person per day in 2011:



Only **19** countries consume less than **25g** per person per day.



65 countries consume more than **100g** per person per day.



Sugar content per 100g of various foods

Chocolate-coated biscuits **45.8g**



Frosted cornflakes **37g**



Tomato ketchup **27.5g**



Stir-in sweet and sour sauce **20.2g**



Salad cream **16.7g**



Fruit yoghurt **16.6g**



Coca-Cola **10.9g**



Sweetened fruit juice **9.8g**



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WHO sugar guidelines (2014)

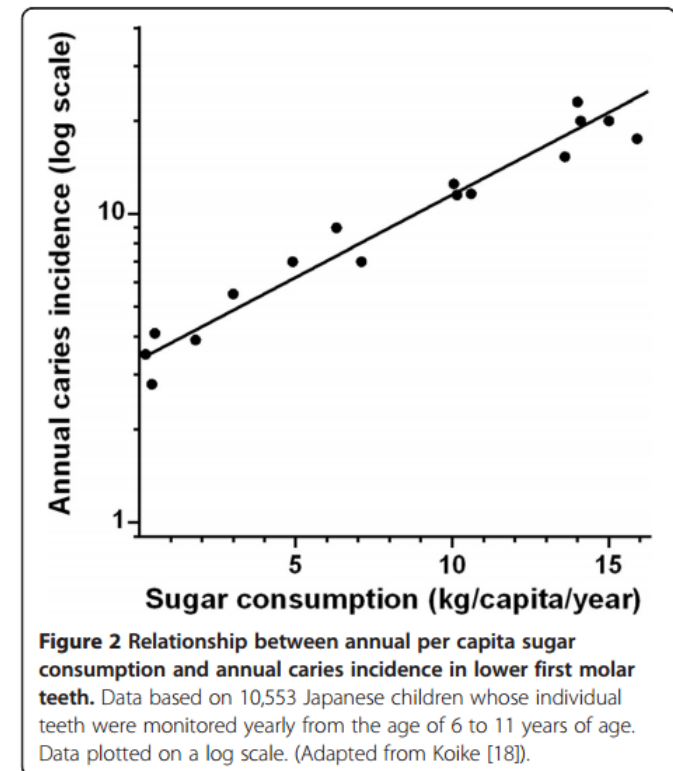
- * Naturally occurring sugars do not contribute to NCDs
- * Evidence for caries is stronger than for obesity or diabetes
- * What is the effect of reducing/increasing the amount of free sugars on dental caries?
- * What is the effect of reducing the amount of free sugars to less than 10% of energy intake?
- * Evidences from 54 papers (1950-2013), mostly in children
- * Most studies show positive association between the amount of sugars and dental caries in all age groups

Population studies

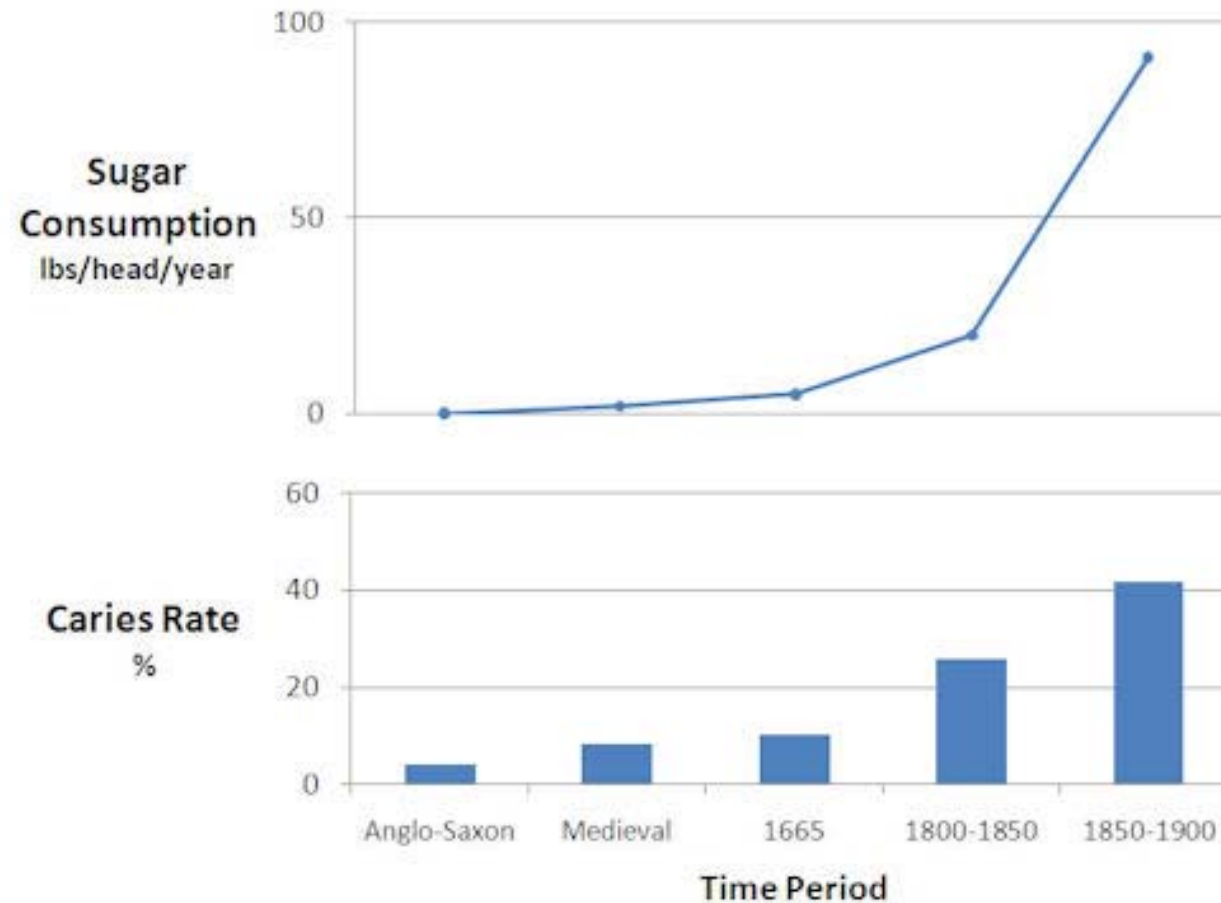
- * Clinical and epidemiological studies of dental caries (no dbrct)
- * Tristan de Cunhan
 - * 1938: 1.8 g/d – caries rate 2% (13-19 y) and 7% (30-39 y)
 - * 1960: 50 g/d – caries rate 17.5% (12 y)
- * Tanzania (1967) DMFT 0.3 (12 y)
- * China (1967) DMFT 0.53 (12 y)
- * Irak wartime, sugar rationing linked to UN sanctions

Takeuchi's Japan study

- * Sugar consumption around World War II
Sheiham and James (2014)
- * 15 kg/y per capita > 0.2 kg (war) > 15 kg/y
- * A clear relationship between average sugars intake and dental caries
- * Cumulative effect visible on molar teeth over an 8y period
- * No threshold, but a log-linear relationships
- * At 10% we do not eradicate dental caries



Sugars through history



* Moore and Corbett 1978

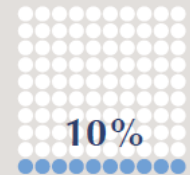
WHO Guidelines 2014

- * Reduce intake of free sugars throughout lifecourse
- * Reduce intake of free sugars to less than 10% (*strong recommendation*)
- * Suggest a further reduction to below 5% (*conditional recommendation*)
- * WHO provides guidance to countries

WHO-recommended daily sugar intake for children and adults

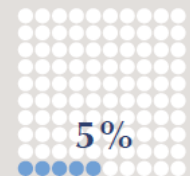
Strong recommendation

No more than 10% of total energy intake:
~50g or 10 teaspoons.



Additional recommendation

No more than 5% of total energy intake:
~25g or 5 teaspoons.





Implementation of WHO guidelines

- * WHO targets on NCDs
- * Trends in sugar production/consumption is going up
- * Processed food and soft drinks
- * Most effective measures (The Lancet NCD)
 1. Advertising regulations
 2. Fiscal measures
 3. Food labelling
 4. Mass media campaign

New Zealand

- * Soft drinks are the largest sold items in supermarket
- * 3 spoon children, 6 spoon sugar adult (9-10 in Coke)
- * Mexico, USA and NZ have the largest sugar consumption



Reformulation of processed food

- * Reformulation, successful in salt 20-50% reduction over 10 years (UK)
- * Need all producers involvement
- * Some products cannot be reformulated (smoothies)
34g sugars

Reformulation in Switzerland



MoU signed in August 2015 by major producers and distributors with the health ministry

Reformulation in Switzerland

- * MoU: On a voluntary basis, concrete plan to be agreed
- * November 2015 - 4 years plan
- * Main driver is international pressure (WHO) for reducing sugars (and salt & fat)
- * Emphasis on «healthy products»: Yoghurts and breakfast cereals
- * Technologically achievable
- * Progressive reduction for consumer acceptance

Reformulation in Switzerland

- * Sugars consumption 120g a day (44kg/y per capita)
- * On yoghurt (180g) = 33% of 50g
- * Cereals: Swiss production (not Kellogg's)

Nestlé Switzerland

- * «Products that have proven superiority in consumer taste and nutritional value»
- * Nestlé Nutritional profiling system
 - * Product category
 - * Larger meal components (cereals, pizza)
 - * Smaller meal components (biscuits, yoghurts)
 - * Accessories (beverages, dressing, sugar confectionary)
 - * Based on 3 meals a day (20-35% daily energy) and 1-2 snacking (5-10% daily energy)
 - * For each product, criteria for nutritional factors not to be exceeded

Previous experiences

















- * For salt and sugars, consumers are ready to accept 10% reduction over 3 years, with some exceptions
- * Lasagne -13% salt in one step (sauce vs lasagne)
- * -25% salt in soup was not accepted
- * -43% salt in Maggi bouillon/stock cubes (x vegetables)
- * Nestlé would not advertise on the reduction of salt and sugars, but on a new recipe/innovation



Sugar reduction

- * Children's breakfast cereals. By 2015, reduce the sugar content in any serving of brands to 9g or less per serving. Down -40% for some products. Mostly achieved.
- * Yoghurts. -10% by 2016, additional -20% by 2020
- * By 2016 – Reduce sugar content by 10% in that products that do not meet Profiling criteria

Oral health and general health

Noncommunicable diseases 4 Modifiable Shared Risk Factors 5 Diseases				
	Tobacco use	Unhealthy diet	Physical Inactivity	Harmful Use of Alcohol
Cardio-vascular				
Diabetes				
Cancer				
Chronic Respiratory				
Oral Diseases				

Thank You

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