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Challenges In Dental Public Health Around The Globe

Allan Pau Kah Heng

Professor, Dentistry

DID: +603 2731 7612

allan_pau@imu.edu.my

International Medical University

No. 126, Jln Jalil Perkasa 19, Bukit Jalil, 57000 Kuala Lumpur, Malaysia

Tel: +603 8656 7228 (Ext: 1297)

<http://www.imu.edu.my>



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Structure of presentation

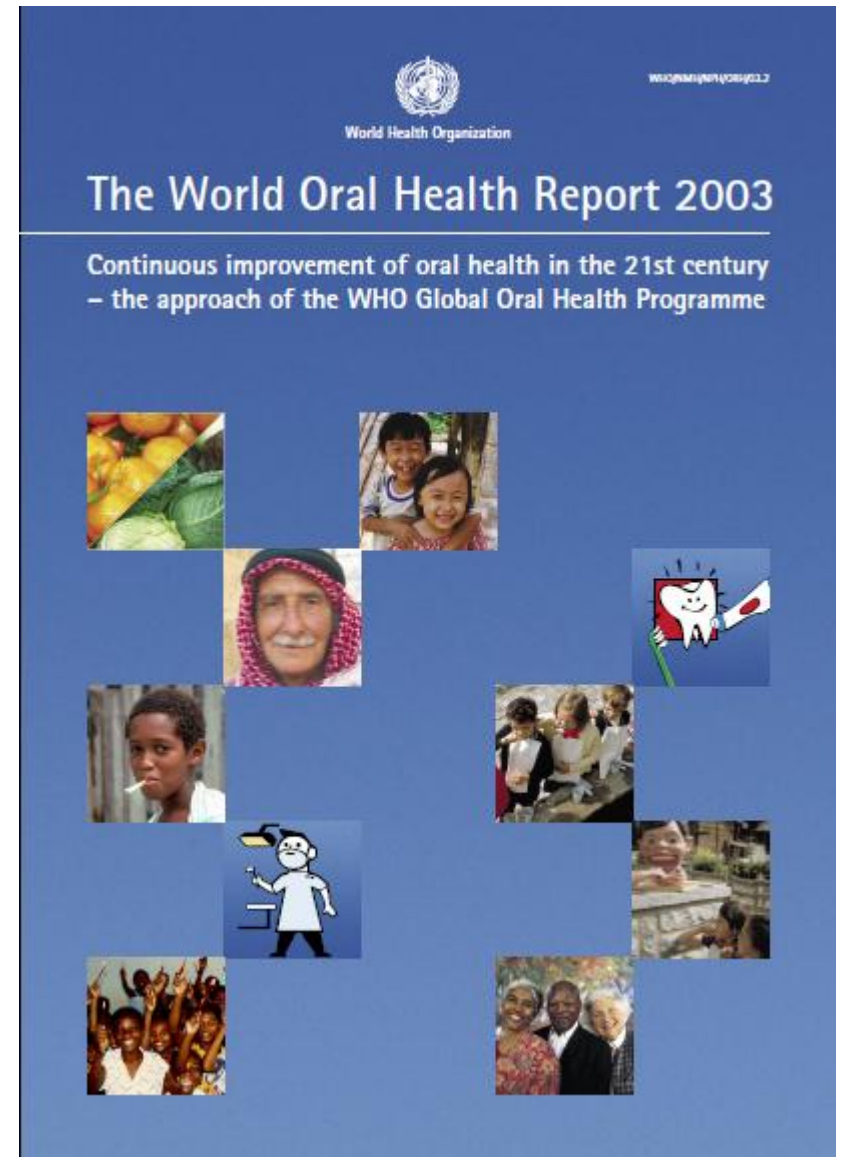
- What are the global oral epidemiological challenges?
- What can we do about them?
- How can we make it happen?



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Oral diseases are public health problems

Oral diseases qualify as major public health problems owing to their high prevalence and incidence in all regions of the world, as for all diseases, the greatest burden of oral diseases is on disadvantaged and socially marginalized populations. The severe impact in terms of pain and suffering, impairment of function and effect on quality of life must also be considered.



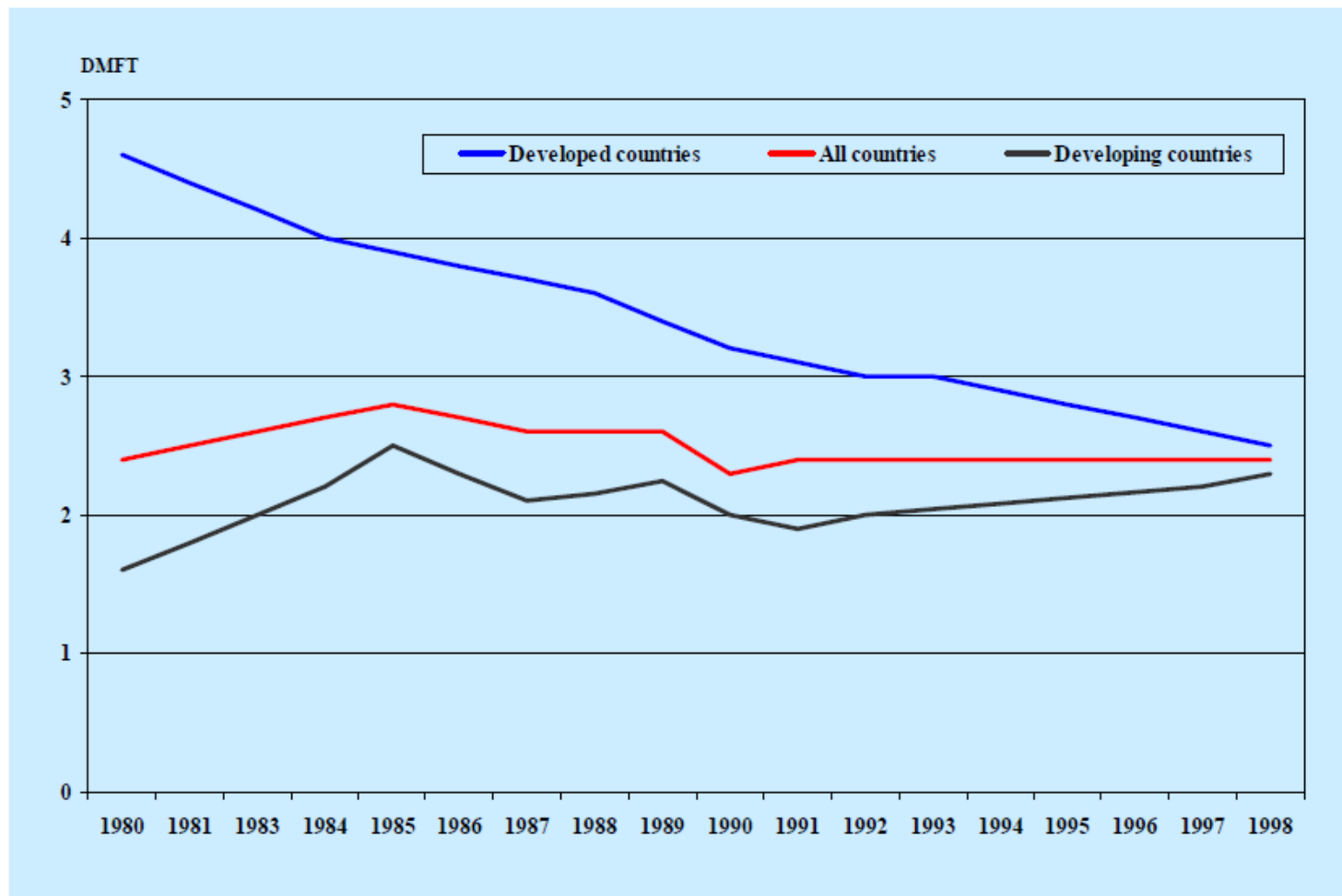
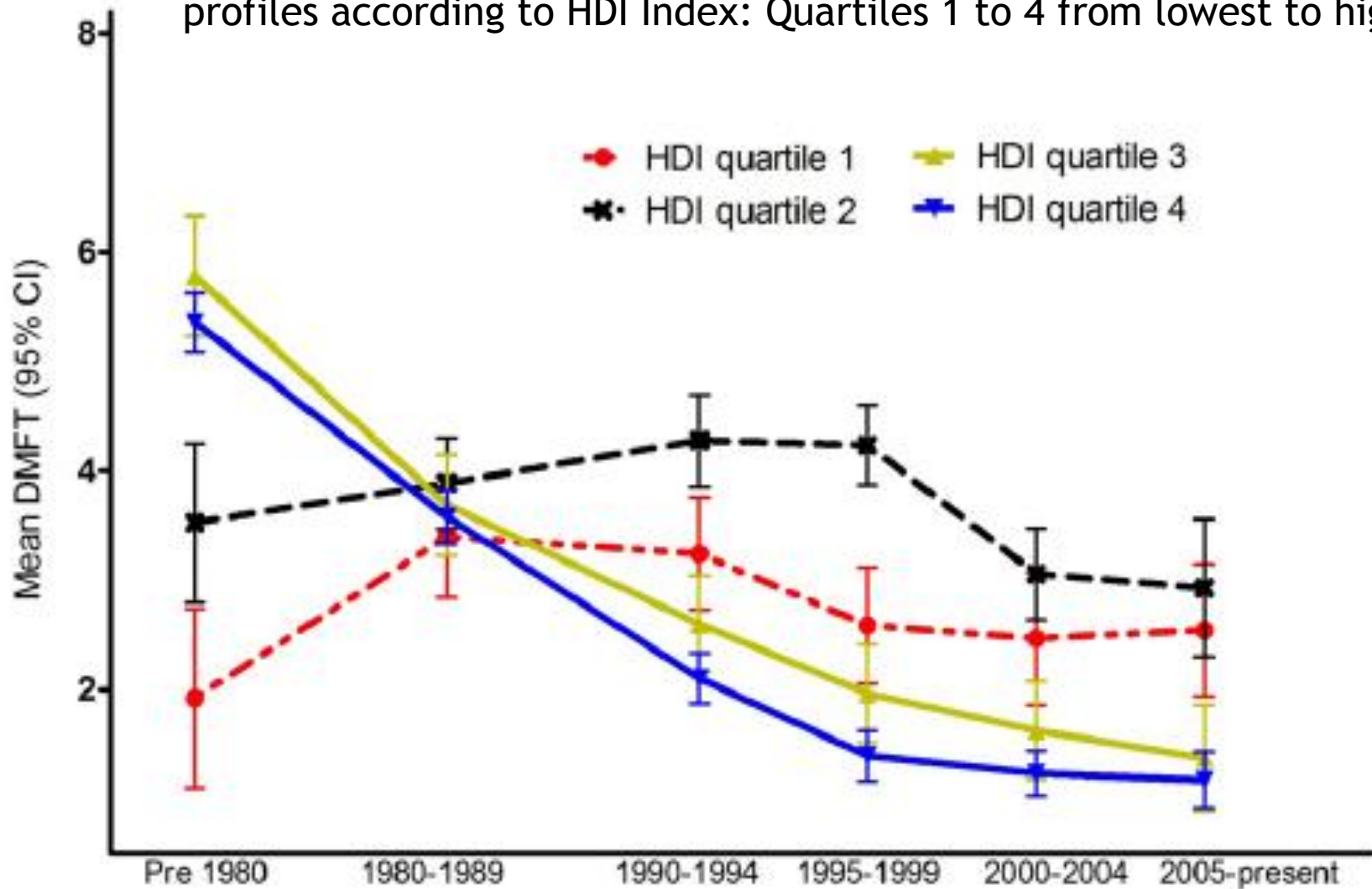


Figure 7 Changing levels of dental caries experience (DMFT) among 12-year-olds in developed and developing countries^{3,4}.

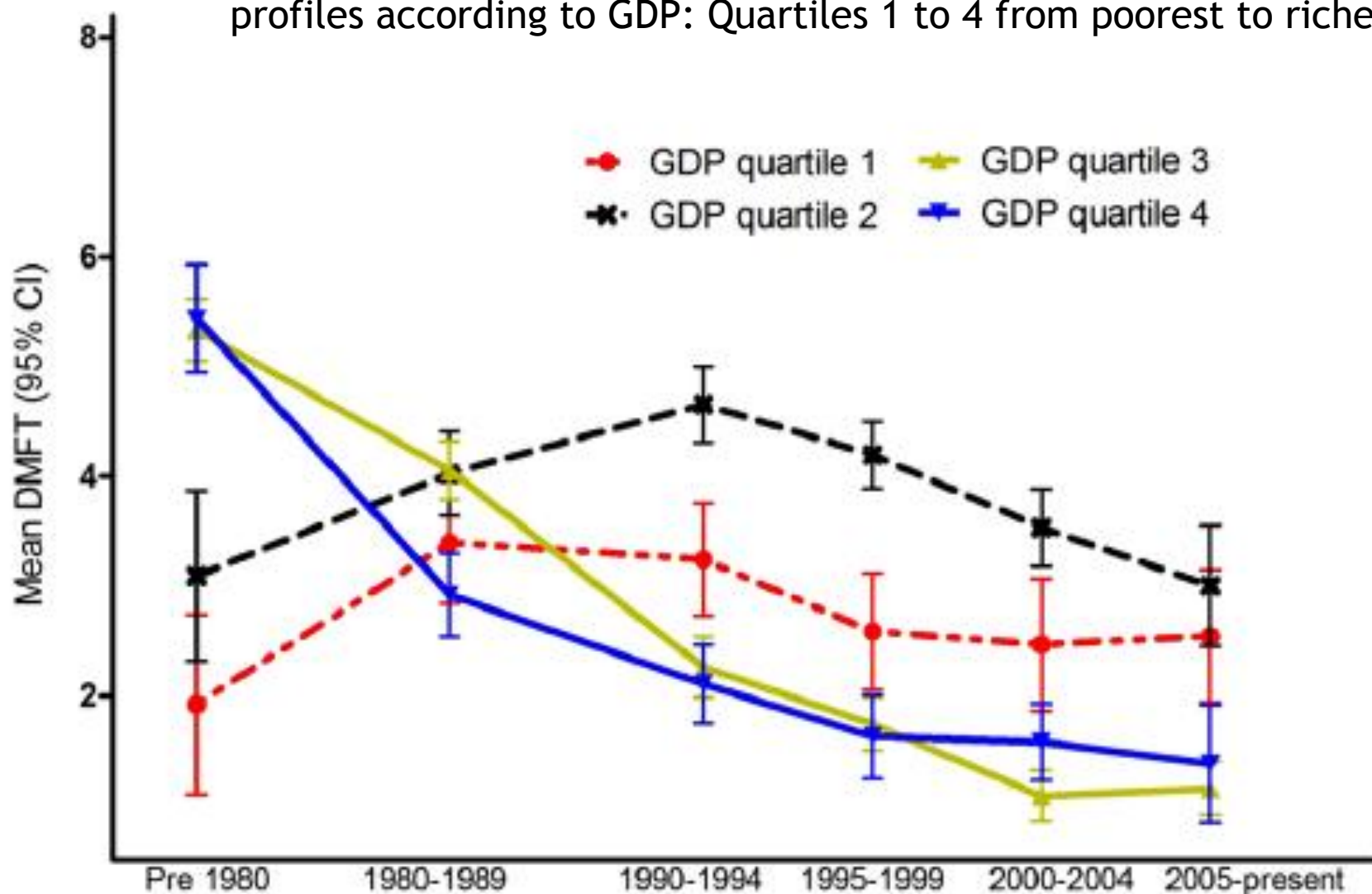
WHO (2003). The World Oral Health Report

Trends of dental caries severity among 12-year-old children by country profiles according to HDI Index: Quartiles 1 to 4 from lowest to highest

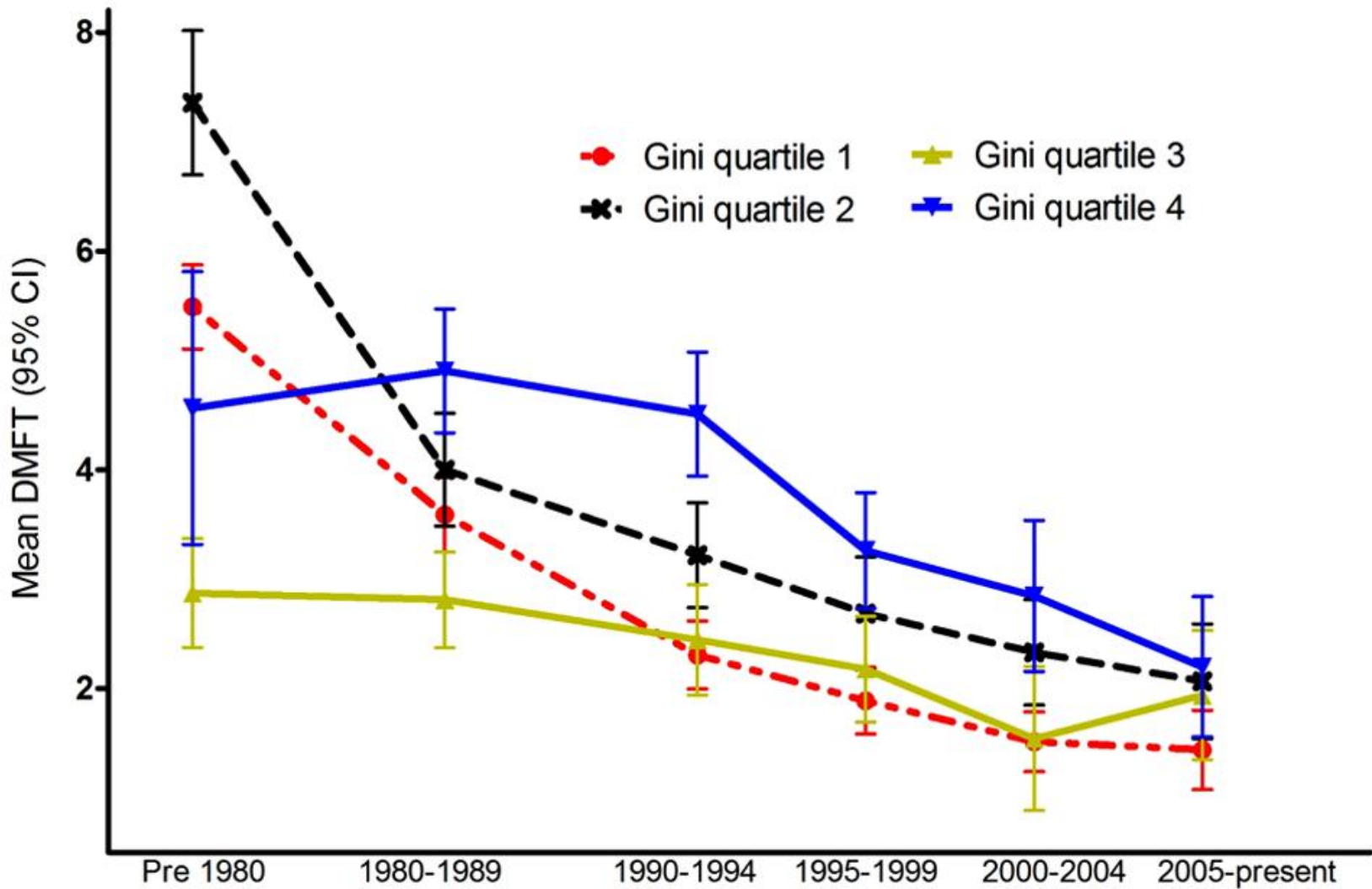


(Do, 2012)

Trends of dental caries severity among 12-year-old children by country profiles according to GDP: Quartiles 1 to 4 from poorest to richest



Trends of dental caries severity among 12-year-old children by country profiles according to Gini index: Quartiles 1 to 4 from most equal to least equal



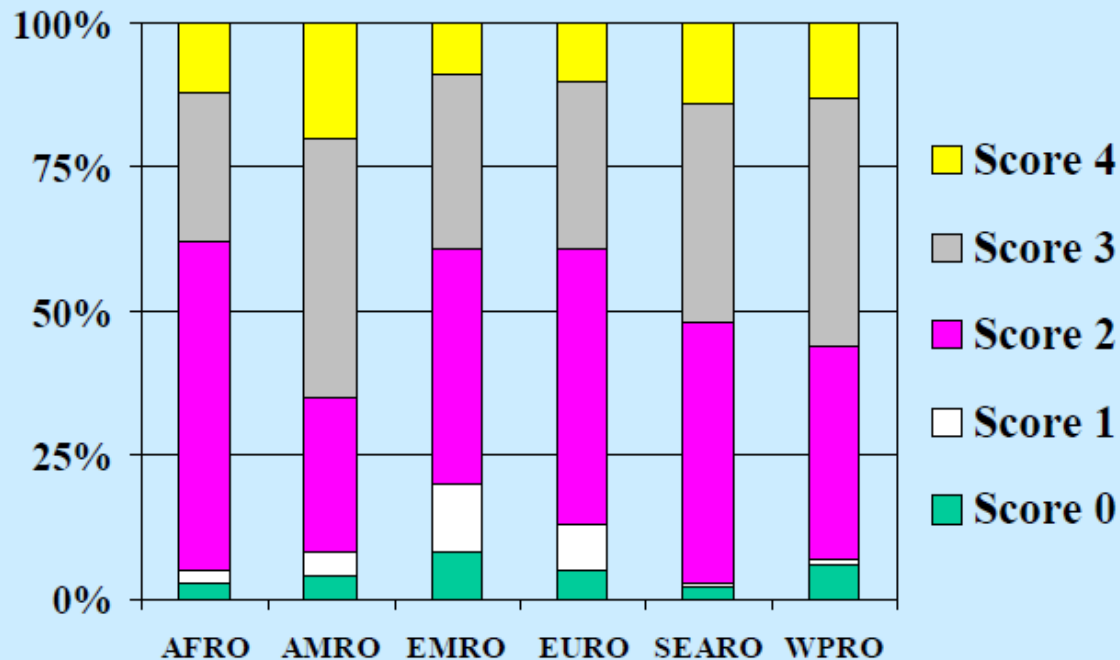


Figure 2 Mean percentages of 35-44-year-olds by maximum Community Periodontal Index scores according to WHO regional offices (*Source: WHO Global Oral Health Data Bank and WHO Oral Health Country/Area Profile Programme, 2000*)^{3,4}.

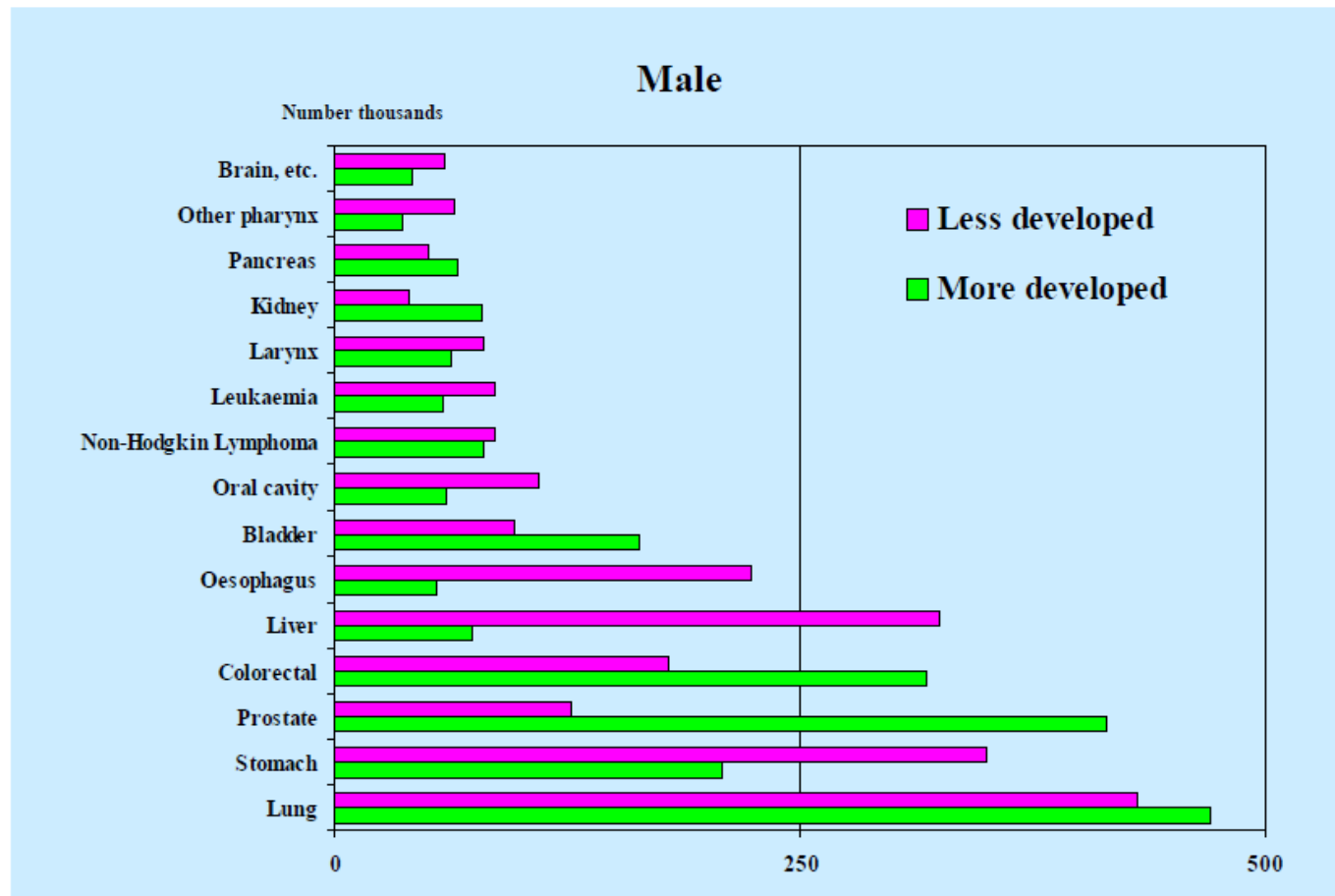


Figure 3 Comparison of the most common cancers in males in more and less developed countries, in 2000 (*Source: WHO International Agency for Research on Cancer, 2003*)⁸.

In Asia, the age standardized incidence rate of oral cancer per 100 000 population ranges from 0.7 in China to 4.6 in Thailand and 12.6 in India. Relate directly to risk behaviours such as smoking, use of smokeless tobacco (and alcohol consumption. In Thailand, for example, the prevalence of smoking is about 60%, betel nut chewing 15% while alcohol consumption is 35%

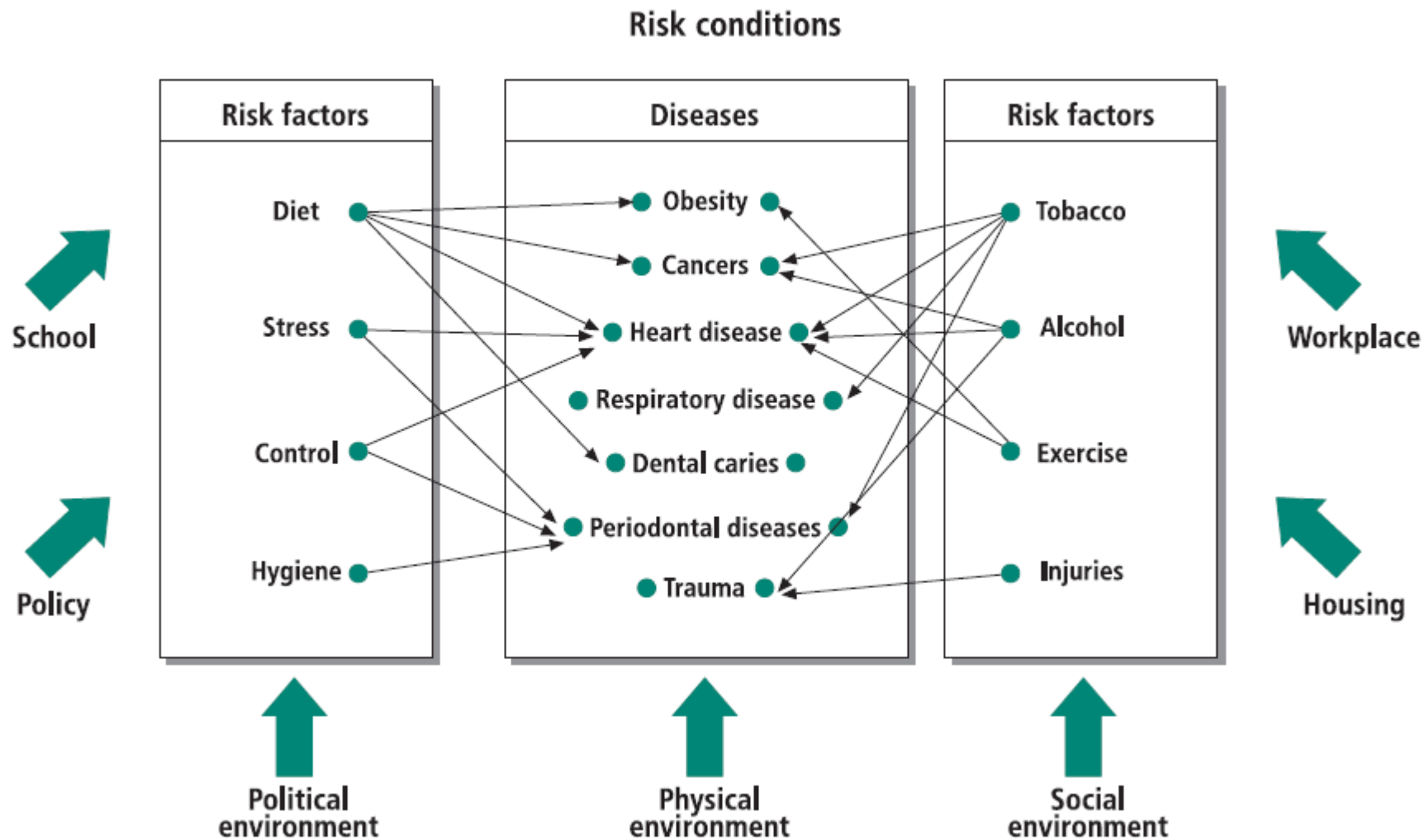


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Quite a lot is known about the epidemiology of oral diseases, BUT

- continuous surveillance is necessary
- what is known may not be reliable
- what is known may not be representative
- what is known may not be helpful for local planning

Fig. 2. **Common risk approach.** Modified from Sheiham & Watt, 2000

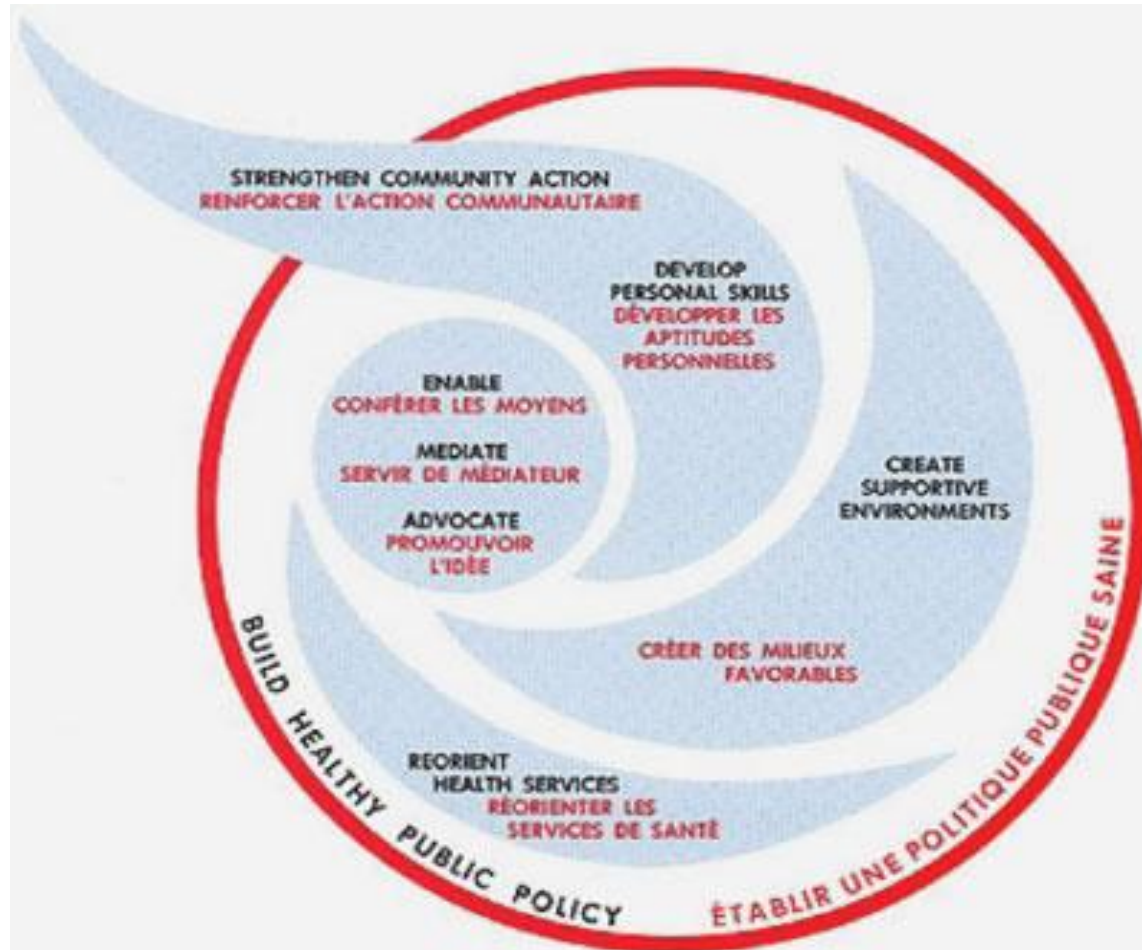


(Watt, 2005)



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The Ottawa Charter for Health Promotion





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Structural approach	Population approach	High-risk approach	
Governmental, institutional & organizational actions directed at entire population through tax structures, legal constraints & reimbursement mechanisms	Actions to encourage individuals not to adopt risky behaviors	Modification of risk among individuals and groups of higher risk	Rehabilitation Clinical treatment Patient education
Upstream (Healthy public policy)	Midstream (Preventive)		Downstream (Curative)

Fig. 8 – The levels of public health interventions to improve the health of the population.

(Baelum, 2011)



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- Water fluoridation reduces the prevalence of dental caries (% with dmft /DMFT > 0) by 15% and in absolute terms by 2.2 dmft/DMFT
- Fluoride toothpastes and mouthrinses reduce the DMFS 3-year increment by 24–26%

Effective use of fluorides for the prevention of dental caries in the 21st century: the WHO approach

Petersen PE, Lennon MA. Effective use of fluorides for the prevention of dental caries in the 21st century: the WHO approach. *Community Dent Oral Epidemiol* 2004; 32: 319–21. © Blackwell Munksgaard, 2004

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Prevention and management of dental decay in the pre-school child

A national clinical guideline

1	Introduction	1
2	Pathogenesis and diagnosis	2
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November 2005

COPIES OF ALL SIGN GUIDELINES ARE AVAILABLE ONLINE AT WWW.SIGN.AC.UK

COMMUNITY BASED PREVENTION

A Community or home based oral health promotion interventions should use fluoride containing agents such as fluoride toothpaste.

A Community based toothbrushing programmes should include fluoride toothpaste with a concentration of 1,000 ppmF.

B Toothbrushing programmes should be undertaken

- in community based settings such as nurseries
- with parents to create a supportive environment for oral health behaviour.

D Oral health promotion programmes to reduce the risk of early childhood caries should be available for parents during pregnancy and continued postnatally.

Programmes for young children should be initiated before the age of three years.

C The oral health of young children should be promoted through multiple interventions and multisessional health promotion programmes for parents.

C Teachers, community workers and lay or peer educators can be effective in delivering health promotion interventions and their role should be considered in the development of oral health promotion programmes.

C Professionals should ensure oral health messages are relevant and applicable to communities and lifestyles.

B Caries prevention measures should target 'at-risk' populations and individuals to reduce oral health inequalities.

D Fluoride supplements should only be prescribed by dental practitioners on an individual patient basis.



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Delivering Better Oral Health

An evidence-based toolkit for prevention

Second Edition

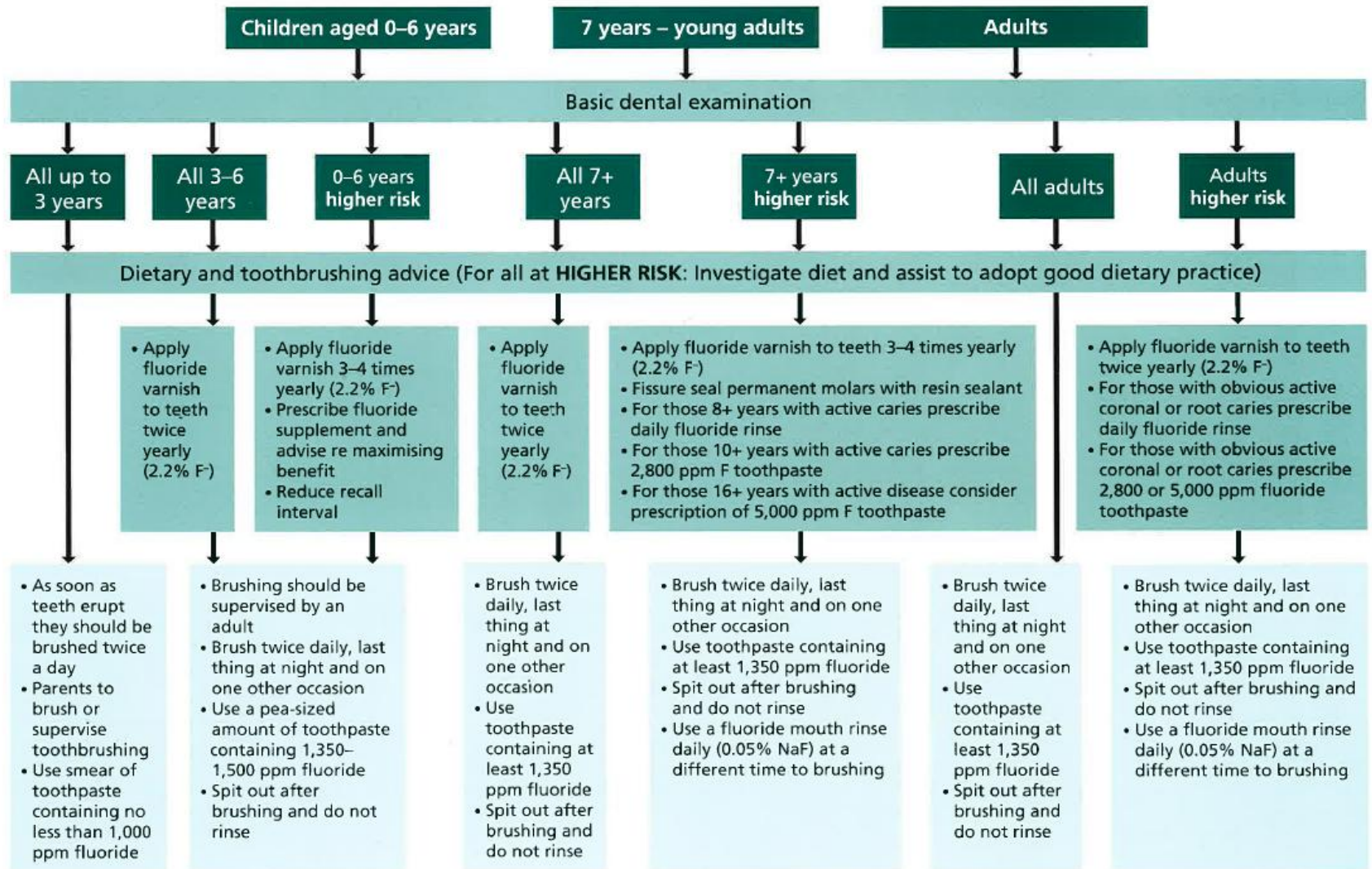


BASCD
The British Association for the
Study of Community Dentistry

Prevention of caries in children aged 0–6 years

	Advice to be given	EB	Professional intervention	EB
Children aged up to 3 years	<ul style="list-style-type: none"> Breast feeding provides the best nutrition for babies From six months of age infants should be introduced to drinking from a cup, and from age one year feeding from a bottle should be discouraged Sugar should not be added to weaning foods Parents should brush or supervise toothbrushing Use only a smear of toothpaste containing no less than 1,000 ppm fluoride As soon as teeth erupt in the mouth brush them twice daily The frequency and amount of sugary food and drinks should be reduced and, when consumed, limited to mealtimes. Sugars should not be consumed more than four times per day Sugar-free medicines should be recommended 	<p>I</p> <p>III</p> <p>V</p> <p>V</p> <p>I</p> <p>IV</p> <p>III</p> <p>III</p>		
All children aged 3–6 years	<ul style="list-style-type: none"> Brush last thing at night and on one other occasion Brushing should be supervised by an adult Use a pea-sized amount of toothpaste containing 1,350–1,500 ppm fluoride Spit out after brushing and do not rinse The frequency and amount of sugary food and drinks should be reduced and, when consumed, limited to mealtimes. Sugars should not be consumed more than four times per day Sugar-free medicines should be recommended 	<p>I</p> <p>V</p> <p>V, I</p> <p>IV</p> <p>III</p> <p>III</p>	<ul style="list-style-type: none"> Apply fluoride varnish to teeth twice yearly (2.2% F⁻) 	I
Children giving concern (eg those likely to develop caries, those with special needs)	<p>All advice as above, plus:</p> <ul style="list-style-type: none"> Use a smear or pea-sized amount of toothpaste containing 1,350–1,500 ppm fluoride Ensure medication is sugar free Give dietary supplements containing sugar and glucose polymers at mealtimes when possible (unless clinically directed otherwise) and not last thing at night. Parents should be made aware of the cariogenicity of supplements and ways of minimising risk 	<p>I</p> <p>I</p> <p>V</p>	<ul style="list-style-type: none"> Apply fluoride varnish to teeth 3–4 times yearly (2.2% F⁻) Prescribe fluoride supplement and advise re maximising benefit Reduce recall interval Investigate diet and assist to adopt good dietary practice Ensure medication is sugar free or given to minimise cariogenic effect 	<p>I</p> <p>II</p> <p>V</p> <p>III</p> <p>III</p>

Prevention and management of caries¹ - Individually tailored optimal daily oral care



¹ Based on 'Delivering Better Oral Health – An evidence based toolkit for prevention', Second Edition, Department of Health, July 2009.

■ Diagnostic and in-surgery procedures □ Daily oral care

IN:

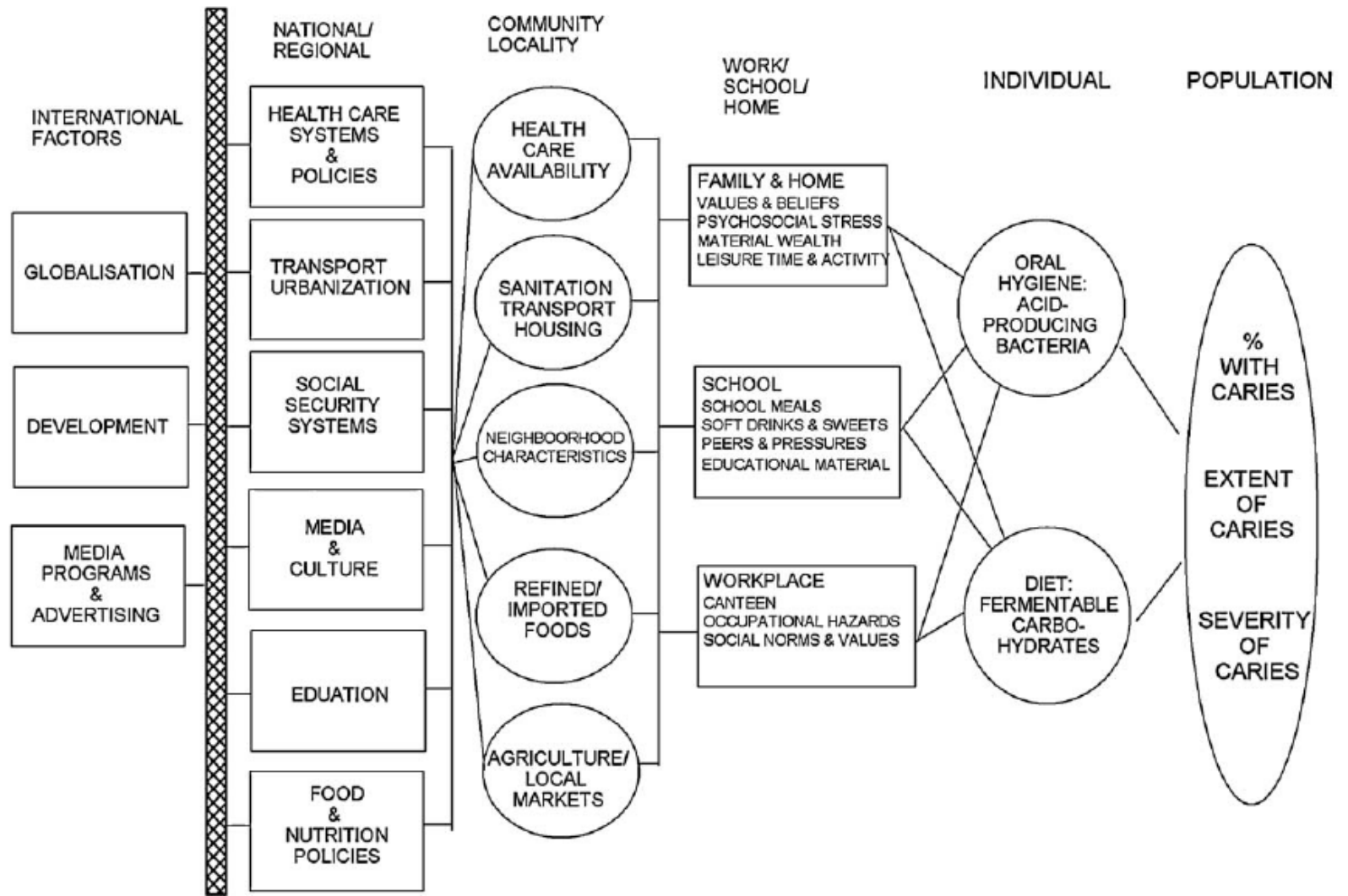
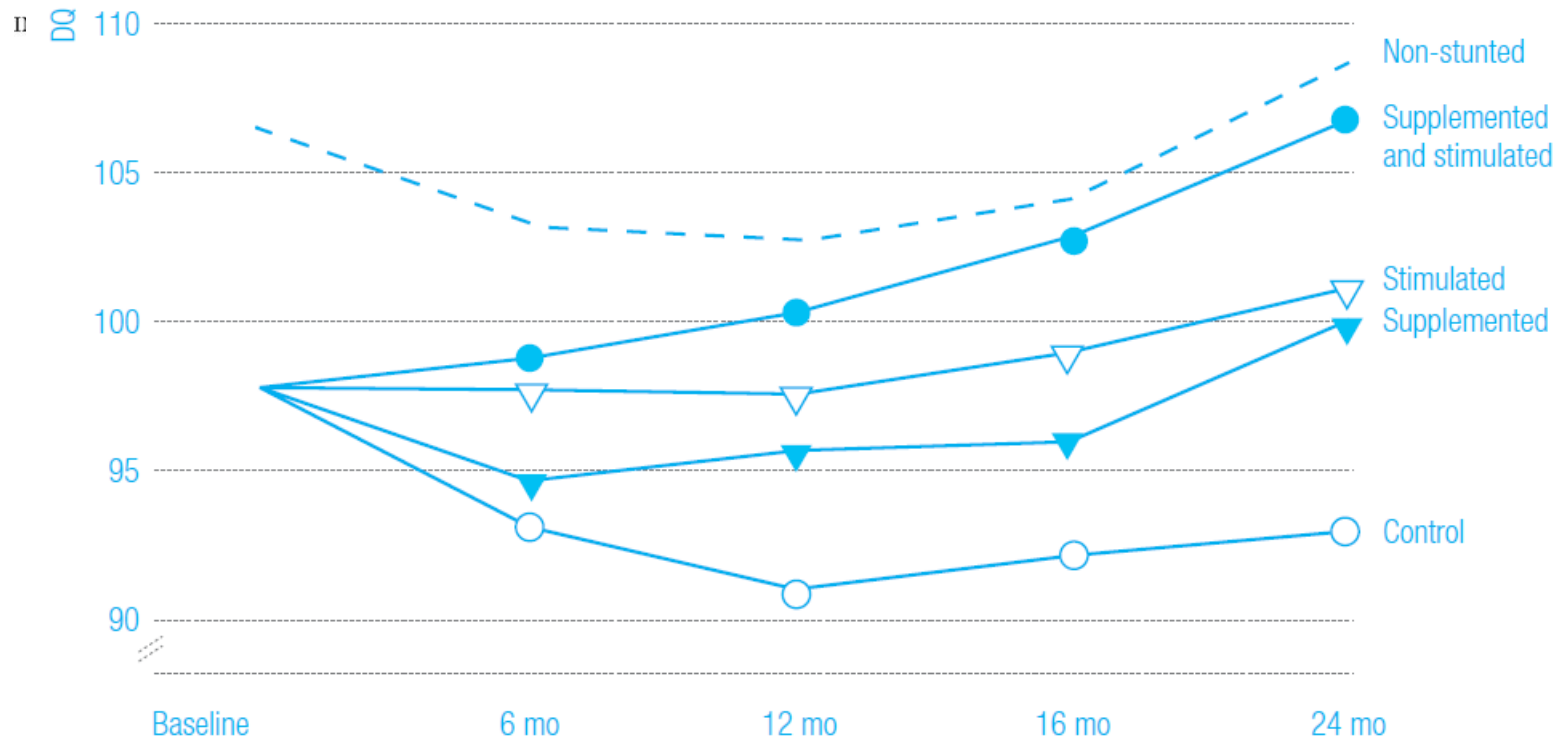


Fig. 4 – Conceptual model of the societal policies and processes causing dental caries in populations.

(Baelum, 2011)

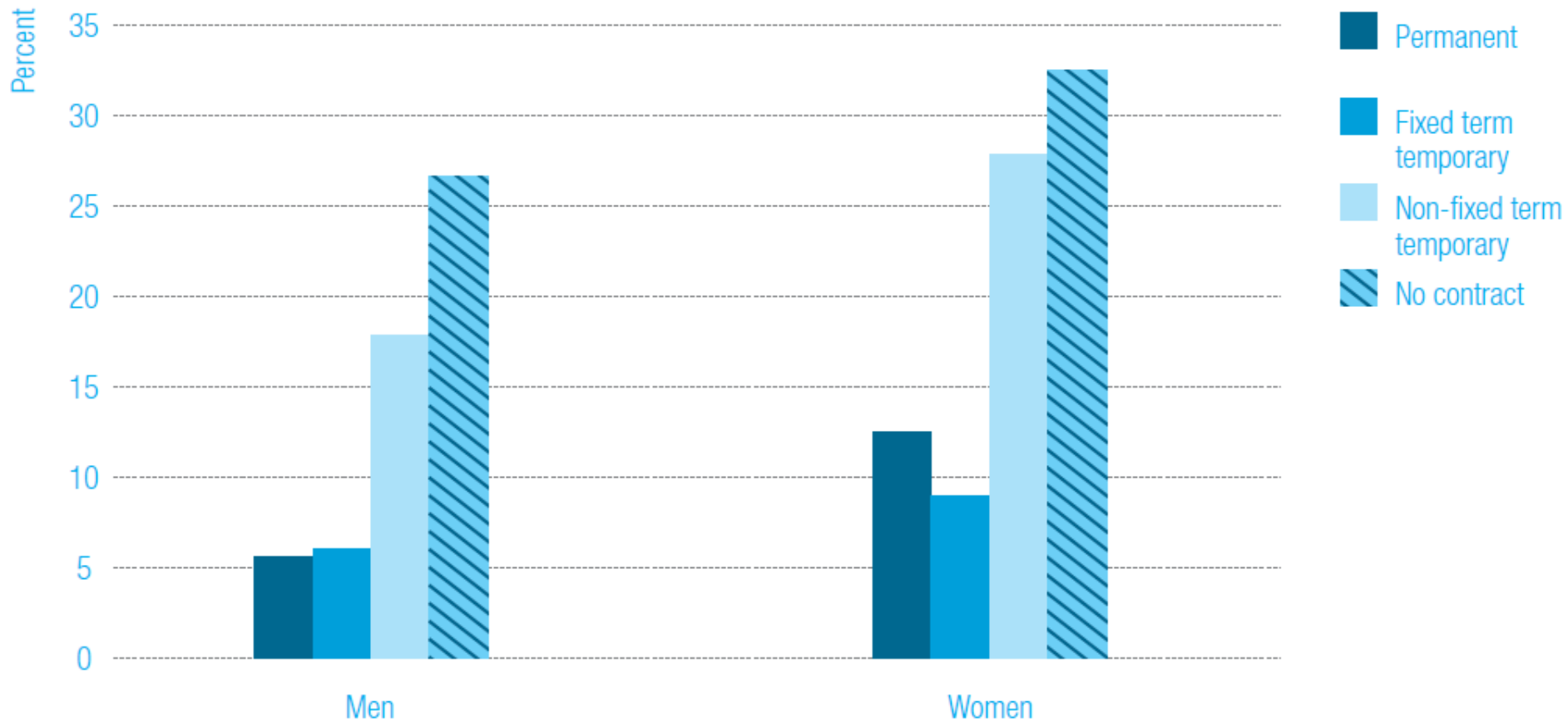
Effects of combined nutritional supplementation and psychosocial stimulation on stunted children in a 2-year intervention study in Jamaica^a.



^a Mean development scores (DQ) of stunted groups adjusted for initial age and score compared with a non-stunted group adjusted for age only, using Griffiths Mental Development Scales modified for Jamaica.

The conditions in which people are born, grow, live, work, and age – conditions that together provide the freedom people need to live lives they value (Marmot, 2004)

Prevalence of poor mental health among manual workers in Spain by type of contract.



Source: Artazcoz et al., 2005

Closing the gap in a generation

Health equity through action on the social determinants of health



THREE PRINCIPLES OF ACTION TO ACHIEVE HEALTH EQUITY

- 1** Improve the conditions of daily life – the circumstances in which people are born, grow, live, work, and age.
- 2** Tackle the inequitable distribution of power, money, and resources – the structural drivers of those conditions of daily life – globally, nationally, and locally.
- 3** Measure the problem, evaluate action, expand the knowledge base, develop a workforce that is trained in the social determinants of health, and raise public awareness about the social determinants of health.



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Quite a lot is known

- about the risk factors that are common to oral and systemic diseases
- about the social determinants of health
- about the prevention of oral diseases

BUT more

- evidence is needed on the effectiveness of prevention strategies
- training is needed on evidence-based practice
- evaluation is needed on the feasibility of their implementation
- dissemination is needed of evidence and good practice



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WHO recommendations

- Identification of health determinants; mechanisms in place to improve **capacity** to design and implement interventions that promote oral health
- Implementation of community-based demonstration projects for oral health promotion, with special reference to poor and disadvantaged population groups
- Building **capacity** in planning and evaluation of national programmes for oral health promotion and evaluation of oral health promotion interventions in operation
- Development of methods and tools to analyse the processes and outcomes of oral health promotion interventions as part of national health programmes
- Establishment of networks and alliances to strengthen national and international actions for oral health promotion. Emphasis is also placed on the development of networks for exchange of experiences within the context of the WHO Mega Country Programme



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WHO recommendations

- In many countries, national **capacity** and resources - human, financial and material - are still insufficient to ensure availability of and access to essential health services of high quality for individuals and populations, especially in deprived communities
- The burden of oral disease and the needs of populations are in transition and oral health systems and scientific knowledge are changing rapidly. In order to meet these challenges effectively, public health care administrators and decision-makers need the tools, **capacity** and information to assess and monitor health needs, choose intervention strategies, design policy options appropriate to their own circumstances, and improve the performance of the oral health system
- Building and strengthening research **capacity** is one of the more effective, efficient and sustainable strategies for enabling developing countries to benefit from advances in knowledge, in particular through the promotion of regional or inter-country oral health research networks

The current dental public health workforce is not able to meet these requirements in all parts of England

The NHS has a responsibility increasingly to focus on the oral health preventive agenda. I am confident that by acting on this report we can all play a part in developing the dental public health workforce, **increasing both capacity and capability** and, by so doing, reduce oral health inequalities and improve dental outcomes.





A model dental public health team

The membership of a model dental public health team in an area will include:

- consultants and other specialists in dental public health; and
- dental public health practitioners:
 - DPAs;
 - oral health improvement practitioners;
 - the dental epidemiology lead in the salaried primary dental care service;
 - dental reference officers of the Dental Reference Service working within the region; and
 - practitioners with a special interest (PwSI) in dental public health (where created by PCTs).



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Challenges and Opportunities Facing the Dental and Dental Public Health Workforce:

Tim Henderson, MSPH
National Conference of State Legislatures
Washington, DC

A synthesis for discussion
Prepared for *Enhancing the Dental Public Health Workforce and Infrastructure*
A workshop sponsored by the Association of State and Territorial Dental Directors
February 26-27, 2004



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**Think globally
act locally**



Is there a need to develop capacity?

- 1 DPH consultant for population of 500,000 (England Review)
- 50 registered DPH specialists in Malaysian NSR
 - 15 in Putrajaya
 - 15 in WP – mostly based at dental schools
 - Currently 20 for 28m? 1 for 1.4m?
- Each DPH specialist/consultant to lead a team with different capabilities performing different functions



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Developing capacity

- Re-defining the DPH workforce
- Developing infrastructures and processes for training, assessment and accreditation
 - Nationally recognised advisory body
 - Regionally organised quality assurance committees
 - Local network of trainers and supervisors
 - Academic advice and supervision at each level



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Developing capability

- Defining the outcomes to be achieved
- Consensus on a national curriculum
 - Health surveillance and needs assessment
 - Evidence-based practice
 - Health improvement
 - Access to personal and population health services
 - Public protection and safety
 - Quality assurance
 - Evaluation
 - Research and development
 - Teaching and training



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Who can
make **it**
happen?