

No Health without Oral Health: How the dental community can leverage the NCD agenda to deliver on the 2030 Sustainable Development Goals

Proceedings of the FDI-NCD Alliance joint session

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Executive summary

These proceedings are based on the FDI World Dental Federation (FDI) – Noncommunicable Disease Alliance (NCD Alliance) joint session that took place during the FDI World Dental Congress in Madrid, Spain on 30 August 2017. The session focused on leveraging the NCD movement to advance oral health, with a particular focus on the United Nations (UN) Sustainable Development Goals (SDGs).

Noncommunicable diseases (NCDs), including cancer, diabetes, cardiovascular disease (CVD), chronic respiratory diseases, and mental and neurological disorders, cause more deaths than all other diseases combined; an estimated 39.5 million every year in total – equivalent to 70% of all deaths globally. Oral diseases affect almost 100% of the world's population during their lifetime. Yet despite their magnitude and impact on overall health and well-being, awareness of oral diseases among politicians, health planners and even members of the public health community remains low. There is clear evidence that oral diseases are not inevitable – they can be reduced and prevented through simple and effective measures at all stages of the life course, both at individual and population levels.

Oral diseases and other NCDs are driven by the same risk factors and socio-economic determinants, namely poor diet, particularly one rich in sugar, together with tobacco and alcohol use. Aside from oral diseases and other NCDs presenting as co-morbidities on account of these shared risk factors, some NCDs such as CVD, Alzheimer's disease, diabetes and pancreatic cancer have also been linked with gum disease and poor oral health. With increasingly ageing populations, there is an urgent need to strengthen and reorient health policies and healthcare systems for comprehensive and integrated prevention and management of chronic conditions. A joint response to oral diseases and other NCDs, especially in the era of the UN SDGs, is critical in delivering quality care.

Presentations in this session provided insights into the efforts by FDI, the oral health community and the NCD movement to drive policy change and achieve relevant goals and targets included in the UN SDGs. The following presentations were made:

- FDI's new oral health definition: bridging the gap between oral and general health for better patient care
- The role of the oral health community in driving policy to deliver on the global commitments for NCDs and development
- Dentists as advocates: taking a common risk factor approach with a focus on sugar policies
- Oral health in all policies

The session ended with an open discussion on how to drive policy recommendations, with a particular focus on engaging civil society.



Introduction

Claudio Fernandes is Professor of Prosthodontics at Fluminense Federal University in Nova Friburgo, Brazil. He is also Chair of UFF/NF Center for Sustainability in Dentistry, Scientific Chairman of the joint educational initiative Social Practices Literacies for Oral Health, Chairman of the Academy of Dentistry International – Chapter Brazil, Head of the Brazilian Delegation at ISO/TC106, and Consultant to the FDI Science Committee.

Before starting his presentation, Professor Claudio Fernandes welcomed all speakers and participants. He then introduced each speaker and their topic. Prof. Fernandes remarked that this is the first joint session between FDI and the NCD Alliance, and it aims to discuss how the dental community can leverage the NCD agenda to deliver on the 2030 SDGs.

The global context

NCDs cause more deaths than any other combined diseases. Oral diseases affect nearly four billion people globally, with untreated tooth decay being the most prevalent disease worldwide. It is well-known that several oral diseases and other NCDs are driven by the same risk factors and social determinants. With increasingly ageing populations, there is now an urgency to strengthen and reorient health policies and healthcare systems for the future and to achieve the SDGs. A joint response to oral diseases and other NCDs is critical in delivering the best patient care.

Sustainability is not a new concept. It was first discussed internationally in 1972 when the UN organized the first Conference on the Human Environment in Stockholm, Sweden. The issue gained a lot of visibility during the first UN Conference on Environment and Development (Earth Summit) in Rio de Janeiro, Brazil in 1992, which was attended by heads of states. Later, the Millennium Development Goals (MDGs) were established at the beginning of the 21st century with very high expectations but very little political impact. The UN Conference on Sustainable Development (Rio+20) was again held in Rio de Janeiro in 2012. Progress was made, particularly with regard to acknowledging the importance of health for the security of human life. Finally, in 2015, the 2030 Agenda for Sustainable Development which includes 17 SDGs – a global agreement led by the UN – was signed by 196 countries.

It is important to realize that, in the past, sustainability has been closely associated with green factors, that is environmental issues. Of course, it still is, but the scope of sustainability has now expanded. Today, there is no sustainability without human quality of life and economic perspectives. The main outcome from Rio+20 was a consensus document that emphasized that sustainability was not the best way but the only way to ensure the survival of the human species on earth, and that research, development and innovation would play a significant role in sustainability. Human health and NCDs in particular were then recognized as a critical issue and as potential indicators for sustainable development. The SDGs include 17 goals – oral health and NCDs are clearly relevant for SDG 3, which focuses on ensuring healthy lives and promoting well-being for all at all ages, but they are also relevant for many other SDGs that focus on nutrition, education, gender equality, clean water, energy efficiency and many others. Within SDG 3, Target 3.4 sets out to reduce premature mortality from NCDs by one-third by 2030, and this will pave the way for NCDs to be considered within government health policies.



The Brazilian context

Brazil is a very strong country in terms of its extensive human resources in the field of dentistry with significant output in dental education, research and industry. This availability has allowed dentistry to be fully integrated into the very strong Brazilian public health programme – the Unified Health System also referred to as SUS¹. It is, in fact, a collective term that includes the public, private and supplemental healthcare systems. Primary healthcare represents the foundation of the system. It constitutes its backbone and it orients itself on the guidelines issued within the World Health Organization (WHO) primary healthcare reform work in 2007. Oral health primary care teams work according to the principles of universality, equity, integrity of attention, teamwork and interdisciplinarity, and focus on territory, family, community, accountability and bonding. The whole system is supported by an extensive IT infrastructure. Today, a fully connected electronic database system is available, which gives every patient an electronic health record and identification (e-sus). The record can be accessed anywhere in the country by private and public hospitals and clinics.

Regarding dental care, the Smiling Brazil programme was introduced in 2002 after decades of debates and struggle regarding the importance of oral healthcare for systemic health. Brazil has been one of the largest sugar producers for the past 500 years. This has taken a major toll on the health of the population, as much of the oral disease burden is diet-related. Today, primary care involves 25,000 teams covering nearly 76 million people in almost 90% of Brazilian cities. At the primary care level, teams are composed of medical doctors, a medical nurse or assistant depending on the location, a dentist, and a dental hygienist and an assistant. But each team also includes community health agents, who learn health promotion basics and have a deep understanding of their community's needs. Health schools and literacy programmes are also a major part of this process. At the secondary level, and totally integrated with primary care, 1,030 specialist care clinics provide services such as oral diagnosis for oral cancer, specialized periodontics, minor oral surgery, endodontics, special needs prosthodontics and implantology – nearly all specialties are covered. They are supported by 1,650 dental laboratories, which have produced almost four million dentures over the past 13 years. The prevalence of edentulism in Brazil is extremely high, with nearly 40 million edentulous people. Undergraduate programmes are also involved in this programme. Young dentists who leave dental school are fully integrated into the system. The tertiary level is dedicated to oncological treatments and other types of hospital dentistry for special needs under general anaesthesia.

Importantly, Brazil also uses mobile dental units to reach rural areas. In some rural areas, it is very difficult to implement a physical infrastructure. Thanks to these mobile units, coverage has increased from 35 million to almost 80 million people with more than 150 million visits every year. 80% of oral health teams are able to screen for oral cancer, monitor pregnant women, provide care to children, cardiovascular patients and many more. Data have already shown an interesting drop in DMFTs (Decayed, Missing, Filled Teeth) at the age of 12. Access to fluoridated water has increased by 7 million people and there has been a nearly 85% decline in tooth extractions. Investments in oral health in Brazil now amount to over US\$2.6 billion in 13 years, and 65,000 dentists, dental assistants and technicians have been involved by the system. The system currently faces numerous challenges due to economic restraints, but the achievements of this good work must continue to consolidate the integration of oral health with systemic health issues and expand coverage to reach the whole country.



Presentation 1

FDI's new oral health definition: Bridging the gap between oral and general health for better patient care

David Williams is Professor of Global Oral Health at Bart's and The London School of Medicine and Dentistry, Queen Mary University of London. Prof. Williams is also the former dean of the Faculty of Medicine, Health and Life Sciences at the University of Southampton and the past president of the International Association for Dental Research. He currently serves as Co-Chair of the FDI Vision 2020 Think Tank and Vice-Chair of the FDI Science Committee.

Bridging the gap between theory and practice

How will the new FDI definition of oral health help bridge the gap between oral health and general health, leading to better patient care? Historically, approaches to oral health have focused on treating disease and its elimination rather than on prevention and promotion. In 2012, FDI released the publication *Vision 2020: Shaping the future of oral health* at the FDI World Dental Congress (WDC) in Hong Kong, China. Vision 2020 marked a shift in FDI's focus from a treatment-based approach to oral health to a rights-based approach to what oral health is. This publication defined oral health as an essential component of good health, and good health cannot occur without good oral health.

The next question to consider is: What exactly does "oral health" mean? There may be an implicit understanding of what good oral health means but is there a universal common understanding? A common understanding is important so that patients and other health professionals understand exactly what oral health means. It is also essential for advocacy purposes. So that leads to the next logical step, which is to ask if it is possible to deliver a clear, precise definition of oral health that will foster clinician-patient communication and support wider advocacy efforts. Not only is there a need to be able to define oral health but there is also a need to be able to measure it as well.

The following definition of oral health was presented at FDI's WDC in Poznan, Poland in 2016: "*Oral health is multi-faceted and includes the ability to speak, smile, smell, taste, touch, chew, swallow and convey a range of emotions through facial expressions with confidence and without pain, discomfort and disease of the craniofacial complex*". This definition has now been translated into 10 languages and it was adopted by an overwhelming majority at FDI's General Assembly. Importantly, the definition comprises three key elements of oral health: disease and condition status, physiological function, and psychosocial function. Disease and condition status have typically been the pre-eminent focus of definitions of oral health, whereas in reality they define oral disease. The FDI definition, which gives prominence to the other two elements, leads to a more integrative approach to oral health in the context of overall health and well-being.

Measuring oral health

Over the year since the 2016 FDI WDC in Poznan, FDI has focused on finding ways to make oral health measurable. Specifically, FDI is working to produce a comprehensive set of measures, which is balanced with a feasible recommendation that providers can reliably implement. The aim of this standard oral health data set is to deliver a system that allows routine measurement of oral health in clinical practice that will improve shared decision-making between clinicians and patients on a day-to-day basis. It also aims to facilitate quality improvement and allow for benchmarking across organizations.



When work on this project started, FDI's Vision 2020 Think Tank was approached, thanks to one of FDI's Vision 2020 Partners, by the International Consortium for Health Outcomes Measurement (ICHOM). This organization has, at its heart, a model where value is at the centre of care. Value is determined on the basis of balancing the patient's health outcomes achieved against what it costs to achieve those outcomes. It refers to outcomes that are important to those who pay for care, whether they are patients or insurers, and that allow costs to be contained based on results achieved rather than on treatment delivered. Further, it also enables providers to compete, and in doing so, deliver high-quality results at competitive prices.

ICHOM has a very ambitious agenda to produce standard sets of measurements, rather akin to the ones that FDI has set out to develop, which cover the entire disease burden. So far, 45% of that burden has been covered by 21 sets, and oral health has been part of that process since November/December 2016.²

A group of 22 experts is involved in the joint FDI-ICHOM Oral Health Project Team and Working Group. The membership of the working group has truly global representation: it is not entirely North American nor European in its focus. The group is currently focused on producing a series of measures of oral health that address the three core elements of health and relate to patient-reported outcomes. Importantly, only those items that oral health professionals can influence are included within the set.

Based on a series of Delphi-type consultations, eight conference calls, and an enormous amount of work, key domains that fit under the physiological and psychosocial dimensions of oral health have been identified as follows:

Physiological	Psychosocial
Ability to eat	Overall patient satisfaction (consequential upon some physiological elements)
Chewing	Participation in life activities/social interactions
Food alteration	Emotional well-being
Pain-discomfort	(embarrassment/shame, anxiety/fear)
Ability to sleep	Aesthetic satisfaction
Speaking/phonetic impairment	Lost productivity
	Self-esteem, confidence

Disease and condition status items are still under development – the goal is to produce a series of measures that are robust, straightforward and can be applied in a range of global settings. Simplicity is key in this project. Originally, the list of domains included under the physiological and psychosocial elements of oral health was very long. It has since been reduced to what is considered by the group to be the smallest number of items that need to be assessed in order to obtain a reliable indication of an individual's oral health.

The way forward

Although the work on the measurement tool is not yet published, it has already begun to attract considerable attention. For example, Qualis Health, who works in the United States and is a third-party payer in the context of general health, is very keen to begin including oral health within its system. They want to integrate oral health so that it is measured in terms that are similar to the way in which general health is measured and that rely on health outcomes and achieving value. Value is determined not just by the clinician but by the patient



too. In the United Kingdom (UK), the National Health Service in Wales has requested a workshop in order to understand the FDI-ICHOM project, to assess whether this has application and relevance to their work. During the FDI WDC here in Madrid, Spain in 2017, the Canadian Dental Association, who has a Futures of Dentistry Task Force, also expressed interest to collaborate.

In short, today FDI's definition of oral health is being used to create a measurement tool that addresses health outcomes. It also sees individuals as co-producers in their own health and allows dentists to enter into dialogue with their patients in terms of understanding what each expects to achieve from that encounter. This in turn enables dentists to better meet patient expectations. Importantly, it allows dentistry to move the focus on attaining and maintaining oral health in a way that can then be monitored. Further, the measurement tool will provide oral health professionals with an objective basis to enable oral health to be integrated into general health.

Looking ahead, the introduction of a robust tool paves the way for using oral health outcome measurements as the basis for remuneration schemes. Many countries are already beginning to look at how to use health outcomes as a basis to remunerate dentists. It is a difficult and complex area, but it is hoped that this work will contribute to reaching this goal. It will produce a tool that facilitates dialogue between oral and general health practitioners with a focus on national NCD agendas, and it also forms a basis to advocate "oral health in all policies".



Presentation 2

The role of the oral health community in driving policy to deliver on the global commitments for NCDs and development

Katie Dain is Chief Executive Officer of the NCD Alliance, a global network of civil society organizations dedicated to addressing NCDs. Katie manages organizational and strategic development; global advocacy and policymaking; and programme design and capacity-development in low- and middle-income countries. Before joining the NCD Alliance, Katie worked at the International Diabetes Federation in Brussels, Belgium leading their global advocacy programme.

A brief history of the global NCD response

Ten years ago, in 2007, NCDs were very much a “Cinderella” issue of global health and development. Even though NCDs, including oral diseases, represent the biggest killer and the biggest cause of morbidity worldwide, these conditions were very much marginalized on the global health and development stage. NCDs were not included in the MDGs, which was the compass for international development from 2000 to 2015, and as a result the NCD community struggled to generate political priority for these important issues. In 2009, however, the NCD Alliance was formed by four international federations: the International Diabetes Federation, the World Heart Federation, the Union for International Cancer Control, and the International Union Against Tuberculosis and Lung Disease. Since then, the NCD Alliance has grown and brought in numerous organizations, including FDI. Together with WHO, the UN, and many governments around the world, the NCD Alliance has worked very hard to try and get NCDs recognized as a priority. As a result, there have been five milestones in the global NCD response over the last seven years.

1. Political mandate (2011)

The UN High-level meeting on NCDs in New York, the United States in 2011 initiated a global political mandate. This meeting was important for numerous reasons. It was the first time all governments around the world came together at the UN to discuss NCDs, including oral health and oral disease. The first time that heads of government and heads of state convened at the UN to discuss health issues was in 2001 for a high-level meeting on HIV/AIDS. The 2011 High-level meeting on NCDs was a strong sign that governments were beginning to see NCDs as a priority. Importantly, governments were beginning to see NCDs beyond being just a health issue and as a whole-of-government issue that encompasses the economy, agriculture, education, gender equality and many other areas. This high-level meeting resulted in a political declaration (UN Political Declaration on the Prevention and Control of NCDs) that included 22 action-oriented commitments made by all governments. Importantly, FDI was very involved in the advocacy work that led to this political declaration. As a result, Article 19 of the declaration recognized that oral health was part of the NCD agenda, which includes numerous diseases and conditions³. 2011 was when the NCD movement began to gain traction from an advocacy perspective.



2. *Global action and accountability (2013)*

In 2013, WHO developed the Global NCD Action Plan (GAP) 2013-2020. The GAP moved the process from a political level to a much more practical level, i.e. what should governments actually do in terms of NCD prevention and control? It focuses on four main pillars:

1. **Governance**, which includes the need for all governments to have NCD focal points within their ministries of health, and national NCD plans with specific targets for all countries.
2. **Prevention and risk factors**, which includes looking at the social determinants of health that are an important factor in why people are more at risk of developing NCDs. This pillar is strongly connected to the oral health agenda.
3. **Health systems** with a particular focus on primary healthcare.
4. **Surveillance and monitoring** in order to strengthen surveillance and monitoring systems for NCDs at the country and regional level.

The GAP constitutes the compass in terms of the NCD response until 2020.

Until 2013, there was no set of global targets and indicators for NCDs, and as a result there was no clear vision of what should be achieved for NCDs. Former WHO Director-General Dr Margaret Chan said quite famously, “What gets measured gets done”. Therefore, the absence of targets and indicators at the global level was a significant hurdle to making progress as governments were not encouraged to track progress on these issues. Targets and indicators has been important for driving progress on HIV, and across the broader MDGs. This observation led to the development of the WHO Global Monitoring Framework for NCDs (GMF), which includes nine targets to be achieved by 2025, and accompanying indicators. The most famous target, which many organizations have used to frame their mission and focus, is reducing premature mortality from NCDs by 2025 by 25%. However, there are other targets that are important for the oral health community, including a target on alcohol, smoking, diabetes and obesity. The GMF summarizes what needs to be achieved over the next eight years for NCDs with 2025 being the end goal.

3. *Global coordination across multilateral organizations for NCDs (2014)*

Global coordination started in the last decade with WHO established as the leading technical agency for health and for NCDs specifically, and that should continue going forward. NCD-related issues, including oral diseases, require coordination across different sectors. This is why, in 2013, the UN created the UN Task Force on NCDs to bring together various UN agencies, including UNAIDS (Joint United Nations Programme on HIV/AIDS), ITU (International Telecommunication Union) as well as UNDP (United Nations Development Programme), to focus on NCDs for the first time. This generated numerous opportunities for integrating NCD issues and priorities into these important global multilateral agencies that perform important work in supporting governments at the country level.

4. *Shift from global to national level (2014)*

The second UN High-level meeting on NCDs took place in New York in 2014. At this point, the global community took a step back and observed that even though a lot had been achieved at the global level, the transition from global policy to national level policy and action was not getting off the ground. Progress at the national level on NCDs more broadly was felt to be insufficient. Governments therefore decided to commit to four time-bound national goals on NCDs. First, all countries committed to set their own national targets for NCDs by 2015, tailoring them to their national context. Second, all countries committed to have a national NCD plan because without that it is impossible to obtain resources, develop a clear road map and targets as well as mobilize different sectors around what is being planned. The third and fourth time-bound commitments focused on what WHO dubs “best buys” for prevention of NCDs and health systems. Countries should implement these



best buys within a specific time frame. This was another important milestone that marked the beginning of a shift from the global level down to the national level on NCD policy.

5. Post-2015 Agenda

NCDs were embedded in the post-2015 global development agenda through the SDGs. From 2000 to 2015,



Figure 1: 2030 Sustainable Development Goals, World Health Organization, 2015.

the global development community focused on the MDGs. Out of eight MDGs, three focused on health: MDG 4 was dedicated to child mortality, MDG 5 to improving maternal health, and MDG 6 focused on HIV/AIDS, tuberculosis and malaria. It was evident that oral health, oral diseases and NCDs, fitted absolutely nowhere in the MDGs. In the lead up to 2015, the UN started a broad-scale process to determine what should come next; what should be the next goals that the global community should focus on? A very inclusive process was launched, with the active involvement of the NCD Alliance, to define the next set of goals. This resulted in the 2030 SDGs.

There was a shift from the eight MDGs with three health-related goals to 17 SDGs with 169 targets and 230 indicators. This comprehensive agenda did raise some criticism but for the NCD Alliance they reflect the time in which we live in. These goals are important and progressive because they bring together all elements of sustainable development: economic, environmental and social development. Further, the SDGs encourage governments to think differently because all goals are integrated and indivisible. Those who work in health cannot simply focus on the health goal (SDG 3) but must look at, for example, education, hunger and poverty, and look at the problem in a comprehensive way. Importantly, NCDs are now front and centre of the health goal. There are now three NCD-related targets in SDG 3.4, including premature mortality of NCDs as well as one on tobacco control with the WHO Framework Convention on Tobacco Control. This is an important shift in global policy development. There is now a global commitment that considers NCDs as a sustainable development priority. As a next step, governments around the world are now transitioning to their own SDG plans and targets. There are 17 goals and 169 targets that governments must prioritize – they cannot do everything. Currently, through its networks and through partnerships with organizations like FDI, the NCD Alliance is ensuring that governments prioritize oral health and NCDs in their own country responses to the SDGs.



Presentation 3

Dentists as advocates: Taking a common risk factor approach with a focus on sugar policies

Dr Rob Beaglehole has a dental degree from New Zealand and a Master's in Dental Public Health from University College London. He has worked as a clinical dentist, a public health policy analyst for FDI and as Senior Political Advisor to the Associate Minister of Health in the New Zealand Parliament. Dr Beaglehole recently returned from a sabbatical to the WHO headquarters in Geneva, Switzerland, where he played an important role in encouraging WHO to adopt a sugary drink free policy

Sugar and sugary drinks

In 2015, WHO issued a guideline on sugar intake for adults and children. This guideline involved analyzing 6,000 academic papers from all around the world, which indicated that there was a major problem with sugar not only in terms of tooth decay but also with regard to other NCDs, particularly obesity and type 2 diabetes. The guideline states that, ideally, adults should only consume a maximum of six teaspoons of sugar per day, and children should only consume three teaspoons of sugar per day. There are nine teaspoons of sugar in a can of Coca-Cola, so if a child drinks this, according to WHO's guideline, this means they are consuming three days' worth of sugar from a single can of Coca-Cola. What's more, most children do not drink small cans anymore – they drink larger volumes, which means that they easily consume an alarming amount of sugar in one go.

The reality about such drinks is that they quickly damage teeth, lead to obesity and type 2 diabetes. A few years ago, a paper from Harvard Medical School concluded that one can of Coca-Cola or Pepsi a day increases the risk of obesity by 60% and the risk of type 2 diabetes by 25%. In many developed nations around the world, complications from type 2 diabetes are the number one reason for limb amputations.

No sugar: crafting a strong message

As a clinician, I take out a lot of teeth. The 21 teeth displayed in Figure 2 came from a 21-year-old woman⁴.



Figure 2: Source: Dr Rob Beaglehole.

The image was sent to the CEO of Coca-Cola New Zealand, who was not particularly happy – especially when it was released to the media. But, this is what advocacy is about. The key to advocacy is that it needs a few basic messages that then need to be amplified. The best way to amplify messages is through the media.

Figure 3 is another example of the damage to teeth caused by sugary drinks – these teeth came from a four-year-old girl⁵. All her teeth had to be

taken out. What had she been doing? She had been drinking Coca-Cola in a baby bottle and this was the outcome. This photo was sent to just one journalist and it became front page news in New Zealand a few months ago.

In New Zealand alone, 6,500 children have one or multiple teeth taken out under general anaesthesia each year. In the UK, this figure amounts to 25,000 children. It is an extremely expensive way of

More than 6600 Kiwi kids admitted to hospital with rotten teeth in one year

MATT STEWART
Last updated: 19:06, July 25 2017



Figure 3: Rotten teeth in a 4-year old in Auckland, New Zealand. Source: Dr Rob Beaglehole.



dealing with tooth decay, especially since tooth decay is totally preventable. The best and obvious way of preventing tooth decay is to cut down on the amount of sugar children consume.

Tooth decay is also the canary in the coal mine for other health conditions. New Zealand has the third highest rate of obesity according to the Organization for Economic Co-operation and Development (OECD) after Mexico and the United States. It is an embarrassing statistic, but it is the reality. Beyond childhood obesity, adult obesity is a similarly important issue. Again, New Zealand has the third highest rate of obesity in the world. Interestingly, it also has the third highest rate of sugar consumption as reported by the OECD. There is a direct correlation between sugar consumption all around the world and obesity, and particularly type 2 diabetes.

Coca-Cola contains about 10 grams of sugar per 100 grams – this means Coca-Cola contains 10% sugar. Juice, even though it is natural, contains 12 grams of sugar per 100 grams, so there is 20% more sugar in juice than there is in Coca-Cola or Pepsi. The message that needs to get across is that a sugary drink is not only a soda or a carbonated soft drink. All forms of sugary drinks are problematic, whether they are 100% juices or so-called smoothies as they are also full of sugars. Knowing that the number one risk factor for type 2 diabetes is sugar, and particularly, sugary drinks, it is vital for all dentists and National Dental Associations (NDAs), for FDI and WHO, to focus on all forms of sugar, especially sugary drinks. All around the world, the number one source of sugar in diets, particularly among young people, is sugary drinks, which is why there is such a need to focus on these drinks.

WHO in action

During a meeting at WHO to discuss sugary drink taxation with the WHO NCD department, it came to light that WHO itself actually sold sugary drinks in their vending machines, cafe and restaurant. The issue was discussed with higher management, who initially expressed scepticism and feared that stopping the sale of sugary drinks within the organization would take two years at least. Nevertheless, different divisions within WHO came together and initiated an internal advocacy campaign across the organization. They were able to achieve the desired outcome to stop selling sugary drinks in just a couple of months – this was an exemplary advocacy campaign.

The WHO taxation report (*Fiscal policies for diet and the prevention of noncommunicable diseases*) is unequivocal: it makes it crystal clear that taxes on sugary drinks are effective. Currently, 30 to 40 countries around the world have introduced such taxes. One of the most well-known examples is Mexico. Mexico introduced a 10% tax a few years ago on sugary drinks, and after a year, there was a 9% reduction in consumption. Interestingly, there was a 15% reduction among people from lower socio-economic groups. The tax had a greater effect on low income groups than on wealthier groups, which is the exact target that the sugary drink taxation campaigns should focus on.

In 2018, the UK will also introduce a tax on sugary drinks. The question is: If the evidence is good enough for Mexico, and if it is good enough for the UK, and it is good enough for the 30 other countries around the world, surely, shouldn't it be good enough for the other 170 countries around the world that currently do not have a sugary drink tax? So, what is the issue? The main issue for these countries, including New Zealand, which do not have a tax on sugary drinks, is that the government is heavily influenced by the sugar industry, particularly the sugary drink industry (just like many governments in many countries around the world are heavily influenced by the alcohol and tobacco industries). Clearly, the amount of advocacy and lobbying that dentists and other organizations involved in NCDs need to apply towards governments is no less than the amount of lobbying that big multinational companies apply towards governments. Health advocates against sugar must draw inspiration from the *Tobacco Control Playbook* and focus on measures that have been proven to work. Currently, a group of state senators in California, the United States is trying to introduce warning labels on sugary drinks that say, "The State of California safety warning states that drinking beverages with added sugars contributes to obesity, type 2 diabetes and tooth decay". This is exactly what anti-tobacco advocates



were advocating for 15 years ago in the tobacco control world and this is exactly what must be done on the sugary drink issue. Sugar is the new tobacco, and sugary drinks must be dealt with through similar means, namely through taxation, restrictions on advertising, sponsorship issues and other actions such as increasing awareness about the dangers of sugar, particularly sugary drinks.

New Zealand in action

In New Zealand, the New Zealand Dental Association has issued a sugar consensus statement. It results from a collaborative effort with 10 other organizations, including the Heart Foundation, the Cancer Society, and the Diabetes Society. The statement includes seven action points that all 10 organizations advocate. The first action point relates to introducing a sugar icon with a little teaspoon icon and a clear number of teaspoons. It is currently very difficult to work out how many teaspoons of sugar are in a can of Coca-Cola or Pepsi. A can would therefore have a teaspoon icon with nine teaspoons. A 1.5 litre bottle of Coca-Cola would have a teaspoon icon indicating that there are 40 teaspoons of sugar in the bottle. Another action point relates to food marketing restrictions, especially junk food marketing restrictions for children. The consensus statement also urges the New Zealand government to adopt WHO's sugar intake guidelines to inform the population that ideally, the adult maximum intake is six teaspoons and the child maximum intake is three teaspoons. Further, the "switch to water" campaign is also being advocated – it is an advocacy campaign that reminds everyone to mostly drink water, unflavoured milk, tea, and coffee.

An interesting element about water-only policies is that even without any government leadership, local organizations can move forward. The New Zealand Dental Association is currently encouraging all 2,500 schools in New Zealand to adopt water-only policies. This is a typical advocacy campaign: there is an awareness campaign in the media; a dialogue has recently been entered into with the Minister of Education; and each individual local council has been contacted with a request that they stop selling sugary drinks in their cafes, just like WHO and all hospitals in New Zealand have already done. Of course, the consensus statement also calls for a tax on sugary drinks, as done in Mexico, the UK and many other countries around the world. In 2016, FDI issued a sugars and dental caries advocacy toolkit, which clearly articulates the measures that must be applied in order to raise awareness about sugary drinks and convince governments to adopt measures.

Former WHO Director General Dr Margaret Chan once said: *"Not one single country has managed to turn around its obesity epidemic. This is not a failure of individual will-power. This is a failure of political will to take on big business"*. This is a classic quote and Dr Chan points out the fact that the reason why obesity, type 2 diabetes and tooth decay have become such daunting issues around the world is a failure of political will to take on the industries that are actually causing these diseases in the first place. The fact that FDI has its own sugar consensus statement and that WHO is now taking this issue seriously is promising.



Presentation 4

Oral health in all policies

Richard Watt is Professor and Honorary Consultant in Dental Public Health at University College London and Director of Research for Central North West London NHS Foundation Trust. Professor Watt is also Founder of International Centre for Oral Health Inequalities Research and Policy (ICOHIRP) and has over 30 years of experience in dental public health research and policy advice to a range of local, national and international organizations.

Embedding oral health in all policies

In 2013, *Health in All Policies*⁶, a policy strategy that offers great insight into embedding health into all policies was published. It provides a very useful overview across the NCD agenda, including oral health, and of the main obstacles and ways forward for a truly integrative approach. It also includes excellent chapters on alcohol and tobacco control. WHO's definition of what is meant by "health in all policies" (HiAP) is also provided: "Health in All Policies is an approach to public policies across sectors that systematically takes into account the health and health systems implications of decisions, seeks synergies and avoids harmful health impacts to improve population health and health equity."

Essentially, HiAP means influencing decision-making, political decision-making, and forming synergies and collaborations with different partners and organizations. Importantly, it also means promoting population health and health equity. HiAP is therefore about the promotion of population health and about reducing inequalities in health and oral health. Presentations during this session have clearly shown that the underlying basis of HiAP is to recognize that the broader, underlying determinants of health sit outside the remit of healthcare systems. Clinical dentists do have a very important role to play in terms of maintaining health, but the true underlying determinants of population oral health lie outside the direct influence of clinicians. Further, HiAP also recognizes that health and oral health advocates must demonstrate the public health significance of the conditions that they want to influence.

Another important agenda underlying HiAP is tackling the silo mentality of separate groups looking at conditions in isolation. For many years, dentistry has been isolated and marginalized. Now, dentistry is becoming increasingly engaged with by broader agencies and sectors. This collaboration and multisectoral approach is the essence of what is meant by "oral health in all policies". WHO's HiAP document published in 2013 presents a very useful analytical framework that underpins what is meant by moving the agenda forward.

An American political scientist, Professor John W. Kingdon, has produced a framework for policymaking (see Figure 4) and stated that in this framework "[w]e are talking about public health problems⁷. We are looking at solutions. We are looking at evidence-based policies that can reduce these problems. Lastly, we are looking at politics, political decision-making, and how we can engage with politicians to achieve change". Our challenge is to align the problems, policies, and politics to move ahead in terms of population health.

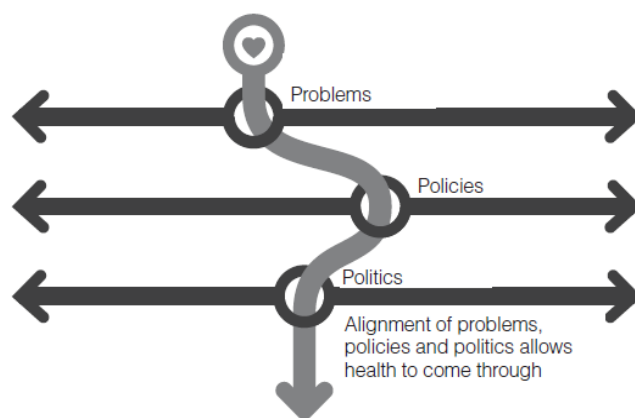


Figure 4: Kingdon's non-linear framework for policymaking.



Another interesting element of WHO's HiAP document is the emphasis it places on windows of opportunity. During this session, the presentations have already identified three major windows of opportunity: the SDGs, universal health coverage (UHC) and the third UN High-level meeting on NCDs. The oral health community must explore how oral health links to the 2030 SDG agenda and UHC, which is also a major initiative internationally. The third UN High-level meeting is due to take place in New York in September 2018. The oral health community must mobilize to ensure that it sits at that table to emphasize the importance of oral health. Some of these windows of opportunity might close; some might not open up, but being opportunistic in these three areas, particularly in the next few years, is key.

Collecting evidence

Reflecting on the progress made so far in terms of integrating oral health within the broader NCD agenda, there is no doubt that, in the last five to 10 years, progress has been made in collating and producing evidence on the public health significance of oral diseases. The *Global Burden of Disease Study*⁸, which has produced a whole range of publications in *The Lancet* and other journals, has demonstrated that oral diseases remain highly prevalent globally. These are just the estimates on the prevalence of untreated caries, etc. Today, there is very sound knowledge on the burden of disease in terms of prevalence. In recent years, efforts to highlight the impact of oral diseases on society, both at an individual and community level, have also been successful. As an example, the American Dental Association has recently looked at the impact of the appearance of the teeth and mouth on people's interview performance through a population survey, and has demonstrated that a significant number, particularly of low-income and younger adults, felt that their mouth affected their ability to be hired⁹. This is a very important indicator of broader socio-economic importance.

Another successful area of development is the estimation of economic costs of oral diseases. Estimates across the European Union have shown that oral disease is the third most expensive disease in terms of treatment costs – almost €80 billion is spent on oral disease annually¹⁰. Politically, these are powerful messages that are likely to draw the attention of decision makers, especially politicians and ministers of finance.

Using the common risk factor approach

Numerous publications highlight the link between oral diseases and other NCDs¹¹. However, one concern is that the common risk factor approach (CRFA) is not just about lifestyle and behaviours. Professor Jennie Popay from the UK, who coined the term “lifestyle drift”, observes that policymakers often originally start by looking at the broader determinants of health, but ultimately develop interventions that focus on behavioural interventions looking at lifestyle. The CRFA does not just focus on the importance of sugar or tobacco as a determinant for a range of NCDs. The CRFA also looks at the broader social determinants, such as the political and social environment, the quality of housing and the workplace. These broader social determinants are also common risks for oral diseases and for other NCDs and conditions. Thus, there is a need to not only focus on behaviours but also on the broader common risks. Over the last few years, major progress has been made in documenting oral health inequalities. There is now evidence available from many countries on social gradients in a range of clinical, psychosocial and other outcomes. The evidence on inequalities is now known, so it is time to take action.

The way forward

Many challenges remain regarding the integration agenda for oral health and NCDs. WHO's HiAP provides an analysis that highlights the importance of the combined forces of knowledge power. This “knowledge power” refers to the power of information – epidemiological, social and economic information – but it also highlights the importance of social power – social movements mobilizing civil societies to achieve change. Further, it emphasizes the importance of political power in terms of engaging with politicians and decision makers – this is



the third pillar that must be worked on. Putting oral health on the political agenda means engaging more effectively with politicians – not just at a national level – but also at a regional and a local level. Certainly, engaging with people who have influence and decision-making powers in a unified way with the NCD Alliance and other organizations is a suitable way forward. Another challenge is engaging with civil society. Many conditions, such as cancers and CVD, have major civil organizations behind them. In oral health, this does not really exist. There is therefore a need to foster, support, and enable a social movement for oral health that is led by the community and that will help advocates influence politicians. Public support for better oral health is a key lever for policy change. More progress is needed in mobilizing social power.

In conclusion, the four presentations from today's session have shown that oral health in all policies has led to major progress, but there are still challenges ahead in the 21st century. The key challenge is to identify how to engage with the political processes in our respective countries and globally, and how to mobilize and sustain a social movement around better oral health.



Discussion

Evaluating interventions

Research showing improvements in oral health as a product of using the CRFA was discussed. It was stated that the evidence underpinning the CRFA originally came from epidemiological evidence. However, over the last 20 years, more evidence has come through regarding shared pathways, for example the inflammatory burden. Evidence on commonality across disease conditions is clearly mounting. The key challenge that remains, however, is evidence-based interventions. There is a need to obtain research funding to do more work to study whether improving or tackling certain common risks will be beneficial to general health outcomes as well as oral health outcomes. The lack of complete evidence, particularly around interventions, was also highlighted. Evaluation of interventions remains a big challenge, especially with regard to obtaining clear evidence on disease specific interventions (such as for diabetes) compared to general oral health interventions. The need to perform comprehensive evaluations of disease specific interventions without overstating the evidence was stressed.

From a WHO perspective, one top priority is to perform a review of cost-effective interventions in order to identify key best buys or, at least, good buys, from a country perspective. The WHO Oral Health Programme plans to start a comprehensive review and assessment, which would involve reviewing the World Health Assembly 2007 resolution on oral health in order to pave the way for developing a new Global Oral Health Action Plan aligned with the SDGs and UHC.

Implementing measurements: The Oral Health Observatory

The FDI Oral Health Observatory project (OHO) was discussed as an example of an initiative documenting the impact of interventions. The questions addressed in this project are the same as those in FDI's oral health definition. OHO is an app-based system that dentists can use in their practices to survey the attitudes of their patients and to relate that to their oral disease and condition status. The information collected can then be used at practice level for dentists to have a sensible, informed discussion with their patients about their needs and expectations and agree on their oral care plans. Thus, patients become co-producers of their own oral health. Importantly, the information collected also enables NDAs to have informed discussions with policymakers, using concrete information about the patterns of oral disease and the priorities of people who seek dental care.

FDI is also looking at how the data collected by dentists can be used in relation to the HiAP approach, linking information about oral health to measures of general health. Once FDI's measurement tool is ready, the next step is to determine how it can be implemented and rolled out to look at oral health and general health side by side. The tool also includes questions about common risk factors, which will help to give a much richer database and better inform interventions.

Measuring edentulism

A question was asked as to why data on edentulism did not appear in the session. It was noted that, when looking at NCDs, there is a real challenge in managing the existing disease burden and introducing effective prevention. It is not a binary choice, there must be systems that do both. Edentulism is the end-result of failure of either prevention or treatment, typically of caries or periodontal disease. Progressively, as prevention and treatment are improved, edentulousness will tend to decline. There is already evidence from national dental



surveys showing that edentulousness is beginning to decline. By implementing the policies discussed during this session, edentulousness should continue to decline even further.

Edentulousness is a very important marker for assessing whether the system is failing. A lot of research has been conducted to look at the associations between total tooth loss and psychiatric conditions, dementia and other conditions. There is also a social pattern for edentulousness; all over the world, poorer people are much more likely to be edentulous. It is also an issue that increasingly needs to be considered given that populations are growing older. Edentulousness is an important marker of health status and it is easy to measure. A simple, self-reported questionnaire on how many teeth a person has would suffice, without the need for clinical examinations.

Integrating oral and general health

The issue of how to integrate the new definition of oral health into all medical professions and all health practices was raised. It was mentioned that the move towards UHC means that many countries are currently trying to find ways to make their health systems more efficient, more appropriate and tailored to the needs of the entire body, rather than focusing on individual body parts and conditions. The NCD community more broadly presents dental and oral health with an opportunity to take up that definition and encourage other health professionals within NCDs more broadly to do the same. There is still a lot of education and awareness-raising that needs to be done with other health professionals, who perhaps often remain very siloed in what they do and are probably unaware of the fact that oral disease was the number one disease in terms of prevalence in the *Global Burden of Disease Study*. The broader NCD community still lacks sufficient awareness of the importance of oral health and oral diseases. The NCD Alliance and FDI collaboration aims to help encourage the cross-fertilization across the professions to raise awareness on oral health.

Stigmatizing sugar

With regard to sugar, it was mentioned that there is a growing interest for leading a healthy life (to eat better, exercise more, etc.), particularly among the younger generations. So how is sugar consumption affected by this?

In New Zealand, sugar and sugary drinks are becoming increasingly stigmatized, just like tobacco was 15 to 20 years ago. The amount of sugary drinks being served at parties has decreased and so have sales overall because there is greater awareness of the dangers of sugar. Advocacy has helped raise this awareness about the dangers of sugary drinks, especially with statistics such as the fact that the number one reason children are admitted to hospitals in New Zealand is to have their teeth taken out under general anaesthesia and that sugary drinks are the number one source of sugar for children and adults under 30. A cultural shift is slowly taking place.

Engaging civil society

Finally, the engagement of civil society was discussed. The panel was asked what the biggest challenges to engage civil society are for oral health and how can they be addressed so that oral health ranks equally with other communities competing for resources and engaging with civil society.

Identifying core messages

First, in terms of advocacy, the need to identify the core messages that the community really wants to focus on was pointed out. How is the problem framed? What is the narrative of the issue? The need to focus on solutions was also stressed, as policymakers are constantly confronted with many different challenges and



therefore need to know what will work tomorrow and in the next 15 years. It is imperative to frame messages for the head, the heart, and the pocket – the head in terms of epidemiological evidence; the heart in terms of the stories of people living with these conditions, and how it affects them; and the pocket in terms of the actual economic impact, which in this community is really significant.

Building coalitions

Second, the importance of coalitions was discussed. The oral health community cannot go all the way on its own. Working across different sectors and communities is important, but also thinking outside the box within coalitions in terms of joining forces with the unusual suspects. For the NCD Alliance typical stakeholders that first come to mind are, for example, the diabetes or the cancer community. But it's important to think whether other stakeholders could join, such as the environmental community and members of the gender equality and women's movements.

Thinking globally, acting locally

Third, focusing on grassroots advocacy as well as global advocacy was described as an essential element. When the NCD Alliance was set up in 2009, its initial focus was global advocacy. Since then there has been a recognition that the movement would only be strong enough if we worked together to ensure sufficient capacity – in terms of leadership, organizational capacity, advocacy skills and technical knowledge – was built and shared at a national and regional level, particularly in low- and middle-income countries.

Telling the right story

Fourth, how oral health is communicated is very important. Has dentistry communicated the wrong story so far? Dentistry tends to talk in DMFT scores in two decimal places, millimetres of attachment loss, when there is really a need to talk about school days lost, wages lost for hourly paid workers going to get their dental disease treated or the elderly who choke to death (it never appears on a death certificate that choking or inhalational pneumonia occurred as a result of an oral disease). Focusing on “emotive epidemiology” to address the heartstrings instead of the decimal places was mentioned as a possible way forward. Many policymakers are from middle-class backgrounds, so their disease and family experience of dental caries and periodontal disease is very low. Hence, they do not recognize it as being a problem. This once again comes back to inequalities and social justice. It is therefore essential to be able to tell them the right story. Ultimately, this is not about dentistry – it is about oral health.

Involving patients

Finally, engagement is key. With regards to the FDI-ICHOM project referred to earlier, patient engagement was identified as an important element. As a result, two patient representatives are on the expert panel to make sure that patient views are also represented. This has already helped to identify issues of importance to patients that the professional members of the panel had not identified. They have, for example, raised the issue of financial impact of oral disease and the ability to afford care.



Conclusion

Prof. Fernandes thanked everyone for their very lively participation in this excellent session.



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