

## ***The Lancet Oral Health Series – Implications for Oral and Dental Research***

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“Oral health matters” was the clear and emphatic message on the front cover of the Lancet on July 20<sup>th</sup> 2019. In this single issue of the Lancet, in addition to the front cover, oral health was the focus of an editorial (The Lancet 2019)□, an Oral Health Series comprising of two major papers (Peres et al. 2019; Watt et al. 2019), two associated commentaries (Beaglehole and Beaglehole 2019; Kearns and Bero 2019), a perspective piece on the historical origins of modern dentistry (Barnett 2019), and a profile of a dental public health researcher (Davies 2019). Never before in the 196-year history of the Lancet, one of the most prestigious medical journals in the world, has oral health been given such a high profile. This is, without doubt, a watershed moment for global oral health. It is also however, a profoundly important opportunity for the oral and dental research community. This commentary highlights the key messages from the Lancet Oral Health Series and considers the implications for the oral and dental research agenda globally.

In 2018 the Lancet editorial team recognised that oral health had been somewhat neglected by the Lancet family of journals, and therefore approached Professor Richard Watt at University College London to develop and lead a plan for a Lancet Oral Health Series. He then identified a group of twelve leading dental researchers from across ten diverse countries who worked together to write the two papers which were then submitted, reviewed, and finally accepted for publication. Papers published in a Lancet Series are a combination of critical review, analysis of relevant data and commentaries that provide an introduction to a topic, new to the Lancet readership. The Oral Health Series therefore was written as an overview and introduction to oral health for a global general medical and policy readership. Due to very tight word limits, it was impossible to provide a detailed and in-depth coverage of all oral diseases and associated conditions. The main focus of the Series papers was therefore to provide a broad and overarching overview of the importance of oral diseases and the need for urgent system reform and policy action to address the global burden of oral diseases.

In summary the key messages outlined in the Oral Health Series were:

1. The global burden of oral diseases remains high in terms of prevalence, impact and costs, and has seen no significant reduction over recent decades. More than 3.5 billion people globally are affected by oral diseases, and the prevalence is increasing in many low-and-middle-income countries.
2. There are stark and persistent inequalities in oral health, both between and within countries. Oral diseases disproportionately affect poorer and marginalised groups in society and they are closely linked to socioeconomic status.
3. Oral diseases are caused by common risk factors and broader social determinants shared with other non-communicable diseases (NCDs). Increasingly recognition is also now being placed on the critical role of the commercial determinants – particularly the sugar industry - on oral health and other NCDs.
4. Oral health care systems around the world have failed to combat the burden of oral diseases. The treatment dominated, isolated, increasingly specialised and costly approach to dental care needs radical reform.
5. Urgent reform of oral health care systems and policies is needed to orientate services, strategies and interventions towards a more preventive and upstream focus, responsive to population oral health needs and equity, better integrated with primary health care through Universal Health Coverage, and delivering high-quality evidence-based care.

The Lancet Oral Health Series has clearly profound implications for future oral health policy, training and education of the oral health workforce, and reform of oral health care systems. Since the publication and the official launch of the Lancet Series, many national and international dental organisations and stakeholders have been engaged in lively debate and discussion about how best to seize the opportunity to move ahead with action on oral health. It is encouraging to note that oral health has now been recognised as among the health priorities in the recently adopted United Nations Political Declaration on Universal Health Coverage (United Nations and General Assembly 2019).

But what about the implications for oral and dental research? Although the Lancet Oral Health Series has a global and population focus, it is very important to acknowledge the implications for all types of oral and dental research from basic sciences to clinical, and not just public health research, and of its relevance to researchers working in high-income countries, as well as those based in middle-and low-income countries.

The key implications of the Lancet Oral Health Series for oral and dental research include:

*Recognition of global public health importance of oral diseases*

The prominent spotlight for oral health in the Lancet helps to raise the global profile of oral diseases as major public health problems and, in consequence, as a research priority worthy of investment from global research agencies and associated stakeholders. The dental research community should collectively seize this opportunity and lobby national and international research funding agencies on the need for greater future investment in oral health research.

*Importance of responding to population oral health needs and addressing inequalities*

Future oral and dental research agendas must focus more directly on responding to the oral health needs of their populations across the life course, rather than concentrating too heavily on specialised and rare clinical conditions and syndromes. Caries, periodontal disease and oral cancers remain the most common oral conditions and more research is needed to effectively prevent and control these persistent problems at a population level. Although some progress has been made in recent years, research on addressing oral health inequalities and oral diseases in the most vulnerable and disadvantaged populations, remains a low priority.

*Strengthening of integrated disease surveillance and economic monitoring*

Data on oral disease burden largely relies on estimations from the Global Burden of Diseases Group (Kassebaum et al. 2017). Yet, there are still major knowledge gaps in basic oral disease epidemiology particularly in many middle-and low-income countries and on oral health care expenditure. The dental research community is an important advocate in strengthening integrated routine disease surveillance and the development of oral health (care) measurements comparable with mainstream health indicators.

#### *Focusing on the social determinants of oral diseases and related NCDs*

Research on the broad social determinants of oral diseases provides a great opportunity to work collaboratively across disciplines and sectors to explore and address the inter-connected pathways and processes linking political, social, economic, environmental, behavioural, psychosocial and biological factors to disease processes and outcomes. Rather than working in a dental research silo, the determinants agenda opens many opportunities for integrated and collaborative research and also potentially highlights the contributions of improved oral health to the broader NCD agenda, and thereby further advancing integration.

#### *Minimising the influence of sugary food and drinks industries on dental research*

The increasing recognition of the power and influence of vested commercial interests on setting health research agenda's and priorities, highlights the need for the oral and dental research community to become much more aware and alert to the strategies and tactics employed by the sugary food and drinks industry in influencing dental research. The sugary food and drinks industry has a long history of influencing dental organisations to focus more on toothbrushing, fluoride, and other technological solutions in the prevention of dental caries, at the expense of policy action to reduce free sugars consumption. Similar to policies dealing with the tobacco and alcohol industries, transparent and strict policies and conflicts of interest guidelines need to be developed to safeguard relevant, credible, independent and un-biased dental research.

#### *Strengthening translational and implementation research*

The call for radical reform of oral health care systems needs to be informed and guided by relevant translational and implementation research. Across the world dentistry is largely provided in primary care settings, but relatively little applied oral health services research is undertaken. Some progress has been made to develop primary dental care research networks, but much more research activity is needed where dental care is provided to ensure its relevance and applicability including a greater focus on quality improvement and health economic research.

#### *Evaluation of upstream policy interventions*

The evidence base for upstream policy interventions such as legislation, regulation and fiscal change to improve population oral health and reduce inequalities is relatively sparse. Informed by appropriate theoretical frameworks and using pluralistic methodologies, the evaluation of complex interventions requires a system-wide approach to measuring effectiveness and change. As an example, we must seize the opportunity of the WHO Sugars Guidelines (WHO, 2015) to promote and engage in research that supports countries in determining effective ways to reduce sugars consumption.

#### *Capacity building of oral and dental research community in low-and-middle-income settings*

Although significant progress has been made in developing research capacity in certain middle-income countries in recent decades, most oral and dental research expertise and activity is still largely based in high-income countries particularly in North America, Japan, Australia, New Zealand and Western Europe. Building greater research capacity and capability in low-and-middle-income countries is urgently required and this needs to be appropriate and relevant to the local population needs and priorities, and the structure of local oral health care systems. More research is needed on locally sourced appropriate technologies and innovations that strengthen the provision and availability of dental care across primary care settings.

#### *Conclusion*

Oral health is at a tipping point. Publication of the Lancet Oral Health Series has highlighted a range of profound implications for the oral and dental global research community. As IADR enters its Centennial Year, it is a time to celebrate the successes and achievements that have been made in dental research, but it is also an opportune time to reflect on the future research priorities and remaining challenges. IADR, in partnership with WHO, FDI and other relevant stakeholders need to work together to develop and lead a new global oral health research strategy in order to address the persistent and inequitable global burden of oral diseases through radical reform of oral health care systems and policies.

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#### *Conflict of Interest*

The authors declare no potential conflicts of interest with respect to the authorship and/or publication of this article.

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