

Achieving Oral Health for All through Public Health Approaches, Interprofessional, and Transdisciplinary Education

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With the publication of the World Health Assembly's (2021) *Resolution on Oral Health*, the World Health Organization's *Global Strategy on Oral Health*, and the draft *Global Oral Health Action Plan 2023–2030*, oral health is now recognized as an integral and primary component of the global health agenda (WHO, 2022a; WHO, 2022b). These documents have, for the first time, introduced a new and accepted definition for oral health that recognizes that the bio-medical model of oral health care—which focuses on health through a disease-centric and curative lens and excludes psychological, environmental, and social influences—is no longer sufficient for people to enjoy the highest state of oral health. The second strategic objective of the WHO's strategy speaks directly to this point, encouraging the enablement of all people to achieve the best possible oral health, and addressing social and commercial determinants as key risk factors for poor oral health.

While there have undoubtedly been significant advances in oral health in the past two decades (NIH, 2021), these benefits have been more pronounced in certain groups and communities, and have been inequitably distributed across populations. The traditional curative model that has underpinned dentistry for the last century does not work for everyone, for a wide variety of reasons. A systematic analysis of the global burden of disease continues to show stubbornly high levels of unmet oral disease that impact the development, life opportunities, and daily lives of hundreds of millions of children and adults (Bernabe et al., 2020). Furthermore, these consequences of poor oral health do not take into account the additional millions of people impacted by the psycho-social burden of oral disease, which disproportionately affects older adults and people living in

poverty (Senusi et al., 2018; Foley and Akers, 2019; Taylor et al., 2000).

The WHO resolution on oral health and the resulting global strategy are grounded in the UN's *Transforming our world: the 2030 Agenda for Sustainable Development* and its 17 Sustainable Development Goals (SDGs), in particular SDG Goal 3 (Ensure healthy lives and promote well-being for all at all ages) and SDG target 3.8 on achieving universal health coverage. These goals and targets seek a broader understanding and framing of oral health that can guide and orient policymakers, decision-makers, administrators, educators, researchers, health workers, and, most importantly, society to go beyond current models of care and broaden the horizons of what is possible. This resolution establishes a narrative for sustainable oral health whereby a person is able to maintain their oral health in the face of adversity, trauma, tragedy, threats, or significant sources of stress. In addition, the resolution and strategy promotes sustainable oral health care where long-lasting partnerships within and outside the health sector deliver services and provide care that meets the needs of today's populations without compromising the ability of health systems to meet the needs of future generations. This holistic approach could help to reinvigorate both policy-level and societal discussions about social impacts on oral health and hence human health and well-being.

This paper aims to use newly expanded definitions of oral health—from the World Health Organization and the FDI World Dental Federation (FDI) (Glick et al., 2016)—to describe opportunities for engaging policy- and decision-makers in ministries, departments of health, and other agencies around the concept of holistic oral health (i.e., mind, mouth, body, soul, and spirit) as it relates to the UN 2030

Agenda for Sustainable Development. To operationalize this idea, the oral health workforce model would need to be expanded. Expansion would be created through collaborations across the health, social service, financial, and educational sectors. Suggestions put forth in this paper explain how the WHO and FDI definitions of oral health could act as a guiding and organizing principle to inform and facilitate such collaborations. In doing so, innovative approaches and models for oral health workforce education and service delivery are formed. This paper is designed to explore those innovative approaches and models through examination of three thematic areas: 1) interprofessional, transdisciplinary, and cross-sectoral education; 2) data and evidence, and 3) policy and regulation; and closes by calling for new models of oral health service delivery systems and financing that can be tested for their returns on investing in the health and wellbeing of underserved communities.

Rationale

Oral health is a fundamental human right and is inseparable and indivisible from overall health and well-being. Yet despite this, oral health is a neglected area of global health (Watt et al., 2019).

One reason for this is that public and professional discourse often equates oral health with the presence or ab-

sence of oral disease. This limited perspective restricts how oral health is addressed. Instead of taking a holistic, person-centered focus, disease treatment becomes the primary aim.

New definitions for oral health have been published by World Health Organization (2022c) (Box 1) and FDI World Dental Federation (Glick et al., 2016) (Box 2), which are aligned and grounded in global commitments, including the UN 2030 Agenda for Sustainable Development and the 17 Sustainable Development Goals (SDGs) and embrace a more expansive view of oral health (United Nations, 2022).

WHO's definition reinforces a broader definition of health promotion and disease prevention, stating, "Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity" (World Health Organization, 2022a). The FDI definition addresses not just the presence and absence of disease, but also physiological function and psychosocial status. Physiological functions associated with oral health include the ability to chew, smile, laugh, speak, and taste, while psychosocial status is the ability to interact without embarrassment and social discomfort due to one's teeth. For example, missing or stained teeth may reduce an individual's willingness to smile, thereby impacting job prospects—especially when interactions with the public are necessary (British Dental Journal, 2016). A diseased oral cavity affects physiological function

Box 1 | World Health Organization Definition of Oral Health

WHO describes oral health as "the state of the mouth, teeth and orofacial structures that enables individuals to perform essential functions, such as eating, breathing and speaking, and encompasses psychosocial dimensions, such as self-confidence, well-being and the ability to socialize and work without pain, discomfort and embarrassment. Oral health varies over the life course from early life to old age, is integral to general health and supports individuals in participating in society and achieving their potential"

SOURCE: World Health Organization (WHO). 2022c. *Oral Health*. Fact sheet. Available at: <https://www.who.int/news-room/fact-sheets/detail/oral-health> (accessed February 3, 2023).

Box 2 | FDI World Dental Federation Definition of Oral Health

FDI World Dental Federation defines oral health as "multi-faceted," including "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 (head, face, and oral cavity). Oral health means the health of the mouth. No matter what your age, oral health is vital to general health and well-being."

SOURCE: Glick, M., D. M. Williams, D. V. Kleinman, M. Vujcic, R. G. Watt, and R. J. Weyant. 2016. A New Definition for Oral Health Developed by the FDI World Dental Federation Opens the Door to a Universal Definition of Oral Health. *Journal of the American Dental Association* 147 (12): 915-17. <https://doi.org/10.1016/j.adaj.2016.10.001>.

and psychosocial status so that it can become socially problematic, and have financial ramifications, to socialize and work without embarrassment or pain from broken or missing teeth and halitosis. The WHO definition also recognizes the importance of orofacial structures in musculo-skeletal function (Bonato et al., 2017). Collectively, these three domains affect an individual's ability to perform essential functions, thereby impacting self-confidence and well-being.

In the United States, as well as around the globe, oral diseases disproportionately affect poor and traditionally marginalized members of societies, including those who are on low incomes; people living with disability; older people living alone or in assisted living or long-term care facilities; those impacted by substance misuse, including alcohol and illicit drugs; migrants or refugees; people in prison; remote and rural community members; and people from minority and/or other socially marginalized groups (WHO, 2022a). WHO and others report a strong and consistent association between socioeconomic status—including income, occupation, and educational level—and the prevalence and severity of oral diseases and conditions (Matsuyama et al., 2018; Peres et al., 2019). The treatment of oral diseases and conditions are often cost-prohibitive and not part of universal health coverage, nor are they well-supported through insurance plans (Northridge et al., 2020; WHO 2022c).

The WHO and FDI definitions and their associated conceptual frameworks can catalyze ambitious global, regional, national, and local responses to promote oral health. An understanding of oral health that is grounded within the UN 2030 Agenda for Sustainable Development establishes a new narrative for oral health where the mouth is a gateway to the external world, but also provides insights into the health and psychological well-being of a person, well beyond the oral cavity. In many cultures and forms of traditional medicine, the soul and spirit are an integral part of health and oral health beliefs and behaviors (Thu et al., 2020). For example, Ayurvedic medicine, people of Māori descent, and the Indigenous American and First Nations people of Australia all accept the body-soul-spirit nexus as fundamental to health and well-being (Torwane et al., 2014; Collin, 2017). Such a narrative unites the mind, mouth, body, soul, and spirit to catalyze a more holistic approach to oral health.

While not explicitly mentioned in the WHO and FDI definitions, the inclusion of the body-soul-spirit nexus would ensure culturally appropriate and inclusive oral health care for these traditionally underserved communities. This fresh perspective also speaks to a shift from a bio-medical model of care to a bio-psychosocial-spiritual one. The shift recognizes that health and oral health is influenced by a range of factors, including multigenerational trauma experienced by

specific cultural, racial, or ethnic groups; lived oppression; and discrimination and poverty (Gameon and Skewes, 2020). Health and oral health are also affected by life circumstances and life course events, which can be shaped by commercial determinants (i.e., commercial actors like tobacco, alcohol, and food and beverage companies are important drivers of non-communicable diseases) (Maani et al., 2020).

Understanding Sustainable Oral Health

The new definitions of oral health are aligned with and will contribute to achieving the 2030 Agenda and the 17 Sustainable Development Goals (United Nations, 2022). Goal 3, to ensure healthy lives and promote well-being for all at all ages, is particularly relevant for envisioning sustainable oral health (WHO, 2022b). A successful sustainable oral health approach (Box 3) enables a person to maintain their oral health in the face of adversity, trauma, tragedy, threats, or significant sources of stress. Doing so requires long-lasting partnerships within and outside the health sector, as well as engagement with government, communities, civil society, and the private sector. Operationalizing sustainable oral health would encourage the co-design and co-production of innovative approaches to oral health promotion, prevention, and care, and provide opportunities to develop responsive and sustainable models of each.

Operationalizing Sustainable Oral Health

Taken together, FDI's definition of oral health and the concept of sustainable oral health, it is apparent that the traditional oral health workforce led by dentists is able to assess and manage FDI's first domain of oral health (i.e., the presence and absence of disease in the structures of the oral cavity). The other two domains, physiological function and psychosocial status, are poorly addressed if at all in predoctoral and postgraduate education and training, or as part of in-service and continuing professional development of dentists and other members of the oral health care team. The focus on the first domain is reflected in current modalities of oral health promotion and oral disease prevention, which prioritizes the relationship and communication between a patient and members of the oral health care team. In the existing model of oral health promotion and oral disease prevention, an action such as tooth brushing with fluoridated toothpaste is frequently a solitary activity undertaken by an individual away from supporting relationships and networks.

The COVID-19 pandemic exposed the limitations of the traditional curative model and the weak integration of oral disease control and prevention across health and social

Box 3 | What is Sustainable Oral Health?

Sustainable oral health recognizes that oral health is intrinsic and inseparable from general health and well-being, and that oral health care is an integral part of health and development from the very first moments of life and throughout the life course.

Sustainable oral health approaches enable a person to maintain their oral health in the face of adversity, trauma, tragedy, threats, or significant sources of stress. This can be achieved by:

- grounding oral health in the Agenda for Sustainable Development and the 17 SDGs so that collective efforts meet the oral health needs of current populations without compromising the capacity and capability to meet the needs of future generations,
- taking action in areas of critical importance for humanity and the planet through whole of government, whole of society approaches,
- committing political and financial resources to oral health in order to strengthen leadership and create win-win partnerships within and outside the health sector,
- adopting innovative workforce models and revising and expanding competency-based and interprofessional education to respond to population oral health needs,
- integrating essential oral health care into primary care, and ensuring related financial protection and essential supplies, and
- enhancing surveillance and health information systems to provide timely and relevant feedback on the status of oral health to decision-makers for evidence-based policymaking.

SOURCE: Developed by authors.

care programs and services. Profound ramifications of inequitable access to oral health care at both the individual and population levels were exacerbated by the pandemic and are now playing out in homes, workplaces, and health care facilities around the world (Brian and Weintraub, 2020; Huang and Chang 2022; León and Giacaman, 2020; Stennett and Tsakos, 2022). For example, in the U.S., more than 49 million residents live in communities with little to no access to dental care (Brian and Weintraub, 2020). According to Brian and Weintraub (2020), this shortage was exacerbated by the closing of school-based oral health programs during the pandemic so the 39% of low-income students who would have received sealants through these clinics were not served. Similar scenarios played out around the world during the course of the pandemic; for example, the UK's National Health Service reported an overall 98% decline in dental services and León and Giacaman (2020) documented a lack of dental care for older adults residing in Latin American long-term care institutions (Stennett and Tsakos, 2022). As such disparities have become more evident, calls have increased for oral health leaders and workers to collaborate across sectors in order to address the social and commercial determinants of health.

When oral health is seen as a manifestation of the social and commercial determinants of health affecting one's systemic and mental health, nutrition, speech, and psychological well-being, it becomes clear that the health and social care workforce, including non-traditional health workers, must be trained with an intersectoral, interprofessional, and transdisciplinary lens. Intersectoral education such as WHO Health in All Policy Approaches recognizes that most oral diseases and conditions are preventable and can be effectively addressed through population-based public health measures at different levels. Interprofessional education for collaborative practice (IPECP) enables health and social care professions to learn with and from each other. Young children visit a pediatrician more often than they visit a dentist, for example, so IPECP would support the primary care team to play a more direct role in oral health promotion, education, preventive strategies, and surveillance and early identification of disease. And transdisciplinary learning reinforces intersectoral and interprofessional learning by building competencies and skills in subjects and areas of common interest across sectors, for example diet and nutrition across health, food, and primary and secondary school education systems.

It is essential that all involved understand how the mouth and oral health fit within education that sees the body as a whole. An oral health workforce that includes non-traditional oral health team members could make a significant contribution to realizing sustainable oral health. Such an expanded oral health workforce could include physicians, school nurses, midwives, pharmacists, social workers, dietitians, community health workers, speech language pathologists, and other health providers, as well as non-traditional members such as civic and religious leaders, teachers, and school cafeteria workers. Those non-traditional oral health team members are in daily contact with children and families across the income level spectrum and could be the eyes and ears for an expanded oral health team. They can act as powerful community advocates and strengthen social accountability in health workforce education and training. Such a broad team approach would help expand the focus of oral health promotion and oral disease beyond the traditional emphasis on disease prevention to incorporate all three domains of the FDI definition of oral health, including addressing cultural beliefs and dietary needs that relate to oral health. A reconceptualized workforce could open also discussions around psychological well-being, diet and nutrition, and the role of the oral microbiome in oral and general health (Pitts et al., 2021).

To achieve these goals, the oral health workforce must acquire new skills and competencies for interprofessional, transdisciplinary, and intersectoral collaboration to promote habits and healthy lifestyles across relevant settings. Schools, communities, homes, and workplaces should enable teachers and families to be equal partners with health professionals while ensuring privacy of personal health data. The result would be integrated people-centered health services, as proposed by the World Health Organization's 2016 Framework in Integrated, People-Centered Health Services (WHA, 2016); in this framework, non-dentists are essential members of the oral health care team.

A New Model for Sustainable Oral Health Promotion

A successful sustainable oral health approach is community-based and engaged, and deliberately targets holistic care of underserved populations. Such an approach would allow the oral health workforce to address critical gaps in oral health services and care. Oral disease prevention and health promotion as well as care gaps are especially pronounced for certain groups within underserved communities, including infants (0–3 years old), young children (3–5 years old), persons with disabilities, and frail older adults (NIH, 2021)—groups that all have an inability to function

independently. A holistic model for oral health promotion directed at infants would support a “village” of caregivers who might include pregnant women and new parents, grandparents, extended relatives, and neighbors, all responsible for the baby’s health. This model would aim not only to improve the overall health of the infant but also the multi-generational group of carers and community members responsible for implementing health promotion activities for the baby. A similar model could be envisioned for young children and frail older persons who often have limited function and are dependent on caregivers.

Another potential target group is adolescents transitioning into adulthood, a critical period of life when neglect of oral health in the formative years could have profound impacts on psychosocial behavior and self-esteem (Kaur et al., 2017). It is also a time when risk factors for poor health, such as binge drinking alcohol and the use of tobacco products, are often initiated. According to the National Institutes of Dental and Craniofacial Research’s 2021 report, adolescent populations that could be targeted for a model of sustainable oral health promotion might include immigrants, LGBTQ youth, those in foster care and the juvenile justice system, young adults who are homeless, and youth from underserved geographical areas (NIDCR, 2021).

While no existing models for sustainable oral health promotion have been uncovered for any of the identified underserved populations, in 2019, Gargano et al. published an *Ecological Model to Advance Oral Health Equity* that was inspired by school-based oral health programs from around the world emphasizing social determinants and health equity. In this model, the authors describe influences on health care access and the potential value for health and well-being that draw from health-promoting concepts proposed by WHO. At the center of the model are three outcomes of interest for school-aged children—health care access, general health and well-being, and enhancing understanding of healthy life choices among students, teachers, and parents. A model of sustainable oral health promotion for underserved communities could take a similar approach, emphasizing lifelong learning across professions and throughout families and communities; relying upon evidence-informed strategies to achieve oral health equity; and addressing policy-level decisions impacting the mind, mouth, body, soul, and spirit. The following three sections consider how each of these elements fits into a new model of oral health promotion.

Interprofessional, Transdisciplinary, and Intersectoral Education and Lifelong Learning

Interprofessional (IP) and transdisciplinary learning (TL) and Intersectoral (IS) approaches can serve as a roadmap to translate and apply the new definitions of oral health in a coherent, consistent, and mutually reinforcing manner. To do so, however, the institutional education and learning landscape must be reconfigured from a conventional siloed model to a network of many interconnected hubs supplying hybrid, formal, and non-formal learning opportunities over the life course. Schools, colleges, universities, and other tertiary education institutions, as well as community-based learning facilities and workplaces, could gradually become integrated learning centers in mutually reinforcing learning networks. Such networks would form more flexible and responsive lifelong learning systems and help to harmonize education and training for a wide and diverse range of occupations to achieve oral health for all.

A lifelong learning framework for oral health education and training of both dentists and non-dentists alike must go beyond the disease lens and emphasize FDI's psychosocial and physiological domains (Glick et al., 2021; NASEM, 2016; O'Carroll et al., 2016). Combining the IP, TL, and IS approaches will require a sustained and coordinated exchange among workers within health care and non-health care professions. A first step for the framework to be accepted more broadly is for leadership in each of the health and non-health professions to embrace this effort. One venue for promotion is the annual convenings of the National Interprofessional Initiative on Oral Health, which brings together top elected and staff leaders of major health professions and the community health workforce to cultivate leaders; facilitate interprofessional learning and agreement; support and develop tools and resources to create a shared knowledge base, understanding, skills, and culture of oral health; and support, align, and connect oral health advocates and networks.

There are six key aspects to this expanded learning approach.

1. The oral health team composition needs to shift based on context, site, and setting. In this way, two or more professions work together to prevent issues stemming from poor oral health by focusing on the psychosocial and physiologic domains of an individual's oral health (Dolce et al., 2014, Dolce et al. 2016; Silk, 2017).
2. A people-centered oral health approach must be community-engaged and based, as well as equitably distributed within the health care system (acute, psychiatric, long-term and ambulatory care, federally qualified health centers) and in community settings such as health and community centers, prisons, shelters for the homeless, halfway houses, and Indian Health Services (Bonwell et al. 2014; Kisely, 2016; Meldrum et al., 2018; Sabato et al., 2018; Benzion et al., 2021; Bhattacharya et al., 2021; Garcia et al., 2021; Northridge et al., 2021; Faisal et al., 2022).
3. People-centered oral health care will require didactic and experiential education and training as part of lifelong learning pathways so that health professionals and students feel competent as interprofessional, transdisciplinary, and intersectoral collaborators for oral health care and prevention and for holistic mental and physical health promotion (Weintraub, 2017; Haber et al., 2021).
4. Didactic and experiential oral health education and training should extend to non-health professionals (i.e., teachers, school workers, and community workers) and build the knowledge, skills, and attitudes that foster a culture of holistic oral health. This will empower these individuals to be interprofessional and transdisciplinary collaborators in oral health promotion (Negro et al., 2019; Khurana et al., 2020; Ponce-Gonzalez et al., 2021).
5. Education curricula should be aligned to community needs, and student selection should be targeted, with priority given to underrepresented populations, interprofessional training in underserved locations and in areas of need, expansion of faculty in rural areas, and close partnership with communities (Pálsdóttir et al., 2017).
6. Social determinants of health should be integrated into health workforce education and training (De Maeseneer et al., 2020). Through community-engaged and reflective exercises, learners can consider how their own experiences have shaped their life options and their way of thinking while also gaining a greater understanding of the issues around positioning, privilege, and marginalization.

Working across professions and intentionally involving mental health experts will not only help learners and educators navigate through emotionally charged times, but can also highlight how mental health is a critical part of considering one's overall health and well-being.

Evidence-informed Strategies for Oral Health Equity

To successfully implement interprofessional education (IPE) and, by extension, to educate students committed to and

comfortable with interprofessional practice (IPP), particularly those involving non-traditional oral health domains, it is essential to understand the enablers and barriers to IPE and IPP. For example, if care providers are expected to work together toward holistic care, prevention, and health promotion of an infant's mind and body, which includes the mouth, it is important to understand research gaps as well as enablers and barriers to implementing effective IPE and IPP.

A brief literature search did not uncover data and evidence on a combined IP, TL, IS approach. Similarly, there is limited evidence, if any, on efforts for transdisciplinary oral health education and learning to collectively engage community-based and non-traditional oral health workers such as day care providers, nursing home assistants, coaches, and food management personnel. There are also data gaps within the health sector, specifically in the area of interprofessional education (IPE) and interprofessional practice (IPP) addressing oral health promotion.

O'Carroll et al. (2016) identified several research gaps in empirical IPE and IPP research to date in their 2016 article *Health and Social Care Professionals' Attitudes to Interprofessional Working and Interprofessional Education: A Literature Review*. These gaps include limited data focused on the attitudes of health care, education, and social work professionals to IPE and IPP; limited evidence of variables affecting

attitudes; and limited insight into IPP educators' perspectives of the enablers and barriers to IPE and IPP (O'Carroll et al., 2016). More recently, efforts are underway by the National Center for Interprofessional Practice and Education to advance the science of IPE and IPP by working with program leaders at more than 70 interprofessional sites implementing interprofessional education and collaborative practice programs (Delany et al., 2020). Given the paucity of data in this area, further empirical work is clearly needed.

According to O'Carroll et al. (2016), there are four primary enablers of IPP: effective communication, established roles for professionals, IPP for qualified professionals, and shared processes and policies. A full picture of the researcher's work on enablers and barriers to IPP and IPE is presented in Table 1. Additionally, Skinner et al. (2021) identified three key themes based on input from allied health professionals' interprofessional supervisors: introducing the interprofessional lens early; tapping into unique possibilities; and setting up the experience to maximize success.

Policy and Regulation

The WHO's Global Strategy on Oral Health calls for the "recognition and integration of oral health in all relevant policies and public health programs as part of the broader

Enablers	Barriers
<p>IPE Enablers:</p> <ul style="list-style-type: none"> • Effective communication • Established roles for professionals • IPP for qualified professions • Shared processes and policies 	<p>IPE Barriers:</p> <ul style="list-style-type: none"> • Ineffective communication • Organizational culture • Lack of established roles • Differing processes and policies • Lack of resources • Lack of understanding or roles and responsibilities
<p>IPP Enablers:</p> <ul style="list-style-type: none"> • Resources • Motivation (priorities for economical, moral, financial, cultural impact) 	<p>IPP Barriers:</p> <ul style="list-style-type: none"> • Lack of resources • Lack of motivation • Missed opportunities for IPE • Organizational culture

Table 1 | Enablers and Barriers to Interprofessional Education (IPE) and Practice (IPP)

SOURCE: O'Carroll, V., L. McSwiggan, and M. Campbell, 2016. Health and Social Care Professionals' Attitudes to Interprofessional Working and Interprofessional Education: A Literature Review. *Journal of Interprofessional Care* 30(1): 42-49. <https://doi.org/10.3109/13561820.2015.1051614>.

national noncommunicable and Universal Health Coverage agendas” (WHO, 2022a). The strategy sets out six strategic objectives: (1) improve oral health governance; (2) enable oral health promotion and oral disease prevention; (3) develop the health workforce; (4) integrate oral health care in primary health care; (5) enhance oral health information systems; and (6) strengthen oral health research agendas. To successfully implement the strategy, specific health sector policies must be updated to reflect a new conceptualization of oral health. Such policies would have multiple aims, including:

- recruiting, producing, and developing a fit-for-purpose health workforce;
- integrating oral health into policies aimed at preventing and controlling non-communicable diseases (i.e., regulatory, tax, marketing, and access measures around tobacco, alcohol, and junk foods);
- incorporating essential oral health—tailored for age-appropriate oral health strategies—into primary health care to ensure related financial protection and access to needed supplies; and
- ensuring the availability and broader use of WHO essential medicines, such as fluoridated toothpaste, silver diamine fluoride, and glass ionomer cement.

These elements would strengthen health policies and enable the oral health workforce to address critical gaps in oral health services and thus offer better care by addressing the holistic needs of underserved populations. Teledentistry may be one way to reach people in underserved communities; the WHO strategy includes “optimizing digital technologies for oral health” as a core principle, although it does not include it in one of the six strategies. Leveraging telehealth policies created during the pandemic could be a way of caring for patients who do not currently have access to oral health services.

Additionally, incorporating non-health sector policies that benefit oral health would demonstrate to communities the importance of oral health while also creating partnerships within and outside the health sector. Cross-sector policies could be operationalized by intensifying and expanding upstream and midstream actions on the social and commercial determinants of oral health. Examples include implementing sugar taxes, ensuring that optimal fluoridation systems are in place, coordinating on phasing out mercury amalgams, and undertaking oral health promotion in key settings such as schools and long-term care facilities (Albrecht et al., 2016; Health Care Without Harm Europe, 2018; Jamieson et al., 2020; Bramantoro et al., 2021; Murchio and White 2022).

An intersectoral approach to oral health policymaking emphasizes the whole person and the equity of the community by integrating oral health promotion and prevention into both public health and non-health structures. This holistic approach to oral health would inevitably involve a broad range of stakeholders from finance, social protection, economics, education, environment, telecoms, and other relevant sectors as well as a range of government ministries. The success of such an approach, however, would depend on the willingness of policymakers to collaborate. Both objective and subjective assessment measures should be used to evaluate the pros and cons of an intersectoral approach, which could then be used to form a model that could be tested in other communities, particularly those that have traditionally been underserved.

Moving Forward

A new model of sustainable oral health promotion needs to address the many challenges that underserved communities face. These challenges include, but are not limited to, the perennial difficulty of bringing together different sectors to collaborate on health (Buse et al., 2022). They also include changing mindsets and financing models. For example, the organizations that pay for oral health promotion are likely the same organizations that currently pay for dental care and preventative treatments such as fluoride. These payers—insurance companies, governments, and businesses—will want to know the costs and projected savings up front (Box 4). Without such data, the likelihood of a shift to paying for an interprofessional, transdisciplinary, intersectoral approach is slim. Additionally, a shift to more complex funding mechanisms for oral health (as compared with the traditional model of restorative care) raise questions of how this will work in practice and how it can be measured. Changes in scopes of practice will give rise to other questions and concerns. Who will provide which aspect of oral health promotion and prevention, who will supervise it, who is paid, how do they get paid, and by whom will they be paid? Lastly, the implications of more evenly distributed funding will need to be taken into account.

Despite the multitude of challenges, the WHO’s Global Strategy on Oral Health offers an optimistic view that change is possible. Grounding oral health in the 17 SDGs provides a roadmap for multisectoral action, and an impetus for increased efforts to promote interprofessional and transdisciplinary education and training on oral health. Complex challenges, such as the COVID-19 pandemic and humanitarian crises caused by geo-political instability and climate change, are accelerating both a policy shift and the implementation of a transformative health workforce and

Box 4 | Barriers to Dental Health Posed by Insurance

Insurance policies and programmes can create major barriers to dental health. Gaps in health insurance can explain the significant role of employer-based private health insurance and out-of-pocket payments for example dental and visual care in the US. In public dental services the most common payment systems for dental care are capped-fee and fee-for-service payment models. The two payment systems can impact on individual outcomes, such as by overtreatment in a fee-for-service system and undertreatment in a capped-fee system.

Setting national objectives aimed at oral disease prevention and health promotion could help reorient oral health insurance policies and programmes to promote financial protection for essential oral health care and reduce the need for dental restoration (ODPHP, n.d.). Public and private oral health insurance data on coverage, health outcomes and economic information would support expanded coverage of oral health services, which is one of the cornerstones of Universal Health Coverage.

SOURCE: Developed by authors.

health workforce education. If this expanded approach to oral health promotion can be properly timed with other societal changes, there is a significant opportunity to successfully embed oral health promotion models for underserved populations into new policies. Public demand could be a key driver of change and transformation, as more communities demand holistic responses to their health and well-being rather than siloed treatment and care models.

Realizing Sustainable Oral Health

A fresh narrative has emerged from new definitions of oral health, enabling a shift from a bio-medical model of care to one that recognizes the full spectrum of health and oral health—where oral health is understood to be influenced by a wide range of bio-psychosocial-spiritual perspectives and external social, economic, and environmental factors. There are still barriers to approaching oral health through this interprofessional, transdisciplinary, and intersectoral lens, but there are reasons to be optimistic that the ongoing shifts will be successful. Public attitudes are moving towards embracing greater prevention and health promotion activities, and towards adopting sustainable practices and behaviors in society. This is paving the way for a shift to holistic oral health promotion across the life course, from infants and youth to older persons. As this occurs, the composition of the oral health workforce is expanding, and more individuals and institutions are involved in oral health governance. With this shift, members of traditional dental teams can drive greater cooperation among different health professions and with community members. It is essential to ensure financial support by payers to further encourage active engagement

in transition and implementation processes for a person-centered oral health promotion model.

Data on cost savings are still needed. As political awareness and recognition of the value of integrated person-centered oral health services grows, demonstration projects with private and public funding could require that programs in underserved communities measure the return on investment. Pilot studies can be undertaken to establish proof of concept, with cooperation and collaboration among health professionals, community members, governments, and payers of care. In doing so, policies can be written based on evidence and with societal support that reflect the new definitions of oral health and can provide pathways to health—in mind, mouth, body, soul, and spirit—for all people.

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