Understanding and tackling oral health inequalities in vulnerable adult populations: from the margins to the mainstream

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Abstract

Vulnerable and socially excluded groups in society persistently experience significantly worse oral health and poorer access to dental services than the mainstream population. Action to tackle these unfair, unjust and avoidable inequalities in oral health needs to be informed by an understanding of the broad range of interacting factors that ultimately influence oral health across society and specifically the most vulnerable and marginalised. Failure to understand the underlying factors that create and perpetuate the oral health equity gap, risks the development and implementation of ineffective interventions that do not achieve meaningful improvements in oral health for the most vulnerable. This paper presents a theoretical framework that combines a broad public health perspective on oral health inequalities, combined with more specific factors determining the oral health of vulnerable and marginalised groups. Actions to improve access to dental services and policies to combat oral health inequalities amongst vulnerable adult populations are then presented.

In Brief Points:

- This paper highlights the evidence of oral health inequalities that exists amongst vulnerable adult populations and presents a theoretical framework of the underlying causes of these inequalities.
- A range of measures can be undertaken to improve access and quality of dental care for vulnerable groups.
- Upstream policies are also needed to address the broader determinants of oral health inequalities.

Introduction

The specialities of Special Care Dentistry (SCD) and Dental Public Health (DPH) share a set of common professional and ethical values including concerns over fairness, dignity, autonomy, inclusion and social justice. Special Care dentists, their wider clinical teams and health and social care partners principally focus on the clinical aspects of providing high quality and appropriate clinical care to adult patients with special care dental needs. In contrast those working in Dental Public Health focus on the population level, acting as advocates for policy change to promote oral health in their communities and service developments to improve access and quality of dental care. Both these specialities however, share a common concern for vulnerable groups in society and the need to tackle oral health inequalities.

In the UK for the purposes of the speciality, individuals and groups who may require SCD are described as having a physical, sensory, intellectual, mental, medical, emotional or social impairment or disability or, more often, a combination of a number of these factors.[1] The term vulnerable adults therefore include people living with disabilities and marginalised and excluded groups. This paper will explore the meaning of oral health inequalities and present a unifying theoretical framework that highlights the shared causes and influences on vulnerable adult population groups. Examples of epidemiological evidence for the burden of oral diseases on vulnerable adult populations will be presented and recommendations made on action needed to improve access and quality of primary dental care, and strategies to reduce oral health inequalities across vulnerable adult populations. Although the paper has primarily a UK focus, the issues raised have wider international relevance.

Defining oral health inequalities

Oral diseases are not evenly distributed across the population. Instead, dental caries, periodontal disease, oral cancers and other conditions of the mouth and teeth disproportionally affect the most vulnerable and socially disadvantaged individuals and groups in society.[2–4] These differences in oral health status across groups in society do not occur by chance and are not inevitable – oral diseases are caused by a complex array of interacting factors, many of which are largely beyond individuals' direct control.[5] Oral diseases are preventable to a large extent and therefore are avoidable. It is simply unfair,

unjust and unacceptable that the most vulnerable and disadvantaged in society suffer the most from oral diseases.[6,7] The unequal distribution and burden of oral diseases therefore provide a perfect example of health inequality.[8]

Oral health inequalities are often framed and viewed from different perspectives. Many public health researchers particularly focus on socioeconomic inequalities in oral health. A very extensive international literature has shown the direct linear association between different measures of socioeconomic status (income, education, social class) and the prevalence and severity of oral diseases in children, young people, adults and older people.[9–11] Socioeconomic inequalities in oral health are not merely differences in oral health status between the rich and the poor. As is the case with general health, a consistent stepwise relationship exists across the entire social spectrum, with oral health being worse at each point as one descends down the social hierarchy.[12] This universal phenomenon, known as the social gradient, is found at all points across the life course from pre-school to older age, in different clinical and subjective outcomes, and across different populations and settings across the world.[13,14]

Inequalities in oral health also exist across different ethnic minority groups. However this is a complex topic and it is incorrect to assume that all minority ethnic groups have poorer oral health status than the majority white population.[15] In some countries such as US, Australia, Canada, and New Zealand, indigenous First Nation populations have very poor oral health compared to the majority population.[16] Refugees and migrants forced to leave their home countries because of war, discrimination or natural disasters also often have high levels of oral health need.[17]

From a clinical Special Care Dentistry perspective, oral health inequalities are often viewed more specifically in relation to disability and complexity of clinical need.[18] Given the difficulties in describing the scope and need for SCD this largely bio-medical perspective has been broadened to consider need in terms of a disability or activity restriction that 'directly or indirectly affects oral health within the personal and environmental context of the individual' [19] and also includes consideration of the wider influence of social vulnerability and disadvantage on oral health.[20] Table 1 presents a list of vulnerable population groups

that may experience oral health inequalities in disease status and/or access to dental services.

Overview of epidemiological evidence on oral health inequalities amongst vulnerable adult populations

One in five people in the UK live with a disability accounting for 21% of the population (13.3 million) in 2017/18.[21] The prevalence of disability increases with age with 18% of working adults and 44% of state pension adults reporting a disability. According to the World Health Organisation worldwide people with disabilities experience poorer health outcomes, lower levels of educational attainment, are less likely to be in employment and more likely to live in poverty compared to the general population.[22] Further they are more likely to be dependent, isolated and to have restricted participation in society.[22]

International evidence shows that vulnerable populations have an increased risk of poor oral health compared to the general population, yet often have worse access to the care they need. This is true across a broad range of people experiencing disability. For example people living with an intellectual disability (ID) have been shown to have poorer oral hygiene, higher prevalence and more severe forms of periodontal disease and have similar caries rates compared to the general population.[23] Several studies have also shown that people with ID were less likely to have received dental treatment and when they did they were more likely to have had teeth extracted rather than restored. [23,24] This was particularly the case for people with ID resident in institutional settings or who were unable to tolerate and co-operate with dental treatment. [23,24] Similarly, people with severe mental illness have been shown to have significantly higher levels of tooth decay, and are more likely to become edentulous when compared to the general population. [25]

A systematic review looking at the association between oral health and substance abuse found that individuals with substance use disorders have greater and more severe dental decay and periodontal disease than the general population.[26] People facing homelessness also experience very poor oral health. Compared to the general population, homeless individuals have higher levels of untreated decay and periodontal disease, and poorer oral health related quality of life outcomes. In addition, the prevalence of dental pain amongst

homeless people is common.[27,28] Studies on prisoners suggest they experience more decayed, fewer sound, fewer filled teeth and worse periodontal conditions than the general population.[29–31] Likewise, refugee and asylum seeker populations experience greater burden of oral diseases even when compared to the least advantaged groups in society.[17] Finally, research on people with dementia suggest that oral health outcomes are considerably worse compared to those in the aged matched general population. Moreover, there appears to be an association between the extent and severity of their oral health conditions and the level of cognitive decline.[32,33]

Little is known about the oral health of other vulnerable groups, such as travellers and sex workers as research is sparse. However, the limited findings indicate that they experience disproportionate amount of dental disease and poor oral health.[34–36]

Figure 1 presents the 'cliff-edge' in oral health experienced by people living with long term disability, homeless people and prisoners when compared to the general adult population in England, Wales and Northern Ireland.[27,29,37] Even compared to the lowest occupation and poorest groups, people living with disability, homeless people and prisoners all had much higher levels of untreated decay.

Figure 1 here

Furthermore, evidence suggests that there are a number of barriers to the provision of oral care for people from vulnerable population groups. These include patient-centred barriers and professional service barriers.[38] Anxiety and communication-related issues have been shown to be significant barriers to the utilisation of dental services, in particular to people with intellectual disability.[39] People with mobility impairments often face challenges when accessing care as well.[40] Oral health care professionals' attitudes, lack of training and financial considerations have also been cited as limiting access to dental services.[41,42]

Unifying theoretical framework

Action to improve access to dental services and policies to tackle oral health inequalities both need to be informed and guided by a theoretical framework.[43] Health policy aiming to

reduce health inequalities has been heavily influenced by the seminal WHO review which presented a theoretical framework to aid understanding of the underlying political, economic and societal causes of socio-economic inequalities in health, the so-called social determinants.[44] The WHO framework has been adapted and modified to also consider the broader causes of oral health inequalities across the general population.[45] The WHO International Classification of Functioning (ICF), Disability and Health has classified disability into three dimensions – body function, individual activity and participation in society.[46] These dimensions are influenced by the broader environmental context[47] and the ICF framework has also been applied to oral health.[19] However as far as the authors are aware, to date no theoretical framework has been developed to encompass and combine the social determinants of (oral) health inequalities and more specific factors influencing and determining the oral health of vulnerable and marginalised groups in society.[48] We have therefore further adapted the existing oral health inequalities framework to include more specific factors (enabling and disabling processes) that may have greater influence on the oral health of vulnerable and marginalised groups in society (See figure 2).

Figure 2 here

The essence of the theoretical framework is to highlight the over-riding influence of the structural determinants of health, the upstream socio-economic, political and societal drivers of health. These factors create and determine the social and physical conditions of life and the opportunities and choices available, or not to people. For example macro-economic and monetary policy determines economic growth, income levels and distribution of wealth in society. Social, welfare and education policies influence training, employment and support services available across society and how these services are delivered. In turn the intermediate determinants include individuals' social position and the circumstances in which people live their daily lives. Social position includes traditional measures such as social class, income level and educational status. However it also includes a persons perceived social standing in society – the respect they are given to by society. Circumstances includes both material conditions of daily life, for example quality of housing and social relationships such as the quality and nature of personal and family relationships. Psychosocial factors include a wide range of factors such as self-esteem and stress, and

lastly, but very importantly, access to appropriate health services is another intermediate determinant of oral health. The proximal determinants or downstream factors highlight the importance of health-related behaviours such diet, alcohol, tobacco and hygiene, and the biological factors that are directly involved in disease processes such as inflammation, infection and immune responses. The value of this framework is to highlight the range of interlocking distal and proximal factors that interact to ultimately influence and determine the oral health status of individuals and populations across society.

It is important however to also consider the more specific factors that determine the oral health status of vulnerable adult groups in society. Figure 2 therefore includes positive enabling factors that promote good oral health and the negative disabling factors that drive oral diseases in this population. The enabling (protective) processes include living in supportive environments, particularly in early life and childhood through a supportive, stimulating and stable family environment. Also education, training and work environments need to be supportive and inclusive to those with different abilities.[38] Opportunities and choices should be available throughout life. A socially inclusive society in which respect, autonomy, encouragement and support is available to all, empowering and building resilience and self respect. High quality health, social and welfare services need to be available, accessible, appropriate and welcoming to vulnerable adults.[49] In contrast the disabling (detrimental) processes and mechanisms include experiencing a difficult and traumatic early life when adverse childhood events can cause long-term emotional, social and physical harm. Growing up in poverty combined with other forms of disadvantage cluster together to create conditions that marginalise and exclude people from society and limits their opportunities and choices in life. Institutional and personal discrimination and stigma, experiences of abuse, harassment, and violence, all combine to reduce a person's, self esteem and self worth and compounds their sense of vulnerability and exclusion.

Action to improve access and quality of dental care for vulnerable adults

Dental care professionals have an ethical and professional responsibility to care for vulnerable patients. Indeed from a legal perspective in the UK it is unlawful to discriminate against a patient who is classified as being from a protected status group.[50] It is therefore vitally important to consider how best dental services can respond and meet the diverse

needs of vulnerable and disadvantaged population groups (Table 2). This is everybody's business and a shared professional responsibility. Despite of the evidence of higher levels of need, many patients from these vulnerable groups will have routine dental treatment needs that can be best met by mainstream primary dental care services.[38] General dental practitioners and their teams therefore have a key role to play in providing high quality and appropriate care to patients from vulnerable population groups. As is the case with the mainstream population, patients from vulnerable population groups should have their preferences, choices and autonomy fully respected with regards to their dental care needs. This therefore requires all dental practitioners to offer care to vulnerable patients in their local areas, rather than this being offered only by a limited number of specialised services. Dental teams however need to have the appropriate skills (both clinical and communication) and in certain circumstances equipment, to offer dental care to vulnerable groups so on-going training and support for dental practices is essential.[38] Across local areas regular oral health needs assessments should be conducted which may provide information on the oral health needs of vulnerable population groups. This information may provide useful data on the details of vulnerable groups in the locality and their oral health needs to ensure that dental services can respond appropriately and establish on-going continuity of care. In addition to providing necessary treatment, it is essential that appropriate monitoring and evidence-based prevention is also offered to reduce future disease risk. This opens up an important role for members of the wider dental team who can deliver clinical prevention.

Table 2 here

As part of their on-going quality assurance activities, dental practices could include access and equity audits to assess how well their practices are performing in relation to meeting the needs of patients from vulnerable groups. These audits can review and assess all aspects dental practice policy and procedures to determine how accessible, accommodating, welcoming and effective they are to vulnerable patients (eg Dementia friendly dental practices). Information gathered from these audits can provide valuable insights to inform training and development needs for staff, and the further development and refinement of practice policies and procedures.

In certain cases patients from vulnerable groups may have more complex care needs that cannot be met by a general dental practice team. In these circumstances clinicians with more advanced skills and competencies (Level 2 and 3 as defined by NHS England)[51] will need to provide more specialised care and support. Managed care pathways and clinical networks are part of the necessary infrastructure to enable primary care teams to refer more complex cases to specialised colleagues in community or hospital settings. To be effective these developments need professional cooperation, communication and management commitment and support. Improved liaison and cooperation is also needed between dental care providers and medical and other health and care professionals involved in supporting vulnerable patients.

Action to combat oral health inequalities amongst vulnerable adults

Although dental treatment is vitally important for alleviating symptoms, treating and controlling oral diseases, and maintaining oral function, treatment alone cannot tackle entrenched and persistent inequalities in oral health. First and foremost upstream policies are needed to address the underlying social determinants of social disadvantage, exclusion and ultimately poor health. Progressive policies are needed to address poverty and economic disadvantage, and to widen participation and access to education and employment opportunities amongst vulnerable population groups. Public health policies (both national and local) are also needed to tackle (oral) health inequalities. Interventions that ignore the causes of poor oral health in vulnerable and marginalised populations are often ineffective, costly and may indeed widen, rather than reduce the oral health equity gap.[52,53] In other areas of public health such as tobacco control and obesity prevention, it has been shown that the most effective way to achieve significant population health improvement is through the implementation of a range of complementary policies that together create a healthier environment.[5] The same principles apply to action to tackle the oral disease burden in vulnerable and disadvantaged populations.

Upstream healthy public policies to reduce sugar, tobacco and alcohol consumption would all have a particular benefit to the most vulnerable in society. Pricing policies on alcohol, tighter regulation of advertising and promotion of sugary foods and drinks, and further

restrictions on smoking are examples of actions that would benefit oral health and indeed general health too.[48] To achieve changes in legislation and regulations require coordinated strategic partnerships and effective advocacy and lobbying of politicians and policy makers.[54] Dental professional organisations are increasingly becoming more active and engaged in collaborative efforts to tackle the root causes of oral and associated diseases. The most vulnerable in society face the greatest barriers to achieve good health – upstream healthy public health policies help to create a more supportive environment where the healthier choices are easier.

Influencing national policy agendas may seem rather far removed from the work of many busy clinicians. However action at a local level where dental professionals are respected members of the community may also achieve significant impact. In modern society a significant proportion of our daily lives are spent in different organisational and institutional settings such as schools, colleges, workplaces, hospitals and care homes. These settings have a major influence on the health and well-being of the people using and working there. Developing and implementing oral health policies in these local settings provides an ideal opportunity to target support to the most vulnerable groups in society.[55] Care and nursing homes, adult training centres, community centres, hospitals and prisons are all settings which heavily influence the oral health of people using these services. Unfortunately many of these settings are not always the most conducive places for good oral health. Policies that promote healthy and affordable food and drink choices and ensure availability of fluoride toothpastes and toothbrushes are essential.[55] Fluoride varnish programmes may also be required where caries risk is very high. On-going training and support for carers and staff is also an important element to achieve sustainable improvements in oral health. Linking local dental practices to these settings is also essential to ensure appropriate access to care. Finally it is essential to recognise that oral health is everybody's business and should therefore be fully integrated into health and social care policy using a common risk factor approach.[56] Every clinical and social care contact should count. The undergraduate, postgraduate and continuing professional development of all health and social care professionals should include oral health where appropriate.

Conclusion

The burden of oral diseases disproportionally affects vulnerable and disadvantaged groups in society compared to the mainstream population. To tackle these unjust, unfair and avoidable inequalities in oral health requires coordinated strategic action at both clinical and population levels. Collectively the dental profession has a responsibility to provide appropriate high quality clinical care and to be advocates for supportive policies to protect and promote good oral health amongst vulnerable groups in society.

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