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Title: Addressing Oral Health Inequities in Rural Communities: A Call to Action

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Introduction

Oral health is an integral yet often overlooked facet of overall well-being, encompassing physical, social, and mental dimensions (1). While many healthcare systems have made significant strides in preventing and treating oral diseases (2), the persistent burden of oral health disparities remains a reminder of the challenges that persist (3). Although most oral diseases are preventable, they continue to exert a profound impact both on individual lives and healthcare systems (4). In the UK context, disparities between oral health outcomes in rural and urban communities have been observed (5). Rural populations face an unequal distribution of oral health resources and services, resulting in significantly higher rates of periodontal disease, caries, and tooth loss (6–8). These disparities are perpetuated by a complex interplay of limited access to oral healthcare services, scarcity of oral health education, and geographical barriers that hinder regular check-ups and timely interventions. Sustainable Development Goal 10 (SDG 10) makes a global commitment to reducing inequality within and among countries (9). However, by overlooking oral health disparities between rural and urban areas in the UK, achieving this commitment will not be realised. In this piece we explore the multifaceted dimensions of oral health inequalities in rural communities within the UK. By drawing parallels with SDG 10, we highlight the imperative for concerted efforts to bridge the oral health gap between rural and urban areas.

Oral Health and its Integral Role in Wellbeing

Good oral health enables individuals to eat, speak, and smile, but it is also connected to the broader dimensions of physical, social, and mental well-being (1). Whilst many oral health issues are avoidable through regular brushing, flossing, and routine dental check-ups (4), oral diseases continue to be among the most prevalent diseases globally (10). There is also a relationship between oral health and systemic diseases such as cardiovascular disease and diabetes through shared risk factors and inflammation pathways (11). These complex relationships accentuate the necessity of comprehensive healthcare strategies that encompass oral health as an essential component (11).

Rural Disparities in Oral Health within England

Access to dental care in the UK has been a challenge for several years (12). A recent investigation by the BBC found that most dental practices offering NHS care do not have the capacity to accept new adult patients (13). In recognition of this as a significant issue for the UK health system, in a recent interview with the BBC, Health Minister Neil O'Brien stated that he is 'determined to make sure everybody seeking NHS dental care can receive it when they need it.' Despite this statement, challenges in accessing adequate dental care through the NHS continue. This is especially true for those living in rural areas who continue to suffer disproportionately from a range of oral diseases relative to those in urban areas (14). In support, the investigation by the BBC reported that access to dental care is worse in more rural areas of the UK such as the south-west of England, Yorkshire and the Humber and the North West (13). This finding reflects the data shared by the British Dental Association in 2019 (12).

In rural areas, a scarcity of dental practices, often clustered in urban centers, translates into limited access to essential oral healthcare services within the UK (15). This geographical gap poses a considerable barrier, forcing rural residents to contend with extended travel distances, logistical

challenges, and time constraints when seeking dental care (15). The lack of dental centres exacerbates longer wait times for appointments (16,17), leaving urgent cases unattended and exacerbating oral health issues that could have been easily addressed with timely intervention. There is also a lack of oral health education across the UK, resulting in poor oral health literacy, this exacerbates oral health challenges for people in rural areas (15). The combination of restricted access to dental care and a dearth of education perpetuates a cycle of poor oral health outcomes in rural areas. The prevalence of missing, decayed or filled teeth is much higher in rural areas compared to urban areas, with data indicating that children in some rural areas suffer four times the number of oral health difficulties (15). These disparities cannot be viewed in isolation; they intertwine with broader systemic issues that manifest as barriers to equitable healthcare.

SDG 10: Bridging the Gap

SDG 10 stands as a global commitment to tackle inequalities within and among nations. It serves as a guiding principle to dismantle disparities across various domains, including healthcare. At its core, SDG 10 calls for targeted actions to ensure that no segment of society is left behind, advocating for inclusive policies, resources, and opportunities that uplift marginalized populations. The principles in SDG 10 offer a promising framework to rectify the oral health disparities that persist between rural and urban areas within the UK. SDG 10 advocates for strategies that prioritize inclusivity, equity, and the empowerment of marginalized communities. Translating these principles to the realm of oral healthcare necessitates targeted and multi-faceted approaches that transcend geographical boundaries.

Innovative interventions

Initiatives such as mobile dental clinics and teledentistry could bridge the gap, ensuring that rural residents have equitable access to quality care, regardless of their geographic location (18). Empowerment through education is another key facet of SDG 10. Educational programs tailored to rural communities could provide individuals with the knowledge needed to maintain oral hygiene and prevent diseases (19). In such interventions, not only do rural residents gain improved access to oral healthcare, but students from dental institutions are able to gain useful experience in their field (19). Additionally, collaborations between oral health professionals and local institutions could foster a culture of oral health awareness, equipping residents with the tools to take charge of their own well-being. Furthermore, incentivising or enabling dental professionals to practice in underserved rural areas aligns with the principle of "leaving no one behind". Financial incentives, professional development opportunities, and supportive infrastructure can attract and retain skilled professionals in regions that are traditionally marginalized in terms of oral healthcare access.

Conclusion: A Path Forward

Oral health disparities between rural and urban communities are apparent within the UK, underscoring the imperative for immediate and collaborative action. The juxtaposition of preventable oral diseases against their pervasive impact highlights the urgency of addressing disparities that disproportionately burden rural populations. By aligning initiatives with the principles enshrined in SDG 10, which resonates with the essence of health equity, we illuminate a pathway toward rectifying the inequities present in oral healthcare access. It is incumbent upon dental professionals, policymakers, and public health officials to unite their efforts in a common endeavor: to reduce disparities and enhance oral health outcomes for all individuals, regardless of their geographical location.

Policy Recommendations

To stimulate action and minimise oral health disparities between rural and urban areas, a set of policies are required.

- Implement targeted policies and action plans aimed at addressing oral health inequities in rural communities and that acknowledge the unique challenges rural areas face.
- Introduce incentives for dental professionals to work in rural areas, such as financial incentives, professional development opportunities, and loan forgiveness programs.
- Embrace telehealth solutions that allow remote diagnosis, consultation, and treatment planning to enhance dental care access in rural communities.
- Strengthen community-based outreach programs that emphasize oral health education, prevention, and early intervention.
- Establish mobile dental clinics and organize dental outreach camps that visit rural areas periodically to provide on-site dental services, including check-ups, cleanings, and minor treatments.

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