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Public utilities during COVID-19 are critical for child health, oral health, and equity

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As the Biden administration aims to build on the Infrastructure Investment and Jobs Act¹ with the Build Back Better Act,² it is important to underscore the critical role public utilities and services play in the welfare of all children, including their oral health. Each assists the daily functions of children's lives, while also supporting their health and well-being. In the absence of adequate public utilities or services, children's health and oral health can suffer markedly. Research repeatedly points to children's social conditions as among the strongest determinants of both health and oral health.^{3,4} Unfortunately, affordability, accessibility, and availability of public utilities and services differ starkly across social groups in the United States.

Households belonging to racial and ethnic minorities, at or below the federal poverty guidelines, and with young children disproportionality experience public utility and service insecurity.⁵ Inequality in living standards is consequently detrimental to achieving optimal child health and oral health.^{6,7} That child oral health disparities persist unjustly among segments of our population in which social conditions remain largely unchanged is revealing. These injustices stem from inequitable historical and contemporary policies and practices that perpetuate public utility and service insecurity.⁸

COVID-19 acutely exacerbated the United State's public infrastructure challenges and widened existing social disparities.^{6,9} Its scale and impact have also drawn attention to the fragile living conditions of many racial and ethnic minority children and the health and oral health consequences resulting from their unjust vulnerability. Unfortunately, COVID-19 has increased shutoffs to essential public utilities and services across the United States, most prominently along race and class lines. Interruption, limitation, or disconnection of public utilities and services is unjust and should be subject to greater public protections on the basis of child dignity, needs, and freedoms, as well as equity. Disruptions to utilities and services are also detrimental to child health and oral health, with potential for undue hardship on families and long-term consequences for society.

WATER AND COVID-19

Next to masks, frequent and proper hand hygiene remains one of the most effective measures to protect children from contracting and transmitting COVID-19. Children and parents can average dozens of liters of water each day just to wash hands. To perform this basic and now lifesaving function, water must be accessible, sanitary, and uninterrupted. However, the economic recession from COVID-19 has forced some families to ration water use and endure inhumane water shutoffs.¹⁰ Other communities have historically faced regular water shortages, as well as a contaminated water supply.¹¹ Without an adequate water supply, hygiene practices eventually suffer, increasing the likelihood of COVID-19 propagation and concentration within already vulnerable child groups. Children's oral health similarly relies on access to water. Water is fundamental for proper oral hygiene, without it daily toothbrushing can be hampered. At a population level, community water fluoridation is the single most cost-effective and equitable public health approach to reduce caries among all communities.¹²

HOUSING AND COVID-19

COVID-19 dramatically spiked unemployment rates, most notably among lower-earning groups, disrupting already fragile family incomes. With less financial means, parents' ability to afford rent is endangered, putting many families at risk of eviction. As a result of housing insecurity, families are forced to selectively rearrange spending priorities to survive. When households are under severe

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financial strain from rent burden or energy insecurity, they are more likely to sacrifice other essential and basic needs, such as medical care.¹³ This means children may be deprived of critical health care visits—forgoing important prevention measures, including well-child examinations and vaccinations, as well as preventive dental visits. Rent-burdened families may also turn to inexpensive food options—often highly processed foods with added salt, sugar, and fat—that are harmful for child health and oral health.¹⁴ In addition, parents may be more likely to ration hygiene products and supplies and be deterred from needed purchases. Parents under stress are also less likely to maintain daily behavioral health practices necessary to maintain children’s health or oral health.

INTERNET AND COVID-19

COVID-19 forced families indoors, increasing their dependence on the internet. However, access to affordable high-speed internet is highly inequitable across the country. Nearly 12% of all households in the United States lack any form of broadband internet service.¹⁵ Areas of the country that are economically and racially segregated have notably lower levels of broadband internet service connection due to costs and lack of infrastructure. During COVID-19’s disruption of child education and health care services, the internet has taken on new significance and roles. With school closures, children relied heavily on the internet to facilitate distance learning.¹⁵ With interrupted health care visits, some children and parents relied on telehealth to deliver health care, public health services, and health education.¹⁶ But without high-speed or reliable broadband internet service, children and families are unable to participate in or maximize the internet’s benefits, leaving them with numerous disadvantages and challenges. Similarly, teledentistry and its benefits for children hinge on broadband internet service availability. Teledentistry has the potential to increase access to care by means of overcoming traditional barriers of attending dental appointments, such as time or transportation.^{17,18} Unfortunately, rural and underserved populations who stand to benefit the most from teledentistry approaches are also the least likely to have access to broadband internet service.

PUBLIC UTILITIES AND SERVICES ARE KEY TO HEALTH, ORAL HEALTH, AND EQUITY

Public utilities and services are a basic matter of public health. Each should be recognized for their vital role in promoting and preserving health, particularly during a pandemic. Their disruption or reduced quality pose an unacceptable threat to child health and oral health. Households with unstable utilities will be even more vulnerable to the rampant spread of COVID-19, endangering the health and safety of entire communities.

COVID-19’s ties to public utilities and services also renew focus on the disparate impact of structural inequities on children’s health and oral health. People of color, rural and tribal communities, and low-income households regularly endure public services and utilities that can be unavailable, unaffordable, unreliable, and even unsafe. This serves to concentrate disadvantage and vulnerability and perpetuate cycles of poor health and oral health outcomes.

STEPS TO PROTECT PUBLIC UTILITIES AND SERVICES AS A HUMAN RIGHT

The right to health is a fundamental human right, as is a life of dignity for all children. Similarly, the parts that comprise health, including social conditions, are equally indispensable. Just as health should be secured and upheld, public utilities and services deserve equivalent protection and support. Several steps can be taken to ensure all children’s basic needs are sufficiently met. Dentists are well-positioned to work in concert with other health care professionals and assume a leading role to counter public utility and service insecurity. Each can be trained to recognize links between utilities and health and screen accordingly; identify local resources and provide support for positive screens; write shutoff protection letters to utility companies; and partner with legal teams to promote utility-related advocacy needs.

Although investments in public infrastructure are crucially necessary, as outlined in both the Infrastructure Investment and Jobs Act¹ and Build Back Better Act,² notable elements remain lacking. Dentists can advocate in their respective states for regulatory change, in particular to extend community protections for households that show financial hardship, especially those with infants, older adults, or people with serious illness. Although some nationwide protections were included as provisions in the Heroes Act,¹⁹ this was a short-term crisis response that should not obfuscate the need for continual and comprehensive reform. As state utility shutoff and eviction

moratoriums continue to expire across the United States, families and children will again face renewed vulnerability, jeopardizing their health and oral health. The Biden administration can use these landmark bills as a framework for long-term solutions to ensure everyone has guarded access to safe, sufficient, and affordable public utilities and services. This provides the best opportunity to rebuild US communities that are truly inclusive, resilient, and sustainable. ■

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