Obesity

Zooming Toward a Telehealth Solution for Vulnerable Children with Obesity During Coronavirus Disease 2019

Jennifer A. Woo Baidal [1,2], *Jane Chang*[2,3], *Emma Hulse*[2], *Robyn Turetsky*[2], *Kristina Parkinson*[1], *and John C. Rausch*[1,2]

Health inequities exist throughout the life course, resulting in racial/ethnic and socioeconomic disparities in obesity and obesity-related health complications. Obesity and its comorbidities appear to be linked to coronavirus disease 2019 (COVID-19) mortality. Approaches to reduce obesity in the time of COVID-19 closures are urgently needed and should start early in life. In New York City, a telehealth pediatric weight-management collaborative spanning NewYork-Presbyterian, Columbia University Vagelos College of Physicians and Surgeons, and Weill Cornell Medicine was developed during COVID-19 with show rates from 76% to 89%. To stave off the impending exacerbation of health disparities related to obesity risk factors in the aftermath of the COVID-19 pandemic, effective interventions that can be delivered remotely are urgently needed among vulnerable children with obesity. Challenges in digital technology access, social and linguistic differences, privacy security, and reimbursement must be overcome to realize the full potential of telehealth for pediatric weight management among low-income and racial/ethnic-minority children.

Obesity (2020) **28**, 1184-1186.

As coronavirus disease 2019 (COVID-19) rages on throughout the world, data unmasks profound racial/ethnic disparities in COVID-19 mortality among adults in the United States (1). Obesity, hypertension, and diabetes are emerging as risk factors for COVID-19–related morbidity and mortality (2) and these diseases likely in part mediate the racial/ethnic disparities in COVID-19 mortality. The origins of disparities in the acute COVID-19 pandemic, which mirror those in the chronic obesity pandemic, are rooted in early life.

Racial/ethnic and socioeconomic disparities in obesity are already apparent by early childhood and they are rooted in multiple social, economic, and environmental factors that impact health and health behaviors. Among children aged 2 to 5 years, 16.5% of Hispanic/Latino and 11.6% of black, non-Hispanic children have obesity, compared with 9.9% of white, non-Hispanic children (3). In comparison with counterparts with healthy weight, children with overweight or obesity by age 5 carry higher obesity risk into adolescence (4). As a result, 20.6% of adolescents aged 12 to 19 years have obesity, with Hispanic/Latino and black, non-Hispanic adolescents disproportionately burdened by obesity, severe obesity, and health complications of obesity (3).

The necessary closures imposed on educational, health care, and community settings to mitigate the spread of COVID-19 could very well exacerbate the prevalence of obesity and its health complications. As pointed out by Rundle and colleagues (5), widespread closures of schools and afterschool programs are likely to perpetuate increases in childhood obesity. Unhealthy diet, inadequate physical activity, excess screen time, and curtailed sleep are established behavioral risk factors for obesity. Longitudinal cohort studies support that racial/ethnic differences in these risk factors mediate racial/ethnic disparities in childhood obesity. Lack of access to healthy food, insufficient physical activity spaces and classes, disrupted sleep routines, and excessive screen use are likely accompanying widespread closures, thus potentially amplifying disparities.

Reports of established nonbehavioral obesity risk factors, such as poverty, food insecurity, and stress, are also beginning to surface as downstream consequences of the COVID-19 pandemic and they will likely exacerbate health disparities. Given the record high in unemployment applications filed in the United States in early April 2020 (6), more families are likely facing poverty. At a population level, public health approaches to address food insecurity and equitable access to healthy food and physical activity options are required to prevent childhood obesity. However, children already afflicted by overweight or obesity require more intensive obesity treatment interventions.

Given the high prevalence of childhood obesity and persistent racial/ethnic and socioeconomic disparities in obesity, there is an urgent need to find telehealth solutions to provide intensive, family-based pediatric weight management during the time of COVID-19 closures. Without such interventions, the chronic pandemic of obesity will be exacerbated, particularly among disproportionately burdened populations, thus propagating a continual cycle of widening disparities. Intensive behavioral interventions that provide at least 26 contact hours over 6 months are the most effective medically based weight-management intervention for children age 6 years and older (7). Therefore, children with obesity require intensive lifestyle

[1] Department of Pediatrics, Columbia University Irving Medical Center, New York, New York, USA. Correspondence: Jennifer A. Woo Baidal (jw3286@cumc.columbia.edu) [2] NewYork-Presbyterian Hospital, New York, New York, USA [3] Department of Pediatrics, Weill Cornell Medicine, Cornell University, New York, New York, USA.

 Received: 15 April 2020; **Accepted:** 28 April 2020; **Published online 10 June 2020. doi:10.1002/oby.22860**

modification and medical management that may include pharmacotherapy without in-person contact during COVID-19.

Some evidence supports the use of telehealth or mobile health interventions as adjuncts to pediatric weight management as being feasible and cost-effective (8,9), but few data exist on the efficacy or effectiveness of exclusive telehealth for pediatric weight management. In the time of COVID-19 closures and physical distancing, telehealth has become a necessary default. In New York City, the current epicenter of the COVID-19 pandemic, we, the pediatric weight-management programs at NewYork-Presbyterian, Columbia, and Weill Cornell, fully transitioned to telehealth weight management in March 2020. We primarily serve children who are racial/ethnic minorities or in low-income households. Together, we created a cross-campus partnership to develop and implement virtual group and individual nutrition, physical activity, and mental health support in response to the COVID-19 outbreak.

Several advancements allowed for this rapid transition to telehealth weight management in our setting. First, use of a common electronic health record and the ability of multiple providers to access telehealth visits simultaneously across multiple hospital campuses and universities allowed us to centralize resources to streamline remote health care and group session delivery. Second, changes to telehealth billing rules allowed for care of patients across state lines and new patient care visits. This made it feasible for us to accommodate patients already scheduled, whom we may otherwise have needed to turn away. Third, the widespread use of mobile technology across all demographic groups made telehealth possible for almost all of our patients. Finally, obstacles to participation in weight-management programs, such as long-distance travel and childcare, are common in vulnerable populations. These barriers appear to be alleviated through use of telehealth in our urban setting. Prior to COVID-19, our benchmark show rate was 55% to 65% across our pediatric weight-management programs. Between March 31, 2020, and April 16, 2020, the show rate for telehealth visits has been 76% to 89% across our pediatric weight-management programs. These numbers should be interpreted with great caution, as the availability of patients and their parents will dramatically change when work and school resume. However, they do support the potential promise of telehealth in an urban pediatric weight-management setting that serves predominantly racial/ethnic-minority and low-income families.

Despite its promise, several challenges must be addressed to realize the potential effectiveness of telehealth weight management for vulnerable children.

1. Strategies to reduce the potential for digital technology disparities: Although smartphone ownership is similar across racial/ethnic groups, 61% of Hispanic/Latino and 66% of black, non-Hispanic adults have high-speed internet at home, contrasted with 79% of their white, non-Hispanic counterparts (10). The use of smartphone apps for patient portal and telehealth visits can help bridge the digital divide. However, lower-income households may not have smartphones, and if they do, data storage and use limitations could pose obstacles. Health literacy and linguistic barriers can make it difficult for disproportionately burdened populations to navigate patient portals and electronic medical records. We call families at least a week in advance of their initial telehealth visit for approximately 30 minutes to discuss the telehealth visit, assist with installing and testing software, and explain the privacy risks and billing obligations.
2. Virtual approaches to address social needs and linguistic barriers: During telehealth visits, we verbally screen for food insecurity using a two-item screening tool and make referrals to local food resources (11). Some literature suggests that self-administered screening for food insecurity could improve the validity of responses (12). Seamless integration of electronic self-administered screening tools in multiple languages could facilitate this process. Simplifying access to interpreter services through telehealth platforms is also still needed.
3. Privacy and internet security concerns: Through continual discussions with legal teams and information technology offices, we have identified platforms that safeguard security and meet regulations for patient privacy. To facilitate virtual group visits, institutions can identify a platform that can be used for medical visits and disseminate instructions to providers on how to safely use this platform.
4. Telehealth reimbursement challenges: Payor reimbursement for group visits and individual visits with dietitians, physical activity specialists, and social work staff is still insufficient. Phone visits provide limited reimbursement, and there is no reimbursement for texting interventions, despite evidence of their effectiveness as adjuncts (9).
5. Effectiveness of primarily virtual pediatric weight management: Rigorous trials are needed to identify effective ways to deliver fully virtual, or mostly virtual, interventions that promote retention, adherence, and healthy weight. Valid and reliable methods to objectively monitor cardiometabolic health and weight outcomes in children remotely are needed.

Structural inequities have perpetuated health disparities for generations. The acute COVID-19 pandemic highlights these long-standing inequities. Although telehealth will not eliminate all health disparities, it has the potential to play a crucial role in multipronged approaches to address childhood obesity in disproportionately burdened populations. Effective interventions via telehealth are needed to provide care during widespread closures for COVID-19 and, in the long term, to overcome obstacles such as transportation challenges, which hinder health care access among vulnerable populations (13). Without effective interventions that can reach all children, the intergenerational cycle of obesity disparities will continue to widen, leaving children in disproportionately burdened populations at continued higher risk for morbidity and mortality throughout the current COVID-19 pandemic and in future public health crises.

Disclosure: The authors declared no conflict of interest.

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