

A “Smart” Way of Addressing Food Insecurity in the Digital Age

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Maya is a 4-year-old girl who is presenting to our office for her well-child check. A familiar mark on her social screening questionnaire reveals that her family is worried that their food budget will run out before the end of the month. As we enter the room, we catch Maya’s mother in a yawn; she apologizes because she came straight from an overnight shift. Maya and her sister, both with juice-stained lips, are immersed in a video that is playing on their mother’s smartphone as we discuss growth charts and inhalers. Finally, we turn to Maya’s dietary history and the potential reality of food insecurity (FI). As our conversation starts, the phone rings, interrupting the video and our conversation. The family’s ride is out front, and they cannot wait. As they are rushing out the door, all we can do is provide them with a list of local food pantries. We are left dissatisfied. With recent advances in technology, how might we have more effectively and efficiently addressed this family’s FI?

One in 6 American families experience FI, an inadequate access to food because of a lack of money or other resources.¹ As pediatricians, we must identify and appropriately respond to FI.² Although screening can help identify some children with FI, others may present more insidiously, with developmental delays, behavioral problems, or frequent hospitalizations, the

effects of which may carry into adulthood.³ Pediatric trainees, who are often on the frontline providing primary care to at-risk families, are in a unique position to identify and respond to the needs of families with FI.

Traditionally, once clinicians identify families as being food insecure, essential referrals are placed to in-clinic (eg, social work) and community resources (eg, the Supplemental Nutrition Program for Women, Infants, and Children [WIC]; the Supplemental Nutrition Assistance Program [SNAP]; the National School Lunch Program; and local food pantries). However, the success of referrals may be limited by barriers that are outside a family’s control. For example, a family may lack reliable transportation, or the referral site may have limited hours or geographic restrictions (ie, only available for certain zip codes). Some families, like Maya’s, may have the additional challenge of living within a “food desert,” an impoverished area with limited access to healthy, affordable food. Too often for these families, dinner is purchased at a nearby corner store, which typically stocks nutrient-poor foods. For other families, dinner may not be served at all.

It is time to modernize our approach to social determinants of health, such as FI. Over the past decade, there has been an



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explosion of Internet access and smartphone usage. Smartphones, in particular, have narrowed the “digital divide,” a term that refers to disparities in digital access in underserved areas.⁴ Like Maya’s mother, the vast majority of adults in low-income households report owning and using smartphones.^{4,5} These encouraging statistics have led to innovative partnerships between the health and technology sectors to find new solutions to old problems.

Indeed, health-technology partnerships have given rise to a variety of initiatives (now in their early stages of implementation) that may help offer food-insecure families improved access to quality food. For example, WIC recipients may now use Web sites and smartphone applications (apps) to instantly determine if a food can be paid for with WIC benefits, to track benefits in real time, and to complete nutrition education and recertifications online rather than in person.^{6,7} Additionally, the US Department of Agriculture (USDA) recently launched a novel 2-year pilot program that enables SNAP participants in 7 states to purchase groceries online from select retailers by using SNAP’s electronic benefits technology.⁸ Former USDA Secretary Tom Vilsack hailed the program as “a potential lifeline for SNAP participants living in urban neighborhoods and rural communities, where access to healthy food choices can be limited.”⁸ Among the program’s participants are popular vendors such as FreshDirect, Safeway Inc, ShopRite Supermarkets, Hy-Vee, Hart’s Local Grocers, and Dash’s Market. Additionally, online retail giant and program participant Amazon.com Inc has gone a step further and announced that SNAP recipients will receive a 45% discount on Prime memberships to allow for free shipping.⁹ However, it is important to note that even significantly discounted memberships may be prohibitive for some families.

On a more local level, our team became interested in exploring if online food delivery (like that proposed by the USDA) could help our families, many of whom are food insecure, reside in a food desert, and own a smartphone. To learn more about our families’ experiences with and attitudes toward online food shopping, we surveyed parents in our urban, academic, pediatric resident continuity clinic over a 2-month period in 2017. A total of 284 parents completed our survey; most were women and 18 to 34 years of age. Three-fourths reported having ever shopped online, and >50% had ordered food online at least once. Among all respondents, 63% indicated that they would be interested in consistently ordering food online. For some families, this enthusiasm for online food shopping was dampened by a variety of concerns most commonly related to a lack of money, a lack of reliable Internet access, concerns about cybersecurity, and a desire for shopping in person. However, these initial data reveal that a large number of families are either shopping for food online currently or are interested in doing so.

The ability to use SNAP online would alleviate certain barriers known to influence FI, including unavailable or unreliable transportation and limited access to healthy food options. However, the barriers to online shopping reported by our families reveal the challenges of the USDA SNAP pilot. For instance, some people simply prefer to choose their food items in person. Although nothing may replace seeing, touching, and smelling food before purchase, industry experts assert that this pattern is rapidly changing.¹⁰ Additionally, financial insecurity may prevent participation in food delivery programs, especially if delivery or membership requires an additional cost. Although it is too early to evaluate the USDA pilot, an expansion of SNAP online purchasing could

mitigate the harmful effects of living in food deserts by empowering families to make healthier food choices.

This initial description of online shopping trends in our pediatric–primary care population could be of value to clinicians who seek solutions to challenging problems such as FI. Online food purchasing is just 1 example of how we can employ modern technology to address complex, long-standing issues rooted in poverty. Other existing health-technology collaborations to address FI, including Web sites and phone apps, are focused on identifying areas of FI (eg, Capital Area Food Bank), enhancing food distribution (eg, FoodLoop), and reducing food waste (eg, Food Cowboy).^{11–14} However, just as inserting a new grocery store into a neighborhood does not increase rates of fruit and vegetable consumption or rapidly affect an individual’s BMI, a single Web site, app, or program will not immediately, nor completely, resolve FI.¹⁵

As pediatric faculty and trainees, we should challenge ourselves to think creatively and comprehensively regarding food availability and accessibility. Whether we are clinicians, educators, or researchers, we have a responsibility to be innovative agents of change. We can leverage our fluency in technology and our training in community health to promote interdisciplinary partnerships and improve food security, nutrition, and health for all patients and families.

ABBREVIATIONS

app: application
FI: food insecurity
SNAP: Supplemental Nutrition Assistance Program
USDA: US Department of Agriculture
WIC: Supplemental Nutrition Program for Women, Infants, and Children

REFERENCES

1. US Department of Agriculture; Feeding America. Map the meal gap. 2017. Available at: www.feedingamerica.org/research/map-the-meal-gap/2015/2015-mapthemealgap-exec-summary.pdf. Accessed November 10, 2017
2. Rezet B, Risko W, Blaschke GS; Dyson Community Pediatrics Training Initiative Curriculum Committee. Competency in community pediatrics: consensus statement of the Dyson Initiative Curriculum Committee. *Pediatrics*. 2005;115(suppl 4):1172–1183
3. Council on Community Pediatrics; Committee on Nutrition. Promoting food security for all children. *Pediatrics*. 2015;136(5). Available at: www.pediatrics.org/cgi/content/full/136/5/e1431
4. Pew Research Center. Internet/broadband fact sheet. 2017. Available at: www.pewinternet.org/fact-sheet/internet-broadband/. Accessed November 10, 2017
5. Demartini TL, Beck AF, Klein MD, Kahn RS. Access to digital technology among families coming to urban pediatric primary care clinics. *Pediatrics*. 2013;132(1). Available at: www.pediatrics.org/cgi/content/full/132/1/e142
6. JPMA, Inc. WIC smartphone application. 2017. Available at: www.ebtshopper.com. Accessed January 7, 2018
7. WIChealth. WIC online nutrition education. 2017. Available at: <https://www.wichealth.org/>. Accessed August 20, 2017
8. US Department of Agriculture. USDA announces retailer volunteers for SNAP online purchasing pilot. Available at: <https://www.usda.gov/media/press-releases/2017/01/05/usda-announces-retailer-volunteers-snap-online-purchasing-pilot>. Accessed August 14, 2017
9. Easter M. Amazon offers discount on Prime for people on food stamps. *Los Angeles Times*. June 06, 2017. Available at: www.latimes.com/business/technology/la-fi-tn-amazon-prime-low-income-20170606-story.html. Accessed August 20, 2017
10. Anesbury Z, Neycz-Thiel M, Dawes J, Kennedy R. How do shoppers behave online? An observational study of online grocery shopping. *J Consum Behav*. 2015;15(3):261–270
11. Furbank L; Hunter College New York City Food Policy Center. Smartphone apps helping to reduce hunger. 2017. Available at: www.nycfoodpolicy.org/smartphone-apps-helping-reduce-hunger/. Accessed February 1, 2018
12. Allen J. Apps and maps harnessed to address food insecurity. *Nonprofit Quarterly*. June 19, 2015. Available at: <https://nonprofitquarterly.org/2015/06/19/apps-and-maps-harnessed-to-address-food-insecurity/>. Accessed February 1, 2018
13. FoodLoop. Save it all. 2017. Available at: <https://www.foodloop.net/en/>. Accessed February 1, 2018
14. Food Cowboy. Food waste in the supply chain. 2017. Available at: www.foodcowboy.com. Accessed February 1, 2018
15. Sadler RC, Gilliland JA, Arku G. A food retail-based intervention on food security and consumption. *Int J Environ Res Public Health*. 2013;10(8):3325–3346

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