The incorporation of digital technology (digitech) within nutrition education and behavior change interventions (NEBI) has markedly increased, and COVID-19 rapidly accelerated advancement and acceptability in this area. The proliferation of digitech, including devices and platforms, creates novel ways for end-users to engage with NEBI and presents unique opportunities for increasing reach and engagement of underrepresented populations. While a “digital divide” exists with some digitech, like desktop/laptop ownership and home broadband internet access, most people own smart phones (≥76%) or use social media (≥65%), regardless of income, race and ethnicity, or age. Furthermore, digitech can resolve common barriers to NEBI participation (e.g., lack of transportation or time) and can increase NEBI scalability. Prior to developing or adapting NEBI that incorporate digitech, it is important to consider challenges that might impact their effectiveness and approaches that enhance equitable access.

Digitech-specific, evidence-based frameworks are critical for developing effective NEBI. In user-centered design, for example, end users’ needs and preferences are prioritized and used to guide design processes, leading to improved participant engagement and an increased likelihood of an effective intervention. Researchers may also consider implementation process models to guide development and optimize sustained digitech utilization. For example, the Exploration, Adoption/Preparation, Implementation, Sustainment (EPIS) model helps identify whether NEBI-related digitech is feasible, adoptable, and relevant to the intended population. Classic theories, like diffusion of innovation, can also be applied to understand how digitech innovations are adopted. Also, engagement strategies like reminders, coaching, and personalized information are important considerations in NEBI digitech. Digital inequities, such as inconsistent internet access or low digital literacy, disproportionately burden the same populations burdened by diet-related disease inequities. Employing user-centered design and leveraging digitech already adopted by the intended audience (e.g., among Hispanics, 80% use social media and 85% own smartphones) could help reach populations most at risk of diet-related diseases.

Another key challenge is the financial cost of developing and maintaining digitech. For example, a mobile application with simple features can cost $16,000 to $32,000, not including maintenance and updates. This is coupled with the competition, money, and fast pace of digitech in industry that is often misaligned with the scrutinous, slow pace of research. Rigorous digitech-focused funding mechanisms could help support the development and maintenance of innovations. However, continued funding for maintenance and updates may require further testing or expansion of digitech, as part of additional research proposals. Another strategy is leveraging industry’s financial assets and audience reach through collaborative projects that navigate and consider the often-divergent interests of research and industry.

Ultimately, digitech holds great promise for enhancing NEBI reach and effectiveness, especially to address disparities, and warrants continued investigation by nutrition educators and researchers. The Society for Nutrition Education and Behavior (SNEB) DigiTech Division is well-positioned to lead this charge through educating and connecting SNEB members with NEBI digitech experts and resources. Digitech NEBI can effectively meet the specific needs and preferences of the intended audience, while achieving desired outcomes in nutrition education and behavior change.
REFERENCES


