



Photo credit: Osage Nation WIC, Pawhuska, Oklahoma

WIC TECH: A MATTER OF EQUITY

WHY WIC TECH?

Our nation faces extraordinary challenges in ensuring the health and well-being of young families. In just a few months, the COVID-19 pandemic put our health at risk and strangled our economy. At the same time, Black, Indigenous and people of color have been hit even harder by the pandemic, and are dealing with previously unaddressed racial injustice. Some of these families may be reluctant to seek all the services available to help meet their economic and health needs. California and other states regularly experience climate-related emergencies such as wildfires and floods. Yet we live in a time where technology can help people connect better than ever to critical services and expertise.

The intersection of challenges and new technologies has catapulted WIC – the Special Supplemental Nutrition Program for Women, Infants, and Children – to a place with unexpected opportunities to provide services and benefits in new ways. Yet, over the last decade, fewer of those eligible for WIC are taking advantage of WIC services, as evidenced by declining enrollment and participation rates.¹ WIC must respond more rapidly to this cultural shift if it aims to serve more of today's eligible families effectively.

Over 80% of Americans now own a smartphone and, younger adults especially, are increasingly spending time online.² Most WIC participants are in this young adult cohort, and WIC does not currently employ enough technology that could make it more accessible and relevant to this group. Telehealth is one example of technology where its use has risen steadily in recent years and skyrocketed since the pandemic, in part because it helps address disparities in access to healthcare services and health outcomes.³ Telehealth is the natural evolution of healthcare into the digital age—it is not a different type of care, but a different service modality.⁴ As a critical gateway to health care, WIC must embrace telehealth and similar technologies to meet today's challenges.

“WIC tech” – broadly defined as electronic tools that are or can be used for WIC program administration and service delivery to clients – can reduce inequities that prevent access to the program by offering more ways to engage participants and meet diverse needs. The expanded use of technology in WIC, including during the pandemic when many of WIC's physical presence requirements have been waived, plays a critical role in addressing these inequities. Such temporary emergency measures must be considered not only until a COVID-19



WIC AND TECH TODAY

vaccine is developed and distributed, but as useful program improvements for every time and all situations.

This issue paper provides an overview of WIC tech – including phone, texting, videoconferencing, online education, online portals, and more – as options for conducting WIC business operations and providing services. It also outlines some of the challenges involved and recommendations for addressing them. Although WIC tech’s use broadens options for program staff and for many families, it can also expose inequities. And it is not intended to displace current practices involving in-person contact when preferred or necessary.

Technology is constantly evolving and adapting to the needs of human endeavors. Well-designed technology can provide more intuitive and equitable service for families, especially if the intended users are involved in research and design. While it takes time to learn how to use and troubleshoot any new technology, the long-term benefits of investing in WIC tech far outweigh such challenges. Electronic tools provide analytics never before available to assess productivity and the impacts of WIC’s outreach, communication, support, and education. Offering WIC tech options while continuing in-person services provides a more balanced, accessible, and equitable program that provides families more options that meet their delivery preferences and address barriers.

“Telecommuting reduces our environmental impact and reduces COVID-19 spread in the community. In addition, our caseload has climbed sharply, by 28% in just three months, while staff absenteeism has decreased dramatically and customer satisfaction is at an all-time high.”

**- WIC DIRECTOR,
COUNTY HEALTH DEPT., CALIFORNIA**

People eligible for WIC include pregnant, postpartum, lactating individuals, and children from birth to age 5 years, in households meeting income eligibility guidelines. They reflect America’s full spectrum - varying in employment status, abilities, race, ethnicity, immigration status, skin color, family size and composition, gender identity, and age. Nationwide, WIC program participation rates have steadily declined for over ten years. Although the number of eligible families has also declined,¹ many at-risk parents and children still miss out on WIC benefits.⁵ With the economic crisis the pandemic has created for many Americans, significantly more families are now eligible for WIC services.^{6,7}

Although California WIC participation bumped up 17% from February to September 2020, partly as a result of the pandemic’s economic impact and better access to the program under waivers, nearly 40% of California’s eligible families did not participate in 2017 (the most recent data published by USDA).⁸ Nationally, over one-third (38.9%) of eligible families did not participate in 2017. ¹ While the reasons are multifaceted, they include the “physical presence requirement” for in-person appointments for WIC enrollment and recertification. Providing assessment and care to families in person must always be an option, but one size does not fit all. Many administrative and educational aspects of the program must account for participant preferences and equitable practices to address diminishing participation.

Most WIC participants are digital natives – young adults who grew up in the age of digital technology – and this share of the population will only increase with time. Given the seismic shift in technology awareness among WIC families, their user expectations now include the utility of modern applications.⁹ WIC has an opportunity to take advantage of its clients’ “always online” culture by modernizing how it makes benefits available and accessible in invaluable and relevant ways. WIC tech can give eligible individuals the increased flexibility they need and desire to access WIC services and opt to participate accordingly. Preliminary data show fully one-third of families surveyed in Los Angeles County prefer to access WIC services remotely, including via digital means.^{10,11}

At the same time, WIC families are often multi-generational, where families are living with or relying heavily on grandparents or elderly family members to care for their children and, many times, attend their children’s WIC appointments. When grandparents or other alternates attend WIC appointments, information

exchanges can be incomplete. WIC tech that allows staff to verify information with parents remotely not only helps the children but also their alternate caregivers.

Over the past decade, state WIC programs and local agencies have introduced new technology for business operations, outreach, nutrition education, and counseling to engage participants and meet diverse needs. California WIC successfully introduced the electronic WIC debit card and a mobile app, completing the long-awaited rollout during the pandemic. Also, California WIC recently contracted for a statewide texting service for local agencies. More local agencies are testing videoconferencing for education and outreach during the pandemic, and California WIC will soon roll out and promote a statewide videoconferencing platform that meets WIC privacy and security standards.

When the federal reimbursement to local agencies does not cover the cost of living increases that all the local agencies must pay, staff, budgets are tight, especially with escalating housing costs. Using technology allows local agency staff to reach more participants efficiently. For example, some satellite and rural clinic sites aren't being staffed during the pandemic because technology allows staff to work from home and still provide remote services. As a result, local agencies save expenses in staff time for set up, take down, travel, and even renting space. Instead, they can spend funds on other necessary costs, like tech support and infrastructure, staff salaries and benefits. Reduced staff travel to clinic sites provides more time for participant interactions.

Yet more can be done to offer WIC tech options appealing to young families. During the pandemic, the United States Department of Agriculture (USDA), which oversees WIC, issued waivers removing the requirement for physical presence at enrollment and certification. Some other requirements, such as in-person proof of pregnancy, were relaxed.

Business practices and technology uses, some already in use or allowed, and others newly available through waivers, including phone counseling, text communications, remote recertification, remote benefits issuance, and video visits, were suddenly more widely used by local agencies. The widespread popularity and positive impact of this sudden expansion of WIC tech for families struggling during the pandemic makes a compelling case for their permanent use as viable alternatives to in-person services.

“The [USDA] waivers have allowed us to move expeditiously into utilizing and maximizing technology to provide remote services. We hope to see some of these waivers transition into permanent policies. Our participants feel supported, and ...have easier access to healthy foods.”

**- WIC DIRECTOR,
COUNTY HEALTH DEPT., CALIFORNIA**

SERVING ALL FAMILIES EQUITABLY

WIC has long-standing challenges reaching families in rural areas, working parents, and households with limited transportation or unreliable or limited internet service.⁵ Access to WIC services for all eligible families is critical to the well-being of children, parents and caregivers, entire communities, and economies.

Transportation can be a challenge in rural and frontier areas with great distances to travel, especially in inclement weather. In urban areas, traffic congestion, the cost of transportation, or lengthy transit times can prevent families from accessing WIC services. In any location, bringing children to appointments might simplify a parent's schedule, but it can complicate transportation or be a deterrent to keeping one's appointment. WIC tech can allow more participants to engage without needing a car, rideshare, or public transportation.

Some families experience fear of leaving their homes not only because of COVID, but due to threats to immigrant families, including the proximity of WIC clinics to immigration offices. Remote technology options could provide access to and continuity of WIC benefits.

Many adults in WIC-eligible families work in jobs where WIC participation through traditional in-person channels could require them to take time away from work and lose income, or even threaten their job security. WIC tech options allow participants to reduce or avoid these unnecessary risks to their employment by enabling them to access services according to their own schedules, a

strategy that promotes economic equity. Additionally, the pandemic disproportionately impacts certain populations WIC serves, such as low-wage and front-line essential workers, Native Americans, immigrants, and those experiencing homelessness.¹²

Although Black and Hispanic individuals participate in WIC at slightly higher rates than white participants,⁸ in daily life they also often experience inequities stemming

from systemic racism and unmet needs that disproportionately affect the social determinants of health. These inequities include lower incomes, job discrimination, health disparities, unaffordable or substandard housing, and more.¹³ Cultural and language differences can also play a part, although WIC is known for its efforts to adapt service delivery to local populations' needs. Black Americans surveyed in March 2020 reported being more likely than white individuals to use telehealth services since the pandemic.¹⁴ Given these systemic inequities along with openness to using telehealth, WIC benefits offered

WIC participants in Los Angeles County were recently surveyed about remote WIC services, including their privacy concerns. Preliminary results show that 90% felt comfortable sharing income, address, or pregnancy status documentation via WIC tech such as secure email, text, or other methods not involving in-person contact. About a quarter of these same families said they would prefer to receive all their WIC services remotely once the pandemic resolved.^{10,11}

remotely can be all the more impactful for the needs of diverse families.

Having options for conducting WIC visits, both in-person and remotely, are modernization and equity strategies for participation that reduce barriers to providing food security, critical nutrition and lactation education, health care connections, and other support. In one study, WIC participants who received video appointments also redeemed food benefits at a higher rate than participants not receiving video visits. These parents said video

appointments were more convenient, and they were more likely to keep and complete remote appointments.¹⁵ Program access through WIC tech's wise use will foster improved individual and community health by giving children their best chance at a healthy future.

CURRENT & EMERGING WIC TECH

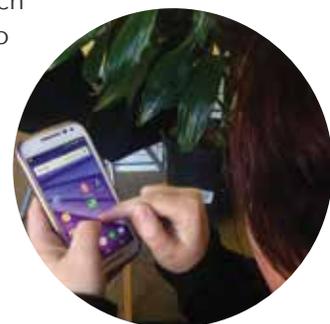
WIC tech is requiring – and will continue to require – program changes never seen before. Job descriptions, tools, and training needs are rapidly shifting. State and local agency budgets will look different from an operations perspective. Local agencies will need a variety of technology equipment, from familiar desk phones to hardware and software not used by WIC before in any great capacity or at all.

With the understanding that it is best to incorporate technology in WIC with a holistic approach, as opposed to adopting single solutions, the following section aims to describe current and potential uses, benefits, and challenges of WIC tech.

TELEPHONE

Phone use and related considerations by WIC local agencies is changing and varies. In adapting WIC services to remote delivery during the pandemic, WIC local agencies have significantly increased the use of telephone education and counseling. Being able to converse through voice exchange rather than text helps maintain contact between staff and participants, which allows for more personalized education and counseling. Phone technology also has some of the fewest security and data concerns. However, continued use of phones for effective education and counseling will require expanded staff training. Some agencies are finding ways to utilize and train existing staff to answer basic nutrition or breastfeeding questions from phone clients. Some new technologies, such as telephonic signatures, would also increase efficiency.

Recently, some agencies found themselves without enough desk phones to handle changing needs,



as staff phone use prior to the pandemic was limited. Other local agencies are needing to buy cell phones for staff, as they cannot use office desk phones if working from home. Some local agency staff members use personal cell phones in exchange for phone stipends. Usually, another app disguises their personal number for outgoing calls. When participants identify 'WIC' as the legitimate caller, they can call back to a central number or call center. Larger local agencies using call centers report receiving fewer phone calls for business communications like appointments, as their staff and clients communicate using text and email more.

Preliminary research in LA County early in the pandemic showed that participants felt remote enrollment in WIC, including by phone, was more accessible than enrolling in other federal assistance programs.¹⁶ In another study, 87% of WIC clients surveyed reported satisfaction with their WIC phone appointments.^{10,11}

restricted office visits. Most (67%) replied they liked the remote appointments better, while 21% said either appointment type was fine. Only 11% reported remote appts were okay, but they missed going to the health department and talking face-to-face with staff.¹⁸

With adequate support, staff also benefit from phone appointments. Of 166 South Carolina WIC staff surveyed, 86% felt offering remote services, especially by phone, improved their ability to provide WIC services over doing so in person, and only 2% were uncomfortable conducting phone appointments. In addition, 89% reported increased efficiency, 50% reported better one-to-one communication and participant relationships, and 37% said participants had greater interest or focus on nutrition education.¹⁸

“Usually just to call them [WIC], they are really super helpful and are willing to give me resources or to send me to somebody else when I need help. I’ve never had a problem.”

- CALIFORNIA WIC PARTICIPANT

TEXTING AND EMAIL

The most useful texting programs allow two-way interactions between WIC staff and participants; identify specific participants and design targeted messages released at specific times; and include analytics to determine reach and response. Some texting systems can even securely send and receive documents, streamlining eligibility and enrollment to allow more available time for in-person or remote counseling and education.

In California, all WIC local agencies now utilize texting to some degree, usually to remind participants of upcoming appointments or to use their benefits before they expire. In one large local agency, two-thirds of call center contacts are via text while one third are phone calls. Some agencies use interactive texting programs, while others do not. Online text translation services are used by some agencies are helpful when participants text in a variety of languages other than English.

All agencies need basic protocols and business practices for using texting to communicate with WIC participants, including allowing participants to opt out of WIC texts. They also need to understand and optimize their texting program’s messaging strategies and analytic features, which can help with retaining clients for maximum positive impact.

Texting can also be used for education and counseling. While only 30% of California WIC participants surveyed in 2019 said they had received nutrition education by texting with WIC staff, over half said they would prefer nutrition education delivered this way.¹⁹ In one pilot study of 500 participants in a nutrition education texting program, 67% preferred nutrition text messages, 15% preferred online classes via wichealth.org, and 11% preferred an in-person appointment.²⁰ Preliminary data

from interviews with 300 WIC participants since the pandemic began show that 76% reported satisfaction with their WIC interactive texting appointments.^{10, 11}

Like texting or any other WIC tech, using email for WIC business operations requires security protocols, such as using a secure email system through an online client portal or other means. California WIC local agencies find that email works best for less urgent notifications, such as an upcoming appointment. At the same time, texting works better for urgent messages, such as reminders to use food benefits that expire soon.

Email use has increased for many California WIC local agencies. To date, many local staff have not had individual email accounts due to cost and security issues. Agencies often use a generic central email address, then assign certain staff to answer messages, such as Registered Dietitians responding to therapeutic formula questions. Some agencies use email only to communicate between staff.

VIDEOCONFERENCING

Videoconferencing presents a multisensory alternative to in-person one-to-one counseling and education, with the ability to reach clients remotely. With physical presence requirements being relaxed during the pandemic, some WIC local agencies successfully conduct video visits for all types of verification appointments - including mid-

certifications and high-risk appointments. They also find that nutrition education via videoconferencing can deliver an equivalent quality of service as education experienced in person.

In one pre-pandemic videoconferencing pilot study, participants felt video visits were much more convenient than in-person appointments, were more likely to keep their appointments, and redeemed more of their WIC food benefits compared to participants not receiving video visits. Providing such options removes some of the barriers to WIC participation by making required and educational contacts more accessible for families.¹⁵

“It’s more convenient because I have a fulltime job. Being able to work without going to the WIC office every month makes balancing everything a little easier.”

- WIC VIDEO PARTICIPANT, CALIFORNIA

Videoconferencing also presents challenges, one being infrastructure needs at WIC local agencies and in participant homes. While some larger agencies are already pilot testing livestreamed video classes, others still lack webcams or compatible computers. For example, agencies currently using thin clients (low-performance computers on a server-based computing environment) are not able to use some videoconferencing platforms.

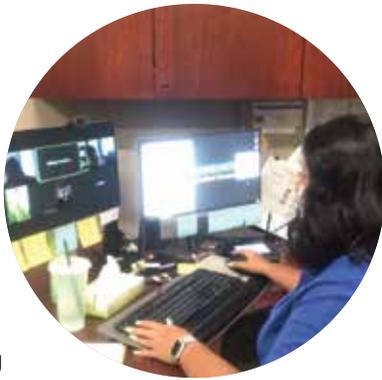
To use videoconferencing, WIC staff and participants not only need the hardware but also reliable broadband or high-speed internet service. Other requirements include participant access to video platforms; sharing data such as anthropometric measurements; and platform availability in languages other than English.¹⁶ Videoconferencing simply differs from in-person communication, too: it can be harder to see and hear the other person consistently, more challenging to be aware of non-verbal cues, and interruptions and distractions from the client’s remote setting must be expected.²¹

WIC tech can be used effectively if the team has the equipment they need, takes adequate time to set up a videoconferencing environment conducive to a



A mom videoconferences from her workplace, in an agricultural job, for her WIC appointment.

WIC interaction, and reassures participants that their appointments are private and secure. Providing lactation support through videoconferencing can present unique needs, from delivering thorough visual interaction for assessment or education to ensuring modesty. Staff can combine the use of phone and video to enhance communication, although use of a phone with a video platform may create an insecure session. For new parents, especially during the pandemic, the opportunity for lactation support or postpartum care by video can be especially welcomed when infant feeding and newborn questions and challenges are so frequent and can be more time sensitive. Getting support via video in the hospital or home can ensure safety and speedy access to needed information.



ONLINE EDUCATION

Online education can take many forms. A WIC agency can upload a portable document format (PDF) file of a nutrition topic to a website, but that's very different than a live, interactive online course with a live teacher. Different still are interactive online courses that are computer-led or pre-recorded webinars.

The growing use of online education in WIC is due, in part, to its many advantages. It allows participants to work independently and on their own schedule – such as when their children might be sleeping or occupied – and thus more easily focus on the educational material. Some parents even take classes while on a break at work. Parents can, and often do, go beyond the modules required for WIC, further expanding their knowledge and skills in nutrition, health, lactation, or parenting.^{20,22} What's more, several studies show online nutrition education leads to similar behavior change among WIC participants as in-person classes.^{23, 24, 25}

Most WIC local agencies in California offer education options through wichealth.org. Participants with reliable internet connectivity say they appreciate the flexibility and online format. Those with insufficient broadband or who prefer in-person learning can still attend group classes when offered. But for people lacking transportation or childcare, having inflexible work hours, or adhering to shelter-in-place orders, online education serves a critical need.

California WIC participants surveyed in 2019 reported an overwhelming preference for in-person, one-to-one nutrition education. However, over 70% said they also liked online nutrition education, while fewer than 60% preferred group instruction. Spanish speakers preferred video/DVD or group classes, while English speakers preferred online or mobile app methods.¹⁹

When surveyed about Massachusetts' WICSmart online education platform, 93% of participants rated their experience as good/excellent, while the majority found topics interesting, learned something new, and liked being able to complete the modules "anywhere."¹⁷ In a 2020 survey of Osage Nation WIC participants, 73% preferred to satisfy their nutrition education requirements online.²⁶

For distance learning to be effective, developers of online nutrition education platforms need to understand and apply evidence-based strategies for online delivery and learning and make their products available in multiple languages. WIC staff need training to assist clients with platform use and to effectively conduct follow-up visits that confirm and build on clients' knowledge. And tech support from state staff or their contractors needs to be readily available for effective troubleshooting when problems arise.

ONLINE CLIENT PORTAL

A "portal" can mean different things to different people and programs. Typically, an online portal is a service that requires individual authentication and authorization to provide a personalized experience, as opposed to a website which is generalized for public information. This adds technical complexity that doesn't exist with a website. In addition, there's a difference between an online portal that is integrated with a management information system (MIS) and one that is not. MIS integration is much more complex but could allow for benefits management, one aspect of serving WIC clients more efficiently and equitably.

California's State WIC webpage has seen exponential growth in visitors since the pandemic began, suggesting that many Californians want information about WIC and seek that information online. What if visitors could not only check their eligibility for WIC benefits, but apply for benefits as well? If WIC local agencies could be electronically notified of an individual's interest in WIC, staff could be proactive in engaging eligible participants. A statewide online client portal – such as those used in

healthcare and other businesses – could streamline and expedite WIC eligibility and enrollment processes in advance of service delivery in local agencies’ hands.

One location for anyone in the state to enter the program could address equity and access challenges. An example of a first step in this direction is the Oklahoma WIC program’ online application webpage.²⁷ Websites can provide reliable information and consistent WIC messaging to reduce confusion, and online portals can go further to personalize and integrate WIC services. The time saved at the local level would allow staff and participants to prioritize their valuable time for counseling and education services.¹¹

Ideally, though inherently complex, a statewide online portal could also provide future interoperability options, such as adjunctive eligibility and enrollment for other safety net programs, including health care, nutrition, income support, social services and more.

MOBILE APPS

Mobile applications, or apps, are a big part of Americans’ online lives. Nearly all current WIC clients surveyed use the new California WIC App to check eligibility, locate a local clinic, find grocery stores, and verify allowable foods and benefit balances. In interviews conducted with 60 WIC participants in Los Angeles County in summer 2020, 100% were satisfied with the app.¹⁶ Most State WIC programs have a similar tool, either a mobile-optimized website or a native application, and there are drawbacks and benefits to either.

“Our clients that have had their baby are so thankful for the remote appointment & they are hoping remote [appointments] can continue. They would love more links on the WIC app to go from a resource link to the wichealth.org classes.”

- WIC DEGREED NUTRITIONIST,
CALIFORNIA



Some WIC apps vary in whether they provide individualized or general information to participants. Native apps take up data on mobile devices and require specific operating platforms. Other considerations include whether WIC offers a suite of different mobile apps for different parts of the program or a unified digital experience. For example, some states offer lactation support through a mobile app, but it’s an adjunct to any other apps. Future app developments could be possible for nutrition education, lactation support, and other relevant WIC benefits as long as they meet privacy and security standards. As with any WIC tech participants rely on to redeem benefits or meet program requirements, quick tech support is needed to address statewide problems.

SOCIAL MEDIA

Social media is incredibly popular for staying informed and connected, especially among young adults, and the variety of platforms is constantly expanding. California local WIC agencies have successfully communicated general information with current and potential WIC clients via Facebook and Instagram for years, for example. Although not used to provide services, WIC agencies find social media an excellent way to engage clients where they are and ensure they are receiving reliable information as timely as possible.

While in-person support groups are not possible during the pandemic, some local health clinics are turning to social media to continue providing lactation support and information to a wide audience. WIC clients often participate, although they are never identified as such.

California State WIC is developing social media messages aimed to help families access remote services, shop for WIC foods, get medical care, and more. Also, the National WIC Association's "Social Media Starter Toolkit" helps WIC agencies utilize social media effectively.²⁸ WIC staff, especially those not familiar with or skilled in using these tools in public health programs, need ongoing social media literacy training for practical use in messaging and education.

ONLINE ORDERING/PICKUP/DELIVERY

During a pandemic or other emergency, obtaining food is more challenging for families. Shopping online for groceries - with either in-store or curbside pickup, or home delivery - reduces transportation barriers and promotes more equitable food access. This alternative especially helps families in remote or frontier areas, those in urban areas deemed "food deserts," or those needing to stay at home.²⁹

USDA's Supplemental Nutrition Assistance Program (SNAP, formerly known as food stamps) recognized the need for online shopping and many years ago began the process to allow this option that began piloting in 2019, and is now available in nearly every state. Participants redeem their SNAP benefits when ordering groceries online with an option for home delivery.³⁰ Many WIC participants also receive SNAP benefits, yet in order to purchase their WIC prescription foods they must shop in the store. During the pandemic, in-person shopping is of extra concern for pregnant parents and families with infants and/or elders who are advised to take more

precaution to avoid exposure to COVID. These differences create equity issues for eligible participants. Compared to the WIC shopping requirements, SNAP transactions are less complex and thus easier to improve technologically.³¹

WIC online ordering, in-store or curbside pickup,

Over 300 WIC participants responding to a New Hampshire survey early in the pandemic made it clear they want grocery ordering and delivery options. More than 75% reported that phone/email/online WIC grocery orders would be helpful, while 58% were in favor of grocery delivery services.³³

"Because we don't have transportation, [food shopping] is difficult... Luckily, Amazon has extended accepting [SNAP] EBT, that is a little bit expensive... I love WIC, but I can't do [online shopping with WIC]. I am in walkable distance from a grocery store, but they don't label any [WIC foods]. So, if I can't get to the WIC grocery store, then I can't use my benefits. That's been much more difficult during the pandemic."

- CALIFORNIA WIC PARTICIPANT ¹⁶

and home delivery are available under current regulations and, under a pandemic waiver, online purchase is also allowed.³² Another complexity is that there are 3 types of WIC vendors. Retail stores are the most common and most heavily regulated; there are also in some states home delivery vendors and distributors, although rare.

Some of the biggest hurdles to shopping online for WIC foods include the requirement to enter a personal identification number (PIN) at checkout, the lack of WIC paying for delivery fees, and inventory management for WIC vendors (whether retail or home delivery), and few of these depend on technology. However, more can be done to explore where technology expands access and improves WIC clients' experience, such as enabling online PIN entry like that possible for SNAP.

While technology for WIC shopping is in its infancy, several entities are making progress. Legislators recently introduced a bipartisan bill requiring USDA, retailers, and technology experts to explore streamlining strategies including online food purchasing and delivery options for WIC participants.³⁴ National WIC Association convened an online ordering work group in April 2020, California WIC plans to convene an online shopping workgroup in Spring 2021, and the USDA recently funded a WIC online ordering evaluation.³⁵

CHALLENGES & CONSIDERATIONS

DATA AND PRIVACY

Protecting WIC participants' confidentiality and security is of the utmost importance in all ways WIC delivers services, including through WIC tech. USDA requirements are different than the Health Insurance Portability and Accountability Act (HIPAA) used in healthcare to encrypt data and protect patients. Many developers of digital communication platforms have adapted to HIPAA but not to the needs of USDA, since it is a much smaller client base. By design, USDA systems don't communicate with electronic health record providers, inhibiting direct connection between WIC and physicians. These differences hamper WIC's ability to modernize, serve diverse needs, and address equity.

However, USDA could assess where WIC's privacy and security needs might be met by existing standards, widely accepted across the federal technology marketplace, and encourage more competition among vendors to deliver compliant technology.

Negotiating terms of service and privacy – a complex and nuanced process to bind liabilities between a technology developer and the state or WIC local agency – can be critical for WIC tech's successful adoption. Important data and privacy considerations include business processes with end-to-end encryption of data and messages, storage of information and use of third party vendors, as well as understanding different protections or risks in various technologies. WIC participants using technological protections on their end

and following those data-sharing consent processes and practices are additional considerations.

Some information required for WIC enrollment and recertification - such as participants' identification, residence, lab results, or pregnancy status - is personally identifiable information. During the pandemic, applicants reportedly provided proof of ID and related requirements verbally (by phone via photos for ID, and staff can cross check with Medi-Cal for adjunctive eligibility), electronically (via health records, fax, or email), via mail, or in person using curbside drop-off or showing documents to staff through a door or window.^{10,11} When asked which WIC requirement is hardest to complete, 55% of over 740 Osage Nation WIC participants cited proof of income, identification, and/or residency or bringing a prescription.²⁶ More efficient solutions for meeting verification document requirements would ideally use encrypted technologies that ensure client privacy.

Regarding protection of personal privacy while using WIC tech, communications and establishing relationships between staff and clients via phone and video is a consideration. This may be especially true if sensitive topics such as violence or abuse need to be addressed and the remote visit cannot be conducted in as private a setting as a WIC counseling room, for example.

CONNECTIVITY AND EQUIPMENT

It can be hard to remember that the technological capability that seems so prevalent in our country today is not universal. Gaps in broadband access for many parts of California and the nation exist, especially in rural and frontier areas. WIC tech such as videoconferencing and online nutrition education require adequate broadband



access, yet nearly 25% of rural Americans lacked access to high-speed broadband internet in 2018.³⁶ Also, in assessing access to high-speed internet for a geographic area, Federal Communications Commission (FCC) maps can be misleading. Internet Service Providers (ISP) submit information on their services by census blocks. The FCC considers a census block served if even one house or business in the block is served; thus, some households, especially in rural areas with large census blocks, may be overlooked.³⁷ Since broadband access is an important social determinant of health,³⁸ rural families could benefit most from improved connectivity to access WIC services via WIC tech.

In a recent study, the greatest staff concern about videoconferencing was their clients' access to a reliable device or internet service. A few staff voiced concerns about HIPAA compliance, yet only 8% expressed some fear of the technology. Nearly 60% of the WIC team felt the most important reason to offer videoconferencing was to remove clients' time and travel barriers to participating in WIC.^{15,16}

Most WIC participants own smart devices.²² However, when it is their only device, or if they must share a phone with other family members, this may limit their ability to conduct business and exchange vital information. Many participants use low cost carriers which hampers their ability to use many common platforms, especially streaming. Also, if they have a low cost plan, it limits the data and the speed of data download

which may preclude use of technology. In 2019, being smartphone-dependent (without broadband) was especially common among younger adults, non-whites and Americans with lower incomes and less education.¹² Nearly half of smartphone-dependent Americans surveyed in 2015 cancelled their cell phone service due to financial hardship. Over half reported reaching the maximum data on their cell phone plan somewhat regularly. Each of these figures is substantially higher than those reported by smartphone owners with more financial resources.³⁹ This impact is likely more severe now, as the

economic downturn resulting from the pandemic has greatly impacted low-resource families.

A 2019 report from the Federal Communications Commission (FCC) found that telehealth expansion in rural America is being held back not by technology per se, but by issues such as fractured local laws and regulations, a lack of collaboration, inadequate reimbursement for medical providers, and insufficient return on investment for many internet service providers. This presents a significant challenge to almost half of the nation's counties facing the "double burden" of high rates of chronic disease and unreliable broadband connectivity.⁴⁰

WIC clients are not the only ones facing connectivity challenges; some staff work in areas with weak broadband or are restricted from using some online platforms by their parent organizations that are usually set up to meet HIPAA and not WIC requirements. Logistical issues, such as software licensing, can be a challenge. And the cost of software and/or hardware can be a barrier for some agencies.

RURAL HEALTH AND TECHNOLOGY DISPARITIES

Many studies confirm that rural residents are more likely to experience health issues and higher death rates than their urban counterparts.⁴¹ Furthermore, maternal mortality rates among rural mothers in 2015 were nearly 60% higher than for urban mothers. While the rate rose among rural white mothers, significant health disparities impact Black mothers at a higher, disproportionate rate.⁴² WIC local agencies are exploring new technologies and program innovations to revamp the care and service modalities to enhance health equity for individuals and families, including Black mothers and families in rural regions.⁴³

Recently, the California Department of Health Care Services revised the Medi-Cal (California Medicaid) telehealth policy to allow providers more flexibility to utilize telehealth to deliver patient services, including in rural areas. Similarly, expanding WIC tech can help close the gaps of health inequities and lack of access for rural families. Virtual modalities, supported by WIC tech, can promote client self-efficacy by allowing active client participation to regain control of their health.

Despite improved virtual care platforms, high costs to maintain adequate internet service has been another hurdle for rural families, due to low rates of return

on investment for Internet Service Providers (ISP) to build middle mile (links the backbone to the ISP or telecommunications providers' core network), and last mile (brings the connection to residents' homes and small businesses) infrastructure.⁴⁴

However, there are many examples of previous success to close the digital divide in rural areas. In 2013, the Digital 395 Project provided fiber-optic broadband along the eastern Sierra region of California and Nevada. The technology extended broadband access to families and businesses along Highway 395, which connects to some of the most rural and remote areas of California.⁴⁵ In 2018, Congress established the "ReConnect" program, providing USDA with \$600 million to award loans and grants to expand broadband infrastructure and services in rural America.⁴⁶

Another recent example of projects working to bridge the digital divide is the Karuk and Yurok Tribes' Klamath River Rural Broadband Initiative. Over \$10 million from the California Public Utilities Commission Advanced Services Fund will help the Initiative install more than 100 miles of fiber optic cable. This would provide high-speed internet access to first responder agencies, anchor institutions, households and businesses in currently unserved or underserved areas on California's remote north coast.⁴⁷

These types of projects are few and far between, however, due to the need for local, state, and federal

funding, as well as ongoing collaboration and partnerships between agencies that provide safety net services. The Klamath River Rural Broadband Project described above, which was initiated in 2013 and still awaits final approval in 2020 (as of press time), is just one example of the complexities.

Since 2019, the USDA WIC Telehealth Innovations Project has collaborated with Tufts University to spearhead community engagements to decrease access barriers to WIC services, particularly in rural communities.⁴⁸ The grant supports projects to bridge the gap between in-person access and affordability to mothers needing more nutrition education and breastfeeding counseling in a secure, supportive virtual space. Technologies include "video conferencing, the internet, store-and-forward imaging, streaming media, and terrestrial and wireless communications."⁴⁹ Although promising, uncertainty remains about how soon support can roll out, based on conflicting external factors.

ADOPTION AND DISSEMINATION

Successful businesses prioritize customer engagement and adjust as customer needs and business practices evolve. Adopting business practices involving new technology at an increased pace can be challenging for governmental programs such as WIC. Yet, a similarly

Tufts | THIS-WIC

About Funding Resources What's New? Contact us

USDA/Tufts Telehealth Intervention Strategies for WIC (THIS-WIC)

The USDA/Tufts Telehealth Intervention Strategies for WIC (THIS-WIC) is a grant opportunity to implement telehealth solutions for WIC participants.

LEARN ABOUT PRIORITY AREAS LEARN ABOUT TEAM



Participants can complete their ordering on line, but must complete the purchase transaction and pick up groceries curbside/at the store. Online ordering and purchase transaction, and delivery is a recommended improvement.

responsive approach is critical if WIC is to reach more families in need.

In public programs like WIC, new tech often is approved temporarily and, even if shown to be effective, approval is not extended in a timely fashion – or ever. For example, COVID waivers eliminating the physical presence requirement for some WIC appointments gave impetus for many local WIC agencies to expand and improve their use of technology overall. Yet staff doesn't know whether they will be allowed to continue using this WIC tech beyond the pandemic.

At the WIC local agency level, more staff time, scheduling, and training are needed when first adopting any new procedure, including use of technology. For example, staff training is vital to keep video appointments structured and engaging while applying participant-centered education and counseling strategies. Specific staff within a local agency may be more open to a new technology; tapping into their enthusiasm to create an adoption team can go a long way toward helping their peers feel more comfortable and capable. Time to assist participants learn to use the technologies needs consideration, but collectively staff and participants become more proficient.

The expansion of WIC tech use requires operational and training decisions. For example, electronic messages from participants cover a wide range of WIC

services or benefits, and staff must be prepared to answer them or refer to the appropriate professional. Incoming messages could be about an appointment, breastfeeding, therapeutic formula changes, the California WIC App or their benefits. With the right tools at hand, staff accomplishes this triage by utilizing a mix of technology, such as text to email or uploading documents via a client portal.

In addition to training, staff require the infrastructure to succeed. As telehealth expands rapidly throughout the medical profession, infrastructure, operational protocols, and reimbursement strategies are developing.⁵⁰ By design, WIC is closely connected to health care and can benefit from these advances. For example, some WIC local agencies housed in community health centers already share data digitally with their health center through electronic health records. Appropriate use of similar technologies will help streamline WIC services and promote equitable practices.

Planning from the start to involve end-users in research and design can go a long way toward successful development and adoption of new technology. Taking a holistic approach to incorporating technology in WIC, as opposed to adopting single solutions, and incorporating human-centered design into the product development process to make more intuitive tools, could significantly decrease any perceived hurdles.

RECOMMENDATIONS

For improved outreach, more equitable service, and greater WIC participation of eligible families now and in the future, CWA and its allies recommend the following.

USDA AND STATE PROGRAMS SHOULD FOCUS ON:

1. Permanently allowing WIC local agencies to use approved WIC tech as an alternative to in-person contact for business operations including enrollment, certification, education, counseling and presence for purchase transaction, and clarifying and promulgating clearer rules on privacy and security requirements for technology use within WIC. COVID waivers were critical toward inspiring new and improved ways to work; they must be considered not only until a COVID-19 vaccine is developed and distributed, but as permanent program improvements.
2. Assessing where security and privacy needs might be met by existing standards widely accepted across the federal technology marketplace, and encouraging more competition among vendors to deliver compliant technologies.
3. Working with product developers to incorporate human-centered design to produce more intuitive tools for staff and participant needs.
4. Expediting and supporting state programs to continue to expand WIC staff training to include proficiency with WIC tech.
5. Conducting a feasibility study with an inventory of current technology, needs and costs of ongoing IT for sustaining technology upgrades, and assessing the effectiveness of MIS/EBT technology fund usage restrictions in meeting program needs and achieving cost savings.
6. Providing state programs and local agencies with sufficient and dedicated funding and technical assistance for using technology tools for program enrollment and participation.
7. Expanding ongoing customer service surveys, using the opportunities provided by COVID, and planning and implementing formal research and evaluation of WIC tech's effectiveness and impact on health outcomes.

8. Engaging WIC families in the decision-making process to understand what communities need for broadband deployment and proliferation of technology, including WIC participants as user research subjects and testers of any new tool used in WIC.

CONGRESS SHOULD USE ITS AUTHORITY TO:

9. Utilize the Child Nutrition Reauthorization Act (CNR) as a vehicle to modernize WIC business practices and service delivery.
10. Advocate for continued coordination between the Federal Communications Commission (FCC) and the Centers for Disease Control and Prevention (CDC) to expand broadband service in remote areas to enable telehealth and WIC tech services to reach people - especially pregnant people - in underserved areas. E.g., S.3152 - Data Mapping to Save Moms' Lives Act, <https://www.congress.gov/bill/116th-congress/senate-bill/3152> and Rural Maternal and Obstetric Modernization of Services (MOMS) Act <https://www.congress.gov/bill/116th-congress/senate-bill/2373>.
11. Enhance coordination between USDA and the Department of Health and Human Services (HHS) to enable platforms that share relevant electronic health information between WIC clinics and physicians to facilitate WIC certification appointments.

STATE WIC PROGRAMS, PARTNERS AND ADVOCATES CAN:

12. Create learning collaboratives with state and local WIC staff and potential business partners to understand and develop program improvements, such as online ordering and purchase, state eligibility and application portals, and other program modernizations.
13. Engage local and state legislators to support and underwrite increased digital connectivity and telehealth opportunities in rural communities.
14. Engage state regulators to consider the needs of those accessing safety net programs in developing Memorandums of Understanding and agreements between anchor institutions and safety net service providers to ensure maximum participation.

15. Work toward including WIC at the earliest opportunity in the California Statewide Automated Welfare System (CalSAWS) project to electronically bridge safety net programs.
16. Ensure that expansion and sustainability for broadband internet service is covered through various funding streams by engaging policy makers, grant funders and insurance payors.

REFERENCES/RESOURCES

1. "National- And State-Level Estimates of WIC Eligibility and WIC Program Reach in 2017." U.S. Department of Agriculture (USDA), Special Supplemental Nutrition Program for Women, Infants, and Children (WIC), 2019. <https://www.fns.usda.gov/wic/national-and-state-level-estimates-wic-eligibility-and-wic-program-reach-2017>
2. "Mobile Fact Sheet." Pew Research Center, 2019. <https://www.pewresearch.org/internet/fact-sheet/mobile/>
3. Smith, K. M., Hunte, H. E., and Graber, M. L. "Telediagnosis for Acute Care: Implications for the Quality and Safety of Diagnosis." Agency for Healthcare Research and Quality, 2020. <https://www.ahrq.gov/sites/default/files/wysiwyg/patient-safety/reports/issue-briefs/telediagnosis.pdf>
4. "Taskforce on Telehealth Policy (TTP) Findings and Recommendations." National Committee for Quality Assurance (NCQA), 2020. <https://www.ncqa.org/programs/data-and-information-technology/telehealth/taskforce-on-telehealth-policy/taskforce-on-telehealth-policy-findings-and-recommendations-overarching-issues/>
5. Henchy, G. "Making WIC Work Better: Strategies to Reach More Women and Children and Strengthen Benefits Use." Food Research & Action Center (FRAC), 2019. <https://frac.org/wp-content/uploads/Making-WIC-Work-Better-Full-Report.pdf>
6. Story, M. and Lott, M. "Strengthening WIC's Impact During and After the COVID-19 Pandemic." Healthy Eating Research, 2020. https://healthyeatingresearch.org/wp-content/uploads/2020/07/HER-WIC-Brief-072220_final.pdf
7. Davis, E. "COVID-19's Impact on the Social Safety Net." Code for America, 2020. <https://www.codeforamerica.org/news/covid-19s-impact-on-the-social-safety-net>
8. "WIC 2017 Eligibility and Coverage Rates." USDA, 2017, <https://www.fns.usda.gov/wic-2017-eligibility-and-coverage-rates#3>
9. "TeleWic: Keeping up with The Times." California WIC Association, 2018. https://calwic.org/wp-content/uploads/2018/11/WIC_VideoConferencing_Brief_fnl_pages.pdf
10. PHFE WIC, 2020. 2020 County WIC Participant Survey Data During COVID, Preliminary Data, as presented by Shannon Whaley, PHFE WIC, a program of Heluna Health, at California WIC Association conference, August 2020. <https://www.phfewic.org/>
11. "2020 Survey Data Dashboard." WIC Data, Los Angeles County, 2020. www.lawicdata.org
12. "Ten Equity Implications of the Coronavirus COVID-19 Outbreak in The United States." NAACP, 2020. https://naacp.org/wp-content/uploads/2020/03/Ten-Equity-Considerations-of-the-Coronavirus-COVID-19-Outbreak-in-the-United-States_Version-2.pdf
13. "Health Equity Considerations & Racial & Ethnic Minority Groups." Centers for Disease Control and Prevention, 2020. <https://www.cdc.gov/coronavirus/2019-ncov/community/health-equity/race-ethnicity.html>
14. Campos-Castillo, C. & Anthony, D. "Racial and Ethnic Differences in Self-Reported Telehealth Use during the COVID-19 Pandemic: A Secondary Analysis of a U.S. Survey of Internet Users from Late March." Jamia, 2020. doi:<https://doi.org/10.1093/jamia/ocaa221>
15. Weiss, A. "Final Project Report for Innovative Strategies Outreach Mini-Grant: WIC Video Visits." Community Medical Centers, 2019
16. 2020 California WIC During COVID Interviews, Preliminary Data, as presented by Lorrene Ritchie, University of California Agriculture and Natural Resources, Nutrition Policy Institute, at California WIC Association conference, August 2020.
17. Lei, K. "Massachusetts WIC Participant Satisfaction Survey." Presentation, Summer 2020.
18. South Carolina WIC Program. "South Carolina MIS-EBT Implementation QA Project - Post-Implementation Survey Results." SurveyMonkey.com. August 2020. Participant Survey: <https://maximus.surveymonkey.com/results/SM-MZD2ZXGG7/>. Clinic Staff Survey: <https://maximus.surveymonkey.com/results/SM-YDRS9NGG7/>.
19. 2019 California WIC Participant Survey, Preliminary Data, as presented by Susan Sabatier, California Department of Public Health, WIC Division, at California WIC Association conference, August 2020.
20. Weiss, A. "Final Project Report for Innovative Strategies Outreach Mini-Grant: Classes via Text." Community Medical Centers, 2019
21. O' Cathail M, et al. "The Use of Patient-Facing Teleconsultations in the National Health Service: Scoping Review." JMIR Med Inform, Vol. 8, 2020. <https://medinform.jmir.org/2020/3/e15380/>
22. "MyWIC: Updating WIC for A New Generation." California WIC Association, 2018. https://calwic.org/wp-content/uploads/2018/11/MyWic_Millennial_report.pdf
23. Au L.E., Whaley S.E., Gurzo K, Rosen N.J., Meza M, Ritchie L.D. "Evaluation of Online and In-Person Nutrition Education Related to Salt Knowledge And Behaviors Among WIC Participants. Journal of the Academy of Nutrition and Dietetics, 117(9): 1384-1395, 2017.
24. Au L.E., Whaley S.E., Rosen N.J., Meza M., Ritchie L.D. "Online and In-Person Nutrition Education Improves Breakfast Knowledge, Attitudes, And Behaviors: A Randomized Trial of WIC Participants. Journal of the Academy of Nutrition and Dietetics, 116(3): 490-500, 2016
25. Au L., Whaley S.E., Gurzo K, Meza M, Ritchie L.D. "If You Build It They Will Come: Satisfaction of WIC participants With Online And Traditional In-Person Nutrition Education." Journal of Nutrition Education and Behavior, 48:336-342, 2016
26. "Report for 2020 Osage Nation WIC Participant Satisfaction Survey," presentation accessed October 2020
27. Women, Infants and Children Program webpage, Oklahoma State Department of Health. Accessed October 2020. https://www.ok.gov/health/Family_Health/WIC/
28. "Social Media Starter Toolkit." National WIC Association, 2020. <https://www.nwica.org/social-media-toolkit>

REFERENCES/RESOURCES

29. Abrams, A. "Mothers Who Rely on Federal Food Aid Struggle to Get Groceries Safely During the COVID-19 Outbreak." Time, 2020. <https://time.com/5844953/wic-online-groceries-coronavirus/>
30. USDA FNS Supplement Nutrition Assistance Program, Launches the Online Purchasing Pilot <https://www.fns.usda.gov/snap/online-purchasing-pilot>
31. WIC/EWIC Pick Up and Delivery Requirements, October 2020, authored by a coalition convened by the National WIC Association. https://s3.amazonaws.com/aws.upl/nwica.org/fy20_nwa_factsheet_pickup-and-delivery-requirements.pdf
32. USDA FNS Supplement Nutrition Program for Women, Infants and Children, WIC COVID-19 Waivers by State, https://s3.amazonaws.com/aws.upl/nwica.org/fy20_nwa_factsheet_pickup-and-delivery-requirements.pdf
33. "New Hampshire WIC Services During COVID 19 Pandemic - Participant Survey Results." New Hampshire Division of Public Health Services, May/June 2020
34. "Levin, Stefanik Introduce Bipartisan COVID-19 WIC Safety and Modernization Act." Andy Levin, 2020. <https://andylevin.house.gov/media/press-releases/levin-stefanik-introduce-bipartisan-covid-19-wic-safety-and-modernization-act>
35. USDA Expands Access to Online Shopping in SNAP, Invests in Future WIC Opportunities, 2020. <https://www.fns.usda.gov/news-item/fns-001820>
36. "About A Quarter of Rural Americans Say Access to High-Speed Internet Is A Major Problem." Pew Research Center, 2018. <https://www.pewresearch.org/fact-tank/2018/09/10/about-a-quarter-of-rural-americans-say-access-to-high-speed-internet-is-a-major-problem/>
37. "Broadband Data and Mapping: Background and Issues for the 116th Congress." Congressional Research Service, 2019. <https://fas.org/sgp/crs/misc/R45962.pdf>
38. Bauerly, B. C. "Broadband Access as a "Super-Determinant" of Health." The Network for Public Health Law, 2018. <https://www.networkforphl.org/news-insights/broadband-access-as-a-super-determinant-of-health/>
39. Smith, A. "US Smartphone Use in 2015." Pew Research Center, 2015. <https://www.pewresearch.org/internet/2015/04/01/us-smartphone-use-in-2015/>
40. Intergovernmental Advisory Committee to the Federal Communications Commission Advisory Recommendation No: 2019-2 In the Matter of State, Local Tribal, and Territorial Regulatory and Other Barriers and Incentives to Telemedicine
41. Richman, L. et al. Addressing Health Inequities in Diverse, Rural Communities: An Unmet Need, SSM - Population Health, vol. 7, 2019. <https://www.sciencedirect.com/science/article/pii/S2352827318303409>
42. Ziller, E. et al. "Health Equity Challenges in Rural America." Human Rights; Chicago, 43(3): 1-6, 2018
43. Black Maternal Health Week: Centering Black Mamas: The Right to Live and Thrive, National WIC Association, 2020. <https://www.nwica.org/blog/black-maternal-health-week-centering-black-mamas-the-right-to-live-and-thrive#.X2pnmWhKhPa>
44. Broadband USA Connecting America's Communities, US Department of Commerce, National Telecommunications and Information Association, https://broadbandusa.ntia.doc.gov/sites/default/files/resource-files/bbusa_broadband_glossary_161024.pdf
45. Digital 395 Middle Mile Project. California Broadband Cooperative, 2013. https://www.fs.usda.gov/nfs/11558/www/nepa/81480_FSPLT2_056011.pdf
46. USDA Helps Expand Rural Broadband Access in Four State, 2017. <https://www.usda.gov/media/press-releases/2017/06/08/usda-helps-expand-rural-broadband-infrastructure-four-states>
47. State of California, Public Utilities Commission, Klamath River Rural Broadband Initiative, last updated June 2020. <https://www.cpuc.ca.gov/environment/info/esa/klamath/index.html>
48. USDA WIC Telehealth Innovations Project. USDA, 2019. <https://www.fns.usda.gov/wic/usda-wic-telehealth-innovations-project>
49. USDA WIC Telehealth Innovations Project, USDA Grants, 2019. <https://www.grants.gov/web/grants/view-opportunity.html?oppld=316569>
50. Telehealth Reimbursement Guide for California, California Telehealth Resource Center, Spring 2020. <https://www.caltrc.org/knowledge-center/reimbursement/>

We would like to thank the following individuals and program staff for comments and materials:

Jessi Bull; Brian Dittmeier, National WIC Association; Thuy Do, MPH Graduate Student, San Diego State University; Martelle Esposito; Lorrene Ritchie, University of California, Agriculture and Natural Resources; Nutrition Policy Institute; Andrea Weiss, Community Medical Centers; lawicdata.org; Massachusetts WIC Program; New Hampshire WIC Program; Oklahoma WIC Program; Osage Nation WIC, Pawhuska, Oklahoma; Santa Barbara County WIC; South Carolina WIC Program

Editing: Margaret Aumann, MPH

Design: Brandy Shearer www.brandyshearer.com

Image Credits: CWA Photo Library



CALIFORNIA WIC ASSOCIATION
www.calwic.org

Funded by the David and Lucile Packard Foundation.
For more information about the Foundation, visit packard.org.