



Supporting WIC Enrollment

Using technology to improve the certification experience for
participants and WIC agencies

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*Prepared by Nava Public Benefit Corporation on behalf of the National WIC
Association*



National WIC Association

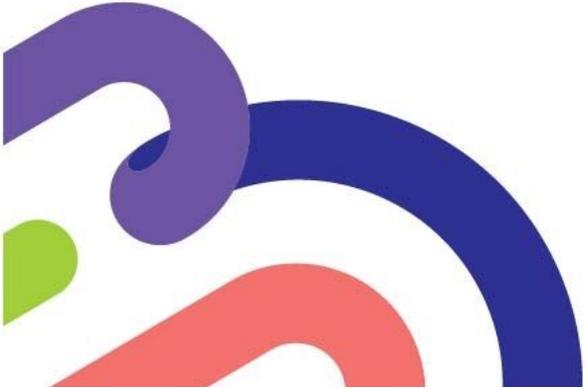


Table of Contents

1. Executive summary	3
2. Background	5
3. Research methods	6
3.1 Landscape analysis of online tools offered by WIC State agencies	6
3.2 Open-ended survey	6
3.3 Interviews with WIC State agencies	7
3.4 Interviews with MIS vendors	7
4. Current state of online certification tools	8
4.1 Online pre-application to begin certification from anywhere, anytime	8
4.2 Participant portal for a "One Stop" WIC experience	9
4.3 Document uploader to minimize extra trips to the clinic	10
4.4 Video conferencing for at-home appointments	11
4.5 Two-way text communication to improve connection with applicants	11
4.6 Automated chatbot to screen applicants and answer basic questions	12
These online certification tools are not widely used and the majority still require manual processing by clinic staff	12
5. Key findings and recommendations	13
5.1 Effective technology improves WIC accessibility	14
5.2 WIC agencies have faced program barriers to building technology for remote certifications	16
5.3 Technology is not the barrier to remote certification	17
5.4 Lessons learned from remote certification efforts are broadly applicable	19
5.5. Certification innovations can address participation inequities	21
6. Conclusion	23
Appendix A: Landscape analysis data collection queries	26
Appendix B: Validation request template	28
Appendix C: State Agency Interview Guide	30
Appendix D: MIS Vendor Interview Guide	32

Summary of Acronyms

Acronym	Definition
EBT	Electronic Benefit Transfer
COVID-19	Coronavirus Disease 2019
GSA	United States General Services Administration
HIPAA	Health Insurance Portability and Accountability Act
NWA	National WIC Association
MIS	Management Information System
SMS	Short Messaging Service
USDA	United States Department of Agriculture
WIC	Special Supplemental Nutrition Assistance Program for Women, Infants and Children

Glossary of Technical Terms

Term	Meaning in a WIC technology context
Agile development	Compared to more traditional software development (often referred to as “waterfall”), where project activities are planned in longer, sequential phases that each rely on the previous one, agile software development is focused on shortening feedback loops and relying on constant feedback, iteration, and collaboration to improve products. Agile teams typically work to build a minimally viable product (MVP) as early on in the process as they can, test it with end users and business stakeholders, collect feedback, and iteratively incorporate that feedback by repeating that cycle.
Application Programming Interface (API)	APIs are the mechanisms through which individual software applications pass information to one another. Communications between the systems are facilitated by API calls, which are simply requests between the application to send new information to another system, or ask for updated information from another system.
Decoupled technical architecture	Compared to a monolith technical architecture where there’s a large, complex, single system responsible for many things, a decoupled technical architecture is comprised of microservices: small components that work independently of other software components and are connected by APIs.

DevOps	Practice of coordinating work between software development and systems operations
Form	A form (also called a web form) is a window or screen that contains numerous fields, or spaces to enter data. Each field holds a field label so that any user who views the form gets an idea of its contents. A form is a common way to collect information from a visitor to a website.
Human Centered Design (HCD)	Methodology for building products and designing services that incorporates feedback from the people for whom you are designing throughout the design process. Its core principles are to build an explicit understanding of users, involve them throughout the development process, test and iterate frequently, and address the whole user experience of a product or service. For more information, see 18F's guide for applying HCD in government technology projects .
Integration	A technical integration is what allows data in one system to seamlessly move into another system, and to move data back in reverse. It facilitates a unified experience between two separate systems or tools.
Portal	A portal is a website or web page that provides access or links to other sites, tools, or services. Many benefits programs (WIC included) have built portals that allow participants to log in and apply for benefits, check their balance, and perform other self-service tasks.
Product	A digital tool, feature, or system that is delivered to users (e.g., WIC staff and participants) that meets a set of business and user needs. Examples of products are WIC shopping apps, online forms to begin the WIC application process, and Management Information Systems.
Prototype	A functional representation of a feature or group of features intended to communicate what they will look like and how they will function, and used to get feedback from potential users or customers. Prototypes can be as simple as a sketch on a paper or as sophisticated as working software that can be tested.
Release	A release is the distribution of a version of a software application. Releases typically contain bug-fixes, enhancements, or all-together new functionality. Sometimes referred to as deployments, a release is that set of code (that delivers features and functionality) to the version of a system that end-users are using.
Technical architecture	The organization of technology systems and tools that support WIC agencies' operations reflects strategic decisions made by program and technology staff about how to incorporate technology into their operations.
User	The consumer of a product or service. For a WIC certification tool, this can



	include participants, clinic staff, local agency staff, and state agency staff.
User research	A range of techniques used to understand the target audience (or user-base) and the problems that they have. In WIC, user research would include observation of applicants and participants interacting with existing tools or prototypes of new tools, or interviews with end users to understand their thought process. The outputs of this research would then be used to inform the design of a product or service.

1. Executive summary

The [National WIC Association](#) and [Nava Public Benefit Corporation](#) (Nava) conducted this research to understand the state of technology being used in the Special Supplemental Nutrition Assistance Program for Women, Infants and Children (WIC) to support remote certifications today. The WIC certification process has historically relied on frequent in-person interaction and required participants to provide physical proof of eligibility. Under COVID-19, however, WIC operations have transitioned to fully remote services to protect the health and safety of participants and staff. These adaptations were enabled by regulatory waivers and have ensured eligible WIC families are able to participate in the program but add operational burden to WIC staff. In this research, we sought to understand the breadth of online tools being used to support WIC certification and develop recommendations to make these innovations accessible across WIC. The information in this report was gathered by Nava through research into technologies currently being used by WIC State agencies to support remote certification, distribution and validation of a survey to WIC directors and staff, and interviews with WIC State agencies and current technology vendors.

Through our research, we found that there are multiple online certification tools being used across WIC State agencies. These include an online pre-application, a participant portal for providing individualized self-service, a document uploader to minimize extra trips to the clinic, video conferencing for remote appointments, two-way text communications to improve connections with applicants, and automated chatbots to answer routine questions. These tools largely operate as stand-alone services that have demonstrated an ability to improve participation, retention, and participant satisfaction with the program, but have also created additional burden on WIC staff due to a lack of integration with core WIC systems.



When considering future innovation, we found that WIC State agencies focused on two development models — adding user-facing functionality to the existing MIS or building standalone tools. Working through the MIS requires high investment of resources and time that can be further complicated by WIC's MIS consortium model. Creating standalone tools can fragment the participant experience and introduce operational complexity. We found that the overwhelming majority of State agencies had not yet considered leveraging more standard development and innovation practices from across government. We recommend that future certification innovations use proven practices, including modular development and human-centered design, to ensure that new tools meet the needs of all users and promote participant choice without compromising operational efficiency.

2. Background

The National WIC Association (NWA) and Nava Public Benefit Corporation (Nava) began this research effort in order to understand the state of technology being used in the Special Supplemental Nutrition Assistance Program for Women, Infants and Children (WIC) to support remote certifications today and lay the groundwork for the future. NWA partnered with Nava on this project because of Nava's significant experience improving online service delivery of benefits programs. Our goals are to:

1. Catalog online tools currently used by WIC State agencies to support certification
2. Understand and assess the opportunities and challenges these tools introduce
3. Make recommendations to support increasing the ability of WIC to innovate

The WIC certification process has historically relied on significant in-person interaction and paper documentation. Applicants generally go into a WIC clinic to apply for services and must provide physical proof of their eligibility. Participants then return to the clinic to receive other benefits like nutrition education and breastfeeding peer counseling. Certifications are time-bound and specific to the category of participant, so participants must re-apply and generally provide updated proofs of eligibility throughout their participation in WIC. WIC has successfully introduced technology-based innovations to support different aspects of the program such as online nutrition education or mobile apps to simplify the WIC food shopping experience, but the enrollment process has not adopted new technologies to support participant experience and operational efficiency at the same pace or scale.

Recently, the enrollment process dramatically shifted across all of WIC in response to the COVID-19 pandemic. In March of 2020, the United States Department of Agriculture (USDA) allowed State agencies to apply for a physical presence waiver that removed the requirement to meet in person with applicants in order to certify them for WIC. As a result of this waiver and others, and in an effort to keep staff and clients safe, WIC State agencies moved to fully remote operations. Some agencies have used stand-alone online tools such as [video conferencing](#) for remote services, while many others are using mail services and telephone calls to continue providing services. While these adaptations have ensured that WIC programs are able to serve participants during this public health crisis, they are largely manual workarounds designed for temporary use and do not integrate into the systems or workflows that support in-person services. This

report explores the introduction and use of online tools that support the certification process in the midst of this complicated context and provides findings and recommendations to support continued innovation within WIC.

3. Research methods

The information in this report was gathered by Nava from August to October 2020. The research included four methods that were employed to gather the most salient information while minimizing burden on WIC staff:

3.1 Landscape analysis of online tools offered by WIC State agencies

Nava cataloged and assessed the public-facing online tools available to individuals applying for WIC in each of the 89 State agencies, recording key data points including:

- Management Information System (MIS) in use
- Current MIS vendor and consortium status
- EBT status
- Availability of online tools for certification such as pre-screener, application, portal, integrated (multi-program) application, document submission, and more
- Availability of other online tools such as food benefits management portal, shopping app, nutrition education portal, and more

We validated the certification tool data points collected with all 89 WIC Directors and found that the vast majority of our desk research was correct, with less than 7 percent requiring correction. This assessment focused on tools that could be accessed state agency-wide from public searches or access (vs. private or locally-based tools). This approach was selected because it mimics the process a new-to-WIC applicant would face in seeking to enroll or otherwise engage with the program.

For a full description of data points collected in this analysis, please see [Appendix A](#).

3.2 Open-ended survey

In addition to data validation, we sent open-ended survey questions to WIC State agency directors to obtain broader narrative feedback on remote certifications.

We received responses from 34 of the 89 State agencies, which we clustered based on patterns of affinity, giving us insight into WIC directors' perspectives on risks, opportunities, and priorities regarding WIC modernization.

The survey results provide a snapshot of WIC directors' assessments at this particular moment in time. Our survey approach was intended to minimize burden on WIC directors and staff since this research occurred during the closing of the Federal fiscal year as well as the ongoing COVID-19 pandemic.

[Appendix B](#) describes our data validation methods in full.

3.3 Interviews with WIC State agencies

In order to better understand the technology, adaptations, opportunities, and challenges of WIC State agencies, we conducted 60-minute interviews with nine WIC State agencies, including eight geographic states and one tribal agency. In these interviews we asked about current technology usage in WIC administration, how COVID-19 has changed operations, challenges in developing and introducing new technologies, and their vision for the future of WIC.

We selected a representative group of WIC agencies to interview based on the type of MIS used, geographic location, caseload, membership in a consortium, whether or not they had implemented EBT, and the type of agency (state/territory/tribal). Questions for the nine agencies we interviewed covered the technology used by participants and staff, procurement, development and implementation processes, usage and effectiveness of tools, integrations between systems, and agency plans for technology and innovation projects going forward.

Please see [Appendix C](#) for our State agency interview guide.

3.4 Interviews with MIS vendors

Additionally, we conducted interviews with five WIC MIS vendors to better understand the technical components of the systems. We selected vendors that support both independent and consortium management approaches. Our questions aimed to understand the technical architecture of each MIS, how code is written, tested and deployed, what integrations exist with other systems, challenges, and what each vendor was doing to support agencies adapting to remote operations.

Please see [Appendix D](#) for our MIS vendor interview guide.

4. Current state of online certification tools

This section provides insight into the six tools WIC agencies currently provide to support WIC certification and service delivery, and highlights the value these tools provide to WIC families and WIC program operations.

Certification Tool	User Story ¹
Online pre-application	As an applicant for WIC, I can enter some basic information (name, address, some information about my income, etc.) and expect a call from a member of WIC staff to start the certification process.
Participant portal	As an applicant or participant in WIC I can create an account (with a username and password) and log in to apply for WIC, update information about myself, complete nutrition education, and see my balance, etc.
Document uploader	As an applicant or participant in WIC, I can securely submit documents (proof of income, etc.) to WIC staff by uploading a file or taking a photo of the document from the device of my choosing.
Video conferencing	As a WIC participant or WIC staff member, I can meet face-to-face from the comfort and safety of my home.
Two-way text communication	As a WIC staff member, I can send personalized or automated text messages to WIC participants, and receive responses back.
Automated chatbot	As a WIC applicant or participant or anyone interested in WIC, I can provide prompts and ask questions to get answers to common queries about the WIC program.

4.1 Online pre-application to begin certification from anywhere, anytime

Twenty-four State agencies provide an online pre-application form. Prospective applicants use this form to provide basic information about themselves and invite WIC staff to contact them. Some agencies called this an online pre-application, or online application, and while it doesn't collect all required information to make an eligibility determination, it serves as the first step to applying for WIC².

¹ A user story is a natural language description of a software feature from the perspective of a user. It's included here to provide context on how these certification tools are used by participants and/or staff.

² In 15 State agencies, this WIC pre-application was a simple link to the [FNS WIC Prescreening tool](#)- a generalized but interactive check for potential eligibility. This was included here as a 'pre application' since it is responsive to individualized data provided and directs potential applicants to invite WIC staff to



“Any technology solution that helps to maintain program integrity, while allowing more time for robust, dynamic counseling and education leads to healthier children, healthier families, and a healthier community. WIC already has a tremendous return on investment, capped mainly by the amount of time we have with mom. [Investments in technology] will only make our program more valuable as we promote lifelong lifestyle changes in young families, leading to lasting and long-term health outcomes.”

- **Edgar Curtis**
Texas WIC Director

Eighteen of the agencies offering an online pre-application form have developed it as a stand-alone tool that does not integrate with the MIS. Staff receive notifications when applications are submitted in a secure inbox or password protected spreadsheet, or using a third-party survey tool like Qualtrics. The remaining five agencies offer an online pre-application as part of an integrated participant portal, which we discuss further in section 4.2 below. Of the 23, three³ WIC agencies include WIC as an option on multi-program online applications, providing another channel for potentially eligible applicants to apply for WIC where they’re already applying for other benefits programs like Medicaid and SNAP.⁴

4.2 Participant portal for a "One Stop" WIC experience

Five State agencies provide applicants with an online portal that they can log into and start the application process for WIC. This portal can also be used beyond the certification process and offers current participants other benefits such as viewing their current certification status, their benefits balance, upcoming appointments, and information about recertification. One state agency shared that their intention with building a participant portal was "to create a one-stop WIC experience." Instead of juggling multiple mobile apps and online tools to manage WIC enrollment and redeem benefits, participants have a single website they can log into and do everything they need to to successfully engage with WIC. In addition to the participant self-service a

contact them. Notably, there is not a singular definition or process for 'pre-application' within WIC and the experience and concluding action prompted will vary by State agency.

³ Two of these have a multi-program application that is not integrated with their MIS. Only one has a multi-program application that is also integrated with the MIS.

⁴ A multi-program online application is a single application that can be used for enrollment in multiple benefit programs (for example, WIC, Medicaid, and SNAP).



portal enables, one agency with an online portal integrated with their MIS⁵ also said that this approach also helps to consolidate staff workflow by reducing manual data entry between systems. They noted that this integration allows agencies to have increased visibility into the timeliness of follow-up for online applicants.

4.3 Document uploader to minimize extra trips to the clinic

Three State agencies provide a WIC specific document uploader for applicants and participants to securely send documents to the program⁶. As part of the certification process, WIC staff are required to review documentation that applicants provide to prove their eligibility. This can include documents that prove identity, like a driver's license; documents that prove residency, like a utility bill; or documents to prove income, such as pay stubs. The amount and type of documentation for applicants can vary based on their circumstances, and in general, complete documentation must be reviewed for a full certification. Managing this documentation is challenging for several reasons. If a participant does not bring full documentation, they may need to return to the clinic in-person, or mail documentation in. State agency staff shared that these extra steps can cause enrollment complications; for example, an applicant may never return at all or may bring some, but not all required documents. Two agencies we spoke with also noted that especially for individuals who live in more rural or remote states and reservations, the distance to physically bring in additional documents to a clinic can be a significant barrier, particularly when there are no public transportation options.

To address these issues, three State agencies currently offer a digital document upload tool to facilitate the certification process. Similar to integrating the participant portal with an MIS, integrating the document uploader tool with the MIS eliminates the need for staff to bounce between systems (email or text), streamlining their operations and ensuring they are able to focus more on high-value WIC services and contacts and less on data entry. One WIC agency staff member noted that having a document uploader tool "gives us more time to focus on the valuable services like nutrition education, breastfeeding, social service program referrals, and building a sense of community." Additionally, we also heard from staff that when clients have had doctor's appointments recently, they can provide anthropometric data from the doctor's appointment to the

⁵ An integrated portal can send application data from the portal automatically to the MIS.

⁶ For the purposes of this research, we differentiate between WIC-specific document tools and more general digital document sharing tools such as Dropbox, which are not agency specific and have varying security and storage configurations.

WIC staff by uploading a screenshot or copy of the information from the doctor, allowing WIC staff to track those key indicators of health without physically seeing the participant.

4.4 Video conferencing for at-home appointments

Three State agencies that we spoke to are also offering certification appointments via teleconference platforms. While some of these agencies adopted this tool in direct response to COVID-19, others were piloting its use prior to the pandemic.

“System improvements and efficiencies allow staff to focus more on client services, that’s the goal with all of our investments in innovation”

- **Stephanie Bess**
*Bureau Chief, Family Nutrition
Illinois Department of Human Services*

The agencies we spoke to who had adopted video conference tools shared that whenever possible, their staff had been conducting certification appointments, meetings with nutrition contacts, remote breastfeeding support groups, and group education meetings over video where clients and staff could participate from the comfort of their homes. State staff from one agency also noted in the survey that video conferencing for appointments has provided a safer way for them to interact during the pandemic, and that participants have been more communicative and engaged than when they held sessions in person.

4.5 Two-way text communication to improve connection with applicants

Although not specific to the certification process, several state agencies we spoke with also offer a combination of automated Short Messaging Service (SMS) platforms and cell phones purchased for clinic staff to engage WIC applicants and participants via text.⁷ State staff shared that, in their experience, participants prefer text as a medium of communication as it allows them to receive information asynchronously on the devices they’re already using.

We heard from staff that clients are much more likely to receive and respond to text correspondence than they are to calls, email, or traditional mail. They shared that text messages can remind people to join a video call or a call for an appointment, and has

⁷ Note: This tool was brought up in two interviews conducted with State agency staff. As it is primarily a tool for current participants vs. applicants in the certification process, we did not initially survey agencies on use of this tool. In future research, we recommend this innovation be holistically assessed.

increased the show rates and even allowed them to tell participants what documents they need to provide ahead of a certification appointment.

When participants show up with required documents, it streamlines the certification process for staff, eliminating another appointment and additional administrative work later on. Additionally, increasing the rate at which clients show up to appointments means more predictable workflow for staff and efficient operations for clinics.

4.6 Automated chatbot to screen applicants and answer basic questions

Two of the nine agencies we spoke with have launched a chatbot on their website. The chatbot helps potential applicants determine if they should apply for WIC by answering questions about eligibility and providing them with information about the program and the application process. Both chatbots were launched with the goal of providing timely, relevant information to people interested in WIC, and to decrease the volume of calls coming in to the call center.

Chatbots surface on-demand information to individuals curious about WIC in a modern, user-friendly format that is growing in familiarity. While not all clients will use a chatbot to get information, when implemented correctly, it has the capacity to significantly decrease the number of callers seeking standardized, boilerplate information about the program.

These online certification tools are not widely used and the majority still require manual processing by clinic staff

Despite the positive feedback around the use of these online certification tools, we found that these tools are not widely used. As described above, the majority of these tools improve participant experience but are not designed for operational efficiency and most often require manual processing by clinic staff.

- **24 of 89** WIC State agencies provide an **online pre-application** form that allows applicants to provide information to start their application process. 18 of these are stand-alone applications that require manual entry of participant data into the MIS.
- **5 of 89** WIC State agencies provide a **participant portal** that allows WIC participants to log in, start an application and manage their benefits
- **3 of 89** WIC State agencies include WIC in a **multi-program online application** for benefits

- **3 of 89** WIC State agencies provide participants with a **document uploader** tool that allows them to securely provide verification documents to WIC staff

In contrast, online innovations in other areas of the program have wider adoption. For example, in a survey administered by NWA to WIC Directors in the fall of 2020, 79 percent of the 46 respondents said that WIC participants in their agency could access nutrition education and support remotely prior to March 2020, and 90 percent said participants could access breastfeeding education and support. Since the pandemic, these percentages have risen higher.

5. Key findings and recommendations

This next section outlines key research findings about WIC State agencies' perspectives and experiences using technology to support remote certification as well as a set of recommendations for State agencies to consider when adapting their certification processes.

Key Finding		Recommendation
5.1	Effective technology improves WIC accessibility	Widen and deepen implementation of proven, user-facing tools to address barriers to participation
5.2	WIC agencies have faced program barriers to building technology for remote certifications	Evaluate programmatic constraints and assess if there are alternative ways to address needs and promote flexibility
5.3	Technology is not the barrier to remote certification	Make technology decisions based on user needs, and adopt modern practices to implement smaller, faster solutions
5.4	Lessons learned from remote certification efforts are broadly applicable	Strengthen the community of practice around technology innovation through open and frequent engagement
5.5	Certification innovations can address participation inequities	Increase participants' agency through service options and human-centered design



5.1 Effective technology improves WIC accessibility



Recommendation: Widen and deepen implementation of proven, user-facing tools to address barriers to participation

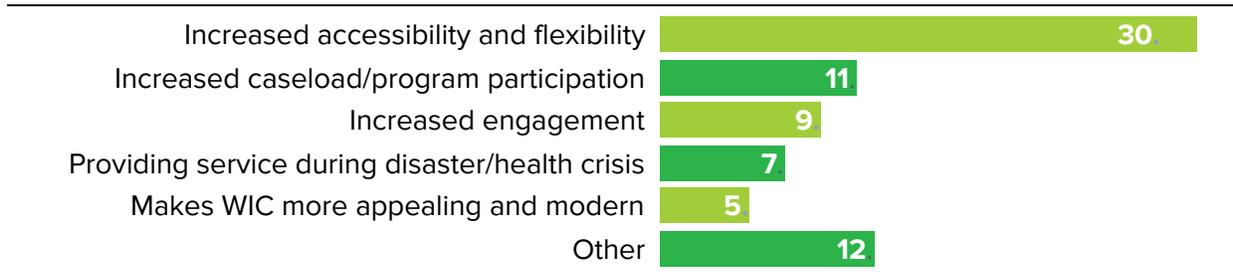
The consensus from WIC staff we interviewed and surveyed was that technology has allowed them to better serve WIC participants and applicants and to operate more efficiently, and that it has the potential to increase participation and retention in the WIC program going forward. Staff widely acknowledged the challenges of the WIC certification process for applicants and participants who are juggling the responsibilities of caring for babies and young children. Because clinics often have traditional business hours, appointments can require time off from work, creating another barrier to accessing WIC services for working families. In addition, WIC serves the entire country, including rural and remote areas and reservations. Geographic challenges and lack of public transportation represent another barrier to enrolling. Remote certification is a compelling solution for applications and participants experiencing these barriers; they can enroll in the program in the same way they manage and experience many other services: online, on their own schedule, and in their own locations.

“These innovations provide more flexibility for participants and local agency staff to get people enrolled and keep them enrolled in WIC. A variety of barriers prevent participants from attending WIC appointments, even in non-pandemic times, so anything we can do to make the program more accessible for people only helps the mission of WIC and improves health outcomes for moms and children.”

- Angie Brenner
Bureau Chief
Missouri WIC and Nutrition Services

In a survey sent to WIC directors we asked what excited them most about transitioning to a remote certification process. The majority cited benefits for WIC participants, including the increased flexibility and accessibility that remote services provide, as well as increased participation in the WIC program through more modern and appealing services.

Benefits of Remote Certification



This chart reflects categorized responses from 34 State agencies based on the survey question "What excites you about transitioning to a remote certification process?"

In addition to certification, staff also shared that technology innovations can help participants to get more out of the program and contribute to improved health outcomes. **Nine of the 34** survey respondents noted improved engagement with participants through remote services, sharing that it was easier for staff to reach participants and hold livelier discussions in individual and peer counseling, and that participants were more willing to talk about concerns over the phone or video chat than in person.

Other benefits mentioned by staff included increased show rates for appointments, decreased wait times for participants, and an overall increase in customer satisfaction.

“Remote certification/issuance has allowed our staff to meet current participants where they are in their busy schedule, and participants have seemed excited, relieved, and receptive to the benefit of remote services at this time.”

- **Katura Bunner**
WIC Program Director
Muscogee (Creek) Nation

5.2 WIC agencies have faced program barriers to building technology for remote certifications

 **Recommendations:** Evaluate the impacts on historic in-person program requirements and existing funding models on participant experience, and assess what alternatives exist to provide agencies and WIC applicants more flexibility

Our interviews with WIC directors and MIS vendors surfaced two key barriers they faced in building online certification tools.

Barrier 1: In-person program requirements

State agencies cited two primary program requirements as challenging with regards to remote certification. First, WIC mandates that a person be physically present in order to certify for the program. This requirement was available for waiver by USDA during the pandemic, but this change has not been made permanent. Further, agency staff noted that the regulations around physical presence have not been clarified to indicate whether or not this requirement could be met through an online medium such as video conference. Second, WIC collects anthropometric data about applicants and participants to assess nutritional risk and monitor health. This data — including height, weight, and hematocrit levels — is difficult to obtain without in-person interaction or integrations with other systems such as electronic health record systems. Applicants are able to provide this data via documentation from their health care provider, but it must be recent, and practices for submitting this information to WIC clinics are not consistent.

Barrier 2: Technology funding constraints

Limitations of MIS consortia

While membership in a consortium allows WIC State agencies to share resources and funding, some State agencies have found that this model can make it difficult to get new features prioritized, and that the pace of development and releases can seriously delay critical improvements to the participant experience. Additionally, members of the consortia we spoke to explained that regardless of caseload or funds contributed, all members have equal voting power, which can be frustrating when needs are different due to a different scale of operations. Multiple State agencies also noted that while the original intent of tying USDA technology funding to consortia was to make technology

cost-effective, it's unclear if that intention has actually been met. State agencies that we spoke with who are not members of a consortium shared that their independence made it easier to make necessary and timely changes to their MIS.

Amount and timing of funding

Several State agencies we spoke with were able to implement innovative technologies because of special project funding from USDA or their own state funds. However, State agencies that received special project funding noted that the timing of the funding didn't always coincide well with service delivery or rollout needs, and that the grant restrictions ended up dictating product timelines. In addition, they noted that applying for and kicking off these specially funded projects required a tremendous up-front investment of their time and resources that not all agencies are able to make. This ability to access resourcing — whether to develop and obtain specialty grants or receive outside sources of funding — results in inconsistent access to innovative technologies across agencies.

5.3 Technology is not the barrier to remote certification



Recommendations

- State agencies should make technology decisions based on user needs, not legacy technology constraints
- De-risk projects by introducing modern development practices like agile to break projects down into smaller, faster pieces

WIC State agencies have a diverse array of resources to devote to technology innovations. However, in assessing the landscape of online certification tools we found two consistent development approaches being used to support technology-based remote certifications.

These are:

- **Direct extensions of the MIS:** A vendor — typically the MIS vendor — adds functionality to the existing system to meet a new need. For example, the integrated participant portal described in [Section 4.2](#).
- **Stand-alone tools:** Typically function-specific tools built by non-MIS vendors or internal teams that do not integrate with the MIS. For example, the online pre-application described in [Section 4.1](#).

There are benefits and tradeoffs of taking either of these approaches. The following table outlines the benefits of extending your existing MIS instead of investing in separate, stand-alone tools.

Approach	Benefits	Challenges
Direct extension of the MIS	<ul style="list-style-type: none"> • Integrated services (e.g. direct connection to MIS) • Can be executed by existing vendor 	<ul style="list-style-type: none"> • Existing MIS architecture dictates workflow and user experience • High upfront investment of resources and time • Difficult to implement under a Consortium model
Stand-alone tools	<ul style="list-style-type: none"> • Not constrained by MIS configuration 	<ul style="list-style-type: none"> • Requires manual workarounds for clinic and agency staff • Fragmented participant experience

However, there is a third development approach that can make innovations more accessible for more agencies.

Approach	Benefits	Challenges
Modular tools integrated by API	<ul style="list-style-type: none"> • Integration with MIS in low-risk, MIS-agnostic way • Enables small and fast development of tailored tool • Not constrained by MIS consortium or funding models • Improved operational efficiency • Improved and consistent participant experience • Can adapt over time and across agencies 	<ul style="list-style-type: none"> • Requires strong ownership from State agency • Requires development of MIS API endpoint

Guidance and standards for modern service delivery

There are a wide array of proven practices for WIC State agencies to use in taking on a modular services development approach including standards and guidance specific to the government context. There are two federal digital services agencies ([18F](#) and the [United States Digital Service](#)) that exist to support federal and state agencies in adopting more modern strategies for online service delivery. Among other resources, 18F recently published a [De-risking Guide](#)⁸ to help government agencies set software

⁸ [18F De-risking Guide](#)

projects up for success. The guide outlines six basic principles of modern software design, summarized here:

1. Center development on the needs of users
2. Use agile development to set a clear overall project goal, gather a small empowered team, and “just get started”
3. Government takes ownership of development projects and focuses on outcomes, not outputs
4. Coordinate development work with IT infrastructure through modern [DevOps](#)
5. Build an ecosystem of small, loosely coupled parts that can be changed out at any time to accommodate evolving needs
6. Break up contracts into smaller pieces

We recommend that WIC take advantage of these resources and practices to make faster, wider progress on innovating the certification process. These approaches can also lower barriers to agencies for innovating by lowering costs and enhancing agency autonomy, increasing the number of agencies who can adapt their processes to better meet the needs of their participants and staff.

WIC has already laid the foundation for an ecosystem approach

The MIS-EBT universal interface is a current example of an API-first, modular approach to technology in WIC. The MIS-EBT universal interface was developed to standardize the way in which information moves between different MIS and EBT systems and to reconcile transaction records between the two on a daily basis. This enables simple, maintainable system components to interact with other existing and future components through well-managed APIs and appropriate shared data standards, providing the foundation for further innovations in WIC service delivery.

5.4 Lessons learned from remote certification efforts are broadly applicable



Recommendation: Strengthen the community of practice around technology innovation through open and frequent engagement

There are several forums for State agencies to learn from each other's experiences, such as the NWA's biennial Technology and Program Integrity Conference, theWIChub.org, and a growing innovation portfolio. Research efforts like this one also help to provide periodic snapshots into practices and innovations. These opportunities

provide a foundation for engagement, and will only grow in usefulness as more State and local agencies highlight their initiatives and share transparent feedback on what worked for them and what didn't, and why. For example, several state agencies shared universal practices that could be implemented across other WIC agencies to support successful technology projects. These include:

- IT and program staff benefit from working closing together. Texas WIC shared that simply moving seats in their office so that their technology staff, vendor management staff, and program staff all sat next to one another led to more successful collaboration.
- Successful vendor management and internal IT teams need to understand the business rules, strategy, and vision of the WIC agency, not just the technology. Similarly, successful program teams leading technology projects need to understand the technology. Taking the time to collaborate, whiteboard, and create a shared vision is critical for innovation project success.⁹ Good use of federal funds for technology purposes means that critical stakeholders like technology companies or technology staff (including those that may not be dedicated to WIC or run technology projects for a portfolio of programs) should be actively included and involved discussing program needs, brainstorming solutions and identifying and sharing promising practices.
- Technology vendors should not build anything until they show WIC staff what it looks like and how it will function. Texas WIC shared that when they introduce new ideas and features to their technology vendors, they have the vendor team share no-code mockups or prototypes and explain how the feature would impact operations before any code is written. This enabled the WIC program to better understand and direct the development efforts and ensure the final product met their needs. It is too easy to write verbal requirements that are broad and lack the specificity needed to ensure it meets the program's needs. Compound that with an outsourced developer who knows nothing about your program and is building solely on those verbal requirements and you have a recipe for a solution that no one will be happy with. Visual representations and walk throughs are a big investment on the front end, but well worth the effort.

⁹ These practices were also highlighted in the [Launching Digital Tools for WIC Participants](#) Guide for WIC Agencies published in 2019.



5.5. Certification innovations can address participation inequities

Recommendation:



- Give participants choice in how they access the program — this should include online and offline options
- Use human-centered design to deeply understand the needs of the most vulnerable populations and prioritize technology investments

WIC has been successful in adapting different aspects of its services to meet participants where they are — this includes expanding online nutrition education platforms and supporting the food-shopping experience through a shift to EBT and proliferation of digital tools like shopping apps. The certification process, however, has not kept pace with these innovations. As detailed in [Section 4](#), use of online tools to support certification varies and is not yet widespread. This means that participants' experiences of the enrollment process — their first encounter with the program and its benefits — depends on where they live and what investments that particular State agency has been able to make.

Participants in WIC should have agency in how they enter and experience the program. This includes being able to access services online as well as being able to access in-person services. Offering services online lowers barriers for participants who may face challenges getting to a clinic regularly because of their work schedules, caregiving responsibilities, distance to a clinic, or other transportation challenges. Offering in-person services lowers barriers to participants who may prefer in-person contacts or don't have consistent access to the internet or internet-connected devices. The priority should be enabling their choices in effective and efficient ways. Under COVID-19, State agencies have transitioned to remote services, but these are largely being carried out through manual processes and increased burdens on staff as well as reliance on key waivers from USDA. More consistent and widespread use of technology to support these operations can make blending remote and in-person operations more efficient, while also improving the participant experience.

This research also uncovered fairly limited use of user research in the development of certification tools, instead relying on WIC staff to test and provide feedback on the process. It's critical that technology tools developed to support participants include their feedback and experience thoroughly and consistently, in addition to the feedback and experience of WIC staff. [Human-centered design](#) is a practice to help ensure that those most affected by a product or service play a key part in shaping what is built. This results in simple, intuitive, and accessible services that meet user needs. Taking a



human-centered approach to developing certification tools means that you're prioritizing the experiences of all users – participants, front-line WIC staff, local and State agency leadership. You make decisions based on what users need, rather than the existing constraints of a legacy system or off-the-shelf product.¹⁰ Incorporating this approach with API-first, modular development also means that State agencies can more deeply understand *and meet* the specific and diverse needs of the participants they serve. This might include developing different user flows for specifically vulnerable populations such as high-risk participants, those with transportation-access challenges, or those with disabilities. Instead of working to define a one-size-fits-all approach, human-centered design can help to surface the different needs users have and prioritize them into a cohesive whole.

¹⁰ The benefits of human-centered design for WIC was also highlighted in the [Launching Digital Tools for WIC Participants](#) Guide for WIC Agencies published in 2019.

6. Conclusion

Agencies have been introducing innovations to the certification process slowly, but the majority are designed around participants' experience of specific segments of the process rather than the holistic experience of the participant or operational efficiency for staff. Some of this slow progression is due to the way agencies have been approaching these innovations — as either direct extensions of their MIS or as non-integrated, stand-alone tools. Relying on the MIS introduces additional complexity and barriers such as needing to work through a consortium, following the constraints of technology funding, and navigating program requirements built before most modern technology existed. Building stand-alone tools has been a more common path, but it also comes with complications, including accessing specialty funding or internal funding, and increased operational burden from manual processing. This approach also compounds fragmentation of experience for the participant, as they may use multiple WIC tools for different parts of the program (application, nutrition education, shopping, etc.) instead of a holistic experience.

However, there is tremendous opportunity for WIC certifications to adopt technologies that can both improve the participant experience and increase operational efficiency, building off of the lessons learned from the WIC community as well as the broader public digital services ecosystem. State agencies have multiple options to implement effective technology and adapt their certification processes to the needs of their participants and staff. The changes to WIC service delivery caused by the pandemic have forced agencies to rapidly adapt, and although certification innovations were happening in WIC before COVID-19, this experience and its learnings should serve as a catalyst for continued progress.

Lessons from ongoing certification innovations as a result of COVID-19, as well as this report, can help State agencies to chart a smoother and more consistent path to meet participants where they are, giving them choice and agency in the process while also adding efficiency to operations.

Modernization projects currently planned

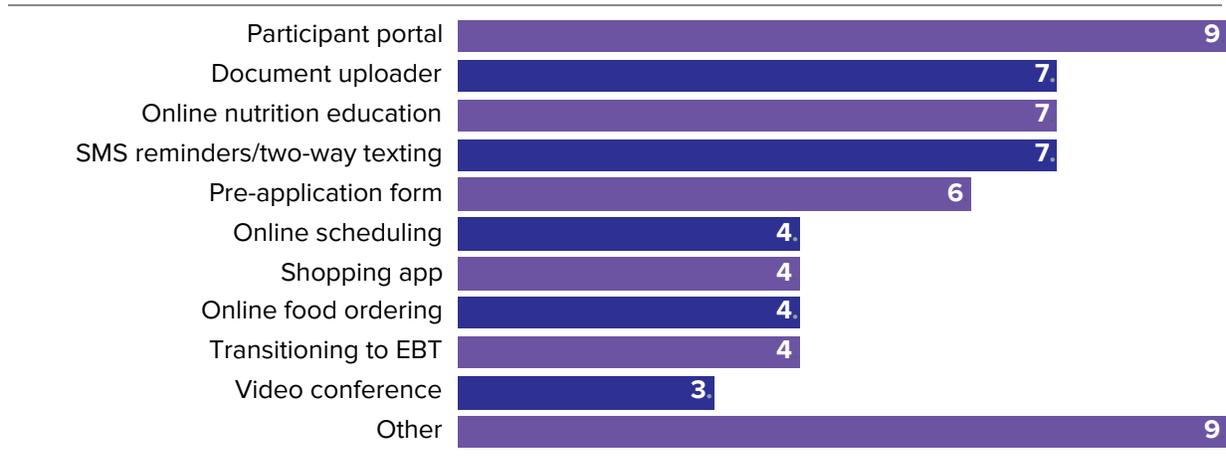


Chart lists technology tools referenced by State agencies in response to the survey question "What modernization efforts do you currently have planned" and reflects the number of State agencies that listed each tool.

When looking to the future of WIC, we recommend that State agencies:

- Understand and build around the needs of all users — this includes participants as well clinic staff, agency staff, and others.
- Take advantage of the multitude of development and implementation options available. This can mean adding functionality to an MIS as well as developing smaller and faster services that integrate with the MIS via API.
- Use proven practices from across government agencies, including privacy and security standards.
- Continue to share promising practices and failures transparently and regularly so that all State agencies can learn from each other.

We also recommend that some key aspects of the program be evaluated for their impact on participant experience and State agency autonomy. These include:

- In-person program requirements — evaluate if these requirements are meeting the needs they are intended to address and what alternatives exist
- Funding and process for MIS — evaluate the extent to which WIC's consortium model helps WIC participants and achieves cost savings

To reach more eligible families, a single path for certification is not enough. WIC has successfully invested in the participant experience of other aspects of the program like nutrition education and benefits redemption through innovative technologies, but certification processes have not kept pace. The WIC community has a tremendous



opportunity to introduce more participant choice, agency autonomy, and operational efficiency through online tools, and is equipped with extensive resources internal and external to the program to support continued adaptation to a changing world.

Appendix A: Landscape analysis data collection queries

For each WIC State agency, our team assessed public-facing sites to evaluate which of the following functionality or services were offered:

Public-facing certification tools

- Pre-screening tool
- Integrated benefits application that includes WIC
- Online application for WIC
- Online Portals for document submission
- Online benefits management
- Remote appointments over the phone
- Appointments over video conference
- Online appointment scheduling

Public-facing benefits tools

- Shopping app
- App shows benefit amount
- App shows upcoming appointments
- App allows document submission

Other public-facing online tool options

- Online nutrition assessments
- Online nutrition education
- Online peer breastfeeding counseling
- Online lactation counseling
- Find WIC clinic / agency online
- Find WIC grocery store online

We also collected the following data for each State agency based on USDA's WIC Technology Partner website¹¹:

Base technologies in use

- MIS System

¹¹ <http://www.wictechnologypartners.com/resources>



- MIS Vendor
- Consortium Status
- EBT Status

Last, we collected caseload reports¹² and FNS region¹³ from the USDA websites.

¹² <https://www.fns.usda.gov/pd/wic-program>

¹³ <https://www.fns.usda.gov/fns-regional-offices>

Appendix B: Validation request template

Subject: **Validating NWA’s information about technology used by [WIC agency name]**

Hi [name],

The NWA team mentioned in an all state directors call that they’re currently partnering with my organization, Nava PBC, to conduct a landscape analysis of technology usage to support the WIC enrollment process.

We’ve conducted initial desk research into all WIC agencies, and we’ve included what we were able to find about [WIC agency name].

Our goal in sending this email is for you to review the information below and to validate whether or not it’s accurate, and if it isn’t, to correct our findings.

If you’d like the opportunity to correct any of this information, please respond back to this email with your corrections by 10/7. Please offer corrections directly in the table using a different color font so we can be sure to update our research.

Information about [WIC Agency Name] we found in our desk research:

1.	MIS system:
2.	MIS vendor:
3.	Are you a member of an MIS consortium?
4.	Do you provide an integrated online application for benefits that includes WIC?
5.	Do you provide an online application (or pre-application) for WIC that allows participants to submit information online in order to be contacted by staff?

6.	Do you provide a way for applicants/participants to provide documents electronically?
7.	Do you provide clients with a WIC portal they can log into and apply for/enroll in WIC?
8.	Do you provide a way for applicants/participants to schedule appointments online?

Additionally, could you weigh in on the following questions:

1. What other online certification services has your agency tried?
2. What concerns do you have about transitioning to a remote certification process?
3. What excites you about transitioning to a remote certification process?
4. Do you have any additional modernization efforts planned?

Thank you for taking the time to review this information. If you don't respond to this email with corrections, we'll assume that the information we found is accurate.

Appendix C: State Agency Interview Guide

Note, this guide has been lightly edited — it does not include questions and script introducing staff or set-up/exit instructions for Zoom.

Background

- Tell me about your WIC agency (and role if not Director). How many clinics or local agencies do you have? How many staff at the state agency level?
- Who oversees online certification tools/services within your WIC agency?
- We've identified [from spreadsheet] as online certification tool offerings from your State agency. Are these correct and are we missing any?

I'd like to dig deeper into [x tool] specifically.

Development

- How did you determine that building [the tool] was necessary?
 - Who was involved in that process?
 - When did the process start? How long did it take overall?
- Who built the [type of] tool? (e.g., Was this an effort that was contracted out or built in-house? Is it a custom tool or off-the-shelf?
 - If contracted, do you have a contact at [company/vendor cited] that we could speak to? If so, would you be able to introduce us via email so we can follow up with them?
- How did you fund the development of this tool? (e.g., Was this NSA, special project, part of MIS or EBT funding, something else?)
- What were challenges you encountered in getting approval (internal or external) to develop this tool?
How did you develop the baseline requirements for this tool?

Implementation

- Did anything surprise you in the launch of this tool? If so, what was it/were they?
- Did you conduct a pilot prior to launch? If so, what motivated your decision, and what did you learn? If not, why not?
- Did you conduct user experience research as part of developing or launching this tool? If so, would you be willing to share the synthesis of that data with us?

Usage and Effectiveness

- How do you measure the effectiveness of it and/or get feedback from participants about the experience?
- What benefits does this tool create for participants? How do you learn about them from participants? What challenges does this tool create for participants, if any?
- What benefits or challenges does this tool create for clinic workers?
- Does the state agency staff use data about usage of this tool? If so, for what purpose?
- What does the ultimate success of [this tool] look like for you? What's the goal you're working to achieve with it?
- How does [this tool] relate to other online tools offered by the WIC program and/or your Department? Do any of these tools integrate with each other? If so, which and how; if not, why not (have you considered this approach?).

Future Development

- Are you actively working towards adding any other online services for applicants and participants in WIC? If so, how are you approaching them? What challenges or open questions have you faced in working towards this goal?
- If there's one aspect of the WIC certification process that you could change, what would it be and why?
- What resources would be helpful for you to identify, develop, and/or launch future digital tools within WIC that help certify and recertify participants?
- Did you face any regulatory challenges or limitations when developing or launching this tool? If so, what were they and how were those surfaced and addressed?

Appendix D: MIS Vendor Interview Guide

Note, this guide has been lightly edited — it does not include questions and script introducing staff or set-up/exit instructions for Zoom.

Background questions

- Tell me about your role at your company.
- What aspects of the MIS system do you work on?
- How big is the team that supports and maintains the MIS system?
- How much interaction with WIC staff do you have?

Technical overview

- How do WIC staff access the MIS system?
 - Web app, native app?
- What components comprise the _____ MIS system?
 - What hardware is the MIS system running on?
 - What services are required to run the MIS system (web server, database, file system)?
 - What does the software stack look like (Java, MySQL, Linux, etc.)?
- How is data stored in the MIS system?
 - Is it all stored in a single database?
 - When is data saved from memory into the database?
 - How are database schema changes made?
 - Can/do staff access this database or file system directly using native tools (Windows Explorer, SQL workbench, etc.)?
- How do you determine what new features to add to the MIS system?
 - Do all requirements for new features come in new contracts or modifications?
 - How do you receive bug reports? And who usually reports bugs?
 - How often do you work alongside WIC staff when testing new additions to the system?
 - What is the percentage of time your team spends building new features vs fixing bugs vs testing vs anything else?
- What does the software development life cycle look like?
 - Are there multiple environments that changes are promoted through (UAT, testing, QA, training, production)?
 - How often do you release new code to production?

- How are new features added to the existing codebase?
- What is your version control branching strategy, deployment process, and monitoring platform?
- Are infrastructure and application code stored in that same repository?
- Does the MIS system have some modular separation of concerns between different components of the WIC program?
 - Do eligibility and benefit tracking use different databases, for instance?
 - Is the client-facing part of the MIS system distinct from a report generator, for example?
 - Are there multiple distinct processes running at once for the MIS? (For example, a web server responding to WIC staff interactions, a report generator creating time reports, an API server that other state agencies use to request information from the MIS?)

Integrations

- How does information get into the MIS system?
 - Is all information manually input by WIC staff?
 - Does the MIS pull information from some other state systems of record, for instance (for example, the state's Department of Motor Vehicles [for identity verification] or Department of Revenue [for income verification])?
 - Does the MIS accept inbound information from other WIC state agencies, if for example, someone who was enrolled in WIC in another state moves to your state?
- How does information get out of the MIS system?
 - Does information ever need to leave the MIS system, or can staff view, track, and verify all the information they need to within the system and never need to move it anywhere else?
 - Is the MIS the system of record for all input information, or does information that is input by WIC staff get sent to other state databases and systems of record?
 - Is there some type of reporting interface that exports data on demand?
 - Does the MIS system export data via scheduled jobs? (For example, jobs that regularly push financial reports to some other state agency's system.)
 - Does the MIS system expose an API for folks to pull information from it on demand?

[If so, can we get access to documentation on that API?]



Remote/online certification

- Does the MIS system have an interface for WIC beneficiaries and applicants to interact with?
- Is there any active development to support remote/online certification?
- What challenges or surprises have you faced or do you expect to face in building out this support?
- Does the MIS have a document management system or repository?

Wrap-up questions

- Who else do you think we should talk to for this research?
- May we contact you in the future?