



MICHIGAN WIC

WIC Special Project Innovation Grant

Certification Enhancement Project Final Report

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WIC SPECIAL PROJECT INNOVATION GRANT

CERTIFICATION ENHANCEMENT PROJECT

Michigan WIC

Final Report to the U.S. Department of Agriculture Food and Nutrition Service 2019 – 2022 WIC Special Project Innovation Grant

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Executive Summary

Introduction and Background

Michigan WIC serves a diverse population of clients, including more than 4,500 Spanish-speaking and Arabic-speaking families. These families typically face severe language barriers when navigating predominantly English-speaking environments, including their appointments at the WIC clinic. Further, the WIC certification process varies by local agency and clinic with respect to appointment completion time and number of clients in the family. The average time for completion of certification appointments can vary from 15 to 60 minutes and as part of the process, clients see two to three WIC staff and move to multiple locations in the WIC office to complete their appointments.

Michigan WIC applied to the WIC Special Projects Innovation Grant to streamline the client certification process via staff training, client training, and enhancements to Michigan's MIS (MI-WIC) and the WIC Connect Mobile App such as inclusion of pre-certification questions into the existing technology platforms. The project was thus named Certification Enhancement Project (WSPI-CEP, henceforth CEP in the report) to reflect this main purpose. The overarching goal was to improve client and staff satisfaction with the certification process, decrease certification appointment times, and increase the completion of certification appointments as well as the use of the mobile app in six select pilot agencies in Michigan. As 89.5% of Michigan WIC families live below 150% of the poverty level, the WSPI grant offered an opportunity to increase client access to services, improve client engagement, and streamline the certification process, with the potential to improve health outcomes for Michigan women and children in the long-term.

Project Overview

Prior to the implementation of the CEP, the Michigan WIC team along with the MIS vendor, Kunz, Leigh and Associates (henceforth KL&A in the report) hosted three business process analysis (BPA) sessions with local agency coordinators from 8 selected pilot agencies. During these sessions KL&A, Michigan WIC, and local agency coordinators identified issues at each step of the certification process and defined potential solutions. The BPA sessions jointly identified 37 potential enhancements to Michigan's existing technology platforms. Next steps involved assessing the feasibility of the identified enhancements. From the preliminary list, a list of 17 enhancements was finalized. These enhancements have a direct impact on clinic operations, improving client experience, and on the certification process. Additionally, an enhancement to the MI-WIC system was identified which permits tracking the duration of an appointment. Subsequently, KL&A worked with Michigan WIC to incorporate the identified enhancements into MI-WIC and the WIC Connect platform. Once this process was accomplished, the enhancements were implemented statewide via two releases, in August and October 2022 respectively. Additionally, Michigan WIC staff conducted three training workshops with multiple sessions for local agencies statewide to familiarize them with the new enhancements to the WIC Connect Platform and to provide guidance on how to best access and leverage the changes made. These trainings were provided in February, July, and December of 2022. Prior to each release, staff also received training in the form of webcasts and release notes to inform local agencies about system enhancements.

Additionally, data were collected pre and post implementation from eligible clients and staff at participating local agencies to assess client and staff satisfaction, the quality of the certification appointments, and the extent to which the certification process was successfully streamlined.

The CEP project spanned March 2021 to April 2023. Anticipated impacts of the CEP included increased client and staff satisfaction with the certification process and improvements to the certification process tracked via the newly created ability to capture duration in the MI-WIC system.

Key Findings

The majority of WIC clients experienced a high degree of satisfaction with their certification appointments post implementation. Client satisfaction increased 16 percentage points from 60.8% Pre-Implementation, to 76.8% after the first round of enhancements (Post Implementation I). Clients almost unanimously thought that the length of their certification appointments was about right.

With respect to perceived appointment quality, after the first round of enhancements 60.4% of clients “strongly agreed” with the statement that they liked using WIC Connect - a 37% increase over the Pre-Implementation client response of 44.2%. A similar pattern is observed with respect to the statement “WIC Connect is easy to use.” A little over a third of the clients surveyed “strongly agreed” that WIC Connect helped their appointment go faster during the Pre-Implementation period. After the first round of enhancements more than half (52.8%) “strongly agreed” with that statement.

A key part of the certification enhancements was introducing the functionality for local agencies to capture appointment duration in MI-WIC. Pre-implementation, the average time in minutes for a certification appointment was 68.3 minutes (n=6223; std dev=70.3; min=6, max=486.6). During Post-Implementation I, the average time in minutes for a certification appointment increased from 68.3 minutes to 75 minutes (n=8008; std deviation=72; min=0.1, max=487). While this result was somewhat unexpected, it is likely that the increase was due in part to staff getting acclimated to the new system enhancements and new processes. After the second round of enhancements was released (Post-Implementation-II), the average time in minutes decreased from 75 minutes to 70.4 minutes (n=7652; std deviation = 67.4; min=0.1, maximum = 537.5) perhaps reflecting a growing level of staff comfort with the new enhancements.

Finally, measuring redemption rates pre and post implementation was a primary metric to assess reach. The average redemption rate across all pilot agencies Pre-Implementation (May-August) was about 45.9%. By comparison, the average redemption rate Post-Implementation (September-December) equaled 47.2%, a 2.8% increase. A steady uptick in the average redemption rate across agencies is also noticeable month by month from September to December 2022.

Project Conclusions and Lessons Learned

Among several factors, two things that contributed to the success of the CEP project in Michigan were: a) maintaining a close collaboration with partners KL&A, and local agency/clinic staff, and b) using a focused business process analysis and improvement cycle to identify and define clear and impactful improvements for both internal users and WIC program families utilizing web and mobile platforms. Direct participation and feedback from local agencies ensured the support of local agency partners for the project from inception while access to resources with an

in-depth knowledge of the system helped all partners understand the feasibility, level of effort, and return on investment for specific enhancements identified for implementation.

Key barriers faced by Michigan during implementation include but are not limited to the formula recall in Michigan early in 2022, the inability to use “Flurry” data to capture metrics for their mobile app, and staff absenteeism in local agencies due to COVID-19, all of which proved to be a drain on staff resources and time and made implementation more challenging. As with many other initiatives of this nature, the scope of the project, budget, and time available to complete the process were constraining factors. Some enhancements had to be tabled after considering the time and value they provided to clients and local agency staff. These are important considerations for agencies contemplating similar interventions particularly if they need to initiate a vendor selection process prior to instituting the enhancements to their systems. The above limitations notwithstanding, the CEP project offers many valuable insights to other states contemplating similar interventions and there are several project components that may be replicated by other agencies.

In summary, the successful completion of the WSPI CEP project in Michigan may be attributed to a high degree of coordination and collaboration among state staff, KL&A, and participating local agency personnel. Michigan successfully deployed 17 enhancements to the production environment of their MIS and accomplished three rounds of data collection from clients and staff from August to December 2022. The enhancements introduced under the aegis of the WSPI grant will continue to remain in place even when funding for the project ends. This provides a natural opportunity to scale-up this intervention and to extend its scope to all local agencies in Michigan. To facilitate and ensure better adoption among the local agencies statewide, Michigan sees the need for promotional materials popularizing the enhancements as well as ongoing training for local agencies that would give them the support they need to maximally leverage the new process and reports they are now able to generate in MI-WIC. A continuous feedback loop from local agencies on their experience with WSPI enhancements and a rolling process of building on the current enhancements going forward is how Michigan WIC plans to continue the work initiated under this grant.

Section 1: Introduction

1.1 Background

Michigan WIC provides services via 47 local agencies and 223 clinic sites to more than 220,000 clients consisting of pregnant, breastfeeding, postpartum women as well as their infants and children below age 5, each month. Further, Michigan WIC serves a diverse population of clients, including more than 4,500 Spanish-speaking and Arabic-speaking families. These families typically face severe language barriers when navigating predominantly English-speaking environments, including their appointments at the WIC clinic. The WIC certification process varies by local agency and clinic with respect to appointment completion time and number of clients in the family. The average time for completion of certification appointments can vary from 15 to 60 minutes. In recent years, the Michigan WIC program has adopted new technology including the WIC Connect Mobile App and WIC Client Connect (a browser-based version of the WIC Connect App) to improve client access to WIC benefits. These new technologies together comprise the WIC Connect platform.

The main purpose of the WIC Special Projects Innovation Grant, Certification Enhancement Project (WSPI CEP, henceforth CEP) was to streamline the client certification process via staff training, client training, and enhancements to Michigan's MIS (MI-WIC) and the WIC Connect Mobile App. The overarching goal was to improve client satisfaction with the certification process, decrease certification appointment times, and increase the completion of certification appointments as well as the use of the mobile app in six select pilot agencies in Michigan. As 89.5% of Michigan WIC families live below 150% of the poverty level, the WSPI grant offered an opportunity to increase client access to services, improve client engagement, and streamline the certification process, with the potential to improve health outcomes for Michigan women and children in the long-term.

The standard certification appointment in Michigan includes a clerical component comprising eligibility verification, client agreement, and issuance of EBT card/benefits. It also includes lab and anthropometric measurements, nutrition assessment and education, breastfeeding education and support, food package assignment and referrals. In most cases, clients see two to three WIC staff and move to multiple locations in the WIC office to complete their appointments. A standard certification appointment typically takes between 15 and 60-plus minutes to complete. CEP funding permitted the implementation of pre-certification questions into the existing technology platforms in Michigan, thus streamlining the certification process in MI-WIC and enhancing client access to WIC services.

Prior to the implementation of CEP, Michigan WIC hosted three business process analysis (BPA) sessions conducted by their technology vendor, KL&A. These sessions included local agency coordinators from eight selected pilot agencies. During these sessions KL&A analyzed each step of the certification process with guidance from Michigan WIC, and local agency coordinators pointed out issues at each step and offered potential solutions. After the three sessions, a list of 37 potential enhancements was jointly developed. Next, Michigan WIC and KL&A assessed the feasibility of the identified enhancements. From the preliminary list, a list of 17 enhancements was finalized. These enhancements are use cases identified as having a direct impact on clinic operations and on the certification process. Additionally, an enhancement to the MI-WIC system was identified which permits tracking the duration of an appointment.

Subsequently, a follow-up meeting was held to inform local agency coordinators regarding the enhancements to be implemented in the months to come. KL&A worked with Michigan WIC to incorporate the identified enhancements into MI-WIC and the WIC Connect platform.

1.2 Goals and Objectives

The main goals and corresponding objectives of the WSPI CEP project are as follows:

Goal 1: Conduct a thorough Business Process Analysis (BPA) to understand the supports and barriers of a streamlined certification process.

Local agencies follow varied processes in certifying a client. Conducting a BPA for clinics of different sizes provided a baseline of best practices and lessons to streamline processes. The valuable insights gathered from clinic staff as well as active WIC clients helped inform the steps necessary for goal two.

Objectives 1:

1. Define and map the client certification and onboarding process.
2. Gather input from local agencies and WIC participants via surveys and structured interviews.
3. Analyze the client certification and on boarding process to identify opportunities for process improvement.
4. Make recommendations to effectively address areas of opportunity in the client certification and on-boarding process.
5. Review BPA and develop recommendations for client certification and onboarding.
6. Finalize results of BPA to streamline the certification process.

Goal 2: Adopt policies, practices, and technologies that enable participants to initiate and complete allowable portions of certification procedures online.

To ensure consistent and sustainable practices, it is important to lay a proper foundation by developing policies that are rooted in health equity, that consider the diversity of WIC clients, and that cater to a wide population of clients. Based on information from goal 1, State staff reviewed existing policies and processes to recommend needed policy changes. Existing workgroups with local agency staff as members were leveraged to solicit feedback on the recommended modifications to policy and practice prior to finalizing them. This ensured the centrality of local agency feedback in the process from initiation of the project through to completion.

Objectives 2:

1. Finalize the implementation approach based on BPA findings.
2. Complete Joint Application Development (JAD) sessions to gather requirements and application design specifications regarding systems enhancements supporting expanded client notifications.
3. Develop system enhancements based on requirements from JAD sessions.
4. Test and validate system enhancements to meet design and requirement specifications.
5. Create training resources and conduct necessary trainings.
6. Complete JAD sessions to gather requirements and application design specifications regarding streamlined certification process for WIC Connect platform and MI-WIC.

7. Develop, test, validate enhancements and train end users.
8. Deploy enhancements to the production environment.
9. Complete JAD sessions to gather requirements and application design specifications regarding additional language support.
10. Develop, test, and validate enhancements and train end users.
11. Deploy enhancements to the production environment.

Goal 3: Assist with evaluation of the certification process enhancements to determine the project's impact on customer service quality, ease of client certification, and appointment times.

Participating local agencies were actively involved in every phase of this grant. The clinic staff were surveyed to evaluate the proposed certification enhancements intended to streamline WIC appointments. The survey was designed to gauge staff's comfort level with the innovations and whether it allowed for an increased client-centered approach in an appointment. Clients were surveyed prior to and after using the enhancements to evaluate impact on WIC client experience and client satisfaction.

Objectives 3:

1. Collect evaluation data beginning with the BPA and continuing throughout the implementation process (MIS/WCC mobile app, post-implementation staff and client surveys).
2. Analyze evaluation data.
3. Share data with project partners including quarterly reports.
4. Disseminate program findings to project partners.
5. Closeout project and attend grantee exit meeting.

Section 2: Implementation

2.1 Project Timeline

The WSPI CEP project timeline initially spanned the timeframe March 1, 2021, through Dec. 31, 2022. However, due to the formula recall as well as some technical difficulties that arose syncing the CEP project with the Client Centered Service (CCS) grant, Michigan chose to apply for a no-cost extension, which was granted in August 2022 extending the grant through April 30, 2023. A summary table of modifications to the original project timeline is presented below. The table also illustrates key agency staff responsible for the implementation of each activity.

Table 1: Summary of Modifications to CEP Project

Goal 1: Conduct a thorough Business Process Analysis (BPA) to understand the supports and barriers of a streamlined certification process.		
Activities	Baseline Expected Completion Date	Completion Date
Activity 1: Define and map the client certification and on-boarding process	June 2021	June 2021
Party Responsible: WIC State Agency, KL&A, Local Agencies, MPH Project Manager		
Activity 2: Conduct surveys and interviews to gather input from local agencies and WIC participants	June 2021	May 2021
Party Responsible: WIC State Agency, KL&A, Local Agencies, MPH Project Manager		
Activity 3: Analyze the client certification and on-boarding process and identify opportunities for process improvement	June 2021	June 2021
Party Responsible: WIC State Agency, KL&A, MPH Project Manager		
Activity 4: Create recommendations and strategies to effectively address areas of opportunity within the client certification and on-boarding process	July 2021	July 2021
Party Responsible: WIC State Agency, KL&A, MPH Project Manager		
Activity 5: Review BPA findings and recommendations	July 2021	September 2021

Party Responsible: WIC State Agency, KL&A, Local Agencies, MPHI Project Manager		
Activity 6: Finalize and approve BPA analysis and supporting documentation	July 2021	September 2021
Party Responsible: WIC State Agency; Grant Steering Committee, Local Agencies		

Goal 2: Adopt policies, practices, and technologies that enable participants to initiate and complete allowable portions of certification procedures online.		
Activities	Expected Completion Date	Updated Expected Completion Date
Activity 1: Finalize implementation approach based upon BPA findings	July 2021	September 2021
Party Responsible: WIC State Agency, KL&A, MPHI Project Manager		
Activity 2: Complete Joint Application Development (JAD) sessions to gather requirements and application design specifications regarding systems enhancements supporting expanded client notifications	August 2021	February 2022
Party Responsible: WIC State Agency, KL&A, Local Agencies, MPHI Project Manager		
Activity 3: Develop systems enhancements based upon requirements from JAD sessions	September 2021	July 2022
Party Responsible: KL&A		
Activity 4: Test and validate that system enhancements meet design and requirements specifications	October 2021	July 2022
Party Responsible: WIC State Agency, KL&A, Local Agencies		
Activity 5: Create training resources and conduct necessary trainings	October 2021	July 2022
Party Responsible: WIC State Agency, KL&A, MPHI Project Manager		
Activity 6: Complete Joint Application Development (JAD) sessions to gather	November 2021	February 2022

requirements and application design specifications regarding streamlined certification process for WIC Connect platform and MI-WIC		
Party Responsible: WIC State Agency, KL&A, Local Agencies, MPHI Project Manager		
Activity 7: Develop, test, validate enhancements and train end-users	February 2022	July 2022
Party Responsible: WIC State Agency, KL&A, Local Agencies, MPHI Project Manager		
Activity 8: Deploy enhancements to production environment	March 2022	August 2022
Party Responsible: WIC State Agency, KL&A		
Activity 9: Complete Joint Application Development (JAD) sessions to gather requirements and application design specifications regarding additional language support and nutrition links and resources	March 2022	April 2022
Party Responsible: WIC State Agency, KL&A, Local Agencies, MPHI Project Manager		
Activity 10: Develop, test, validate enhancements and train end-users	April 2022	August 2022
Party Responsible: WIC State Agency, KL&A, Local Agencies, MPHI Project Manager		
Activity 11: Deploy enhancements to production environment	April 2022	August 2022
Party Responsible: WIC State Agency, KL&A,		

Goal 3: Assist with evaluation of the certification process enhancements to determine the project's impact on customer service quality, ease of client certification, and appointment times.		
Activities	Expected Completion Date	Updated Expected Completion Date
Activity 1: Collect evaluation data, beginning with BPA and continuing throughout project implementation	June 2022	December 2022

Party Responsible: WIC State Agency, KL&A, Local Agencies, MPHI Project Manager		
Activity 2: Analyze evaluation data	June 2022	February 2023
Party Responsible: WIC State Agency, KL&A, Local Agencies, MPHI Project Manager		
Activity 3: Share data with project partners; including quarterly reports	Throughout project with final data provided at end of grant period	Throughout project with final data provided at end of grant period
Party Responsible: WIC State Agency		
Activity 4: Attend Grant closeout meeting and present project findings	December 2022	April 2023
Party Responsible: WIC State Agency		

2.2 Key Actions Taken to Implement the Project

The MI-WIC certification appointment process typically comprises three critical steps. These include a) Pre-certification Screening, b) Appointment Scheduling and c) Certification Appointment. The certification appointment is a multi-step process that is completed using various screens and/or features within the MI-WIC application. Each step uses a specific set of procedures to collect applicant data to determine the nature and scope of their eligibility as well as the benefits that the applicant or family qualifies to receive. For example, risk assessment is performed by capturing each applicant's health and medical information to determine the scope of nutrition education to be provided and benefits to be issued.

Implementation for the WSPI CEP occurred in two phases corresponding to goals 1 through 3 referenced in section 1.2.

Phase 1

In Phase 1, Michigan WIC conducted a thorough business process analysis (BPA) led by state staff in conjunction with their technology vendor KL&A, and local agency coordinators from participating pilot agencies. The main objective of the BPA was to understand the supports for and barriers to a streamlined certification process. Local agencies typically follow varied processes in certifying a client. Conducting a BPA for clinics of different sizes, locations, and demographics, therefore, provided a baseline of best practices and lessons to streamline processes.

The BPA consisted of three collaborative sessions prioritizing discussion and participation. Prior to the sessions, the agencies were provided feedback via a survey to help prepare for the BPA sessions. During these sessions, KL&A with guidance from Michigan WIC outlined each step in the certification process. Local agency coordinators in turn, identified issues and offered potential solutions for each step of the process outlined by KL&A. A list of 37 potential enhancements to MI-WIC was developed from these interactive sessions. The valuable insights

thus gathered from clinic staff helped inform the steps necessary for phase 2 of project implementation.

Phase 2

Phase two focused on adopting policies, practices, and technologies enabling participants to initiate and complete allowable portions of certification procedures online. Based on information from the BPA, State staff reviewed existing policies and processes to recommend needed policy changes. Existing workgroups with local agency staff as members were leveraged to solicit feedback on the recommended modifications to policy and practice prior to finalizing them. This ensured local agency voice in the process.

Following from the BPA sessions, Michigan WIC and KL&A assessed the feasibility of the 37 enhancements identified in the preliminary list via Joint Application Development (JAD) sessions. These sessions helped gather information on requirements for application design specifications for system enhancements to support expanded client notifications and any additional language support/resources. KL&A then developed system enhancements based on requirements identified in the JAD sessions. From the preliminary list, a list of 17 enhancements was finalized in Phase I. The enhancements identified were prioritized as having a direct impact on clinic operations, client experience, and on the certification process. Additionally, an enhancement to the MI-WIC system was identified which would permit tracking the duration of an appointment. Subsequently, a follow-up meeting was held to inform local agency coordinators regarding the enhancements to be implemented in the months to come.

A finalized list of enhancements implemented is provided below.

- Allow families to Check-in online before they arrive for the certification appointment via WIC Connect Platform given the growing virtual environment of service provision.
- Implement on screen help documents to improve training information available through the app.
- Add the “Email Address” field as a required field to the pre-certification screen in MI-WIC application to communicate with clients more effectively.
- Allow for additional information to be (optionally) added during various intake and pre-cert entry points (WCC, Mobile, Forms) to allow for a more streamlined appointment.
- The “Participant Information” in WCC web and mobile has been updated to list all members of the family in a single grid, allowing the user to select any participant to view/edit details about them. These updates would be reflected in the MIS.
- Make the “Referred From” field required on the precertification screen to allow for accurate documentation of where clients are being referred from, and to better track outreach efforts.
- Allow users to select “Disc” (discuss) and “Currently Enrolled” checkboxes on the main referral screen, if applicable. Limit having to open the discussion information popup only if referral information needs to be captured/selected.
- Allow clients to review and sign the client agreement within a certain timeframe prior to certification appointment to streamline the process.

- Obtain signature for physician authorization to release the WIC information form via the WIC Connect platform.
- Add race/ethnicity to WCC/mobile app as optional.
- The MI-WIC system should track the duration of the certification appointment (appointment types: CERT, RECERT, PCERT, WCC) from the time a client or family has checked in/arrived onsite for their appointment until the appointment is concluded to obtain a better measure of this metric for programs and services.
- Allowing existing, returning, and new clients to request appointment via WCC application after completing pre-certification with the new Family ID.
- Processing of the new WCC requests in MI-WIC.
- Add a data field to capture the information that relevant documents were delivered/provided/shared with the client. Additionally include “Opted to receive via WIC Mobile App” data field to indicate that the client opted to receive documents via the mobile app.
- Send/allow client to access certain forms and documents via the mobile app > Print Forms feature and allow printing of documents from the app. For example, Income Attestation.
- Make the WIC Connect Platform available in Arabic.
- Reorganization of the Family information tab to streamline the flow of certification.
- Changes to anthropometric / bloodwork grids to view additional fields for better monitoring and assessment.

Next steps included developing system enhancements based on requirements from the JAD sessions. KL&A and State staff jointly worked on testing and validating the MIS system enhancements in MI-WIC to meet design specifications and to gather application specifications to streamline the certification process for the WIC Connect platform as well as MI-WIC. Once this process was completed, the enhancements were deployed to the production environment. System enhancements were released on two dates: Release 1 took place on Aug. 27-28, 2022, and Release 2 took place Oct. 29-30, 2022.

Training end users about the system enhancements was an important component of the project. State staff created training resources and held training workshops for clinic staff to apprise them of changes made to WIC Connect Mobile App and MI-WIC. They hosted three separate trainings over the course of the year (See Appendix B for a summary of trainings provided). The first training comprised six sessions held twice a day for 3 days in February 2022. This training focused on providing guidance for staff on how to create a MILogin account and how to link it to a demo family. The training also covered the features and functionality of the WIC Connect platform (both the mobile app and the website). The second training similarly consisted of six sessions held over the course of three days in July 2022. State staff provided an update on the grant timeline, reviewed changes to the appointment process, and guidance on the participant information screen, the additional information screen, allowing clients to access the client agreement via the app or online prior to their appointments. The training also reviewed trouble shooting and resources available to staff. The final training was held in December 2022 and

comprised two sessions – one in the morning and one in the afternoon. For this final training, state staff reviewed final enhancements released in October 2022 (Please see Appendix B2 as an illustration of the presentation content). They also reviewed the enhancements covered in the July training. The enhancements covered during the December training introduced the online check-in feature that allowed clients to check-in 15 minutes prior to or after the beginning of their appointment, signing and updating the physician authorization form from the mobile app or WCC, trouble shooting and staff resources.

All trainings included poll questions to help state staff gauge the effectiveness of the trainings provided. This feedback was incorporated into subsequent training materials. Additionally, the trainings were made available to clinic staff via the Michigan Public Health Institute's website as a webcast in case staff wished to revisit any aspect of the trainings provided.

The Client and Staff Survey Instruments that were developed in collaboration with the Gretchen Swanson Center for Nutrition (GSCN), were put into the field by State staff during this period. Data collection for the project commenced August 2022 and continued through the end of December 2022. Initially, the client survey link was shared in a local agency guidance document with participating local agencies who then sent the link to eligible clients. The guidance document outlined the project, enhancements, and expectations. However, this process was subsequently modified to lighten the burden on clinics already under pressure due to external factors such as the formula recall and the ongoing COVID-19 pandemic. Starting October 2022 State staff began to directly send the survey link to all eligible clients through blast messages in the State MIS system, MI-WIC.

Evaluation Process:

Prior to the BPA process state staff conducted a short survey of clinic staff (clerks/tech, CPA/RD, and LA Coordinators etc.) to understand what they would like to change about the certification process to improve the experience for staff as well as clients. This information was used to better prepare and guide the discussions during the BPA sessions. Collection of evaluation data began with the BPA process and continued throughout the implementation period via MIS/WIC Connect Mobile App data, post-implementation staff and client surveys. The evaluation effort thus spanned the entire duration of the project. During the implementation phase, the State team in collaboration with GSCN finalized the client and staff surveys based on feedback provided earlier by local agencies regarding the metrics they wished to prioritize to evaluate the success of the grant. These metrics included but are not restricted to client appointment times and client and employee satisfaction.

Client and staff survey data were collected pre-implementation as well as twice post-implementation. Selection criteria for the pre-implementation client survey included having had a certification appointment between April and June 2022. The post-implementation data collection closely followed the release dates for the post-implementation enhancements (Release I happened Aug. 27-28, 2022). The clinic staff were surveyed to evaluate how the certification enhancements were helping streamline WIC appointments. The survey was also designed to gauge staff's comfort level with the innovations. Additionally, clients were surveyed prior to and after using the enhancements to evaluate impact on WIC client experience and client satisfaction.

Data from the client surveys were analyzed weekly during the implementation period to keep abreast of any emerging issues in the data collection process. Preliminary high-level results from

the post-implementation client surveys were shared periodically with local agencies during regularly scheduled monthly pilot meetings consisting of state staff and local agency representatives (LA coordinators and/or clinic staff) to keep them informed about the data collection process and any changes made to the process in response to unforeseen contingencies. Data were also regularly shared with project partners via quarterly reports.

Finally, Michigan scheduled a meeting with KL&A and local agency partners to share final project findings via a formal presentation at the end of the project. Project findings were also disseminated to funding partners (CSG, GSCN, and FNS) and other sub-grantees at the final grant closeout meeting in April 2023.

2.3 Project Budget and Expenses

Planned Costs: The budget total requested for the WSPI CEP project in Michigan was \$1,358,754.21. However, the total cost of implementing the project came in under that amount. Planned expenses included expenses pertaining to key personnel, fringe benefits, travel, contractual, indirect costs, and other costs associated with the project. The total amount budgeted for personnel was \$9,606 with an additional \$5,396.02 for fringe benefits. Indirect charges planned equaled \$2,847.39. Planned travel costs encompassed round-trip costs for attendance at a grantee kick-off meeting in Washington D.C., and a grant closeout meeting in Alexandria, Virginia. The total budget for travel was estimated at \$5,266.

Prior to the start of the project, Michigan WIC had procured a new IT contractor, Kunz, Leigh, and Associates (KL&A) to provide support, maintenance, and enhancements to the MI-WIC suite of applications, which includes the MI-WIC eligibility determination and certification system, the client-facing WIC Connect Mobile application on iOS and Android, and the WIC Client Connect application accessible via browser. IT related contractual costs covered all discovery, analysis, requirement finalization, software development and estimated support services required to enhance MI-WIC and the WCC platform. KL&A's project team consisted of one project manager, a lead business analyst, two supporting analysts, a technical lead, and two developers. KL&A enhancement support included updating the WIC systems with new and enhanced features and deploying enhancements to State of Michigan hosted environments. The enhancements were designed to expand the system's ability to push notifications for web and mobile users, add new pre-certification questions increasing staff capacity to assess certification, and allow additional flexibilities to account for difference in context at the local level. Estimated technology-related contractual costs were estimated to be \$1,241,562.50.

The estimated contractual budget also encompassed work completed through the Michigan Public Health Institute (MPHI), which frequently executes contracts on behalf of Michigan WIC. Because this was a special project contract, no permanent staff were hired. A contractual co-Project Lead coordinated the non-technical portions of the project such as acting as a liaison between the State and Local Agencies, conducting training for local agency staff, assisting with language translations for the WCC platform, and contributing to overall project success by identifying non-technical project needs and allocating needed resources. Estimated total contractual costs equaled \$1,333,888.80.

Other estimated expenses consisting of survey incentives totaled \$1,750.00.

Actual Costs: Actual project costs for the time frame (Dec. 1, 2021, to Feb. 28, 2023) broken down by specific costs of key components are summarized in Table 2.

Table 2: CEP Project Actual Costs (12/01/2021 – 02/28/23)

Description	Actual Cost
Personnel	\$9,424.64
Fringe Benefits	\$6,619.77
Travel	\$0.00
Contractual	\$1,193,400.70
Other Expenses	\$0.00
Indirect Charges	\$4,202.41
Total Cost	\$1,213,647.52

2.4 Project Transferability

Best Practices: Key actions taken to document agency progress toward implementation are listed below:

- Weekly Joint Application Development sessions (JADs) were held to discuss the feasibility and prioritization of changes to be made to MI-WIC.
- Client data were collected after each round of enhancements in MI-WIC and the data were analyzed on a weekly basis to monitor any data related issues and to keep the team informed about the status of data collection.
- Quarterly progress reports were shared with partners throughout the project period.
- Quarterly evaluation meetings with CSG and GSCN were attended by State staff with a focus on providing implementation updates to the agencies and other grantees.

Michigan WIC collected client name, date of birth, and local agency name as part of the pre and post client survey data collection. In the interest of data confidentiality, only Michigan WIC staff who already had clearance for the MI-WIC system had access to the survey results and client information. State staff de-identified and aggregated the results prior to sharing this data with the WSPI team and with pilot agencies. Additionally, in compliance with the MDHHS Institutional Review Board requirements, a statement of consent was built into the introduction to the client survey and required client assent prior to accessing the survey. Recommended best practices for agencies considering similar projects in the future include the above-mentioned key actions as well as the precautions taken by Michigan WIC to maintain the confidentiality of the data.

Barriers and Challenges: Foremost among the challenges faced by Michigan WIC during project implementation was the Abbott infant formula recall that took place in early 2022. The timing of the recall and its intensity took staff time and capacity away from the CEP project because it placed considerable stress on local and state agency staff at the frontlines addressing client concerns about the recall and helping clients find suitable alternatives.

Second, the existence of several overlapping projects such as the Client Centered Services (CCS) Project, as well as the Telehealth Project also reduced overall staff time available for the CEP project.

Third, the scope of the project was very ambitious and completing the proposed enhancements within the relatively short grant timeframe proved quite challenging. Some of the enhancements

originally identified but assigned a lower priority status were eventually tabled given existing time constraints and to leverage the time thus saved for higher priority enhancements.

Finally, the software “Flurry” originally intended to capture metrics from WCC, remained inaccessible for the duration of the project on account of a technical malfunction. Consequently, Michigan had to innovate to capture those metrics from an alternate source. The metrics available from iOS and the Google App Store were more limited as compared with the data from “Flurry” and consequently less able to inform staff regarding the impact of changes made to the WIC Connect Mobile App. This was an unfortunate limitation that arose due to an unforeseen contingency.

In addition to all the above-mentioned barriers, completing the project during the COVID-19 pandemic was a major challenge. Most agencies are still operating under the physical presence waiver and many clients continue to be certified remotely. Had clinics been operating in-person (as was the case pre-pandemic), several of the outcomes would have been different.

For agencies contemplating similar projects in the future, Michigan WIC recommends that the process of vendor procurement be accomplished prior to project initiation. This step will greatly reduce the cost and time demands associated with the project and go a long way towards ensuring successful project completion.

Section 3: Evaluation Design and Methods

3.1 Evaluation Design and Setting

The study design for the CEP was a pre-post quasi-experimental design characterized by absence of a control group. The RE-AIM framework guided the data collection effort and evaluation for the project (A comprehensive description of this framework is provided in section 3.4 along with a description of the evaluation outcomes mapping onto key RE-AIM dimensions). Data for the project were collected from six participating local agencies in Michigan during the period April 18, 2022, to Jan. 17, 2023. The selection criteria for local agency partners included representativeness, urbanicity, and the number of clients they serve. Additionally, capacity to participate in the intervention despite the strain imposed by COVID-19 was also a consideration. The study populations of interest for this project were WIC local agency staff, and WIC local agency clients. Clients comprised current or past WIC participants, who had completed the certification process during the above mentioned dates. Staff were selected from the six local agencies who agreed to partner with Michigan WIC for this project. Participating local agencies are listed below:

1. City of Detroit Health Department.
2. Community First Health Center.
3. Ingham County Health Department.
4. Intercare Community Health Network.
5. Washtenaw County Public Health Department.
6. Western UP Health Department.

Appendix A1 and A2 show a breakdown of family characteristics for each pilot agency by race and primary language respectively for the year 2021.

Pre-implementation client data were collected from Aug. 5-26, 2022 (n=171) for clients that were certified between April 2022 and June 2022. Because the enhancements were integrated into Michigan's MIS in two installments, post-implementation client data were collected at two time points commensurate with when the system releases took place. The first release took place 08/27/22 to 08/28/22. Release 2 occurred 10/29/22 to 10/30/22. The specific dates for client survey data collection are listed below:

- Client Survey Data Post-Implementation I (n=99): Aug. 28, 2022, to Oct. 28, 2022.
- Client Survey Data Post-Implementation II (n=237): Oct. 31, 2022, to Jan. 17, 2023.

Pre-implementation staff survey data were collected between June 18, 2022, and August 26, 2022 (n=87). Specific dates for post-implementation staff data collection are provided below:

- Staff Survey Data Post Implementation I (n=50): Oct. 6, 2022, to Oct. 27, 2022
- Staff Survey Data Post-Implementation II (n=45): Nov. 15, 2022, to Nov. 30, 2022.

The same assessment measures were administered to all respondents before and after implementation of the certification enhancements to facilitate ease of pre-post comparisons on key measures post-implementation.

A third source of data was obtained from MI-WIC (Michigan's MIS) to assess any changes in the duration of certification appointments post implementation, to compare redemption rates for pilot agencies, and to calculate the total number of clients certified. Specific dates for the data extracted from MI-WIC are provided below:

- Pre-Implementation MIS data (n=24,682): April 1, 2022, to Aug. 28, 2022.
- Post Implementation I MIS data (n=11,089): Aug. 28, 2022 to Oct. 28, 2022.
- Post Implementation II MIS data (10,012): Oct. 31, 2022 to Dec. 31, 2022.

3.2 Data Sources and Measurement Tools

Data sources included pre and post participant surveys administered to clients as well as staff, staff and client interviews independently conducted by GSCN (not included in the report), administrative data from Michigan's MIS, data from the Android and Apple Apps, and training workshop feedback provided by participating local agencies with respect to the enhancements to the MIS and WCC.

3.2.1 WIC Staff Survey Instrument:

The WIC Staff Survey assessed staff satisfaction, streamlining the certification process, and efficacy of staff training. The State WIC team in collaboration with GSCN jointly developed the questions for the WIC Staff Survey. The survey was then created in Survey Monkey and the link shared with Local Agency Coordinators pre- and post-implementation. Appendix C1 is a copy of the final IRB approved staff survey.

3.2.2 WIC Client Survey Instrument:

The WIC Client Survey assessed client satisfaction with the certification process before and after enhancements as well as perceived appointment quality, perceived duration and other metrics prioritized by local agency staff. The client survey was also created in Survey Monkey upon review and approval from GSCN. It was initially disseminated by clinic staff to clients after their appointments. In September 2022, State staff took on this role to help ease some of the burden of survey dissemination at the local agency level. Appendix C2 shows the IRB approved final client survey instrument.

3.2.3 MI-WIC Administrative Data (MIS):

- a) State staff created Structured Query Language (SQL) code to query the MIS database (MI-WIC) and create the administrative dataset necessary for the project. Administrative data containing socio-demographic variables and duration were used to assess change in the duration of certification appointments pre and post implementation. This dataset also included sociodemographic indicators such as age, race, ethnicity and language spoken.
- b) Administrative data related to certification rates at the clinic level, measured number of certification appointments during the enhancement period broken down by local agency.
- c) Administrative data related to participant engagement measured the number of participants who enrolled in WIC and used the WCC platform prior to their certification appointment compared with the total number of participants who had a certification appointment. Administrative data containing benefit redemption rates prior to enhancement roll out as compared with the rate after the roll out were also used.

3.2.4 Data from the Android and iOS Apps:

The purpose of this project was to evaluate the current WIC certification procedure in order to understand how to streamline the process and further improve client experience. Initially the intent was to use “Flurry” software to assess how many clients in the designated pilot agencies were utilizing the mobile app and to capture their age, gender, and the app’s most utilized features. The objective was to enhance Michigan’s existing mobile and web platforms, as well as the MIS system. However, due to technical difficulties associated with “Flurry”, access to this data became infeasible, and in its place metrics available from the Apple and Android Stores were used. Specifically, information was gathered on a) First time downloads, b) Daily active users c) Retention and d) User loss. These metrics were collected for each month between January and December 2022.

3.3 Participants and Recruitment

The intervention involved a statewide rollout of Michigan’s technology enhancements and centered on pre and post client and staff survey responses from the six local agencies that had agreed to partner with Michigan WIC for this grant. Since the objective of the project was to streamline and enhance the certification process, input from clients recently certified or certified during the timeframe of the project was integrated into the evaluation to assess whether the certification process had improved. Post surveys were only sent to all such eligible clients.

Pre-implementation surveys were used to assess client feelings toward the existing (unmodified) certification process, duration of certification, and their usage and familiarity with the mobile app. Additionally, a pre-implementation staff survey was sent to clinic staff to assess their familiarity with the mobile app, their views on the certification process, and their views on appropriate training to utilize and understand the enhancements to both MI-WIC and the app. Following the implementation of the enhancements to MI-WIC and the WIC Connect platform, post-surveys were sent to clients via automated text blast links to evaluate whether client feeling toward the certification process and appointment durations had changed, and to evaluate if comfort with and usage of the mobile app had increased. Surveys were sent to assess changes in staff responses following the release of the MI-WIC enhancements as well. State staff shared a link with Local Agency Coordinators to share with all clinic staff in participating pilot agencies by way of recruitment for the survey.

The sample size for each of the surveys is provided below:

- Pre-implementation client data (n=171)
- Client Survey Data Post-Implementation I (n=98)
- Client Survey Data Post-Implementation II (n=238)
- Pre-implementation staff data (n=87)
- Post-implementation I staff data (n=50)
- Post-implementation II staff data (n=45)

Additionally, administrative data were used for calculating the duration of certification appointments pre and post intervention. The sample size for data from the MIS is as follows:

- Pre-Implementation data (n=24,682)

- Post-Implementation I data (n=11,089)
- Post-Implementation II data (n=10,012)

3.4 Evaluation Variables

Pre and post surveys were administered to WIC staff and WIC clients to measure change in client and staff satisfaction with the certification process. The anticipated time to complete each survey was 5-6 minutes total but no longer than 10 minutes. Survey questions for the pre and post groups remained consistent to facilitate a pre-post comparison after implementation of proposed enhancements to the certification process.

Project Evaluation was conducted based on the RE-AIM framework. RE-AIM elements follow a logical sequence beginning with Adoption and Implementation, followed by Reach and Effectiveness and finishing with Maintenance. The dimensions of the framework are defined as follows: Adoption is the number, proportion, and representativeness of the settings where the intervention will take place. Implementation may be defined as the consistency of delivery as intended, as well as the time and cost of the intervention. Reach is the absolute number, proportion and representativeness of the agents willing to participate in the intervention. Effectiveness encompasses the impact of the intervention on outcomes including potential negative effects and quality of life outcomes. Maintenance is defined as the extent to which a program becomes institutionalized or part of the organizational practices and policies. At the individual level, Maintenance references the long-term effects of a program on outcomes 6 or more months after the most recent intervention contact. A table summarizing key aspects of the RE-AIM framework as applied to the WSPI CEP project is provided in Appendix D.

Each of the categories constituting the RE-AIM framework for the CEP project are briefly described below. For each category, the relevant metrics (and descriptions) mapping onto the respective RE-AIM category has been provided.

3.4.1 Adoption:

In June 2021, prior to project implementation and data collection, Michigan held three Business Process Analysis (BPA) sessions which brought together WIC Coordinators and staff from participating pilot agencies. The main objective of these sessions was to identify overall alignment with Michigan's program focus on Client Centered Services (CCS) and to jointly identify local agency enhancement/innovation priorities for the WSPI project. The primary measure for this dimension was process-oriented and discussion-based, with emphasis on local agency feedback. This approach to integrating local agency voice into the process considerably eased buy-in from participating local agencies.

3.4.2 Implementation:

The main outcomes of interest for the dimension of Implementation were:

- Staff satisfaction and buy-in** — Staff satisfaction/buy-in was gauged by two questions on the staff survey. The first metric aimed to assess staff comfort level using and promoting the WIC Connect App via a five-point Likert question where 5 indicated a high degree of comfort. The second measure asked staff if they would promote WIC Connect to clients.

- b) **Streamlined certification process** — This was gauged by a series of questions on the staff survey. Specifically, staff were asked whether, in their opinion, clients were using WIC Connect more often in the past year and whether their agency had WCC appointment slots available in MI-WIC for clients to schedule their own appointments using WIC Connect. Staff were also asked to indicate the length of the average certification appointment in their clinic. Response options ranged from below 15 minutes to more than 60 minutes for appointment duration. Additional questions aimed at disaggregating time spent specifically on each part of the certification process such as intake, lab/anthropometric measurements, nutrition assessment, nutrition education, benefit issuance, and print documents. Finally, staff were asked to state what part of the certification process they thought takes the longest and what part of the certification appointment they would like to see improved based on the process.
- c) **Effectiveness of Staff training** — The effectiveness of staff training on the staff survey was assessed by asking staff whether they had used the guest login (test account) to navigate through WIC Connect. Staff were also asked to check the training tools that would help them feel confident sharing information about WIC Connect with clients.
- d) **WIC Connect Data** — “Flurry” was the software originally intended to capture app metrics. Due to technical difficulties with the software, however, utilization of “Flurry” data became infeasible within the project timeframe. As a result, Michigan collected approximately comparable metrics available from the App Store and Google Play. For each month, January through December 2022, data for the following metrics was gathered:
 - First Time Downloads
 - Daily Active Users (for Android), Sessions (for iOS)
 - Monthly Returning Users (for Android), Retention (for iOS)

User Loss/Deletions (iOS)

For iOS, data were extrapolated to account for the fact that only about 30% of iOS users opted-in to have their data collected. The formula applied was: $\{(\# \text{ provided by Apple} \times 3) / 30\}$. Monthly data were divided by 30 to provide a daily count and to prevent data from being inflated by users who may have been counted more than once in certain categories. Because only the metric “First Time Downloads” had an operational definition that was a 1:1 match between the two platforms, data were analyzed for this metric by taking an average of the two weeks prior to and after Release 1 (Aug. 27-28, 2022) and comparing it with data two weeks prior to and after Release 2 (Oct. 29-30, 2022).

3.4.3 Reach:

The primary metrics to assess “Reach” were:

- a) **Increase in certification rate** — The increase in the certification rate was measured via a comparison of the pre-post certification rates captured in MI-WIC.
- b) **The number of clients that enrolled and number that participated** — as obtained from MI-WIC. Metrics to measure “reach” also included a comparison of redemption rates in MI-WIC before and after the innovations.

3.4.4 Effectiveness:

The primary outcomes of interest mapping onto the category “Effectiveness” were:

- a) **Improved client satisfaction** — This metric was gathered from the pre-post client surveys. Clients were asked how they felt about the time it took for their last WIC certification appointment, their overall satisfaction with their appointment, and the extent of their willingness to promote WCC to friends, family, and others.
- b) **Time spent at appointments and wait time** — Change in Duration of certification appointments was captured in MI-WIC pre and post implementation.
- c) **Perceived appointment quality** — A series of three questions in the client surveys assessed perceived appointment quality by asking clients whether they liked using WIC Connect, found WIC Connect easy to use, and thought it helped their WIC appointment go faster.

3.4.5 Maintenance:

Though the WSPI client and staff surveys will not be sent out after the grant period ends, Michigan proposes to do a reassessment of key metrics 6-12 months after the end of the project funding period. Additionally, training on the WSPI enhancements will be provided bi-annually to local agency staff to onboard new personnel and increase staff levels of comfort using and promoting the app to clients.

3.5 Analysis Approach

Michigan worked collaboratively with GSCN to develop an evaluation guide based on the RE-AIM framework. Briefly, the RE-AIM framework helps to plan and evaluate different kinds of programs, practices, policies, and environmental changes by asking questions central to the planning and evaluation process in any initiative.

A mixed methods approach was used to analyze WSPI CEP program data. Combining elements of quantitative and qualitative approaches provided a more holistic understanding of changes attributable to certification enhancements as it integrated benefits of both methods. Additionally, this approach reflected participants’ point of view by giving voice to study participants and ensuring that study findings remained grounded in participants’ experiences. Qualitative survey data were analyzed using a thematic approach for open ended questions on the client and staff surveys and a discussion-based format for the BPA process. Quantitative outcomes were analyzed using SAS 9.4. Descriptive statistics including frequencies, means, and cross-tabulations were generated for outcomes of interest. The *a priori* determined threshold for statistical significance was $p < 0.05$. Where appropriate, paired t-tests were used to assess significance for difference of means.

Covariates of interest in the WSPI project included race, ethnicity, primary language, appointment type, appointment category code, and other salient measures obtained from MI-WIC. Appendix E provides a complete list of covariates for the project. A Gantt chart illustrating project timeline from inception to completion can be found in Appendix F.

Section 4: Project Findings

4.1. Sample Characteristics

Tables 3 and 4 were derived from Michigan's MIS. They describe socio-demographic characteristics of all Michigan WIC clients who completed a certification appointment in any of the six pilot agencies participating in the CEP. Data cover the period between April and December 2022 (n=44,027; AIAN=American Indian/Alaska Native; NH/OPI=Native Hawaiian/Pacific Islander).

Table 3: Cross Tabulation of Race by Agency (April – December 2022)

Agency	AIAN	Asian	Black	NH/OPI	Other	White	Row Total
7	34	10	20	2	98	982	1,146
	0.1	0.0	0.1	0.0	0.2	2.2	2.6
15	233	90	403	13	822	6,943	8,504
	0.5	0.2	0.9	0.0	1.9	15.8	19.3
33	12	410	2,211	7	1,417	3,759	7,816
	0.0	0.9	5.0	0.0	3.2	8.5	17.8
51	5	21	215	10	197	1,328	1,776
	0.0	0.1	0.5	0.0	0.5	3.0	4.0
81	84	160	1,698	9	576	1,792	4,319
	0.2	0.4	3.9	0.0	1.3	4.1	9.8
90	35	294	13,927	16	589	5,605	20,466
	0.1	0.7	31.6	0.0	1.3	12.7	46.5
Total	403	985	18,474	57	3,699	20,409	44,027
%	0.9	2.2	42.0	0.1	8.4	46.4	100

Table 4: Cross Tabulation of Hispanic by Agency (April – December 2022)

Agency	No	Yes	Don't know	Total
7	1,102	44	0	1,146
	2.5	0.1	0.0	2.6
15	5,850	2,654	0	8,504
	13.3	6.0	0.0	19.3
33	6,291	1,525	0	7,816
	14.3	3.5	0.0	17.8
51	1,471	305	0	1,776
	3.3	0.7	0.0	4.0
81	3,717	599	3	4,319
	8.4	1.4	0.0	9.8
90	16,674	3,792	0	20,466
	37.9	8.6	0.0	46.5
Total	35,105	8,919	3	44,027
%	79.7	20.3	0.0	100

Table 3 stratifies race by participating local agencies. Whites constituted 46.4% of the sample, followed by African Americans who comprised 42% of the total. Around 20% of the sample identified as Hispanic (see Table 4). Recertification appointments were the most frequently occurring appointment across all agencies comprising 62.4% of all appointment types.

Table 5: Cross Tabulation of Appointment Type by Agency (April – December 2022)

Agency	CERT	PCERT	RECERT	WCC	Total
7	337	1	808	0	1,146
	0.8	0.0	1.8	0.0	2.6
15	2,543	28	5,922	11	8,504
	5.8	0.1	13.5	0.0	19.3
33	216	3,706	3,894	0	7,816
	0.5	8.4	8.8	0.0	17.8
51	142	578	1056	0	1,776
	0.3	1.3	2.4	0.0	4.0
81	754	1,444	2,118	3	4,319
	1.7	3.3	4.8	0.0	9.8
90	4,270	2,506	13,687	3	20,466
	9.7	5.7	31.1	0.0	46.5
Total	8,262	8,263	27,485	17	44,027
%	18.8	18.8	62.4	0.0	100

Note ¹: Agency no.7 = Western UP HD, 15 = Intercare Community Health Network, 33 = Ingham County HD, 51 = Community First Health Center, 81= Washtenaw Co HD, 90 = City of Detroit HD. ². For Tables 3, 4, 5, Rows in gray show frequency, rows in white show percentages (n=44,027)

Table 6: Cross Tabulation of Mean Age (in years) by Local Agency (April – December 2022)

Agency	N	Age	Std Dev	Minimum	Maximum
7	1,146	9.5	12.0	0	48.2
15	8,504	9.8	12.3	0	46.5
33	7,816	9.6	12.2	0	48.6
51	1,776	10.4	13.0	0	45.0
81	4,319	9.9	12.7	0	55.5
90	20,466	9.8	12.5	0	55.6

The mean age of participants was 9.8 years with a standard deviation of 12.45 and a range from 0 to 55.6 years. Across all 6 agencies, 20% of the sample were infants under the age of 1 year. 49.5% were children between 1 and 5 years old (table not shown).

Table 7: Cross Tabulation of Primary Language by Agency (April – December 2022)

Agency	Arabic	Croatian	English	French	Italian	Korean	Other ¹	Portuguese	Russian	Spanish	Vietnamese	Total
7	-	-	1,144	-	-	-	-	-	-	2	-	1,146
	-	-	2.6	-	-	-	-	-	-	-	-	2.6
15	3	-	7,779	-	-	-	38	-	-	680	4	8,504
	0.01	-	17.7	-	-	-	0.1	-	-	1.5	0.01	19.3
33	162	3	6,867	29	-	-	573	1	13	154	14	7,816
	0.4	0.01	15.6	0.1	-	-	1.3	-	0.03	0.4	0.03	17.75
51	52	1	1,511	1	2	-	46	-	1	162	-	1,776
	0.12	-	3.43	0	-	-	0.1	-	-	0.37	-	4.03
81	99	-	3,731	44	-	2	149	3	8	281	2	4,319
	0.2	-	8.5	0.1	-	-	0.3	0.01	0.02	0.6	-	9.8
90	852	-	17,497	3	-	-	174	2	-	1,938	-	20,466
	1.9	-	39.7	0.01	-	-	0.4	-	-	4.4	-	46.5
Total	1,168	4	38,529	77	2	2	980	6	22	3,217	20	44,027
%	2.7	0.01	87.5	0.17	0	0	2.2	0.01	0.1	7.3	0.1	100

Note¹: Other references system note. ²: Agency no.7 = Western UP HD, 15 = Intercare Community Health Network, 33 = Ingham County HD, 51 = Community First Health Center, 81= Washtenaw Co HD, 90 = City of Detroit HD. ³: Rows in gray show frequency, rows in white show percentages (n=44,027)

The primary language for 87.5% of the sample was English. Around 7.3% primarily spoke Spanish and another 2.7% spoke Arabic. Other languages such as Croatian, French, Vietnamese, Russian, Portuguese, Italian and Korean were each less than 1% of the total (Table 7).

4.2. Adoption

The intervention was implemented in six local agencies in Michigan. These pilot agencies were:

1. City of Detroit Health Department.
2. Community First Health Center.
3. Ingham County Health Department.
4. Intercare Community Health Network.
5. Washtenaw County Public Health Department.
6. Western UP Health Department.

All staff within the above-mentioned agencies especially those directly interfacing with clients during the certification process participated in delivering the intervention.

During Phase I of the intervention, three interactive discussion-based sessions attended by pilot agency staff, state staff, and KL&A were held. As a result, 17 enhancements pertinent to the certification process in Michigan were identified and adopted as the final set of enhancements to be implemented in the CEP project. Data gathered from the BPA process thus helped to identify and narrow down issues hindering the certification process on the ground and the interactive nature of the discussions ensured buy-in from local agency staff for the intervention. The guiding assumption was that the BPA process would help identify improvements in certification time, track duration and improve client and staff satisfaction, which could be used as input for Phase II of implementation.

4.3. Implementation

Originally, Michigan had approached 8 local agencies to participate in the WSPI CEP project. However, at project inception two of the agencies indicated that they would be unable to participate given their capacity and the demands of the COVID-19 pandemic. During the implementation phase of the project, Michigan had a high degree of success with respect to fidelity of implementation. Phase I of the project constituting the BPA proceeded as per specifications. Data collection commenced in Phase II of the implementation process and proceeded as planned. Three rounds of data collection from clients as well as staff were completed during Phase II between August and December 2022. Additionally, Michigan successfully completed and released all 17 enhancements to MI-WIC and the WIC Connect Mobile App within this timeframe. However, during Phase II of the project a few modifications were made to accommodate the scope of work in a timely manner. For example, Arabic translations of the client survey were not pursued due to translation issues encountered in Survey Monkey, so the survey was put into the field in English and Spanish only. Initially, all local agencies were sending out survey links to clients after their certification appointments. However, once data collection was underway, several agencies expressed a desire to have the State take over this function due to COVID-19 related staff shortfalls and other contextual reasons that were agency-specific. Consequently, in October 2022 State staff began sending blast messages with the client survey link to those who had completed their certification appointment in the 6 participating locations to alleviate some of the burden faced by local agencies. Finally, in the interest of time and money, some enhancements with a lower priority rating were temporarily

tabled for future inclusion into the MIS. For example, local agencies had expressed a wish to be able to send email messages to clients directly from MI-WIC. However, prioritizing this functionality would have meant cutting back on some other enhancements as it proved more technically complex to accomplish in MI-WIC than initially anticipated. Since the costs outweighed the benefits in this case, this aspect of functionality was tabled as being outside the scope of the project.

Results from metrics tying into the RE-AIM dimension “Implementation” are presented below.

1. Improved staff satisfaction — Staff satisfaction was gauged by overall level of comfort of staff with new changes as well as their willingness to adopt the CEP innovations.

Pre and post staff surveys asked staff to indicate their level of comfort using and promoting the WIC Connect Platform on a 5-point Likert scale (1 being completely uncomfortable, 5 being very comfortable). There was a steady increase in the percent of staff who reported they were very comfortable with the platform from 16.1% pre-implementation, to 22% after the first set of enhancements (Post-Implementation I) to 24.4% after Post-Implementation II. Overall, 55.6% of staff felt either moderately or very comfortable using WIC Connect after the second round of enhancements as compared with 47.1% Pre-Implementation reflecting a 17.9% increase in staff comfort level with respect to the app. Figure 1 illustrates this comparison.

Staff were also asked if they would be willing to promote WIC Connect to clients if it made the certification process easier. Staff willingness to adopt the innovation jumped 10 percentage points from 62.1% Pre-Implementation to 73% during Post Implementation II. This is equivalent to an 18% increase in staff willingness to promote WIC Connect between August and December 2022. Figure 2 illustrates the percentage point increase between the two timepoints. Only 2% of staff surveyed indicated they would not be willing to promote the app indicating widespread support for the platform.

2. Streamlined certification process — The certification process was gauged by a series of questions on the staff survey. Specifically, staff were asked whether, in their opinion, clients were using WIC Connect more often in the past year. During Pre-Implementation, 36.8% of staff somewhat agreed with the statement that more clients were using WIC Connect more often in the past year. Comparatively, 48% after Post-Implementation I and 51.1% after Post-Implementation II somewhat agreed with that statement. This represents a 39% increase from baseline to end of project.

Figure 1: Staff comfort level with WIC Connect Pre vs. Post Implementation II, 2022

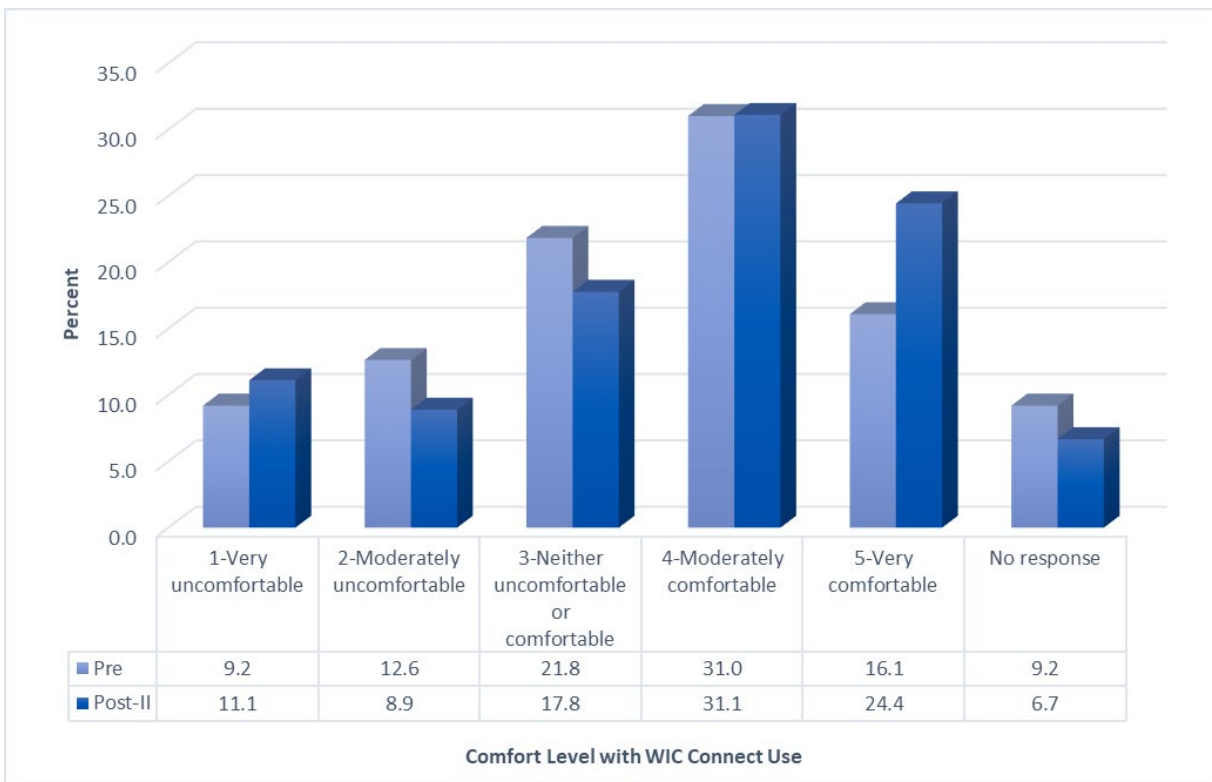


Figure 2: Staff Willingness to Promote WIC Connect to Clients Pre vs. Post II, 2022

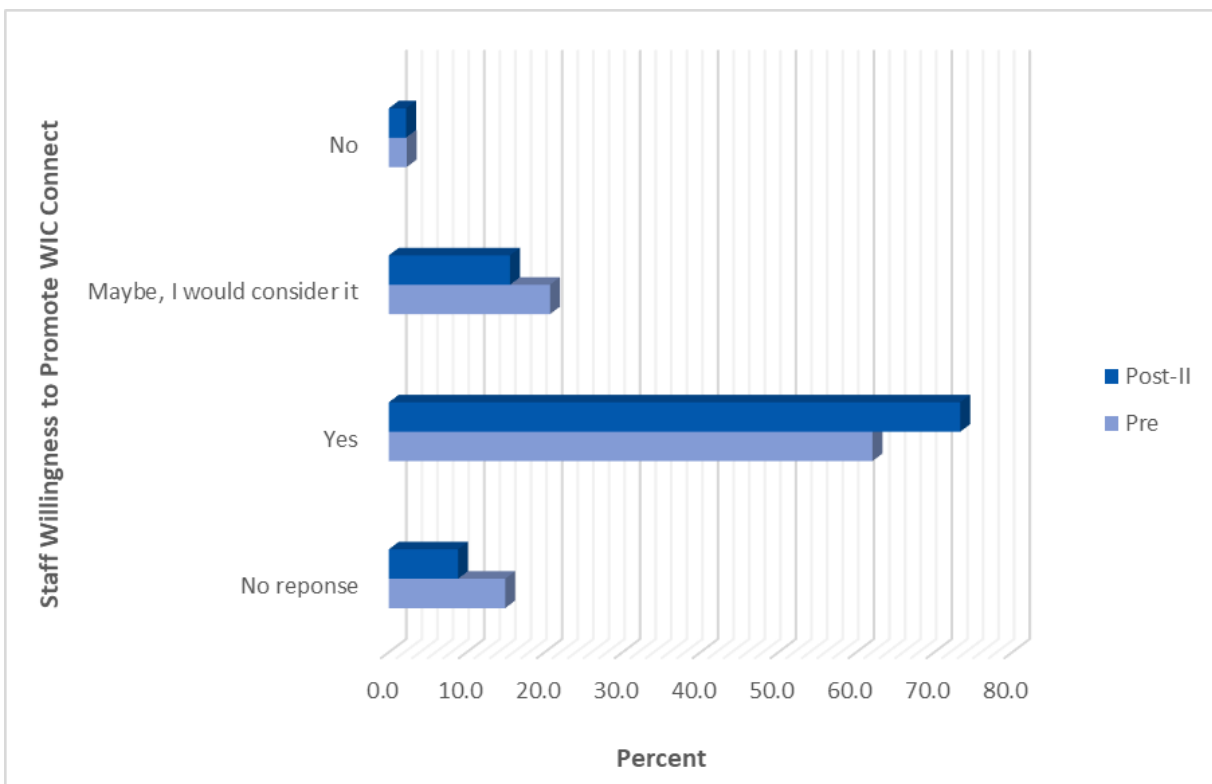
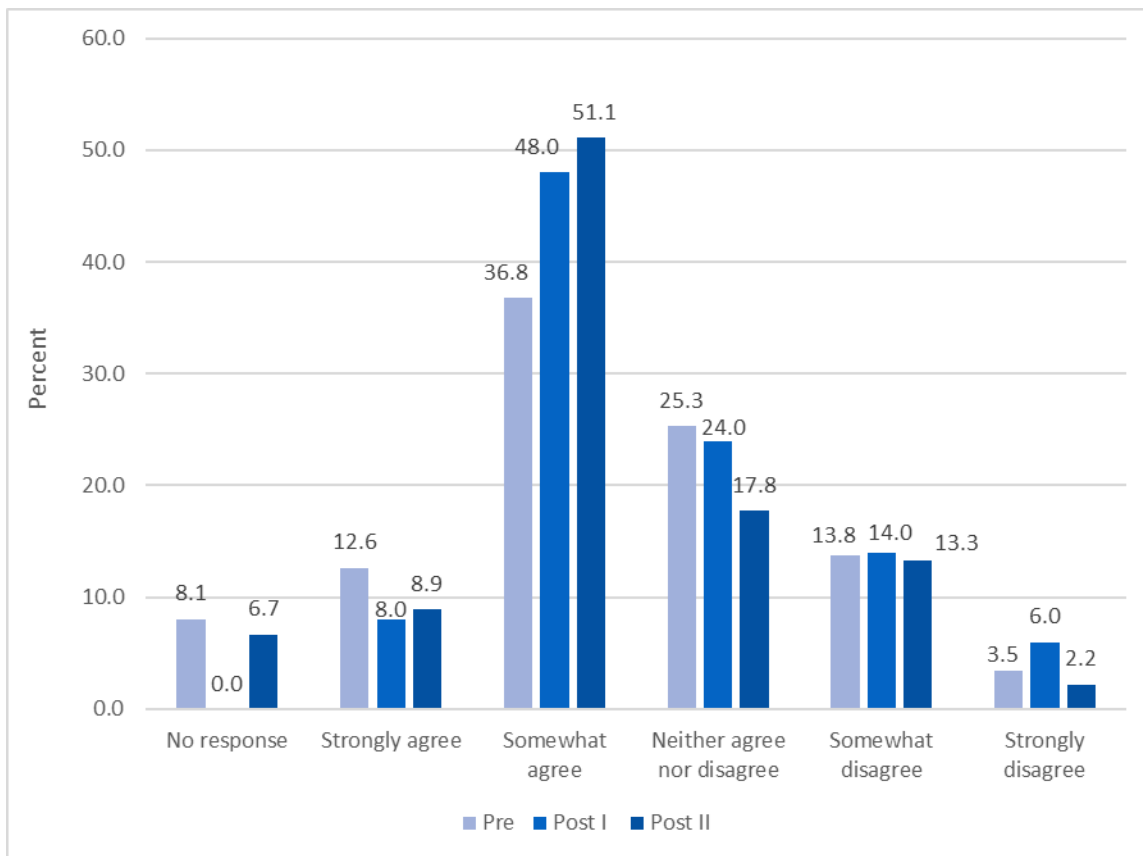


Figure 3: Staff Perception that More Clients are Using WIC Connect More Often, 2022



Next, staff were asked whether their agency had WCC appointment slots available in MI-WIC for clients to schedule their own appointments using WIC Connect. Around 43.7% of staff indicated that their agency had WCC slots available in MI-WIC Pre-Implementation vs. 46% after the first set of enhancements — a 2.3 percentage point increase. However, after Post Implementation II it dropped 10 percentage points to 35.6% suggesting that some staff might not have been aware of this functionality, perhaps indicating the need for more training on this aspect of the enhancements.

Staff were also asked to indicate the length of the average certification appointment in their clinic. Response options ranged from below 15 minutes to more than 60 minutes for staff perceptions of appointment duration. In general, staff perceived that the certification appointments for each category took longer after Post-Implementation II as compared with before the enhancements. This may be reflective of staff expressing their unfamiliarity with the new process introduced into MI-WIC. Staff were also asked additional questions aimed at disaggregating time spent specifically on each part of the certification process. Around 26.7% said intake took 5-10 minutes, 62.2% said remote lab/anthropometric measurements took less than 5 minutes, 26.7% said lab/anthropometric measurements in person took 5-10 minutes, about 38% agreed that nutrition assessment and nutrition education took them 5-10 minutes each,

Figure 4: Availability of WCC Appointment Slots in MI-WIC for Clients to Schedule Their Own Appointments, 2022

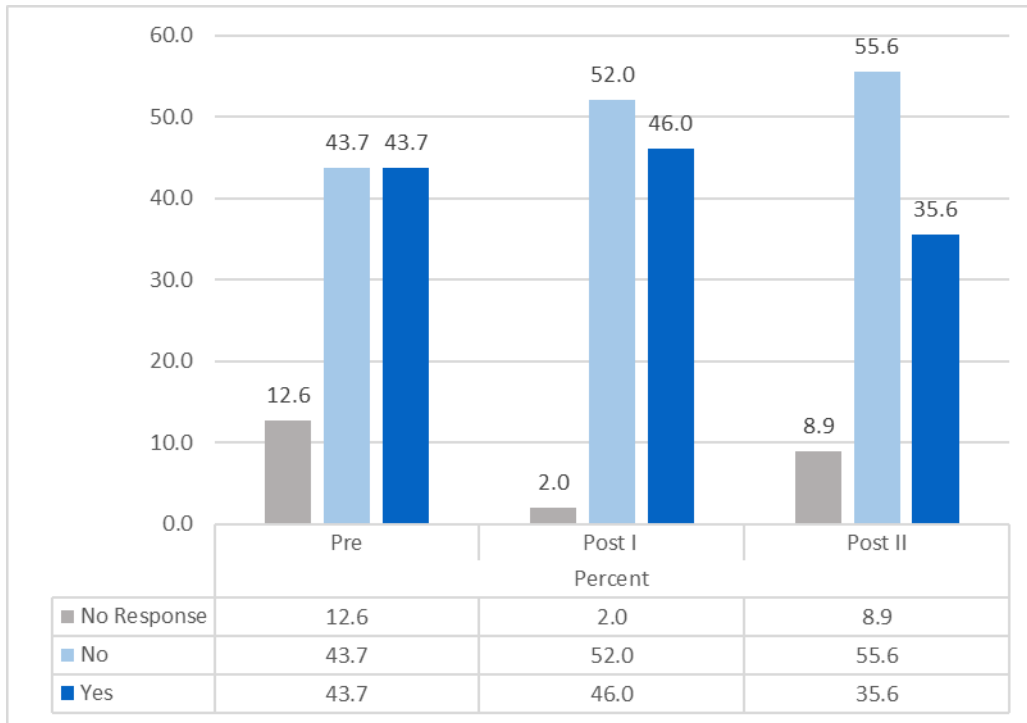
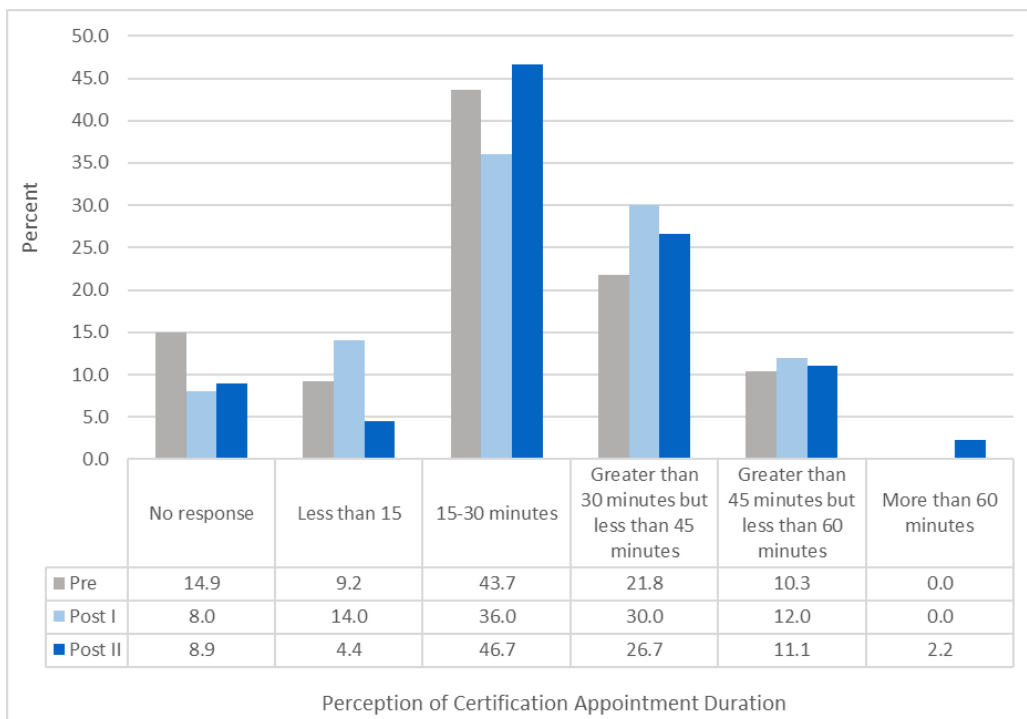


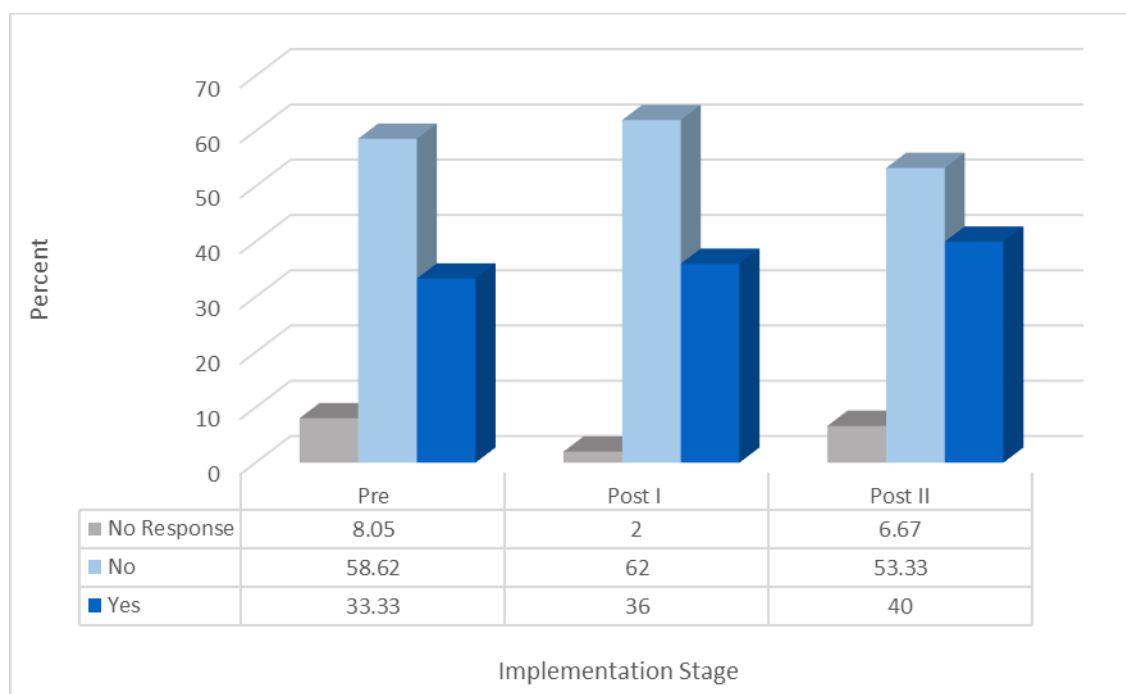
Figure 5: Staff Perceptions of the Length of Average Certification Appointments in Their Clinic, 2022



Fifty-eight percent found benefit issuance took less than five minutes, and the majority (76%) found print documents took less than five minutes. Finally, staff were asked to state what part of the certification process they thought takes the longest and what part of the certification appointment they would like to see improved based on the process. A quarter of all staff surveyed indicated that documenting and providing referrals was the most time intensive part of the certification process. Another 20% said gathering information for the income screen took the longest.

3. Staff training — Staff confidence and mastery of the new technology was gauged quantitatively by the staff survey data as well as via qualitative feedback provided by training workshop participants. The effectiveness of staff training was assessed by asking staff whether they had used the guest login (test account) to navigate through WIC Connect. While the majority indicated that they had not used the guest login test account to navigate through WIC Connect, the number of staff who agreed they had used the guest login increased 6.7 percentage points which amounts to a 20% increase between Pre and Post Implementation II.

Figure 6: Staff Use of Guest Login to Navigate WIC Connect, 2022



Staff were asked to indicate which training tools would help them feel confident sharing information about WIC Connect with clients. There were few responses to this question. Of those that responded, the majority wanted detailed training materials which they could share with clients to make them feel more confident using WIC Connect. The feedback the State agency received was that interactive training coupled with more resources would help connect clients who needed help.

In addition to the staff survey, state staff held three training workshops for local agencies to inform them about the enhancements to MIWIC and WIC Connect. These sessions included poll questions to help gauge the effectiveness of the training for staff. After the December Q&A training session, staff were asked to evaluate whether they felt more confident promoting WIC

Client Connect to families. About 70% of workshop participants agreed that they felt more confident promoting the app to families on account of the training. Participating staff also indicated that interactive or Zoom training would help increase their comfort level promoting the app down the road.

4. WIC Connect Data — “Flurry” was the software originally intended to capture app metrics. Due to technical difficulties with the software, however, utilization of “Flurry” data became infeasible within the project timeframe. As a result, Michigan collected approximately comparable metrics available from the App Store and Google Play. Table 8 contains app data for Google Play and illustrates that the number of “daily active users” (defined as those users who opened the app on any given day). This was highest in October 2022, right around Release 2 – when the second round of CEP enhancements was released. Conversely, “user loss” (defined as the number of users who uninstalled the app from all their devices) was the lowest in November, right after Release 2 of system enhancements for the CEP project. It should be noted that app-related metrics are for the whole State, not just the pilot agencies. This makes isolating the impact of WIC Connect challenging.

Table 9 contains monthly app data from iOS and shows that sessions (defined as the number of times the app has been used) was highest for the month of September – soon after Release 1 of the enhancements to MI-WIC. Deletions, defined as the number of times an app has been deleted on devices running iOS 12.3, iOS 13.0, or macOS 10.15.1 or later, was lowest for the months September and November following CEP Release dates.

Averages were also computed for the metric “First time downloads” two weeks prior to Release 1 and two weeks immediately following Release 1 to assess whether the number of downloads had increased after the first round of enhancements. However, no significant pattern was identifiable in the data. The average first time downloads for Android were not substantially different before and after the first release date: 38.1 versus 37.9. For iOS the average first time download was 88.9 before versus 75.6 after the release. Similarly, the pattern of average usage for “First time downloads” observed around Release 2 was inconclusive. A plausible cause of the lack of findings with the app data may be the inability to restrict user data to pilot agency downloads only. Readers should note that the data in tables 8 and 9 represent all user app data as opposed to app data constrained to only pilot agencies. To get a more fine-grained look at certifications through the mobile app, MIS data was obtained that compared number of WCC appointments requested by clients via the mobile app in April-December 2021 with appointments requested between April and December 2022. The number of WCC appointments requested by clients through the mobile app increased 72.6% between April and December 2022 as compared with April and December 2021. Results are presented in Appendix G of the report.

Table 8: Summary by Month of Data from Android

Metrics	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec	Total
First Time													
Downloads	1331.0	2168.0	2382.0	2059.0	1839.0	1786.0	1974.0	2056.0	2033.0	1208.0	1133.0	1212.0	1765.1
Daily Active Users*	1273.8	1157.1	1300.4	1145.4	1357.4	1325.3	1365.7	1353.9	1374.4	1468.6	1395.5	1467.3	1332.1
Monthly													
Returning Users	1069.9	1057.5	1330.8	1060.5	11190.0	1178.1	1242.7	1206.3	1218.9	1325.7	1146.3	1275.0	2025.1
User Loss**	100.2	59.9	62.4	61.8	61.2	60.1	53.9	54.4	52.4	51.1	50.7	74.8	62.9

NB:

*Daily active users are defined as the number of users who opened the app on a given day

**User loss is defined as the number of users who have uninstalled the app from all of their devices

Table 9: Summary by Month of Data from iOS

Metrics	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec	Total
First Time													
Downloads	2643	2446	2566	2392	2269	2253	2666	2530	2389	2655	2577	2546	2494.33
Sessions*	4750.8	5010.8	4932.3	4867.9	4877.7	5121.4	5596.9	5056.5	5566.6	2099.1	2011.2	2167.8	4338.2
Retention	145.9	127.2	140.7	124.2	133.7	126.5	117.7	132.0	124.4	133.3	122.9	116.7	128.8
Deletions**	114.3	103.7	108.5	98.2	93.4	91.2	87.7	87.0	85.6	97.3	84.9	89.8	95.1

NB:

*Sessions is defined as the number of times an app has been used for at least 2 seconds

**Deletions: is defined as the number of times an app has been deleted on devices running iOS 12.3, tvOS 13.0, or macOS 10.15.1 or later.

4.4. Reach

The primary metrics to assess reach were increase in the certification count, number of clients that engaged or participated and redemption rates pre and post intervention.

1. Increase in certifications — Increase in certifications was measured via the total number of certifications completed in each pilot agency in MI-WIC between May and December 2022. Tables 10 and 11 provide a count of certifications by pilot agency and month. There was not a substantive change in the number of certifications pre and post intervention. There were 19,788 certifications Pre-Implementation as compared with 19,682 certifications Post-Implementation – a difference of 106 certifications between pre and post intervention.

Table 10: Count of Certification Appointments by Agency and Month, Pre-Implementation (May - August 2022)

Agency	May	June	July	August	Total
7	116	129	126	150	521
15	891	941	988	1,103	3,923
33	854	879	915	922	3,570
51	151	186	184	248	769
81	428	500	481	543	1,952
90	2,124	2,289	2,195	2,445	9,053
Total	4,564	4,924	4,889	5,411	19,788

Table 11: Count of Certification Appointments by Agency and Month, Post-Implementation (September - December 2022)

Agency	September	October	November	December	Total
7	146	140	121	98	505
15	930	936	935	894	3,695
33	910	919	849	717	3,395
51	202	218	186	224	830
81	533	457	476	504	1,970
90	2,354	2,475	2,203	2,255	9,287
Total	5,075	5,145	4,770	4,692	19,682

Note: Agency no.7 = Western UP HD, 15 = Intercare Community Health Network, 33 = Ingham County HD, 51 = Community First Health Center, 81=Washtenaw County HD, 90 = The City of Detroit HD

2. The number of clients that engaged or participated — Metrics to measure the number of clients that engaged or participated included a comparison of the total number of enrollments and total participation pre and post implementation as well as a comparison of redemption rates in MI-WIC before and after the innovation. Table 12 provides a count of enrollment and participation by agency by month for the period between January and June 2022. Table 13 provides the same measurements for the period between July and December 2022.

Table 12: Enrollment and Participation by Agency by Month (January – June 2022)

Agency	2022 Jan		2022 Feb		2022 Mar		2022 Apr		2022 May		2022 Jun	
	E	P	E	P	E	P	E	P	E	P	E	P
7	1,281	1,164	1,277	1,164	1,287	1,174	1,294	1,185	1,280	1,175	1,269	1,149
15	9,485	8,781	9,354	8,716	9,360	8,800	9,337	8,762	9,276	8,729	9,285	8,794
33	8,477	8,182	8,518	8,234	8,616	8,366	8,669	8,431	8,718	8,451	8,759	8,513
51	2,123	1,900	2,087	1,855	2,083	1,816	2,026	1,754	1,989	1,739	2,005	1,753
81	5,008	4,851	5,033	4,823	5,072	4,864	4,994	4,803	4,948	4,773	4,972	4,798
90	22,731	21,465	22,725	21,412	22,783	21,512	22,806	21,549	22,831	21,565	22,893	21,529
Total	49,105	46,343	48,994	46,204	49,201	46,532	49,126	46,484	49,042	46,432	49,183	46,536

Table 13: Enrollment and Participation by Agency by Month (July – December 2022)

Agency	2022 Jul		2022 Aug		2022 Sep		2022 Oct		2022 Nov		2022 Dec	
	E	P	E	P	E	P	E	P	E	P	E	P
7	1,265	1,153	1,276	1,171	1,268	1,181	1,267	1,186	1,274	1,200	1,278	1,201
15	9,326	8,865	9,477	9,033	9,514	9,055	9,557	9,089	9,598	9,134	9,591	9,127
33	8,873	8,615	8,906	8,657	8,946	8,660	8,969	8,691	8,953	8,655	8,939	8,662
51	1,982	1,735	2,014	1,751	1,989	1,749	1,982	1,769	1,944	1,721	1,980	1,750
81	4,975	4,778	4,995	4,811	5,022	4,834	5,018	4,799	5,020	4,798	5,018	4,810
90	22,940	21,539	23,089	21,582	23,029	21,510	23,226	21,705	23,191	21,676	23,185	21,697
Total	49,361	46,685	49,757	47,005	49,768	46,989	50,019	47,239	49,980	47,184	49,991	47,247

Note ¹ Agency No. 7=Western UP HD; 15=Intercare Community Health; 33=Ingham Co HD; 51=Community First; 81=Washtenaw Co Public Health; 90=City of Detroit HD; ² E=Enrollment; P=Participation. Number enrolled is defined as those certified; Number participating is defined as those receiving benefits.

Data from Tables 12 and 13 were utilized to create two groups Pre-Implementation (May-August) vs. Post-Implementation (September-Dec). A paired sample t-test was conducted to test whether the difference in mean enrollment between the two groups was significant. The difference in mean enrollment pre and post implementation was marginally significant at an alpha =0.10 with a t-

statistic = -2.26, df=5 and p<0.0731. The paired t-test for difference in mean participation similarly showed a marginally significant mean difference with a t-statistic = -2.27, df=5 and p<0.0725.

Table 14: Redemption Rates by Agency and Month (April – December 2022)

	April	May	June	July	August	September	October	November	December
Agency	Redemption Rate (%)	Redemption Rate (%)	Redemption Rate (%)	Redemption Rate (%)	Redemption Rate (%)	Redemption Rate (%)	Redemption Rate (%)	Redemption Rate (%)	Redemption Rate (%)
7	47.1	48.5	50.3	48.1	47.4	47.4	48.1	47.8	50.7
15	46.4	48.5	50.4	50.2	47.8	48.5	48.7	48.4	51.3
33	37.9	39.0	40.7	41.2	39.3	39.6	41.5	41.3	44.0
51	52.8	51.0	52.4	52.2	54.3	52.2	52.2	56.5	56.7
81	38.2	40.3	41.6	41.6	39.8	40.2	42.3	43.5	45.3
90	41.4	42.9	45.6	45.0	42.4	44.1	45.7	46.4	49.3
Average Redemption Rate by Month	44.0	45.0	46.8	46.4	45.2	45.3	46.4	47.3	49.5

Notes: Agency No. 7=Western UP HD; 15=Intercare Community Health; 33=Ingham HD; 51=Community First; 81=Washtenaw Co Public Health; 90=City of Detroit HD.

The average redemption rate across all pilot agencies Pre-Implementation (May-August) was about 45.9%. By comparison, the average redemption rate Post-Implementation (September-December) equaled 47.2%, a percentage increase of 2.8%. A steady uptick in the average redemption rate across agencies is also noticeable month by month between September and December 2022.

4.5. Effectiveness

The primary outcomes of interest mapping onto the category Effectiveness were:

1. Improved client satisfaction — This metric was gathered from the pre-post client surveys. Clients were asked how they felt about the time it took for their last WIC certification appointment, their overall satisfaction with their appointment, and the extent of their willingness to promote WCC to friends, family, and others.

Figure 7: Overall Client Satisfaction with Certification Appointment, 2022

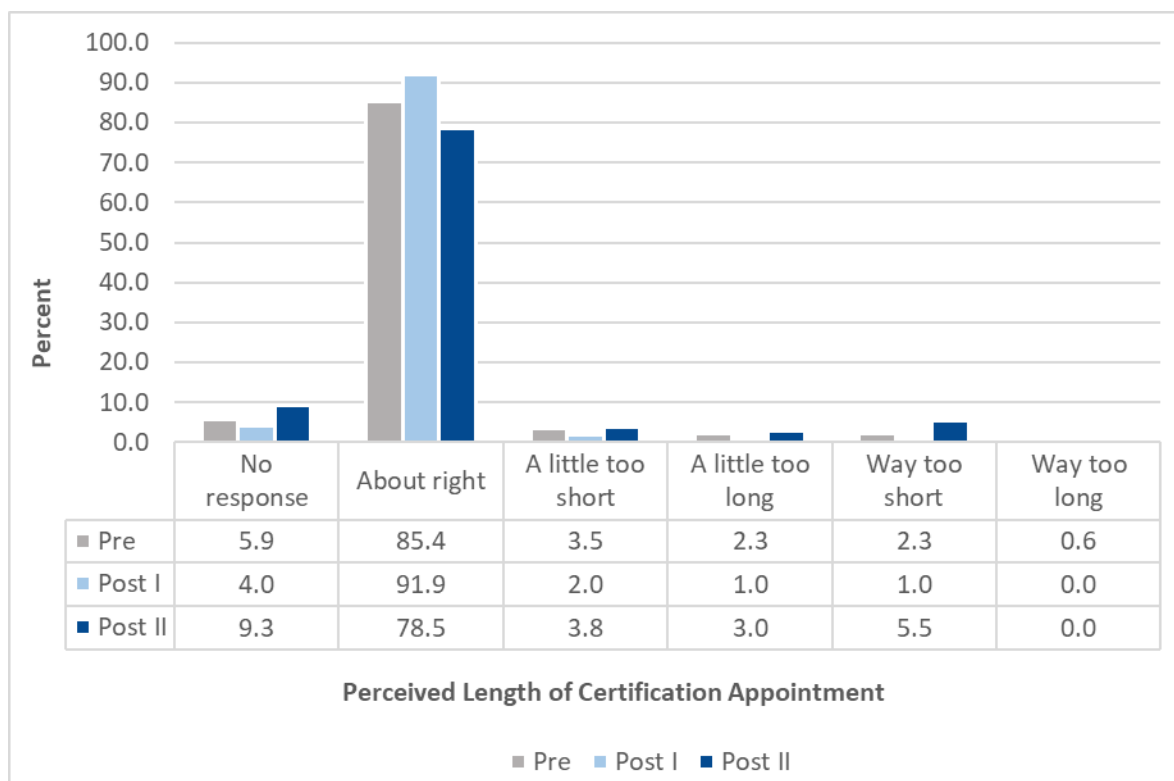


The majority of WIC clients experienced a high degree of satisfaction with their certification appointments post implementation. Client satisfaction increased 16 percentage points from 60.8% Pre-Implementation, to 76.8% after the first round of enhancements (Post Implementation I). However, although the overall levels of satisfaction remained unambiguously high during the intervention period, the percent of clients who indicated they were “very satisfied” with their certification appointment declined from 76.8% to 62.5% between Post-Implementation I and II (a decline of 14 percentage points).

Clients were asked: “Please tell us how you feel about how much time it took for your last WIC certification appointment.” Clients almost unanimously thought that the length of their certification appointments was about right. Figure 8 illustrates this feedback provided to Michigan WIC. Client perceptions of the length of their appointment being “about right” was highest after the first set of system enhancements (Post Implementation I) and declined 13.4 percentage points in Post-Implementation II. Possibly some clients felt that their certification appointments were too short. There is some evidence in support of this hypothesis as the percent

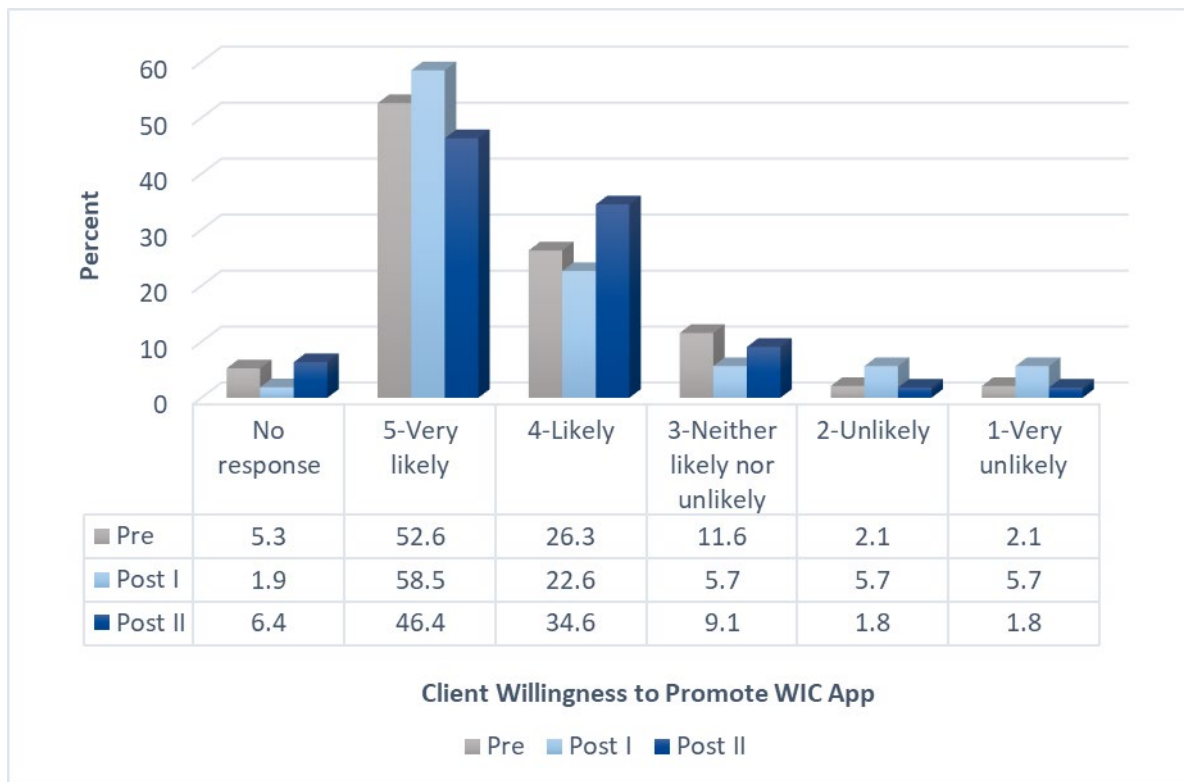
of clients who thought their certification appointment was “way too short” increased five-fold between Post I and Post II from 1% to 5.5%.

Figure 8: Client Perception of the Length of their Certification Appointments, 2022



Another measure of client satisfaction asked clients about their willingness to promote the WIC App to friends and family. Client willingness to promote the app increased 6.1 percentage points from 52.6% Pre-Implementation to 58.5% Post-Implementation I (an increase of 11.1%) but decreased around 20% during Post-Implementation II as some of the clients who had indicated “Very Likely” earlier, moved down a notch to the “Likely” category. Figure 9 presents the results of this measure.

Figure 9: Extent of Client Willingness to Promote the WIC App to Friends/Family



2. Time spent at appointments and wait time — Change in Duration of certification appointments was captured in MI-WIC pre and post implementation. Tables 15 - 17 illustrate this information. Pre-implementation, the average time in minutes for a certification appointment was 68.3 minutes (n=6223; std dev=70.3; min=6, max=486.6). When stratified by Agency, most certification appointments in Agency 15 were 15-29 minutes long. All other agencies took 60 minutes or longer to complete the certifications.

Table 15: Frequency Table of Duration of Certification Appointments by Agency Pre-Implementation (August 2022)

Agency	1<15 min	15-29 min	30-44 min	45-59 min	60+ min	Total
7	1	19	35	11	47	113
15	157	456	344	182	97	1,236
33	65	234	154	123	477	1,053
51	1	27	69	66	126	289
81	9	62	112	154	288	625
90	149	603	591	429	1,135	2,907
Total	382	1,401	1,305	965	2,170	6,223

**Table 16: Frequency Table of Duration of Certification Appointments by Agency
Post-Implementation I (August – October 2022)**

Agency	1<15 min	15-29 min	30-44 min	45-59 min	60+ min	Total
7	2	20	29	19	104	174
15	21	95	107	77	168	468
33	71	280	234	224	841	1,650
51	1	43	82	99	176	401
81	12	112	172	195	459	950
90	407	925	828	588	1,617	4,365
Total	514	1,475	1,452	1,202	3,365	8,008

During Post-Implementation-I, the average time in minutes for a certification appointment increased from 68.3 minutes to 75 minutes (n=8008; std deviation=72; min=0.1, max=487). It is likely that the increase was the result of staff getting acclimated to the new system enhancements. After the second round of enhancements was released (Post-Implementation 2), the average time in minutes decreased from 75 minutes to 70.4 minutes (n=7652; std deviation = 67.4; min=0.1, maximum = 537.5) perhaps reflecting a growing level of staff comfort with the new processes.

**Table 16: Frequency Table of Duration of Certification Appointments by Agency
Post-Implementation II (November – October 2022)**

Agency	1<15 min	15-29 min	30-44 min	45-59 min	60+ min	Total
7	3	27	15	17	46	108
15	50	148	148	52	204	602
33	93	247	221	205	727	1,493
51	0	40	102	91	173	406
81	18	114	160	165	490	947
90	316	927	839	593	1,421	4,096
Total	480	1,503	1,485	1,123	3,061	7,652

3. Perceived appointment quality — A series of three questions in the client surveys assessed perceived appointment quality by asking clients whether they liked using WIC Connect, found WIC Connect easy to use, and thought it helped their WIC appointment go faster. They were also asked about the overall quality of their certification appointment. During Post-Implementation I, 60.4% of clients “strongly agreed” with the statement that they liked using WIC Connect — a 37% increase over the Pre-Implementation client response of 44.2%. Subsequently, this client

approval dropped 10 percentage points to 50% in Post-implementation II suggesting that at least some WIC clients found the app challenging to navigate.

Figure 10: Extent to which Clients Liked Using WIC Connect.

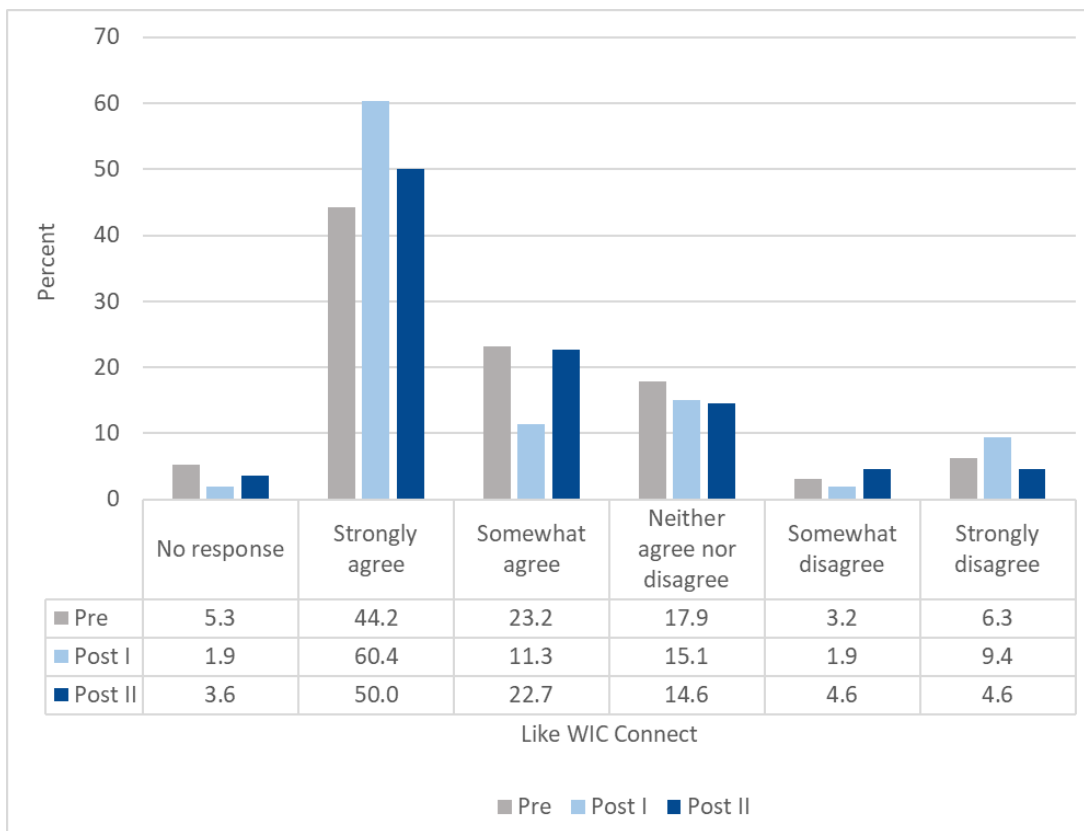
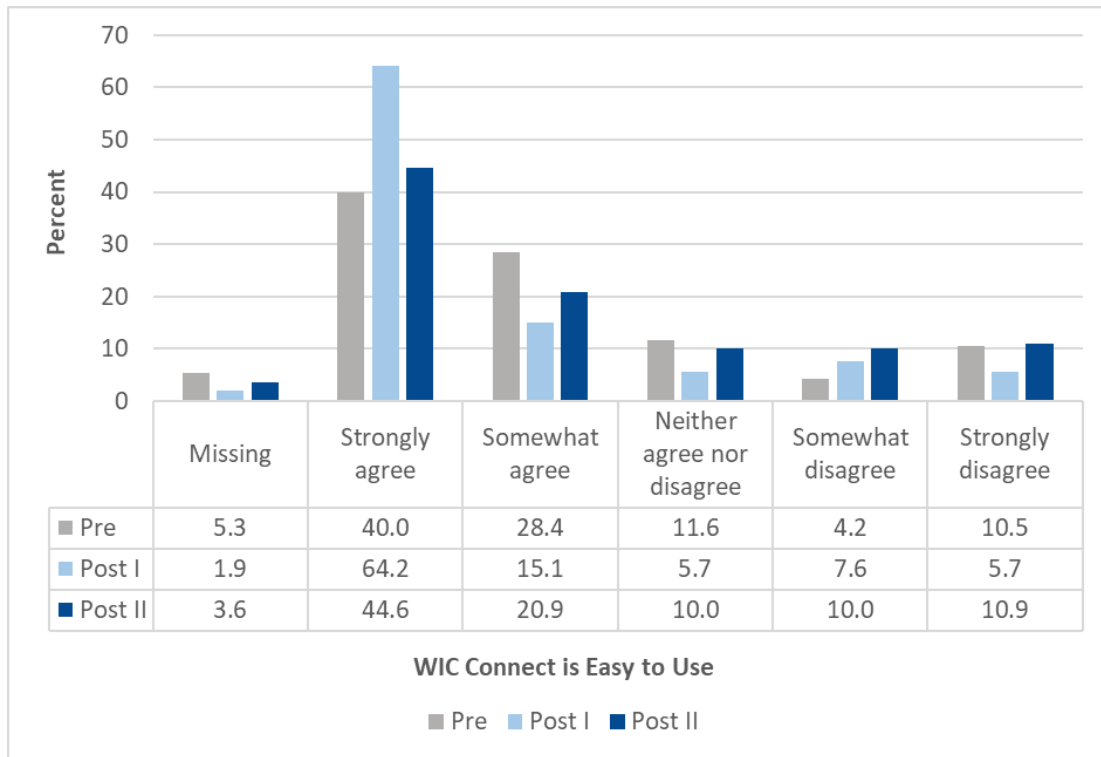
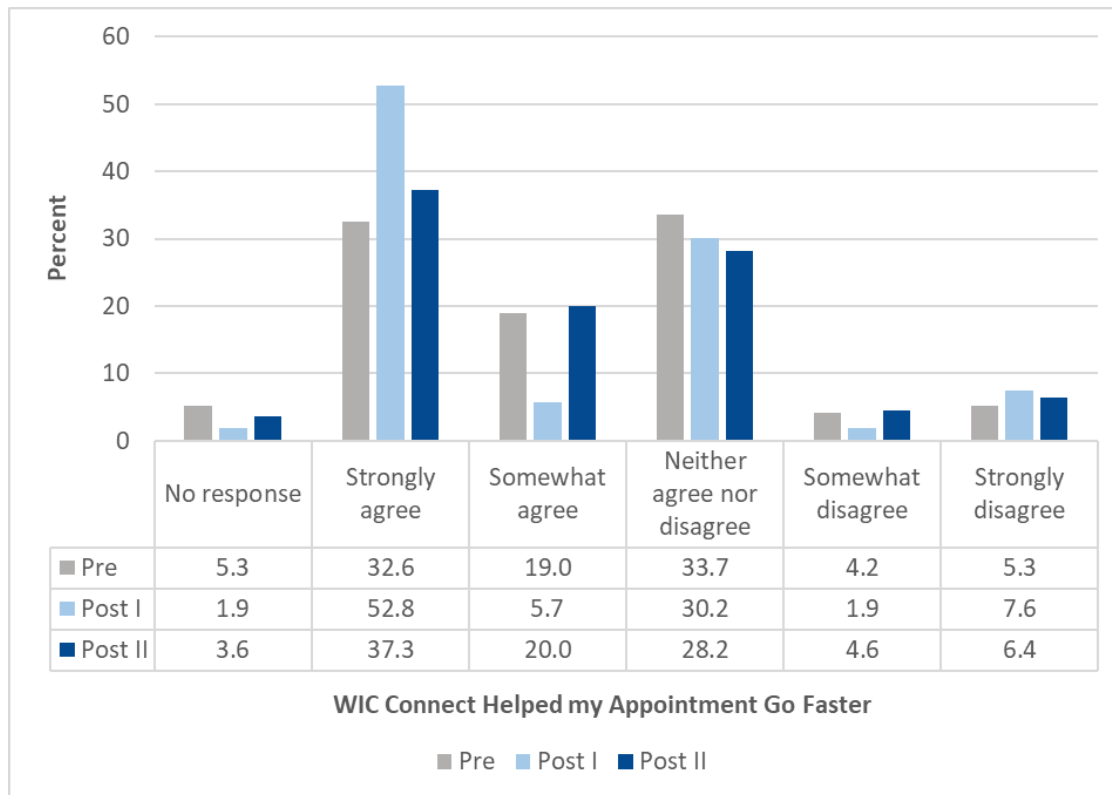


Figure 11: Extent to Which Clients Found WIC Connect Easy to Use



A similar pattern is observed with respect to the statement “WIC Connect is easy to use.” In Post-Implementation I, the percentage of clients that strongly agreed with this statement was 64.2% as compared to 40% Pre-Implementation (a 60% increase). However, strong agreement with this statement declined 20 percentage points from Post-Implementation I to Post Implementation II. Figure 11 illustrates this phenomenon.

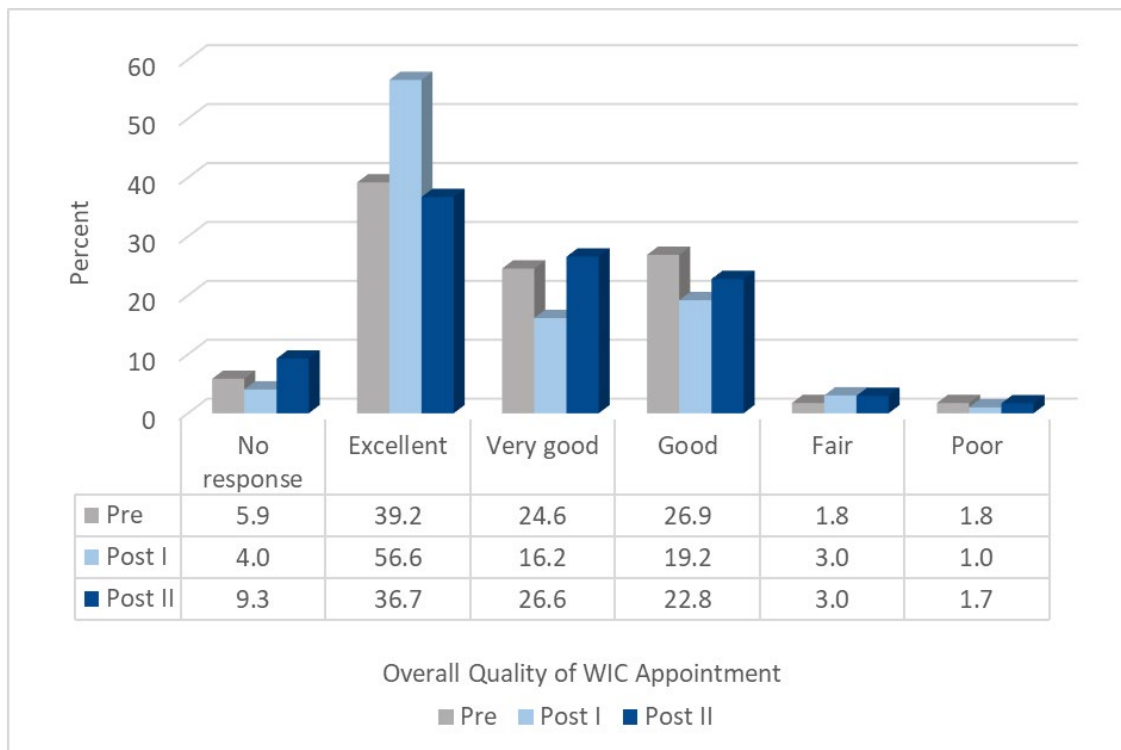
Figure 12: Extent to Which Clients Thought WIC Connect Helped their WIC Appointment Go Faster



Pre-Implementation, a third of the clients surveyed strongly agreed that WIC Connect helped their appointment go faster. After the first round of enhancements 52.8% strongly agreed with the statement — a 62% increase. After Post-Implementation II, however, the number of clients who “Strongly agreed” with the statement decreased to 37.3%. Figure 12 shows a corresponding increase in the category “Somewhat Agree” suggesting a degree of uncertainty on the part of clients with respect to using WIC Connect. If the categories “Strongly Agree + Somewhat Agree” during Post I are compared to the same categories during Post II, the percentage of clients is not significantly different (58.5% in Post-I vs. 57.3% in Post-II).

Clients were also assessed for perceptions of overall quality of their certification appointments. The percent of clients who thought their certification appointments overall were “Excellent” increased 44% between Pre-Implementation and Post-Implementation I. Around 72% of all participants thought their appointments were either “Excellent” or “Very Good” during the Post-Implementation I period as compared with 63.3% during the Post-Implementation II period. This indicates a sharp increase in client perception of appointment quality initially, followed by a return to the baseline level. These results are illustrated in Figure 13.

Figure 13: Client Perception of Overall Quality of Certification Appointment



4.6. Maintenance

The changes made to MI-WIC under the aegis of the WSPI grant are permanent and will remain in effect even after the funding for the WSPI project ends. There are no recurring costs for maintenance in terms of additional staff hired for completion or costs associated with the technology vendor. Moreover, all the enhancements are in line with Michigan’s emphasis on client centered services.

A point of note is that in the case of Michigan, the enhanced features of MIWIC and the WIC Connect Platform were technically available to all WIC clients and staff during the implementation phase since there was no way to limit access to the enhancements to the pilot agencies only. However, the non-participating agencies were only informed about the enhancements as part of the routine webcasts prior to implementation. The pilot agencies by contrast were provided background information regarding the enhancements. Going forward, Michigan WIC intends to formally share enhancements made during WSPI CEP with all local agencies in Michigan and invite them to encourage clinic staff and clients to begin utilizing the new enhancements at the end of the project grant period. This will help reiterate the advantages associated with streamlining the certification process as well as underscore for all agencies how they can further improve their internal processes. The trainings will be provided by State staff on the WIC Connect platform and will continue bi-annually to account for staff turnover at the clinic level.

Michigan anticipates an overall positive response statewide based on positive feedback received from the six participating pilot agencies as well as their receptiveness to the proposed enhancements. Michigan WIC will also be able to sustain and improve the enhancements introduced under the WSPI grant via system updates and releases that are already regularly

performed based on user feedback and system needs. Finally, although the initial focus for the WSPI CEP project was to streamline the certification process, Michigan anticipates applying the lessons learned to other types of appointments as well to improve the WIC client experience in Michigan overall.

Section 5: Project Conclusions and Lessons Learned

5.1. Conclusions and Next Steps

Several of the enhancements put into effect were based on feedback received from local agencies via the BPA process. A continuous feedback loop from local agencies on their experience with WSPI enhancements and a rolling process of continually refining the enhancements going forward is how Michigan WIC plans to continue the work initiated under this grant. Funding opportunities promoting similar innovations is another way Michigan plans to build upon these enhancements developed under WSPI. Some priorities in the product backlog that could not be implemented under WSPI funding remain on the table and Michigan intends to use future funding opportunities to see these through to completion.

The changes that were implemented under the WSPI grant were predicated on the existence of MI-WIC, Michigan's Management Information System. Nevertheless, the concept can certainly still be borrowed by other agencies contemplating similar projects. For example, the challenges and barriers local agencies face in implementing these enhancements is feedback that is transferable and there are lessons to be learned for other agencies. The mobile application concepts (online check-in, capturing duration of appointments, etc.) are ideas that are transferable in other contexts as well.

A key point to be underscored is that in Michigan, all the enhancements made under the aegis of the WSPI grant will remain in place post funding. This provides an opportunity to naturally scale-up the impact of the CEP Project by bringing on board other local agencies all over Michigan. As with all interventions, however, there is always scope for further improvement. The WSPI grant made capturing of referrals more streamlined, but a gap remains in terms of completing the loop for referral mechanisms in existence presently. For example, there is not currently a way to assess how effective Michigan's referrals have been. Integration with Health Information Systems is, therefore, a potential area of expansion. Another area of improvement is figuring out how best to avoid duplicate collection of data on screens within MI-WIC. This will ensure that the client check-in process becomes even more streamlined and efficient as staff experience and comfort with the enhancements increases over time.

It is important to keep in mind that the enhancements made to MI-WIC under the WSPI grant were constrained by the scope of the project, budget, and time available to complete the process. For some enhancements, time and value to the client were driving factors in the decision to not implement those enhancements. A point of note for agencies contemplating similar interventions is that time is an important constraint to consider at initiation. Unlike other states who may have had to go through a vendor selection process, Michigan did not have to procure a vendor prior to instituting the enhancements and this was extremely helpful given the short duration of the project.

5.2 Lessons Learned

The three key lessons Michigan learned from this project are briefly summarized below:

1. Budgeting a longer time frame to assess evaluation measures such as certification duration and staff satisfaction. Introducing changes to ongoing process has implications for staff. Staff need additional time and training before the new processes become integrated into existing modes of functioning at the clinic level. If the time between

introduction of enhancements and assessment of key metrics is very compressed (as was the case for WSPI CEP) it may be more challenging for agencies to demonstrate adoption and efficacy of the intervention.

2. Building incentives into the survey data collection process from inception. Michigan's experience with survey data collection for the project demonstrates that incentives can help boost lagging survey response rates.
3. Putting into practice a "train-the-trainer" model by encouraging local agencies and clinics to identify one staff member in the role of training supervisor who can serve as the point person for training clinic staff at the local level. These trainers can help ensure that new staff are onboarded efficiently when there is staff turnover in clinics. In the eventuality that some staff are unable to attend the State-scheduled trainings, they can reach out to their training supervisor and schedule time to review the missed trainings.

Top three best practices that Michigan WIC can share with other WIC agencies seeking to implement similar enhancements to improve the certification process are as follows:

1. Having an MIS in place prior to taking on a project of this scope. Because technology enhancements are key to the implementation process, but the timeframe of the project is relatively short, this condition is an important prerequisite to successful project completion.
2. Designating a staff person at each local agency to be the point person who will ensure that all other agency staff are up to date on their trainings and feeling comfortable with the new enhancements.
3. Collaboratively integrating feedback from local agencies from inception of the project through to the end. This approach will ensure buy-in from the agencies at the local level and the State agency will have a stronger and more locally responsive intervention implemented.

In summary, the successful completion of the WSPI CEP project in Michigan may be attributed to a high degree of coordination and hard work by a strong team of state staff as well as participating local agency personnel. Michigan successfully deployed 17 enhancements to the production environment of their MIS and accomplished three rounds of data collection from clients and staff between August and December 2022. If given the chance to do anything differently, Michigan would probably include incentives in the data collection process from inception in order to boost their client survey response rates. As the pool of participating local agencies increases, Michigan sees the need to incorporate promotional materials popularizing the enhancements as well as provision of ongoing training for local agencies that would give them the support they need to leverage the reports they are now able to generate in MI-WIC most efficiently.

Section 6: Appendices

A list of the supplemental material for the report is provided below:

- Appendix A1: Demographic Breakdown by Race in Pilot Agencies
- Appendix A2: Family Count by Pilot Agency and Primary Language
- Appendix B: Michigan Local Agency Staff Training Summary, 2022
- Appendix C1: CEP Staff Survey Instrument
- Appendix C2: CEP Client Survey Instrument
- Appendix D: RE-AIM Evaluation Plan
- Appendix E: List of Covariates for MIS Data
- Appendix F: CEP Project Timeline
- Appendix G: Number of WCC Appointments Requested by Clients and Number Certified through the mobile app (April-December 2021 vs. April-December 2022)

Appendix A1: Demographic Breakdown of Pilot Agencies by Race, January 2021

Local Agency Name	White (%)	Black (%)	Asian (%)	American Indian/Alaska Native (%)	Native Hawaiian/Other (%)	Total (%)
City of Detroit Health Department	24.9	73.8	1.1	0.1	0.1	100.0
Community First Health Center	85.2	12.8	1.5	0.1	0.5	100.0
Ingham County Health Department	57.0	36.4	6.4	0.3	0.0	100.0
Washtenaw County Public Health WIC Clinic	47.7	48.1	3.0	1.1	0.1	100.0
Western UP Health Department	97.3	1.0	0.9	0.8	0.0	100.0

Appendix A2: Family Count by Primary Language in Pilot Agencies, January 2021

Language	City of Detroit Health Department	Community First Health Center	Ingham County Health Department	Intercare Community Health Center	Washtenaw County Health WIC Clinic	Western UP Health Department
English	12,224	1,078	4,718	5,139	2795	727
Spanish	1,270	100	104	468	142	2
Arabic	460	42	96	0	61	0
French	5	0	12	0	19	0
Russian	0	0	6	0	0	0
Vietnamese	0	1	15	1	3	0
Korean	0	0	0	0	0	0
Croatian	0	2	2	0	1	0
Polish	0	1	0	0	0	0
Portuguese	0	0	2	1	0	0
Italian	0	2	0	0	0	0
Greek	0	0	0	0	0	0
German	0	0	0	0	0	0
Other	76	25	334	14	49	0

Appendix B: Michigan Local Agency Staff Training Summary, 2022

Type of Grant-funded Training	Date(s) of Training	Number of Staff Actually Trained by Staff Type	Mode/ Type of Instruction	Duration	Number of Sessions	Barriers and Challenges	Data Notes and Other Context
WIC Client Connect Platform Training	Feb. 22-24 at 9 a.m. & 1 p.m.	241	Live Zoom Training	90 minutes/ session	6	We were competing with the formula recall so some staff who registered were not able to attend.	Participants enjoyed training overall and would like to have these trainings offered throughout the year moving forward.
WIC Client Connect Platform Training + Enhancements	July 26-28 at 9 a.m. & 1 p.m.	200	Live Zoom Training	1 hour each session (six hours total)	6	Training did not encompass all enhancements as they are still being developed. Additional staff training may be needed in October.	The training was well received, and staff found it very informative.
WIC Client Connect Platform Training + Enhancements	Dec. 6 at 10 a.m. & 1 p.m.	53	Live Zoom Training	1 hour each session (two hours total)	2	Training was split into two sessions on Dec 6.: 9 a.m. & 1 p.m. to accommodate staff schedules.	Staff reported more confidence in their ability to explain WCC to clients.

Appendix C1: CEP Staff Survey Instrument

We are inviting you to complete a survey about your experience completing WIC certification appointments with clients. We know completing a full nutrition assessment takes time and we are working to make this more efficient.

This survey is being conducted by Michigan WIC for the Special Project Innovation Certification Enhancement Project. The purpose of this survey is to get feedback prior to and after the enhancements to the certification process. The results will help WIC provide the best possible support to staff.

By completing this survey, you agree to take part in this research.

This survey will take you about 5-10 minutes to complete.

Your responses will be kept confidential. Deidentified results may be used in future research without additional consent on your part. The risks associated with the research are minimal but include the chance of a breach of confidentiality. We are taking steps to prevent this risk, including storing data securely.

Participating in this study is optional. You will not be penalized if you do not take part. If you change your mind about participating, you may stop at any time. If you have questions or are not sure if you want to participate, please email the study team at kodurb@michigan.gov.

The Michigan Department of Health and Human Services (MDHHS) Institutional Review Board, which oversees all research for MDHHS, reviewed the study. You may contact them at via email at mdhhs-irb@michigan.gov.

Staff Survey

1. What Local Agency do you work for?
2. Which role do you have in the WIC clinic setting?
 - Clerk/tech
 - CPA/RD
 - Coordinator
 - Other (please specify) _____
3. How long have you worked in WIC?
 - Less than 1 year
 - 1 to 2 years
 - 3 to 5 years
 - 6 to 10 years
 - More than 10 years
4. I think WIC clients are using the WIC Connect Mobile App or Web Portal (WIC Connect) more often in the past year.
 - Strongly disagree

- ☐ Somewhat disagree
 - ☐ Neither agree nor disagree
 - ☐ Somewhat agree
 - ☐ Strongly agree
- 5. Have you used the guest login (test account) to navigate through WIC Connect?
 - ☐ Yes
 - ☐ No
- 6. On a scale of 1 to 5 (1 being completely uncomfortable, 5 being very comfortable) how comfortable are you using and promoting WIC Connect?
 - 1 — Very uncomfortable
 - 2 — Moderately uncomfortable
 - 3 — Neither uncomfortable nor comfortable
 - 4 — Moderately comfortable
 - 5 — Very comfortable
- 7. Does your local WIC agency have WCC appointment slots available in MI-WIC for clients to schedule their own appointment using WIC Connect?
 - ☐ Yes
 - ☐ No
- 8. If you answered “No” please select your reason from the choices below:
 - ☐ Did not know it was an option
 - ☐ Lack of training/understanding
 - ☐ Don’t feel clients use this method
 - ☐ No time to allow for WCC appointments in MI-WIC schedule
 - ☐ Not a good fit/does not save staff time
 - ☐ Other (Please explain) _____
- 9. Would you promote WIC Connect to clients if it made the certification process easier?
 - ☐ Yes
 - ☐ No
 - ☐ Maybe — I would consider it
- 10. On average, how long is the certification appointment in your clinic?
 - ☐ Less than 15
 - ☐ 15-30 minutes
 - ☐ Greater than 30 minutes but less than 45 minutes

- Greater than 45 minutes but less than 60 minutes
- More than 60 minutes

11. Apart from the nutrition assessment, what part of the certification process would you say takes the longest?

- Gathering information for income screen
- WIC Client Agreement explanation/signature
- Collecting Race/Ethnicity information
- Documenting and providing referrals
- Documenting nutrition education
- Other (please explain) _____

12. Approximately how much time do you spend on each part of the certification process? (If not applicable, please leave blank)

- a. Intake (Family Info, Client Agreement, Client Info, Cert Action)
 - Less than 5 min, 5-10 min, 11-15 min, 16-20 min, more than 20 min
- b. Lab/Anthro Remote Services
 - Less than 5 min, 5-10 min, 11-15 min, 16-20 min, more than 20 min
- c. Lab/Anthro In-Person Services
 - Less than 5 min, 5-10 min, 11-15 min, 16-20 min, more than 20 min
- d. Nutrition Assessment (Medical, Nutrition History, Nutrition & Health Summary)
 - Less than 5 min, 5-10 min, 11-15 min, 16-20 min, more than 20 min
- e. Nutrition Education/Referrals
 - Less than 5 min, 5-10 min, 11-15 min, 16-20 min, more than 20 min
- f. Benefit Issuance/Appointment Scheduling
 - Less than 5 min, 5-10 min, more than 10 minutes
- g. Print Documents
 - Less than 5 min, 5-10 min, more than 10 minutes

13. WIC Connect makes certification/recertification appointments more efficient.

- a. Strongly disagree
- b. Somewhat disagree
- c. Neither agree nor disagree
- d. Somewhat agree
- e. Strongly agree

14. [IF A-D ON question 13 above] How could WIC Connect be improved?

15. Overall, how satisfied were you with WIC Connect?

- a. Very dissatisfied
- b. Somewhat dissatisfied
- c. Neither satisfied nor dissatisfied
- d. Somewhat satisfied
- e. Very satisfied

16. [IF A-D ON Question 15 above] How could WIC Connect be improved?

17. What part of the certification appointment would you like to see improved based on the process or clinic flow?

- ☐ Gathering information for income screen
- ☐ WIC Client Agreement explanation/signature
- ☐ Collecting Race/Ethnicity information
- ☐ Documenting and providing referrals
- ☐ Documenting nutrition education
- ☐ Other (please explain) _____

18. Has the introduction of changes to WCC portal helped to streamline the certification process?

- ☐ Yes
- ☐ No
- ☐ Don't know

19. Do you feel that the resources and training provided are useful in promoting the WIC Connect platform?

- ☐ Yes
- ☐ No
- ☐ Don't know

(If they respond "No", then Question 20)

20. What kind of training tools are needed to make you feel confident in sharing information about WIC Connect?

Please check all that apply:

- ☐ Webinar
- ☐ Virtual Zoom training
- ☐ Interactive training
- ☐ State developed training materials
- ☐ Other (please explain) _____

Appendix C2: CEP Client Survey Instrument

We are inviting you to complete a survey regarding your WIC certification appointments. The survey is being conducted by Michigan WIC for the Special Project Innovation Certification Enhancement Project. The purpose of this survey is to get your feedback on the WIC certification process prior to and after improvements to our system. Your responses will help WIC to improve services for clients.

By completing this survey, you agree to take part in this research.

This survey will take you about 5-10 minutes to complete.

Your responses will be kept strictly confidential. Deidentified results will be used in future research without additional consent on your part. The risks associated with the research are minimal but include the chance of a breach of confidentiality. We are taking steps to prevent this risk, including storing data securely.

Participating in this study is optional. You will not be penalized if you do not take part. If you change your mind about participating, you may stop at any time. If you have questions or are not sure if you want to participate, please email the study team at kodurb@michigan.gov.

The Michigan Department of Health and Human Services (MDHHS) Institutional Review Board, which oversees all research for MDHHS, reviewed the study. You may contact them via email at mdhhs-irb@michigan.gov.

Client Survey

1. Authorized Person First Name:
2. Authorized Person Last Name:
3. Authorized Person DOB:
4. Local WIC Agency (Optional):
5. How long have you received WIC services?
 - Less than 1 month
 - At least 1 month but less than 1 year
 - 1 to 2 years
 - 3 to 4 years
 - 5 or more years
6. How was your last WIC certification appointment completed (where you provided your income or Medicaid number)?
 - By telephone
 - In clinic

- Both clinic and telephone
 - Video/Zoom
7. About how long was your last WIC certification appointment?
- Less than 15 minutes
 - 15-30 minutes
 - 31-45 minutes
 - 46-60 minutes
 - More than 60 minutes
8. How many family members was this WIC appointment for?
9. Please tell us how you feel about how much time it took for your last WIC certification appointment:
- Way too short
 - A little too short
 - About right
 - A little too long
 - Way too long
10. How did you receive your shopping list following your last appointment?
- In person, in clinic
 - Mail
 - E-Mail
 - WIC Connect
 - Did not receive
11. Overall, how would you rate the quality of your WIC appointment?
- Poor
 - Fair
 - Good
 - Very good
 - Excellent
12. Overall, how satisfied were you with your WIC appointment?
- Very dissatisfied
 - Somewhat dissatisfied
 - Neither satisfied nor dissatisfied
 - Somewhat satisfied
 - Very satisfied

13. Do you currently have an account for the WIC Connect Mobile App or Web Portal (WIC Connect)?

- ☐ Yes
- ☐ No
- ☐ Not aware of WIC Connect

14. If yes, how do you normally access your WIC Connect Account?

- ☐ WIC Connect Phone App
- ☐ WIC Client Connect Web Portal
- ☐ Both

Please indicate how much you agree or disagree with the following:

15. WIC Connect is easy to use. =

- ☐ Strongly disagree
- ☐ Somewhat disagree
- ☐ Neither agree nor disagree
- ☐ Somewhat agree
- ☐ Strongly agree

16. Using WIC Connect helps my WIC appointment go faster.

- ☐ Strongly disagree
- ☐ Somewhat disagree
- ☐ Neither agree nor disagree
- ☐ Somewhat agree
- ☐ Strongly agree

17. I like using WIC Connect.

- ☐ Strongly disagree
- ☐ Somewhat disagree
- ☐ Neither agree nor disagree
- ☐ Somewhat agree
- ☐ Strongly agree

Please explain: _____

18. Overall, how would you rate the process of using WIC Connect?

- ☐ Poor
- ☐ Fair
- ☐ Good

- Very good
- Excellent

19. How likely are you to promote WCC to family/ friends / others?

- 1 — Very unlikely
- 2 — Unlikely
- 3 — Neither Likely nor Unlikely
- 4 — Likely
- 5 — Very Likely

20. Which features of WIC Connect have you used? (check all that apply)

- View my shopping list
- Scan to find WIC eligible foods
- View WIC documents from my appointment
- Schedule/request an appointment with my local WIC clinic
- Find a WIC approved store
- None

21. Which features would you find helpful on WIC Connect?

- View my shopping list
- Scan to find WIC eligible foods
- View WIC documents from my appointment
- Request an appointment with my local WIC clinic
- Find a WIC approved store
- None

22. Would you like to learn more about WIC Connect Mobile App or Web Portal (WIC Connect)?

- Yes
- No (Skip to Question 24)

23. You can find more information about WIC Connect Mobile App or Web Portal (WIC Connect) here:

- WIC Connect Mobile App:

Note: Those who complete an interview will receive a \$25 gift card as a thank you for participating. Submitting your information does not require you to participate in an interview.

- Yes
- No [IF NO, SKIP TO END]

25. What is your first name and last initial (e.g., Anna T.)

26. How would you like to be contacted to schedule an interview?

- Phone call [IF SELECTED, SKIP TO PHONE NUMBER]
- Text [IF SELECTED, SKIP TO PHONE NUMBER]
- Email [IF SELECTED, SKIP TO EMAIL]
- Either phone, text, or email
- I changed my mind and don't want to do an interview [IF SELECTED, SKIP TO END]

27. What is your email?

28. What is your phone number? (e.g., 555-555-5555)

Thank you for your time to respond to the survey!

Appendix D: RE-AIM Evaluation Plan

RE-AIM	Outcome of Interest	Metrics	Data Source	Dates & Data Collection Frequency	Data Collection Timeline	Respondent Sampling and Recruitment	Responsibility for Data Collection	Data Analysis Methods
Implementation	Staff satisfaction/ buy-in	Staff surveys	Surveys	Pre-Post	Pre: June-Aug. 2022 Post 1: Sept.-Oct. 2022 Post 2: Nov.-Dec. 2022	WIC staff: CPAs, coordinators, local agency staff MI WIC to provide survey link via email blast	Data and System Management	Pre-Post Comparison
Implementation	Streamlined certification process based on findings in formative phase	Staff surveys	Surveys	Pre-Post	Pre: June-Aug. 2022 Post 1: Sept.-Oct. 2022 Post 2: Nov.-Dec. 2022	WIC staff: CPAs, coordinators, local agency staff that work with clients	Data and System Management	Descriptive analysis
Implementation	Staff training	Administrative data (training records)/Staff surveys	Training Material GSCN training template	Pre-Post	Feb. 2022, July 2022 and Dec. 2022	WIC staff: CPAs, coordinators, local agency staff that work with clients	Data and System Management	Pre-Post Comparison

RE-AIM	Outcome of Interest	Metric/ Measure	Data Source	Dates & Data Collection Frequency	Data Collection Timeline	Respondent Sampling and Recruitment	Responsibility for Data Collection	Data Analysis Methods
Implementation	Increase in usage and/or length of time spent on the mobile app enhancements	Administrative data	Google/IOS app store; MIWIC	Baseline data for time spent on the app - ongoing Duration of appt time - post implementation	App data: Jan.-Dec. 2022 Duration: July-Dec. 2022	All clients currently using app Duration - clients completing certification appointments in MI-WIC	Data and System Management	Descriptive analysis
Effectiveness	Improved client satisfaction	Client survey	Surveys	Pre-Post	Pre: June-Aug. 2022 Post 1: Sept.-Oct. 2022 Post 2: Nov.-Dec. 2022	MI-WIC survey invitation link in an email blast to the authorized person's contact info on record.	Data and System Management	Descriptive analysis
Effectiveness	Time spent at appointments & wait time	Administrative data	MI-WIC	Post	July-Dec. 2022	Clients completing appointments in MI-WIC	Data and System Management	Descriptive analysis

RE-AIM	Outcome of Interest	Metric/ Measure	Data Source	Dates & Data Collection Frequency	Data Collection Timeline	Respondent Sampling and Recruitment	Responsibility for Data Collection	Data Analysis Methods
Effectiveness	Perceived appointment quality	Client survey	Surveys	Pre-Post	Pre: June-Aug. 2022 Post 1: Sept.-Oct. 2022 Post 2: Nov.-Dec. 2022	Survey invitation link via blast message in MIWIC	Data and System Management	Descriptive analysis
Reach	Increase in certification	Administrative data	MI-WIC	Ongoing	Monthly	Local Agency Caseload Management report	Data and System Management	Descriptive analysis
Reach	No. of clients that engage or participate (direct measurement)	Administrative data	MI-WIC	Post	Post: Sept. 2022	Compare the number of clients that choose to complete pre-certification	Data and System Management	Descriptive analysis

Appendix E: List of Covariates (MIS Data)

Covariate	Description	Data Source
Age	Participant Age	MIS
Race	Participant Race	MIS
Ethnicity	Participant Ethnicity (Hispanic vs. Not Hispanic)	MIS
Family Zip Code	System Generated Unique Identifier for Mailing City/County/State/Zip	MIS
Primary Language	Code to Indicate Preferred Language of Family	MIS
Years of Education	Caregiver's Education Level	MIS
Client Category at Certification	Code Assigned at the time of Certification	MIS
Time in WIC System	Date Interval	MIS
Appointment Type	Type of Certification Appointment	MIS
Duration of Appointment	Duration of Certification Appointment	MIS

Appendix F: CEP Project Timeline

Year	2021												2022												2023			
<i>Goal 1: Activities</i>	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A
Define/Map Client Certification Process																												
Gather input from local agencies/WIC participants																												
Identify process improvements																												
Make recommendations for client certs																												
Review BPA Findings																												
Finalize BPA Analysis/Supportive Documents																												
<i>Goal 2: Activities</i>																												
Finalize Implementation Approach - BPA																												
JAD Sessions – Expanded Client Notifications																												
Develop System Enhancements Based on JADs																												
Test/Validate System Enhancements																												
Create Training Resources/Conduct Necessary Trainings																												
Gather Application Specifications to Streamline Certification process for WCC and MI-WIC																												
Develop/Test/Validate Enhancements																												
Deploy Enhancements to Production Environment																												
JADs for Language Support																												
Develop/Test/Validate Enhancements/Train End Users																												
Deploy Enhancements to Production Environment																												

<i>Goal 3: Activities</i>			
Collect Evaluation Data from BPA – End			
Analyze Evaluation Data			
Share Data with Project Partners/Quarterly Reports			
Disseminate Project Artifacts/Findings to Project Partners			
Closeout Project/Attend Grantee Meeting			

Abbreviations: Joint Application Development (JAD), Business Process Analysis (BPA), Michigan’s MIS (MI-WIC) and WIC Connect Platform (WCC).

Appendix G: Number of WCC Appointments Requested by Clients and Number Certified through the Mobile App (April-December 2021 vs. April-December 2022)

	2021*		2022*			
Local Agency No.	WCC Requested	WCC Certified	WCC Requested	WCC Certified	Total WCC Requested	Total WCC Certified
7	5	4	4	4	9	8
15	37	37	80	78	117	115
33	23	23	30	25	53	48
51	12	12	30	27	42	39
81	11	11	16	15	27	26
90	69	69	111	92	180	161
Total	157	156	271	241	428	397

Note: *The timeframe represented in the table for each year is April through December to be consistent with the timeframe for the certification appointments for the WSPI project.

The number of WCC appointments requested by clients through the mobile app increased 72.6% between April and December 2022 as compared with April and December 2021.