WIC Special Project Innovation Grant Overarching Evaluation Report

September 30, 2023

About Us

The Gretchen Swanson Center for Nutrition

Founded in 1973, the Gretchen Swanson Center for Nutrition is a national nonprofit research institute providing expertise in measurement and evaluation to help develop, enhance, and expand programs focused on healthy eating and active living, improving food security and healthy food access, promoting local food systems, and applying a health equity lens across all initiatives. The Gretchen Swanson Center works nationally and internationally, partnering with other nonprofits, academia, government, and private foundations to conduct research, evaluation, and scientific strategic planning.

Suggested Citation:

Hill JL, Calloway EE, Crespo-Bellido M, Nitto AM, Cliburn Allen C, Milburn Atkinson C, Wierenga M, Papa F, Anderson-Steeves ET. WIC Special Project Innovation Grant Overarching Evaluation Report. Prepared for: Council for State Governments. September 2023.

Corresponding Author:

Jennie Hill PhD
Senior Research Scientist
Gretchen Swanson Center for Nutrition
14301 FNB Parkway, Suite 100
Omaha, Nebraska 68154
(402) 781-4943
jhill@centerfornutrition.org

Acknowledgements:

Colorado WIC Program; Long Island Jewish Medical Center WIC Program; Family Services Lincoln WIC Program; Michigan WIC Program; Pennsylvania WIC Program and West Virginia WIC Program; Public Health Foundation Enterprises WIC Program; Sarah Kersten, GSCN; Daniele Vest, GSCN; Briah Mason, GSCN; Courtney Freitag, GSCN.

Table of Contents

Executive Summary *3*
Introduction 3
Methods 3
Results 4
Recommendations 5

Background *7*

Purpose *11*

Design *11*

Methods *13*

Sub-grantee Evaluation Support and Quantitative Data Analysis **13**
Quantitative Data Collection and Analysis 14

Qualitative Data Collection and Analysis **15**
Development of Interview Guides 15
Recruitment for Interviews 15
Data Collection and Cleaning for Staff and Participants 17

Findings *19*

Reach **19**
Quantitative Findings for Reach 19
Qualitative Findings for Reach 21

Effectiveness **24**
Quantitative Findings for Effectiveness 24
Qualitative Findings for Effectiveness 25

Adoption **27**
Qualitative Findings for Adoption 27

Implementation **29**
Quantitative Findings for Implementation 29
Qualitative Findings for Implementation 33
Qualitative Findings for Implementation Using the i-PARIHS Framework 35

Maintenance **45**
Qualitative Findings for Maintenance 45

Discussion and Recommendations *48*

Strengths and Limitations **50**

Future Considerations **50**

Appendices *53*

Appendix A: Sub-grant Project Individual Evaluation Links **53**
Colorado Final Report Pennsylvania Final Report 53

Family Services Lincoln Final Report West Virginia Final Report 53
Long Island Jewish Final Report Public Health Foundation 53
Enterprises Final Report 53
Michigan Final Report 53

Appendix B: Interview Guides 54
B1. Staff Interview Guide, Version: Doer 54
B2. Staff Interview Guide, Version: Implementer 58
B3. Staff Interview Guide, Version: Decision Maker 61
B.4. Participant Interview Guide 66

Appendix C: Qualitative Codebook 77

Appendix D: Qualitative Thematic Tables 85
D.1: Reach Thematic Table 85
D.2: Effectiveness Data Table 89
D.3: Adoption Data Table 93
D.4: Implementation Data Table 101
D.5: i-PARIHS Data Table 106
D.6: Maintenance Data Table 122

Appendix E: WIC Participant Self-reported Satisfaction with Respective WSPI Innovation 127

Executive Summary

Introduction

In September 2019, the United States Department of Agriculture's Food and Nutrition Service (USDA FNS) awarded the WIC Special Project Innovation Grant (WSPI) to the Council of State Governments (CSG), with Gretchen Swanson Center for Nutrition (GSCN) serving as the evaluation lead for the grant. The purpose of the grant was to fund the Special Supplemental Nutrition Program for Women, Infants and Children (WIC) innovative projects led by State and/or local WIC agencies that aim to improve customer service in WIC clinics and enhance the WIC certification process.

Innovative was defined as a project that was new to the WIC agency, that had never been funded by FNS, that had not yet been evaluated for impact on WIC certification and customer service measures (i.e., satisfaction), that would substantially improve upon an existing strategy, or that would adapt to a different WIC population. Six sub-grants were awarded in March 2021. Three sub-grants were awarded to WIC State agencies: the Colorado WIC program, the Michigan WIC program, and the Pennsylvania and West Virginia WIC programs who submitted their grant application together. Three sub-grants were awarded to WIC local agencies: the Long Island Jewish Medical Center WIC Program, the Family Services Lincoln WIC Program, and the Public Health Foundation Enterprises WIC Program. The sub-grant projects included a variety of innovative strategies to enhance the WIC experience such as:

- partnering with healthcare providers to streamline referrals by using electronic medical records (EMR).
- developing website and app-based enhancements such as document uploaders, chat bots, online appointment scheduling.
- incorporating multiple languages into websites.
- integrating with state Health Information Exchanges or Health Information Networks (HIE/HIN) to leverage existing height, weight and hemoglobin measures.
- creating a comprehensive breastfeeding support program to increase successful certification of Black participants and diversification of the WIC workforce.

The COVID-19 pandemic occurred during the innovation projects and affected both project execution and evaluation. These effects are documented throughout this report.

Methods

GSCN conducted an overarching evaluation guided by two implementation science frameworks. The RE-AIM (Reach, Effectiveness, Adoption, Implementation, and Maintenance) framework was used to evaluate sub-grant level outcomes for each of the six sub-grantees (reported elsewhere in reports submitted by the sub-grantees) and the overarching evaluation of all the

sub-grant projects detailed in this report. In addition to RE-AIM, GSCN used the integrated-Promoting Action on Research Implementation in Health Services (i-PARIHS) framework to conduct an in-depth examination of project implementation. Each sub-grant project conducted its own evaluation with strong technical assistance and support from GSCN.

GSCN worked with sub-grantees to collect and analyze quantitative data to measure the number of eligible participants reached by the sub-grant projects, the effectiveness of the implemented innovations with a focus on participant satisfaction, and the adoption of the innovations within the sub-grants. GSCN supplemented quantitative data with qualitative interviews (n=125) with project staff and WIC participants. Interview guides were developed based on the RE-AIM framework and deductively coded using a priori codes from RE-AIM and i-PARIHS, along with inductive codes focused on the COVID-19 pandemic and health equity that emerged during the coding process. The themes identified during the qualitative analysis process allowed GSCN to identify lessons learned regarding innovation design and implementation. These lessons may be helpful to other WIC agencies who wish to adopt or scale such innovations.

Results

In the study, *reach* is reported as the number or proportion of WIC participants who engaged in the WSPI innovations by sub-grant project. All sub-grant projects successfully reached and engaged WIC participants through the innovations. Reach across projects ranged from 3%-55%. The most salient themes related to WIC participant reach from the perspective of WIC staff include WIC participant technology familiarity, WIC participant rurality, and effectiveness of promotional strategies.

WIC participants who engaged with the WSPI innovations were generally satisfied with the innovation, satisfied with their most recent WIC appointment and satisfied with their interactions with WIC staff. WIC participants felt technology enhancements were easy to use and helped them prepare for appointments. Participants and staff both felt that the innovations left more time for engagement and interactions during the appointment.

Several barriers and facilitators were identified that shaped the adoption of the WSPI projects. Some facilitators to adoption included when staff perceived the innovations as compatible and aligned with project goals, as an opportunity to improve and streamline certification processes, and as an opportunity to adopt technologies that appeal to younger WIC participants. Some barriers to adoption included building staff capacity and buy-in and integrating technology solutions into existing systems that are complex and require different skillsets.

Implementation was operationalized as WIC staff training efforts and reported as hours and type of training. Staff training hours for the projects ranged from 15 hours to 3,475 hours. Trainings included training new staff and training existing staff on new features of technology. Challenges that inhibited some agencies' ability to successfully complete WSPI activities included bureaucratic barriers such as issues executing contract procurement, limited staffing capacity to learn new processes, and changes in key personnel. During early project adoption, emphasis on staff morale facilitated project uptake and commitment to change and created long-lasting positive effects. During the planning phase, WIC staff highlighted the importance of engaging staff from diverse roles within the project team. Staff input was critical to determining operations, priorities and feasibility of the innovations.

Recommendations

USDA FNS has launched WIC modernization efforts since the WSPI projects were funded. Investment in technology and innovations in practices and processes that enhance the participant experience will take many forms. Understanding the lessons learned from the WSPI sub-grants will help WIC State and local agencies avoid or navigate barriers they may face when adopting and implementing future innovations and modernization efforts. Key findings and recommendations are listed below:

- It is feasible for WIC local agencies to adopt and implement technology solutions that meet the needs of clients and improve staff workflow. Future funding opportunities for WIC modernization efforts should be open to WIC local agencies to allow for innovations to be driven, in part, by local agency staff who interact most often and directly with WIC participants.
- Development of workplans and project timelines that include a planning phase allow WIC agencies the time necessary to engage all partners and end-users in the development process. Even relatively small-scale technology projects required leadership oversight and time and dedicated staff or personnel to manage the implementation process. Future innovation opportunities, including requests for funding, should include project timelines that allow for agency contracting and a planning phase. Additionally, budgets should be large enough to support personnel time necessary for project management and oversight.
- Projects benefit when iterative design and testing processes allow for input and/or feedback from the various user-groups, including WIC staff and participants.
    - Prior to innovating, it is important to identify which "suite" of features is most desired by users and best equipped to reduce burden on participants and agency staff.
    - Prior to implementation, consider how and if innovations will improve workflows or in-clinic processes that can reduce administrative and staff burden.

    - Participant or staff feedback is important to iterate and improve innovation during development, and early implementation of feedback processes can improve outcomes.
- Leading with equity-informed and culturally relevant solutions—including language adaptations, development of a diverse workforce, and considerations for rural or remote participants—is essential to reaching WIC sub-populations. WIC agencies may need to consider rural participants and providers in their selection of technology platforms to prevent geographic based inequities based on broadband or cell service access.
- WIC appointments continue to be an important outreach tool to notify WIC participants of innovations.
- Communication in client-preferred language can be integrated into many technology platforms, decreasing burden on WIC staff and increasing opportunities to reach a wider range of participants.
- Technology to enhance services—including document upload portals, texting, and remote/virtual appointments—is essential to streamline WIC agency processes. These technological innovations allow for WIC appointment time to be used for interactions and delivery of WIC program content instead of administrative tasks.
- Investment in staff training and education is essential for a successful innovation.

Background

In September 2019, the United States Department of Agriculture's Food and Nutrition Service (USDA FNS) awarded the WIC Special Project Innovation Grant (WSPI) to the Council of State Governments (CSG), with Gretchen Swanson Center for Nutrition (GSCN) serving as the evaluation lead for the grant. The purpose of the grant was to fund projects led by State and/or local Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) agencies to develop, implement, and evaluate interventions that aim to improve customer service in WIC clinics and to enhance the WIC certification process.

Projects that were recommended for funding proposed innovative approaches to enhancing the WIC certification process. *Innovative* was defined as a project that was new to the WIC agency, that had never been funded by FNS, that had not yet been evaluated for impact on WIC certification and customer service measures (i.e., satisfaction), that would substantially improve upon an existing strategy, or that would adapt to a different WIC population. Other criteria included well-defined project goals and work plans; appropriate staffing given the scope of the proposed project; inclusion of an evaluation plan and willingness to work with GSCN on individual project and overarching evaluation activities; and willingness to document and share lessons learned to aid in dissemination and replication of the innovative approach to other State and local WIC agencies.

Six sub-grants were awarded in March 2021 (see the WSPI Project Timeline). Three sub-grants were awarded to State WIC agencies, and three sub-grants were awarded to local WIC agencies.

Below is a summary of the selected sub-grant projects:

- **Colorado WIC Program:** The Colorado State WIC program aimed to enhance the WIC certification process by updating all existing WIC digital tools and creating new digital tools to increase WIC enrollees' access to information and to facilitate certification appointment scheduling. The team aimed to implement a Customer Relationship Management (CRM) system, build a client portal for digital signatures and document uploads, and create an integrated texting and ChatBot feature. Due to implementation challenges, which are outlined in the findings section, this project was not implemented.

- **Long Island Jewish Medical Center WIC Program:** The Long Island Jewish Medical Center (LIJ) WIC program, a local agency in New York, aimed to increase certification among pregnant women in their first trimester by tagging—an online referral process—in Electronic Medical Record (EMR) charts. This process streamlined the previous

referral system by getting permission from potential WIC participants to send their contact information directly from their healthcare provider to the WIC agency where staff could reach out to the potential participant to pre-screen for WIC eligibility and prepare for and schedule the WIC certification appointment. The LIJ WIC program also incorporated the REDCap software platform into existing systems to streamline consent documents and allow for electronic document uploads.

- **Family Services Lincoln WIC Program:** The Family Services Lincolns (FSL) WIC program, a local agency in Nebraska, aimed to streamline and reduce the length of WIC certification appointments by improving the intake process through a web-based solution. Also, they aimed to improve language accessibility by providing their website in Spanish, Arabic, Vietnamese, and Karen. FSL contracted with a technology partner to incorporate Additional features were added to the website to allow applicants to request an interpreter for their appointment and to access WIC program information via audio file in all five languages.

- **Michigan WIC Program:** The Michigan State WIC program conducted a thorough business process analysis (BPA) of WIC certification to better understand current barriers to connecting to WIC in Michigan. Based on their findings, a series of 17 internal/staff-facing and external/participant-facing enhancements were made to the existing WIC Client Connect Web Portal/Mobile App to reduce the amount of time spent in certification appointments. For example, one of the participant-facing enhancements included a new system feature that allows participants to check in online 15 minutes prior to their appointment. Michigan WIC also used these funds to expand the WIC Client Connect Web Portal/Mobile App to include documents and other functionality in Arabic.

- **Pennsylvania WIC Program and West Virginia WIC Program*:*** The Pennsylvania State WIC program and West Virginia State WIC program collaborated to provide their local WIC agencies access to their states' respective online platforms: the Health Information Exchange (HIE, in PA) or Health Information Network (HIN, in WV). The goal of these interventions was to streamline the in-clinic experience by eliminating the need to measure height, weight, and hemoglobin during appointments by utilizing measures recorded by a WIC participant's primary care provider, if available. Both states also established WIC Medical Liaisons who conducted outreach with local healthcare providers to increase referrals to WIC and to promote data sharing of clinical measures. These efforts aimed to increase the amount of health information available to WIC staff prior to certification appointments—allowing staff to provide more tailored nutritional information during the initial certification appointment—and to reduce the length of

certification appointments. The consortium's project also sought to establish a document-sharing portal to allow potential participants and/or referring physicians to upload documentation prior to certification appointments. In the remainder of this report, WV and PA data are reported separately. WV was able to gain access to their state's HIN during the project; however, PA was not granted access. PA instead switched to a direct outreach approach with local health care providers. Therefore, WV and PA essentially pursued separate projects and implemented their projects largely separately.

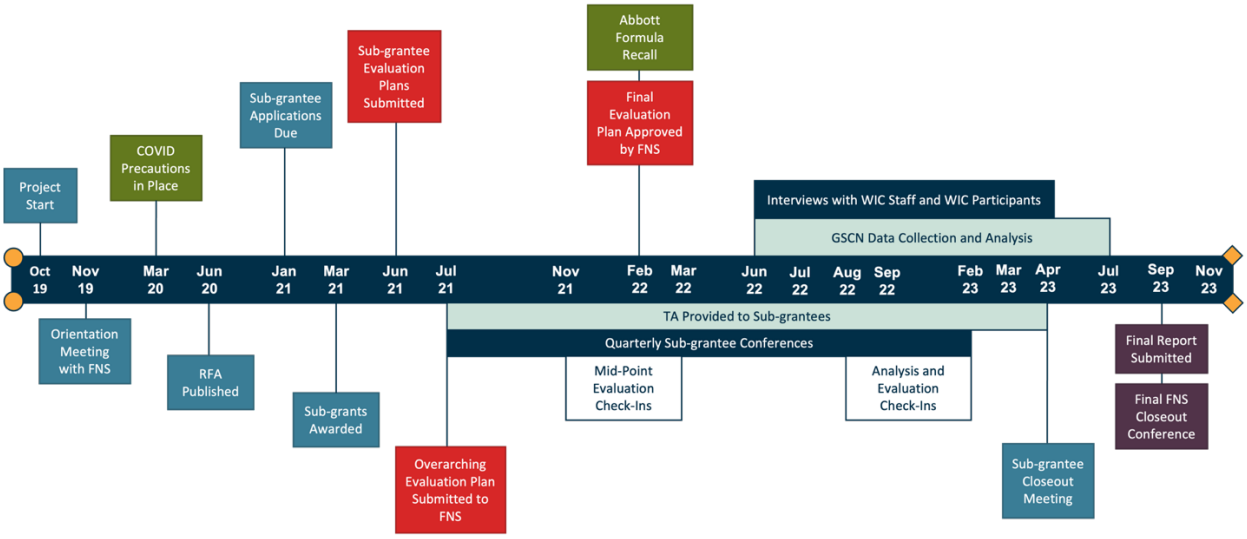
- **Public Health Foundation Enterprises WIC Program:** In response to identified gaps in reach and WIC benefit redemption between Black mothers and all other ethnic groups, the Public Health Foundation Enterprises (PHFE) WIC program, a local agency in California, aimed to increase outreach to and certification among Black mothers. This project sought to formalize the evidence base for the CinnaMoms model—a local breastfeeding support program—as scalable and transferable to other WIC agencies, to support successful certification of Black participants, and to build the Black workforce at WIC. The project hired Black peer counselors from the community to conduct culturally tailored education, interact with applicants and participants about the WIC certification process, provide appointment reminders and support messages, and conduct outreach in the community. These efforts were intended to increase enrollment and certification rates, program satisfaction, and utilization of benefits by Black families.

It is important to note that the COVID-19 pandemic occurred during the WSPI innovation projects. As a result, sub-grants modified their projects as necessary to accommodate broader societal changes (reduced or delayed medical appointments), to accommodate changes in WIC program delivery (limited or no in-person appointments), and to accommodate sub-grant project related changes (project delays and no-cost extensions or project specific adaptations, such as changes in project staffing). Please see the sub-grant reports linked in Appendix A for more details on project modifications due to the pandemic. Additionally, GSCN modified data collection methods, such as canceling proposed in-person data collection to project sites. The many effects of the COVID-19 pandemic on the sub-grantee projects are included in the report findings.

CSG and GSCN utilized a concierge approach to provide technical assistance and support to sub-grantee projects. In addition to quarterly interactions led by CSG, GSCN held separate evaluation meetings throughout the project period with each sub-grantee to support study design, data collection, analysis, and reporting for specific project evaluations (as noted on the WSPI Project Timeline). GSCN supported sub-grantees with data collection efforts by developing surveys and certification appointment time tracking sheets. This report outlines the

overarching evaluation purpose, design, methodology, findings, and recommendations for the WSPI grant.

Figure 1: WSPI Project Timeline



Purpose

The purpose of the overarching evaluation is to synthesize data collected by each WSPI sub-grant project and to supplement those findings with additional data collected by GSCN. These collective findings were then analyzed to identify lessons learned and to make recommendations to FNS and other WIC stakeholders.

The WSPI sub-grant projects differ in their innovations and target populations. However, the projects also share similarities such as tracking the number of reached WIC participants and the barriers to and facilitators of participant engagement. Sub-grantees also conducted similar activities to implement their projects (e.g., planning, design, roll out, testing, etc.). Across these areas of similarity, GSCN identified lessons learned regarding innovation design and implementation that may be helpful to other WIC agencies who wish to adopt or scale such innovations.

Design

The overarching evaluation was grounded in implementation science using pragmatic approaches to capture process and qualitative data on the innovations and the people within the systems who would be responsible for adopting and implementing the proposed innovations. Specifically, GSCN used a convergent parallel mixed methods Type 3 hybrid implementation effectiveness approach.[1] This approach is particularly useful for the WSPI projects because the aim is to examine interventions or program effectiveness and implementation factors such as how and why the intervention is effective or ineffective in a particular context.

Two implementation science frameworks were used to guide the overarching evaluation activities. The RE-AIM (Reach, Effectiveness, Adoption, Implementation, and Maintenance) framework was used to evaluate outcomes in both the individual level evaluations of the six sub-grantees (linked in Appendix A) and the overarching evaluation of all sub-grantees detailed in this report (See Table 1). Quantitative data was used to measure reach, effectiveness, and implementation factors, which were collected by the sub-grantees in their own evaluations and shared with GSCN for the overarching evaluation. Additional qualitative data was gathered from project staff and end-users (i.e., WIC participants) in each sub-grantee project to identify

[1] Curran GM, Bauer M, Mittman B, Pyne JM, Stetler C. Effectiveness-implementation hybrid designs: combining elements of clinical effectiveness and implementation research to enhance public health impact. Med Care, 2012;50(3):217-26; Curran GM, Landes SJ, McBain SA, Pyne JM, Smith JD, Fernandez ME, Chambers DA, Mittman BS. Reflections on 10 years of effectiveness-implementation hybrid studies. Front Health Serv., 2022;8(2):1053496.

challenges and opportunities for continued use of the innovation. GSCN also explored the potential for sustainment and broad dissemination (e.g., scale up/scale out) of the innovations. See Table 1 for a list of data collected by RE-AIM measure.

In addition to RE-AIM, GSCN used the integrated-Promoting Action on Research Implementation in Health Services (i-PARIHS) framework[2,3] as the basis for designing and analyzing the qualitative interviews, which were intended to capture a deeper understanding of innovation implementation. I-PARIHS is an explanatory implementation science framework developed to identify factors related to successful implementation. I-PARIHS is used when conducting research or evaluations in real-world settings[4] and helped GSCN answer *why* the implementation of the innovations was or was not successful. I-PARIHS has three core elements—evidence, context, and facilitation—and each of these elements has multiple components that are explained in the results. In addition to RE-AIM and i-PARIHS, GSCN analyzed intervention findings for both health equity approaches and the effects of the COVID-19 pandemic.

[2] Kitson A, Harvey G, & McCormack B. Enabling the implementation of evidence-based practice: A conceptual framework. Quality in Health Care. 1998;*7*:149-158.

[3] Kitson AL, Rycroft-Malone J, Harvey G, McCormack B, Seers K, & Titchen A. Evaluating the successful implementation of evidence into practice using the PARIHS Framework: Theoretical and practical challenges. Implementation Sci 2008;7(3):1

[4] Helfrich CD, Li YF, Sharp ND, & Sales AE. Organizational readiness to change assessment (ORCA): Development of an instrument based on the Promoting Action on Research in Health Services (PARIHS) framework. Implementation Sci, 2009;4:38.

Table 1. Overarching Evaluation Measures and Data Sources by RE-AIM Dimensions.

RE-AIM	Measure	Data Source
Reach	Number of participants reached	Evaluation data collected by sub-grantees
Reach	Barriers to and facilitators of participant engagement	Qualitative interviews with sub-grantee staff and WIC participants conducted by GSCN
Reach	Representativeness of those who participated compared to all enrolled WIC participants at the respective agency	Evaluation data collected by sub-grantees
Effectiveness	Participant satisfaction	Evaluation data collected by sub-grantees Qualitative interviews with WIC participants conducted by GSCN
Effectiveness	Perceived impact of innovation project on intended and unintended outcomes	Qualitative interviews with sub-grantee staff and WIC participants conducted by GSCN
Adoption	Barriers to and facilitators of adoption	Qualitative interviews with sub-grantee staff conducted by GSCN
Implementation	Staff training on innovation	Evaluation data collected by sub-grantees
Implementation	Lessons learned related to implementation	Qualitative interviews with sub-grantee staff and WIC participants conducted by GSCN
Maintenance*	Perceptions of likelihood of long-term maintenance of the innovation and needs to increase likelihood of maintenance	Qualitative interviews with sub-grantee staff conducted by GSCN

*Project timeline is not long enough to fully measure maintenance; thus, this data was framed around the sub-grantee staffs' perceptions of project maintenance.

Methods

The following section highlights the data sources and methods for data collection and analysis used to synthesize data across all WSPI sub-grantee projects. Over the 3-year project period, GSCN engaged in ongoing evaluation and technical assistance activities with the WSPI sub-grantees to support individual project evaluations.

GSCN also developed and conducted qualitative interviews across all projects to inform the overarching evaluation. This evaluation was approved by the Institutional Review Board (IRB) of the University of Nebraska Medical Center (UNMC). All data obtained or collected met confidentiality and respondent-protection standards as established by UNMC IRB.

Sub-grantee Evaluation Support and Quantitative Data Analysis

GSCN took several a priori steps to ensure a robust and cohesive overarching evaluation could be completed. GSCN reviewed the individual sub-grantee proposals and work plans, mapping proposed evaluation measures to the RE-AIM framework. This process ensured that GSCN project staff and scientists gained detailed understandings of sub-grantee proposed activities and could identify opportunities to align sub-grant-collected measures with proposed overarching evaluation measures to reduce evaluation burden on the sub-grantees.

GSCN also integrated data collection processes into already planned activities to reduce sub-grantee burden. As part of their grant agreements with CSG, sub-grantees submitted quarterly progress update reports that included key activities, successes, and challenges encountered. GSCN reviewed these reports and extracted and coded relevant implementation data. Notes from quarterly check-in meetings and evaluation meetings were also used to inform the overarching evaluation. Sub-grantee evaluation measures were tailored to their needs based on project goals and innovations (see Appendix A for more details on the sub-grantee individual evaluation measures and links to their final reports). The sub-grantee data includes measures for several aspects of the certification appointment that may decrease burdens for participants and staff and thereby increase certification. This data enabled each sub-grantee to assess the reach, effectiveness, and implementation of their own proposed innovations. This conceptualization also allowed GSCN to report across sub-grantees.

Quantitative Data Collection and Analysis

Sub-grantees provided GSCN with their collected raw data, which was in various forms (e.g., counts, Likert scales, continuous, etc.), by uploading the requested data onto a GSCN-owned secure server. Given that the quantitative data was primarily collected by the sub-grantees, detailed information on data collection and analysis for each sub-grantee's quantitative measures is available in the linked sub-grantee reports (Appendix A). GSCN summarized indicators for RE-AIM components either from sub-grantee raw data or final reports for the reach and effectiveness measures. Table 2 summarizes how each of the RE-AIM dimensions was operationalized and assessed by the WSPI sub-grantees and utilized by GSCN for the overarching evaluation.

Table 1. Quantitative Data Measures and Data Collection, by RE-AIM Dimension.

RE-AIM Dimension	Description of Quantitative Data Measures and Data Collection
Reach	Reach was operationalized as the number or proportion of WIC Participants who engaged with the WSPI innovations across participating sites. Given the range of activities under the WSPI initiative, reach is reported as the number or proportion of WIC participants who engaged in the WSPI innovations by sub-grant project.

Effectiveness	Effectiveness was operationalized as WIC participant satisfaction with the WSPI innovation, and each sub-grantee measured at least one indicator of participant satisfaction. WIC participant satisfaction was measured as satisfaction with their most recent certification appointment, satisfaction with the staff helpfulness or interactions, and/or satisfaction with specific components of the WSPI innovation. Satisfaction was measured on 4- or 5-point Likert scales.
Adoption	Adoption was operationalized as the initiation of WPSI projects, thus all sub-grantees who were selected through the RFA projects and launched projects met the criteria.
Implementation	Staff training efforts were measured across most projects as the primary quantitative indicator for implementation.
Maintenance	Due to the relatively short project timelines for WSPI sub-grants, maintenance was not measured quantitatively. Instead, WIC staff were asked in qualitative interviews about their perceptions of the feasibility of maintenance of the innovation.

Qualitative Data Collection and Analysis

GSCN conducted semi-structured interviews with key members of each sub-grantee's leadership ("decision makers"), implementation team ("implementers"), and frontline staff ("doers"), as well as WIC participants who engaged with the WSPI innovation projects.

Development of Interview Guides

Master versions of the interview guides were created for three different levels of the WIC implementation teams—decision-makers, implementers, and doers—and reviewed and approved by FNS and WIC implementation teams. In brief, decision-makers were responsible for crafting the vision and plan for the innovation project (e.g., innovation project leads), implementers were responsible for operationalizing the plan/vision (e.g., local WIC agency directors), and doers were responsible for day-to-day activities associated with implementing the innovation (e.g., WIC clinic staff). In some WIC clinics, these staff positions overlapped and are noted as such in the findings. For WIC participants, GSCN developed a semi-structured interview guide based primarily on the RE-AIM dimensions of *effectiveness* and *reach*. While WIC participants were not involved in adopting, implementing, or maintaining the innovation, they did provide their perspective on the effect innovations had on their experience and the reach of the innovations among WIC participants. Specifically, questions for WIC participants focused on the appeal and usability of innovation components and on any barriers to utilizing the innovations. See Appendix B for a copy of all interview guides.

Recruitment for Interviews

Staff Recruitment

Sampling of staff interviewees was tailored to each innovation project based on size (e.g., statewide projects vs. local agency projects) and scope (e.g., multiple entities contributing vs.

contained projects). GSCN worked with the sub-grantees to identify and recruit appropriate interviewees from the implementation team of each innovation project.

WIC Participant Recruitment

GSCN worked with each sub-grantee to identify and recruit an appropriate sample of WIC participants. For each sub-grantee, GSCN aimed to interview a demographically representative sample of WIC participants that experienced various aspects of the innovation project and that had varying levels of engagement/exposure to the innovations and WIC overall (i.e., first time participants versus those with continued participation). This diversity of experiences in the qualitative sample allowed GSCN to qualitatively understand the various components of the innovation projects from the participants' perspectives and to explore barriers to participation.

Participants had the choice to opt-in to the GSCN interviews in various ways, determined by the sub-grant project/team (see Table 3). Some examples of ways participants were recruited include affirmative response to an "opt in" question in a participant satisfaction survey, in-person recruitment by the sub-grantee, and/or email, text, or flyers sent from, or posted by, the sub-grantee. Participants could also reach out directly to GSCN, and research staff monitored a project-specific email account daily for any in-bound emails from WIC participants wanting to schedule an interview. Approximately 49% of prospective interviewees who were contacted to schedule an interview completed an interview within the time allotted for data collection. One sub-grantee, PHFE, opted to conduct focus groups instead of interviews. To be eligible, participants had to be adults in a WIC-participating household who had experienced a sub-grantee's WIC innovation. GSCN scheduled all interviews at a time most convenient for the respondent.

Table 2. Participant Recruitment Methods by Sub-Grantee.

Sub-grantee	How participants were recruited for interviews and how interviews were conducted
LIJ	• Participant information from the participant satisfaction survey if selected okay to contact for interview • Sample from participants who selected "yes" they have used the innovations
FSL	• Participant information from the participant satisfaction survey if selected okay to contact for interview • Sample from participants who selected "yes" they have used the innovations
MI	• Participant information from the participant satisfaction survey if selected okay to contact for interview • Sample from participants who selected "yes" they have used the innovations
PA & WV	• Participant information from the participant satisfaction survey if selected okay to contact for interview • Sample from participants who selected "yes" they have used the innovations and have been participating in WIC since before March 2020

PHFE	• The sub-grantee conducted recruitment and led focus groups with participants exposed to the innovation

*Participants were not recruited for CO.

Data Collection and Cleaning for Staff and Participants

The data collection period for WIC staff and participant interviews was from August 2022 through May 2023. Interviews lasted between 20-60 minutes and were conducted in English or Spanish by GSCN staff. Interviewees were informed that the interviews were voluntary, that their responses would be kept confidential, that their participation or non-participation would not impact their relationship with WIC, and that they could skip questions or end the interview at any time. GSCN provided $25 gift cards to WIC participants who chose to participate in the interviews. WIC staff did not receive incentives for their participation, except at one site where staff received a $25 gift card for participation in accordance with site policies.

Interviews were administered via Zoom, recorded with verbal consent from the participant, and transcribed verbatim. One participant declined recording and detailed notes were taken. Transcriptions were reviewed for inaudible and incorrect text prior to analysis. For interviews in Spanish, Rev.ai was utilized, an artificial intelligence program that produces a transcript in Spanish. Once the Spanish transcriptions were available, GSCN Researchers with Spanish language expertise revised the transcription, used the Microsoft Word translation function to translate from Spanish to English, and then reviewed and revised the English transcript. Next, the translated transcriptions underwent the same review process as transcriptions originally in English.

Data Analysis for Staff and WIC Participants

GSCN used a thematic content analysis approach to organize and evaluate the qualitative interview data for both staff and participants. As part of this approach, meaning units were identified and labeled using "codes." The relationships between codes were then examined as potential "themes," described by Braun and Clarke as "repeated patterns of meaning."[5]

Senior researchers created an a priori codebook modeled after recently published i-PARIHS codebooks[6] and established RE-AIM codebooks. The research team tailored the codebook for WIC contexts and the WSPI innovation projects (see Appendix C for a copy of the Qualitative Codebook). Using immersion/crystallization techniques, additional emergent codes were

[5] Braun V, & Clarke V. Using thematic analysis in psychology. Qual. Res. Psychol, 2006;3(2):86.

[6] Ritchie MJ, Drummond KL, Smith BN, Sullivan JL, Landes, SJ. Development of a qualitative data analysis codebook informed by the i-PARIHS framework. Implement Sci Commun, 2022;3(1):98.

developed inductively and added to a preliminary codebook to organize the data.[7] As described by Borkan, this is an iterative process that involves "repeated delving into and experiencing of the data, leading to the emergence of insights and interpretations."[8] To do this, three transcripts were then coded independently by the research team members. The team met to discuss codes and provide clarification; adjustments were documented in the codebook as needed.

Transcripts were reviewed and coded by eight coders using a Consensual Qualitative Research (CQR) approach.[9] All coders independently coded 10% of the total sample; two senior researchers double-coded transcripts to provide consistency. Interrater reliability was calculated using Nvivo's Coding Comparison function, and then coders met to review, discuss, and reach a consensus on all codes. Running a Coding Comparison results in a table that makes it possible to look at kappa coefficients at each node and each source item level. Nodes with a kappa coefficient lower than 0.7 were discussed and clarified in the codebook. Substantial agreement between each coder and a senior coder was established at a summary kappa coefficient of at least k=0.6. Each unit of meaning within the transcript was coded first on i-PARIHS construct and secondarily on the corresponding RE-AIM domain that was being described. Codes to understand health equity approaches and the effect of the COVID-19 pandemic were used as needed. Bi-weekly "office hours" meetings were made available for coders to discuss codes or ask questions. In a second immersion/crystallization cycle, the research team examined coded data to identify patterns across participants.

When reporting qualitative themes, GSCN used specific terminology to describe proportions. "Most" or "the majority" has been used to describe findings where almost all respondents (approximately 80 percent or more) expressed a certain sentiment or had a certain experience. "Many" was used when more than half of respondents but less than a strong majority reported a similar experience or perspective. "Some" was used to describe situations where less than half but more than approximately one-fourth of the respondents reported a specific experience. "Fewer" or "few" was used to describe instances where less than one-fourth of the respondents expressed the same sentiment or reported a specific experience.

---

[7]Crabtree BF, & Miller WL. (1999). *Doing qualitative research.* Sage Publications.
[8] Borkan JM. (1999). Crystallization/immersion. In B Crabtree and W Miller (Eds.), *Doing qualitative research* (2nd ed., pp. 179–194). Sage Publications.
[9] Hill CE, Knox S, Thompson, B.J, Williams EN, Hess SA, Ladany N. Consensual qualitative research: an update. J Couns Psychol, 2005;52(2):196.

Findings

Reach

Quantitative Findings for Reach

Given the range of activities under the WSPI initiative, *reach* is reported as the number or proportion of WIC participants who engaged in the WSPI innovations by sub-grant project. WSPI innovations, as defined by the participating sub-grantees, reached 3%-55% of the intended WIC participants. Table 4 provides reach by subcomponent of sub-grantee projects.

FSL's program focused on improving the certification process by implementing web-based features to make signing up for WIC easier. They did this through adding a document portal, online appointment time selection, and online text chatting between WIC staff and participants and through increasing the number of languages in which their website is available. Based on survey responses (n=174), 21.2% of participants used at least one of the web-based features. In 2021, FSL's case load was 1,191 families. Extrapolating from survey findings, the FSL innovation may have reached approximately 252 WIC households.

LIJ's WSPI innovation created collaborations between healthcare providers (primarily OB/GYN and pediatric offices) and WIC to allow for a streamlined referral process. After seeking permission from the participant, the healthcare provider could electronically refer the potential participants to WIC, initiating outreach from WIC to the potential participant. The goal of LIJ's sub-grant project was to increase the number of pregnant participants who enrolled early in pregnancy (first trimester). Of the eligible pregnant participants who were referred to LIJ WIC by the healthcare partners, 55% were enrolled in their first trimester. LIJ was also able to report information on the representativeness of their project by providing information about WIC enrollment by demographic category. During the project period (Sept. 1, 2021 to Feb. 23, 2023), LIJ WIC enrolled a higher percentage of Black and Asian women in their first trimester (25.49% and 13.37%, respectively) compared to the enrollment of Black and Asian women in their first trimester in New York State (14.66% and 9.63%) for the same time period, suggesting that this strategy may be useful to reach and enroll minority women in early pregnancy.

The MI WIC program focused their WSPI project on creating multiple enhancements to their WIC Connect website portal and app to increase the number of functions/features in both platforms and the ease of use for participants and WIC staff. Given that the enhancements were pilot tested in selected local WIC agencies across MI, but rolled out statewide in the app (as there was no way to roll out for only selected app users), reach for this project was measured at the state level. Reach was measured by calculating the mean number of WIC participants actively using the MI WIC app compared to the total number of MI WIC

participants in the women certification categories (making the assumption that WIC participants in the infant and children certification categories were unlikely to use the app) during the project period. The data on app usage was obtained from background analytics provided by the Apple and Google Play Stores. On average per month, there were 5,670 people using the app. Thus, with 40,151 women WIC MIC participants, the reach was 14%.

WV and PA's overall goals were to decrease in-clinic measurements of height, weight, and hemoglobin through accessing statewide Health Information Exchange/Networks (HIE /HIN) to streamline the in-clinic experience. Additionally, they increased outreach to local healthcare partners to increase referrals and data sharing agreements. Pennsylvania's strategy of using medical liaisons increased the number of referrals by health care providers. Health care providers referred 17% of all first-time certification appointments (n=821) and 21% of first-time certification appointments for pregnant and breastfeeding women (n=663). The proportion of first-time referrals for pregnant and breastfeeding women remained stable throughout the grant period. Pennsylvania was unable to secure access to their state's HIE during the study period, instead relying on a second strategy of requesting anthropometric and hemoglobin data from local healthcare providers. Usable anthropometrical data was provided from HCP for 23% of WIC-eligible participants (n=1771), and usable hemoglobin data was provided for 7% of WIC-eligible participants (n=537). For WV, who was able to access their state's HIN, WV-WIC was able to get clearance from 2,953 households to utilize their HIN data. Out of a case load of 12,826, reach was 23% (2,953 households).

PHFE's project targeted under-enrollment of Black women through WIC workforce diversification and development and specific outreach efforts to Black women. As result of PHFE WIC's recruitment efforts, an average of 52 women attended each of the 19 CinnaMoms support circles. On average, one hundred fifty-two Black pregnant women (6% of all prenatal PHFE WIC enrollments) enrolled in WIC monthly during the study period.

Table 4. Reach by Sub-Grantee Project.

Project Site	Operational definition for each sub-grantee project	Proportion (%) or Number (N)
Family Services Lincoln (FSL)	Proportion of WIC participants (n=174) who reported in survey data that they used the new online features.	Used any of the new web-based features: 21% (n=37) Document upload: 9% (n=16) Spanish language version of site: 7% (n=13) Online text chat: 3% (n=6) Online appointment selection: 3% (n=5)
Long Island Jewish (LIJ)	Proportion of moms referred by healthcare partners that were certified in the first trimester compared to the total number of eligible pregnant moms referred	55% (n=52)
Michigan	Proportion of WIC Connect app users (on average per month) divided by number of total women participants in MI WIC that month	14% (n=5,670)
Pennsylvania	Increased number of new referrals from a PCP during the study period	17% (n=821), first certification appointment 21% (n=663), first certification appointment for pregnant and breastfeeding
	Number of participants with usable anthropometric and hemoglobin data from a PCP	23% (n=1771), anthropometric 7% (n=537), hemoglobin
West Virginia	Proportion of WIC participants participating in the Health Information Network (HIN), as indicated by returning authorization forms	23% (n=2953)
	Number of participants with usable anthropometric and hemoglobin data accessed in the HIN	700 anthropometric and hemoglobin measurements were avoided in clinic because information within the WVHIN was available for use (3% of total certification visits in the implementation agencies from January to September 2022).
Public Health Foundation Enterprises (PHFE)	Number of support circle attendees	N=52^
	Number and percent of Black pregnancy enrollments during the study period	6% (n=152)

*Colorado not included.

* Sub-grants may have multiple reach indicators to support their initiatives.

^Average number of Black moms attending support circles.

Qualitative Findings for Reach

Several key themes emerged from the qualitative data that describe the reach of the WSPI sub-grant projects. Below, we summarize the most salient themes related to WIC participant reach from the perspective of WIC staff. See Appendix D.1 for full qualitative data tables for reach.

The WIC staff response rate for requests for interviews was 62% across all sub-grantees' projects. GSCN interviewed 18 Decision Makers (DM), 16 Implementers, 15 Doers, and 4 staff who served in multiple roles. See the Response Rate by Interviewee Type (Table 5) and the WIC staff and Participant Demographic Tables (Table 6) for more information.

Table 5. Response rate to interview by participant type.

Type of respondent	Completed Interview	Declined	Non-response	Response Rate*
Decision Maker	18	0	8	69%
Implementer	16	0	7	70%
Doer	15	1	15	48%
Multiple roles	4	0	2	75%
Staff Total	**53**	**1**	**32**	**62%**
WIC participant Total	**72**	**7**	**68**	**49%**
Overall response rate	**125**	**8**	**100**	**54%**

*Response Rate (RR) is defined as those who completed interviews out of all individuals contacted.

Table 6. Role and demographic characteristics of WIC Staff and Participant interviewees.

Staff Role	N (%) total	FSL	LIJ	PA/WV	PHFE	MI	CO
Decision Maker	18 (33.9%)	1	0	6	3	6	2
Implementer	16 (30.2%)	1	0	4	5	3	3
Doer	15 (28.3%)	3	1	6	3	2	**
Multiple Roles*	4 (7.6%)	0	4	0	0	0	0
Total	**53**	**5**	**5**	**16**	**11**	**11**	**5**
WIC Participant Characteristics							
Race/Ethnicity							
Non-Hispanic White	26 (36.1%)	3	1	8	0	14	**
Non-Hispanic Black	26 (36.1%)	1	0	3	18	4	**
Hispanic	8 (11.1%)	2	0	5	0	1	**
Other	9 (12.5%)	2	1	4	0	2	**
Unknown	3 (4.2%)	1	0	2	0	0	**
Total	**72**	**9**	**2**	**22**	**18**	**21**	**
Time in WIC							
<2 years	20 (27.8%)	2	1	6	2	9	**
2-5 years	8 (11.1%)	0	0	5	0	3	**
>5 years	24 (33.3%)	1	1	10	2	9	**
Unknown	20 (27.8%)	6	0	1	14	0	**
Total	**72**	**9**	**2**	**22**	**18**	**21**	**

*LIJ staff served multiple roles throughout the project and were classified as Decision Maker/Implementer or Implementer/Doer

**CO interviews only included decision makers and implementers

Technology familiarity

All interviewees reported that younger age (due to a perceived familiarity with technology) and past experience with WIC were indicators of whether WIC participants were likely to use the various WSPI innovations. Many of the innovations leveraged technology to streamline services such as document upload portals, chatbots, and online appointment scheduling. Most WIC staff interviewees perceived that younger WIC participants or participants new to WIC seemed more inclined to accept and utilize technology-based innovations than "older generations" or existing WIC participants. When asked if they were aware of the new web portal services that allowed them to upload documents prior to their appointment, one participant said, *"No, but I don't believe I'd be interested in it because I'm not good with stuff like that. I am probably old-fashioned."* This highlights a challenge for WIC agencies who may encounter an initial lack of enthusiasm for technology-based solutions from participants who are not comfortable with these changes. Per the interviewees, older and existing WIC participants may prefer to engage with their WIC services without technology-based innovations. However, based on the interviewees' perspectives, as WIC continues to enroll new participants, WIC participants may be more inclined to utilize the innovations going forward.

Rurality

WIC staff interviewees agreed that they saw less uptake of the innovations in rural communities. WIC participants in more rural communities struggled to use technology-based innovations as technical challenges such as cellphone/internet signal availability limited uptake. One Doer commented on the effect of signal availability when communicating with clients, saying, *"…some people in rural areas, might not have access to the internet or the phone. Some of them might have to travel a little bit just to get their mail. So, we can't really email a lot of the participants. A lot of them don't have emails that we could send things to."* For the innovations based on medical provider referrals, rural areas have fewer medical providers to begin, and thus may be less inclined to participate in the HIN, thus limiting the potential accrual from these sources. One Decision Maker put it this way, *"I think depending on where they lived in the state…If they're in some of the more populated areas, some of the doctors and clinics they go to are more likely to be in the HIN [Health Information Network], where a lot of the little hometown docs are not going to be*

[in the HIN]." Engaging these providers may be important to ensure rural WIC participants, or prospective participants, can be identified and supported similarly to other WIC participants.

Effectiveness of promotional strategies

All staff interviewees discussed different types of communication strategies used to reach participants, which had varying levels of success. A few participants heard of the innovation through the WIC staff during appointments which is how they suggested information about innovations be shared moving forward. This is congruent with how WIC staff said they were promoting and sharing the availability of the innovation. One Doer spoke to their sense of responsibility to inform clients of changes, saying, *"I previously worked at another WIC clinic and I know there was a period of time when we didn't even recommend using the app and when I was there and I started talking about it, clients were like, 'Why didn't I know about this?' Well, it's because our job as staff [is to] to let them know…"* In addition to direct promotion during appointments, a few WIC staff indicated they were promoting the innovation through social media and text messages. However, of the participants who responded to the question of how they learned of the innovation, most reported becoming aware of the innovations through direct contact with WIC staff during appointments. The effectiveness of social media and text as promotional strategies is unclear. Lastly, several WIC staff interviewees advised that special consideration should be taken when trying to communicate with underrepresented communities, such as developing culturally appropriate materials, building trust within the community, and implementing out-of-the-box outreach strategies to increase awareness.

Effectiveness

Quantitative Findings for Effectiveness

Effectiveness was operationalized primarily as WIC participant satisfaction with the innovations. Five of the six (83%) funded sub-grantee projects reported at least one measure of participant satisfaction during the project period. Four projects reported that general satisfaction with the most recent WIC appointment was high, with 72%-88% of responders very satisfied (see Table 7). Five project teams asked about satisfaction with staff interactions or staff helpfulness during the most recent appointment and 57%-97% of participants reported excellent interactions (see Table 8).

As seen in the findings table in Appendix E, technology innovations such as document upload portals were well received with 60% very satisfied (FSL). About half of participants perceived Michigan's WIC Connect portal and app easy to use and just over 40% perceived that using the app/portal to prepare for certification appointments improved appointment length. More than

60% of PHFE's participants positively rated their satisfaction with CinnaMom's facilitators and support circles. Seventy seven percent of participants in LIJ's WSPI project were very satisfied with the community resource referrals provided in this innovation project. A key feature of WV and PA's WSPI innovation was to use existing medical chart data for certification appointments, and participants' satisfaction in their last appointments was 76% (PA) and 88% (WV); however, there was no significant difference in appointment satisfaction between those who did or did not have to do height, weight, and/or hemoglobin measurements during their appointment.

Table 7. WIC Participant Self-Reported Satisfaction with Most Recent WIC Appointment among Sub-grants that Measured this Information.

Overall Satisfaction with Most Recent WIC Appointment	FSL		MI		PA		WV	
	%	n	%	n	%	n	%	n
Very satisfied	87%	151	72%	224	76%	208	88%	28
Total number of respondents (unweighted *n*)	-	174	-	311	-	272	-	32

Data source: WIC participant survey administered to respective grantee population; question "Overall, how satisfied were you with your last WIC appointment?" on a scale of "very dissatisfied," "dissatisfied," "neither dissatisfied nor satisfied," "satisfied," and "very satisfied." "Very satisfied" data is reported in this table.

Table 8. WIC Participant Self-report Satisfaction with Helpfulness or Interactions with WIC Staff.

Satisfaction with Staff	FSL		LIJ†		PA		PHFE‡		WV	
	%	n	%	n	%	n	%	n	%	n
Very satisfied	71%	123	97%	89	61%	371	64%	183	57%	121
Total number of respondents (unweighted *n*)	-	174	-	91	-	609	-	284	-	214

Data source: WIC participant survey administered to each grantee population; question "How would you rate the helpfulness of staff during your WIC appointment" on a scale of "poor" to "excellent." "Excellent" data is reported in this table.

† LIJ data is comprised of two questions from their WIC participant satisfaction survey: "how satisfied were you with the customer service/friendliness of staff during your recent WIC appointment" (n = 91) and "how satisfied were you with the helpfulness of staff during your recent WIC appointment" (n = 88) on a scale of "very dissatisfied," "dissatisfied," "neither dissatisfied nor satisfied," "satisfied," and "very satisfied." "Very satisfied" data is reported in this table.

‡ PHFE's data comes from their WIC participant survey question asking respondents to rate their agreement with the statement "I have a more enjoyable WIC appointment when my counseling is done by CinnaMoms staff" on a scale of "strongly disagree," "disagree," "neither disagree nor agree," "agree," and "strongly agree." "Strongly agree" data is reported in this table.

Qualitative Findings for Effectiveness

Similar to the high satisfaction scores seen in the quantitative data, the qualitative findings generally support a positive perception of the innovations. Summarized below are the most salient themes related to WIC participant satisfaction from the perspective of WIC participants and WIC staff that had direct engagement with WIC participants as part of the innovations. See Appendix D.2 for full qualitative data tables for effectiveness.

Ease-of-use and participation

Across all interviewees, there were a variety of reasons why WIC participants were satisfied with the innovations. Specifically, participants reported the innovations were easy to use, made participating in WIC easier, and helped them feel more prepared for their appointments. For example, adding the option to upload documents into a portal prior to the appointment was helpful to participants. One participant spoke about their experience using the innovation, saying, *"I think the online process was very straightforward. It was not difficult at all and just to have an account and put the information there, some of the household information and also, what documents should be uploaded were discussed in the website very well. So for me, it was really straightforward and easy."* Further, one Implementer said that the innovation improved satisfaction because it "*reduced a lot of the redundancy, rearranging the screens in our WIC system so that we aren't asking questions in what, to clients, seems like a very strange order because it is a strange order."* This helped reduce the amount of time staff spent asking questions during their appointments. Key contributors to satisfaction were ease of innovation use and facilitation of easier participation in WIC.

Customer service and personal connections

A second theme among all interviewees was that personal connections and customer service were key for WIC client satisfaction with appointments and that the innovations strengthened services for participants by streamlining appointment tasks. Some participants and a few WIC staff agreed that positive interactions with WIC staff was key to WIC client satisfaction with appointments. Some descriptions about staff interactions included *WIC staff were "nice," "genuine," 'helpful," "accommodating," and "patient with me".*

Several innovations put in place reportedly reduced staff administrative burdens during appointments or otherwise allowed for more interaction between WIC staff and WIC participants that was not focused on administrative tasks (e.g., reviewing documents, signing forms, etc.). One Doer shared an example of this, saying, *"[the document portal] does cut down time and I feel like the stress on the mom. If she sent her stuff in, that's one less that she has to worry about and it makes her appointments smoother. Sometimes I have moms that are nursing while I'm asking for documentation, that's inconvenient. So yeah, it just makes it a lot easier and convenient, stress free for the clients and more time to talk, sometimes say, 'Hey, how are you? How's life?' or something like that, just more of one-on-one connection with the client.*"

For a few participants, strong customer service helped with retention. When asked if there was anything they really liked about their appointment, one participant said, *"I know for sure it was a pleasant experience. I've never had one bad experience, nothing awkward, or anything like that. The people have always been really helpful and friendly whenever I talk to them, so I have no complaints."* Strong WIC staff customer service, even with technology innovations (e.g., online chat functions), is key for participant satisfaction with certification appointments.

Adoption

Adoption was operationalized as the initiation of WPSI projects, thus adoption was 100% in this WSPI initiative. All sub-grantees who were selected through the competitive application and review process and launched projects met the criteria: adopting their proposed innovations in some form. The qualitative interviews aimed to understand the organizational-level decisions to pursue particular innovation projects and the barriers and facilitators to adopting those WSPI innovations. Themes cited as contributors or hinderances to successful innovation adoption are described below. See Appendix D.3 for the full Adoption qualitative table.

Qualitative Findings for Adoption

Compatibility with mission and values

A key theme related to adoption of the WSPI innovation was a fit with the mission and values of the organization. Important factors that contributed to adopting and committing to the WSPI grant were rooted in the staff's dedication to improving WIC participant services by enhancing

client-centered practices, creating long-lasting staffing infrastructure, and adopting technology that aligned with long-term goals. Several WIC staff interviewees described a high value on client-centered practices. They viewed the WSPI opportunity as a chance to enact changes to their typical certification processes to improve the experience of the WIC participants. One Decision Maker emphasized this: "*We've been going through a client-centered initiative for about five or six years where we're looking at all of the different aspects of WIC and how we can make them more client centered... This just fits right in on how we continue to make our services client centered and focusing on the needs of the family as opposed to the needs of the system*."

Perceived relative advantage over current approaches

Others described the WSPI opportunity as a vehicle to adopt more advantageous approaches into the WIC certification processes. WIC staff interviewees described staff-time-intensive processes (e.g., telephone scheduling of appointments, in-person document review, referrals, etc.) that could be streamlined. WIC staff interviewees viewed technology as a way to reduce administrative burdens on their staff to allow more meaningful interactions with WIC participants. Additionally, A few WIC staff described improving the technological infrastructure of the certification process as a way to appeal to the next generation of WIC participants that they perceived as being more likely to prefer technology-based methods of applying and certifying for WIC. For example, one Decision Maker noted their need for new technology as "*Our clients now, pregnant women, are those that were born after 2000 and so for the most part, we really needed to move more [in the] direction of the age and needs of our clients. And so technology was a big piece*." WIC staff saw becoming more technologically integrated as necessary for the growth of WIC. While these WSPI projects were adopted just prior to the COVID-19 pandemic, many WIC staff interviewees mentioned that experiences during the pandemic reinforced their attitudes towards improving the technological infrastructure in WIC processes. An important characteristic of new technology was that it increased flexibility, made WIC more accessible to participants, and supported the expansion of services. One Doer described staff's effort as "*I think it was just something that we were all on board, supervisors especially, just to improve any WIC services or make it easier for our clients. Especially after COVID, everything was done web based over Zoom or over the phone, it was just something additional to add to our WIC services to in some way help more of the younger generation, to tell you the truth, to get our services out there*."

Addressing perceived complexity through clear vision and building staff capacity and buy-in

WSPI innovations meant to modify the WIC certification process—particularly integrating technological features—were often perceived as complex and outside of the typical day-to-day experiences and duties of many WIC staff interviewees had with WIC. A few interviewees expressed difficulty in initiating their WSPI project because they were not part of the team that originally applied for the WSPI grant. In some cases, Decision Makers had to continue work without the leader who applied for the grant, and they described challenges related to the loss of the grant writer's vision. The implementation team then had to adopt an innovation that they were not involved in developing, in terms of rationale or execution. Loss of central guidance was emphasized from one Doer, who expressed, "*what I was told, was that they…were trying to find someone to replace [the lead]. So, everyone was trying to continue without the head leader. And so now everyone is trying to make sure we do it right. And I feel like we all put in as much effort as we could, but it was without guidance*." In addition to a clear early vision for the project, WIC staff interviewees conveyed that those that will eventually implement the project need to be adequately prepared. One Decision Maker explained this as, "*It's always good to create a plan, let [staff] know what's coming ahead of time…Some sort of training, some supporting documents, and it's always really helpful, we feel, to have like a sandbox environment where they can go in there and try it out before they go live with the production version of the platform*." Another Implementer echoed this sentiment, and described their method of creating space for staff training as a way to become comfortable with new technology components: "*We would do it maybe a month before and we would explain what the tool is, why it's important, get their buy-in, build awareness of it, get them familiar with what it looks like in the webinar, then get them access to the training environment, say, go ahead and play around, and then have a go live date*."

Implementation

Quantitative Findings for Implementation

The primary shared quantitative data around implementation were the number of staff trained and total hours of training. Nearly all projects implemented some form of staff training in preparation for implementing their innovations or during implementation. Several of the innovations involved new staff roles (e.g., CinnaMoms Project Specialists and Medical Liaisons). Often these were new hires without previous WIC experience; therefore, training was needed to prepare for new roles and to understand WIC. Training was also needed specifically in the new technology features or processes being implemented to support the certification process. These training needs often included training staff on how the WIC system interacts with other systems. In WV's WSPI project, the Medical Liaison needed training on how to navigate the state's HIN to find WIC-relevant data and to understand related ethical practices and

documentation procedures. Overall, among projects that conducted staff training, staff training hours ranged from 15 hours to 3,475 hours.

This information is important to consider in relation to innovation implementation costs and planning (see Table 9).

Table 9. Trainings required to implement WSPI innovations.

Project	Training type and date	Training Description	Attendees	Duration and number of sessions	Total Training in Staff Time
PHFE	WNA Certification Training (7-7-21 – 9-30-21)	Training CinnaMoms WIC Nutrition Assistants (WNAs) to help participants navigate the WIC certification process, reduce barriers, and understand eligibility criteria.	3 CinnaMoms Project Specialists.	32 total sessions, 4-8 hours each.	576 hours
	Health Equity Training (9-1-21)	Given the priority population of the project, these trainings specifically focused on understanding culturally relevant issues and specific resources that address Black mothers' specific maternal and infant health concerns.	3 CinnaMoms Project Specialist, 20 Nutritionists.	1 session, 8 hours.	184 hours
	CinnaMoms 101 (8-16-21)	The CinnaMoms 101 training objectives are to: 1. Know what CinnaMoms is, what is offered, and who is eligible; 2. Refer Eligible families to CinnaMoms; 3. Stay up to date with CinnaMoms activities for the rest of the year.	3 CinnaMoms Project Specialist, 20 Nutritionists.	1 session, 4 hours for Nutritionists, 8 hours for CinnaMoms Project Specialists.	104 hours
	CinnaMoms Liaisons (1-13-22)	CinnaMoms Liaisons are trained to connect mothers to the Breastfeeding Peer Counselor Program and CinnaMoms.	3 CinnaMoms Project Specialists, 3 Nutritionists.	1 session, 1 hour.	6 hours
	CinnaMoms Outreach (8-28-21 – 5-20-22)	Training to perform targeted Outreach for Black/African American Families eligible for WIC.	2 CinnaMoms Project Specialists.	4 sessions, 4-8 hours each.	48 hours

MI	WIC Client Connect Platform Training (2-22-22 – 2-24-22)	Training on using the WIC Client Connect platform.	241 WIC staff in various roles across MI-WIC.	6 sessions, 90 minutes each.	2,169 hours
	WIC Client Connect Platform Training + Enhancements (7-26-22 – 7-28-22)	Training on using the WIC Client Connect platform including the first release of enhancements associated with the WSPI project.	200 WIC staff in various roles across MI-WIC.	6 sessions, 1 hour each.	1,200 hours
	WIC Client Connect Platform Training + Enhancements (12-6-22)	Training on using the WIC Client Connect platform including the second release of enhancements associated with the WSPI project.	53 WIC staff in various roles across MI-WIC.	2 sessions, 1 hour each.	106 hours
PA	PA Innovation Grant Training (12-2-21)	All staff (including the primary audience, the Medical Liaisons) were trained on outreach marketing, medical liaison responsibilities, data collection, and WIC 101.	12 MLs, 4 CPAs, 3 Directors, 1 Public Health Nutrition counselor, 1 Nutrition Education & Program Manager, 1 Chief; Planning & Review, 1 Public Health Program Administrator, 1 Nutrition Program Manager – Consultant, 4 Staff.	1 session, 2 hours.	56 hours
WV	WV Medical Liaison training (12-13-21)	Training covered: 1) ML Responsibility, Data Collection & Download, 2) ML Documentation & Family Alert w/in Crossroads and 3) WV data entry.	7 medical liaisons, 3 supervisors planned to be trained by 1 staff training specialist, 1 outreach	1 session, 5 hours.	70 hours

			coordinator, 1 nutrition consultant, and 1 research specialist.		
	WV Health Information Network (HIN) Training (no date reported).	Training on how to use the WVHIN system.	7 medical liaisons, and 10 other WIC staff in various roles.	1 session, 4 hours.	68 hours
LIJ	NowPow Training (7-1-21 – 5-1-22)	Training on how to use the NowPow community resource referral system.	1 Secretary Support Staff, 3 WIC support staff, 3 WIC Nutritionist	4 sessions, 30 minutes each.	14 hours
	Northwell MOMs Program (11-1-21 & 3-9-22)	Program introduction and discussion of notifying healthcare providers of status eligibility of participants that are referred and notifying healthcare provider if unable to contact the referred participant.	5 RN's, 1 support staff, 1 staff program director	2 sessions, 1 hour each.	14 hours
	Introduction to WIC RISE grant (1-19-22 & 10-31-22)	Introduction to WIC RISE grant.	1 WIC Program Manager, 1 RN, 1 RD 1 WIC peer counselor	1 30-minute session, 1 60-minute session.	6 hours
	REDCap training session (11-7-22 & 1-25-23)	Training on using the REDCap survey platform.	1 WIC Peer counselor, 1 Sr. Secretary.	1 60-minute session, 1 120-minute session.	6 hours
FSL	Staff training on new web-based features (12-30-21)	Elevate Advertising, the vendor that built the technological features, provided training to FSL WIC staff. During the training Elevate Advertising showed step by step how a client would use the updated website with the new features.	8 WIC staff, 1 Family Service Director, and 1 Family Service Deputy Director	1 90-minute session.	15 hours

* CO reached training development stage but determined to halt training until the project could move forward.

Qualitative Findings for Implementation

The successful implementation of WSPI sub-grants can be attributed to several key characteristics including planning and project management, staff training and expertise, adaptation and flexibility, and navigating technical challenges. Below, we summarize these themes from the perspectives of the WIC staff that were interviewed. To align with Table 9 we first summarize the qualitative findings related to overarching implementation themes and then report on the broader range of implementation determinants from the i-PARIHS. See Appendix D.4 for overarching implementation qualitative data tables and Appendix D.5 for i-PARIHS qualitative data tables for implementation.

Planning and project management

Effective planning and project management practices were identified by many staff as crucial elements in successful implementation. Staff recognized the significance of internal alignment, communication within their organizations, realistic timelines, and early involvement of relevant stakeholders to manage implementation delays and ensure progress. Planning allowed innovations to set priorities, as illustrated by this Decision Maker quote: "*Back in the summer, when we were determining if we had to shave anything off of the release, what would it be? Knowing the priorities for each of the different high-level requirements and features, as well as comparing that against the level of effort and complexity, made it super straightforward."*

Conversely, issues with project planning and management (e.g., not planning for lengthy procurement and contracting procedures, extended development and testing periods, an unforeseen need to enhance the contractor's training materials, and a prolonged data security review process) led to delays or unsuccessful implementation of the innovations or features of the innovations (e.g., document portal in WV project, CO innovation).

Comprehensive training and staff expertise

Many WIC staff emphasized the importance of comprehensive training to ensure staff are well-prepared to effectively implement innovations. It is crucial to have staff members with the WIC knowledge, capacity, and interest to dedicate time and effort to the implementation process while also considering their workload and availability. The involvement of diverse teams that include project managers, WIC frontline workers, and tech experts can contribute to smoother implementation. A Decision Maker discussed the benefits of having individuals with strong WIC

expertise in the frontline: *"It goes back to, I think, having staff that are familiar with our health record system and familiar with WIC and familiar with our agency, was the number one [lesson] there. [It would be difficult] to bring anybody else on without it being a lot more work from my standpoint. I tried to incorporate our clerical staff."* Still challenges related to staffing, transitions, and specific expertise need to be addressed to overcome potential obstacles (e.g., WIC staff turnover leading to loss of clear project vision).

Adaptation and flexibility

Learning from challenges and adopting a trial-and-error approach was instrumental in implementing the innovations. Many WIC staff members recognized the importance of continuous improvement and adjustment based on feedback and experiences. The WSPI grant period coincided with several unpredictable and evolving circumstances (e.g., nationwide infant formula recall, the COVID-19 pandemic) that challenged project implementation; thus, the adaptability and flexibility displayed by staff when confronted with implementation challenges proved to be a vital trait for innovation success. As illustrated by this Decision Maker: "*I can't say the pandemic had nothing to do with [changes to the innovation]. It definitely provided an opportunity, though, as we completely shifted our service model. Frankly, we've all just learned to be flexible, but that was the biggest [lesson].*"

Many staff also discussed instances in which the nature of the project changed to fit WIC requirements and capacity, and they were *unclear* about how to implement the new changes. An Implementer highlighted the need for increased internal alignment and effective communication in this quote: *"It's like there was just constant changes the first few months. […] I'll be honest, there was just a lack of communication or everybody was so new with the project and people maybe had different visions on what we were doing, and so it was just a lot of learning for the first couple of months."*

In addition to adapting to external challenges, adaptations were also made in response to WIC participant needs. WIC staff identified participant needs by gathering client feedback and monitoring the usage of innovation features. One Implementer described this as, "*When we started, we had our thoughts of the path we were going to take, and then when we started talking to clients and talking to staff, they kind of went down a different path with some of our ideas.*" In addition to participant and staff feedback, staff and stakeholder co-design sessions allowed for refining requirements and aligning

innovations with needs. Leveraging the staff's WIC program expertise and technical stakeholders' expertise were identified as essential factors for successful implementation.

Technical challenges

Overcoming technical limitations and difficulty integrating existing management information systems with new systems was a prevalent theme. Successful implementation reportedly required effective collaboration between stakeholders and timely resolution of technical issues. Most WIC staff raised concerns about technical limitations and challenges in integrating existing WIC information systems with new systems. These challenges encompassed system limitations, information access constraints, and system compatibility issues, which impacted the intended functionalities of the innovations. Despite these obstacles, the initial enthusiasm surrounding the innovations inspired Decision Makers to explore innovative ideas. For example, one project that encountered challenges with accessing health data in their state's exchange system, modified their approach to direct outreach with health care providers. Successfully overcoming technical difficulties and system integration issues proved pivotal in ensuring the overall success of the implementation. Planning for the likelihood of technical issues when establishing timelines and collaboration between content experts and stakeholders was identified as essential in addressing challenges. Additionally, adapting to variations across states and agencies, considering the cost implications of modifying systems, and finding workarounds were crucial steps for progressing in the face of technical constraints.

Qualitative Findings for Implementation Using the i-PARIHS Framework

To further explore factors related to implementation, the interviews were coded using the i-PARIHS framework. There are four interrelated i-PARIHS domains: Characteristics of the Innovation, Recipient Characteristics, Context Characteristics, and Facilitation Activities (see Figure 2). Below, we summarize the data related to these four domains including several sub-constructs associated with each domain. See Appendix D.5 for full qualitative data tables for implementation related to the i-PARIHS framework domains.

Figure 2: i-PARIHS Constructs

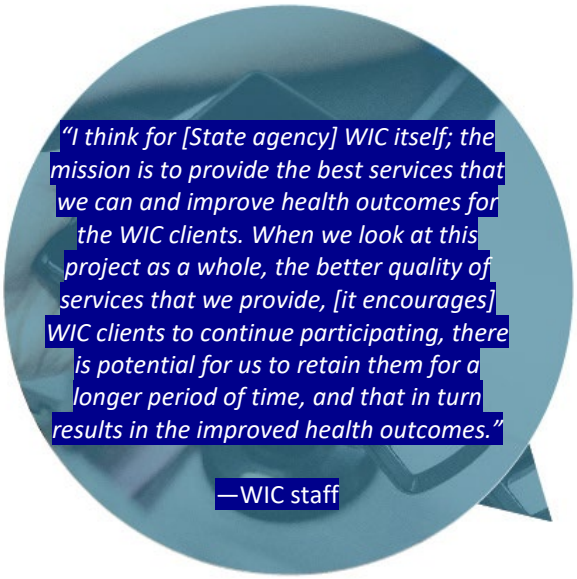
Characteristics of the Innovation

The Characteristics of the Innovation domain of the i-PARIHS framework identifies traits of the innovations (i.e., WSPI projects) that enable or hinder innovation implementation. Therefore, Characteristics of the Innovation domain sub-constructs all refer to the factors that facilitated or had to be overcome to implement WSPI innovations.

- Underlying evidence**.** Decision Makers demonstrated effective use of local data, knowledge about other projects' outcomes, and health disparities research to inform

the innovation design and implementation process. The information gathered helped Decision Makers identify participant needs, preferences, and experiences with similar innovations, such as the level of trust in sharing medical information, optimal scheduling for support groups, language translation requirements, and desired features of web portals. Local practice information was particularly important in assessing the capacity to implement the innovations. One Decision Maker stated, "*data from the longitudinal studies we have been doing about the [PROGRAM NAME] experience, the longitudinal surveys, and the focus groups informed our work*."

- Complexity. Sub-grantees faced complexities in streamlining the implementation of innovations, as noted by an Implementer who expressed, "*It's not real like you just click on anthropometrics or vitals or something and you just get the information you want. You might have to look here or there to gather all the information that you want[…] I feel we're making this so difficult on ourselves.*" The complexity of the innovations arose from various factors, such as integrating different components, introducing additional steps for staff, requiring technical knowledge, addressing communication challenges, and getting participants to engage with the innovation elements (e.g., filling out forms to authorize access to the health information network). Complexity led to usability challenges among staff and participants (e.g., difficulty uploading documents, confusing user experiences, and limited functionality of the innovation). Sub-grantees improved clarity for staff through regular meetings and internal communication. Doers and Implementers noted that limitations related to participant digital literacy and internet access still exist.



- Trialability. Testing of certain elements of the innovations required sub-grantees to navigate the parameters of WIC systems since the existing structures of WIC often do not provide the needed flexibility to implement the innovative changes. As one Decision Maker explained, "*There wasn't a way to just restrict the enhancements for use by the pilot agencies only, and not everybody else, but the client surveys and the staff surveys were only sent out to the participating pilot agencies.*" Staff noted that selecting diverse agencies with manageable caseloads for piloting, providing training for staff, and collaborating with vendors or contractors during testing are enabling factors for innovation implementation.
- Degree of fit**.** Balancing innovation implementation with daily activities and practices was a challenge for sub-grantees, but the overall innovation aligned with the goal of

modernizing and streamlining processes in WIC. A Decision Maker highlighted the significance of innovation in improving services and health outcomes for WIC clients, stating, "*I think for [State agency] WIC itself; the mission is to provide the best services that we can and improve health outcomes for the WIC clients. When we look at this project as a whole, the better quality of services that we provide, [it encourages] WIC clients to continue participating, there is potential for us to retain them for a longer period of time, and that in turn results in the improved health outcomes*."

Recipients' Characteristics

The Recipients' Characteristics domain of i-PARIHS identifies the perspectives and characteristics of the Implementers and Doers that affect their ability to successfully implement the innovations. These themes underscore the significance of staff buy-in, collaboration, adaptability and flexibility in resource allocation, and expertise in achieving successful outcomes for WIC innovations.

- Personal attributes and beliefs**.** The successful implementation of WIC innovations was driven by the staff's belief that these initiatives facilitated connections and client-centered care, motivating their commitment to the process. A Decision Maker/Implementer explained, "*We use the [TRANSLATION SERVICE] when the mom was tasked, it was noted in the task if the mom was non-English speaking. If they chose to have WIC reach out to them, [we] already had the interpreter on the line. So I think that might have helped [us provide] a better customer experience rather than trying to communicate to the person, 'Hold on, I got to get an interpreter on the phone.' It eliminated that step, and I feel maybe made a better customer experience*."
- Collaboration and teamwork/Skill and Knowledge**.** Collaboration and teamwork played a pivotal role in the successful implementation of WIC innovations.

- Collaborating with external partners, interprofessional collaboration, and clear communication with stakeholders were emphasized. Staff functional diversity—including individuals with various backgrounds, skills, and training working together—positively influenced implementation. For instance, in-house bilingual WIC staff facilitated Spanish translations efficiently due to their knowledge of the WIC program and language skills. In contrast, relying on external partners without WIC program background caused delays in translation processes. Staff discussed challenges creating synergy between stakeholders, as one Implementer noted, "*I think the biggest barrier was we developed a packet for the physicians and there were just some delays with the company that was doing the work... I feel like we didn't get that out to the local agency staff as quickly as we would've liked to*."

- How time, resources, and support affect recipients**.** Most staff discussed resource constraints, and staffing challenges posed difficulties for sub-grantees during the implementation of innovations. Limited resources and funding, administrative and workload challenges, and communication gaps impacted successful implementation. A Doer highlighted, "*I think some of the barriers were possibly due to other more pressing situations within the offices in the workplace that had to take up front, like having adequate staff, working with new policies and things like that. It probably wasn't put on the front as much type of thing*."

Context Characteristics

The Context Characteristics domain includes internal and external organizational factors that are related to implementing WIC innovations. Internal context can be within a clinic or State agency, whereas external context are external factors, such as state or Federal rules or regulations.

- Structures and systems**.** The integration of innovations with existing WIC information systems posed significant challenges for sub-grantees, as highlighted by an Implementer who expressed, *"It really comes down to a state agency having an MIS that is flexible enough to integrate other technologies. Otherwise, if you have to do it separately, it's too clunky, it's too burdensome. You're not setting the program up for success*." At times, existing systems were not flexible enough to accommodate changes easily, requiring sub-grantees to modify their original plans. This created complexity for staff, such as additional steps or systems not communicating with each other.
- Leadership support/Culture and Climate**.** Organizational culture, leadership support, and communication emerged as key factors influencing WIC innovation implementation. A Decision Maker/Implementer explained, "*I think part of it is just the type of leaders that our organization attracts because as I was mentioning, we're so community-focused. It's hard to find a leader that doesn't recognize things like how important WIC is as a service to our patients. And I think any opportunity to streamline or better that, everyone is on board with because everyone is so dedicated to making sure that we have the right processes in place to give our patients what they need in terms of medical and other care and support. That just makes our jobs a lot easier when we want to do something innovative to further that mission*." Clear communication and instructions were mentioned as factors that limit staff confusion and frustration and contribute to effective implementation.
- Policy drivers and regulatory frameworks**.** Additionally, a few Decision Makers discussed how Federal and State policies/oversight, regulatory constraints, contractual rules, and funding limitations shaped the implementation of WIC innovations (e.g., changes to project to accommodate barriers to access the HIE). External influences impacted

decision-making, project timelines, and the ability to make changes. Notably, regulatory limitations prevented modifications that could better align innovations with specific needs (e.g., having the information system communicate with the portal for online scheduling purposes). The restriction affected data integration and hindered efficient service delivery by adding additional steps for staff such as having to call participants to offer appointments within the dates and times requested instead of direct scheduling. As one Decision Maker explained, "*The state runs [the information system] and our state, along with 13 other states, use this Journey health charting system. So, anytime there's a change of any sort, all 13 states have to be aware of it, they have to be onboard with the change, they have to be onboard with the interface*."

Facilitation

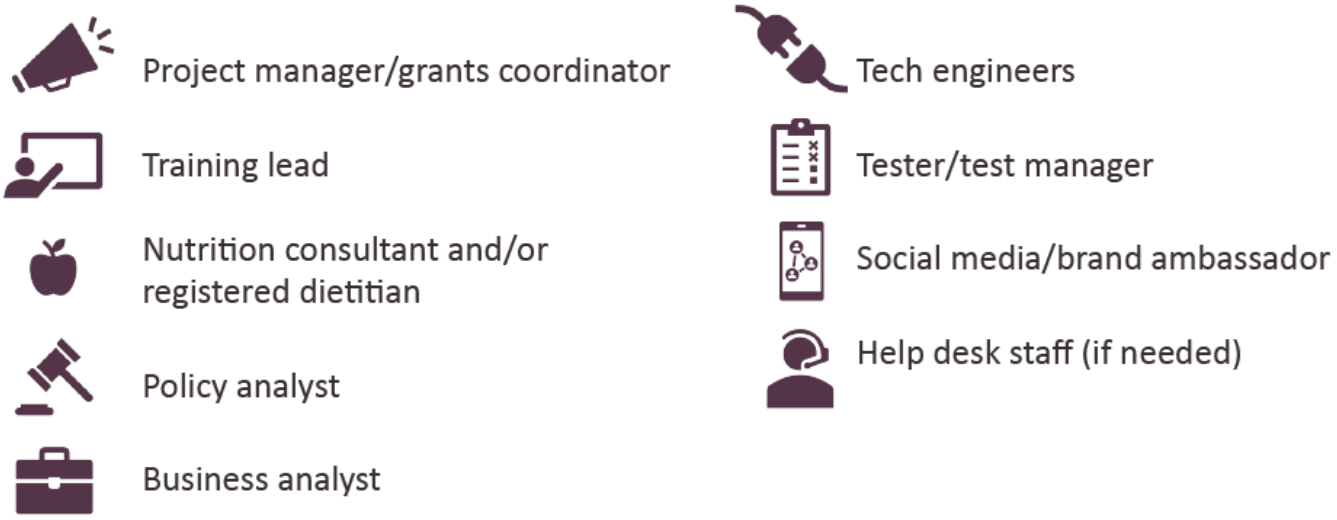
The Facilitation domain includes aspects of the implementation that enhanced (or facilitated) project success or that could help future implementation efforts. Several themes around facilitation activities were identified in qualitative interviews.

- Marketing and promoting the innovation**.** Investment in staff capacity to promote the innovation is essential for successful implementation. Staff capacity constraints impacted sub-grantees' ability to consistently promote innovations through multiple approaches. WIC agencies implemented many different promotion strategies, including texting, social media, and mail, as well as in-person appointments; however, each strategy presented challenges related to efficiency and staff capacity.
- WIC participants recommended WIC clinics promote the benefits of the innovations during appointments, at hospitals, OB-GYN offices, and other social service agencies. One Implementer said, "*There's the social media aspect of it, where they're trying to build the Instagram, the Facebook, the Twitter. So it does take a lot of time. Just like anyone who's trying to build their own personal social media for a business or a platform, it takes a lot of time.''*
- Providing education on how to use the innovation**.** When applicable, sub-grantees invested time training staff and educating participants on implementing and/or using the innovation. WIC staff reported informing WIC participants about the innovation via emails and texts, and during appointments. Decision Makers and Implementers trained Doers on how to use the innovation via Zoom calls, webinars, and PowerPoints. A Decision Maker recommended developing technology that is as intuitive and easy to use as possible to avoid the need for in-depth training. An Implementer said, *"So it was kind of a train the trainer type thing where we were provided the information during the monthly updates from the state and then I took that back to our teams and we did standup brief update meetings about the updates to our database or my WIC system and how it was going to change, and then provided the handouts that the state had*

given us where the changes were outlined the day after the update. And a lot of just one-on-one conversations with supportive paperwork and handouts."

- Collecting data and providing feedback**.** Sub-grantees provided opportunities for WIC staff and participants to give feedback on the innovation and used the feedback to implement changes. Many Decision Makers discussed the importance of collecting feedback from State and local agency staff while keeping staff informed and being realistic about what can be done and changed related to the innovation. Sending text surveys and collecting verbal feedback during appointments were important ways to listen to WIC participants' experiences with the innovation. An Implementer said, *"I mentioned before it did take the extra time, but we reaped the following benefits. This was big for me, the ability to provide local agency input on system enhancements, because that, to me, made a huge difference. And actually, seeing those implementations as well, knowing that we had a say in that and knowing that we were part of that, because sometimes things look a little different here at the local level than they do at the next level and how that actually plays out in the clinic."*
- Building relationships, teams, and networks**.** Strong internal teams and external networks facilitated the successful implementation of the WIC innovations. Shortly after the grant was awarded, sub-grantees recommended forming an internal core team with different specialties who have a prior understanding of WIC policies and procedures, who are interested in and committed to the project, and who have experience working with the priority population. Staff also discussed the importance of building relationships with external stakeholders, including local agencies, other State departments, medical providers, and organizations doing similar work. A Decision Maker said, "*And then just having a core team of people who are interested and committed to what we're doing. Because it was a big-time commitment for all of our staff, with all the testing we had to do, all the meetings we had. So making sure that the staff you have included actually want to be there, and are interested in the outcome of the changes you're trying to make. I feel like we had a great team, and that made a huge difference*."

Recommended Roles for Innovation Implementation Teams



- Enabling and fostering change**.** Adequate grant funding enables the implementation of innovations. Decision Makers and Implementers discussed how grants are catalysts for doing the work that WIC agencies want to do. Funding to hire key staff that have the skills and interest to work on the projects facilitated the success of the innovations, and consistent funding beyond the grant period is important for the maintenance of changes enacted by the innovation. A Decision Maker said, "*So, that's where you actually need to bring down grant dollars more to keep funding those kinds of positions. So, my position and my whole team, we're largely funded by grant dollars to bring in other money to do other things. So, you have to be thinking, 'when I hire this person on a grant, how do I also ensure that they will have the skills and interest in a WIC position?'*"
- Identifying and resolving problems**.** Sub-grantees recommend preparing to be flexible to adjust projects' scope throughout development and implementation. Sub-grantees also allocated extra time for the planning and development phases, which facilitated successful implementation. Some staff talked about the importance of flexibility and being able to adjust expectations and goals as needed. Many Decision Makers and Implementers talked about the time it takes to compile feedback, identify constraints, hire and train staff, decide on evaluation questions, and address roadblocks or hurdles. A Decision Maker said, "*Then there was just a lot of work with compiling the*

feedback and identifying which of that made sense based on the technology constraints, time constraints, or the cost constraints. I think we then narrowed down everything to see what would bring most value, and actually which of those we would be able to implement in the time that we have available, actually."

- Using interpersonal skills to create a supportive environment**.** Decision Makers and Implementers supported WIC staff and participants throughout implementation. A few staff noted that administrative and technical support from the evaluation team and project leadership was critical for success. Ensuring that staff have the support and resources they need to offer good customer service to WIC participants is important, and staff appreciated that leadership took the time to get feedback from staff and answer their questions. A Doer said, "*My supervisors have been amazing with the challenges that came up… They have allowed time from our schedule for the touchpoint meetings. They've been supportive with that where we ... especially in the beginning, we're trying to figure out exactly what we were going to be doing, how we were going to be doing it."*

Lessons Learned and Recommendations from Colorado Project Implementation

The Colorado Innovation Project was initiated as a time-limited, federally funded endeavor led by the Colorado WIC State agency but it was not implemented within the grant period. This project faced several administrative challenges including staff turnover, a lengthy procurement process and a prolonged data security review. These factors exacerbated challenges the implementation team faced when designing and specifying a highly technical project. Key lessons learned identified by the implementation team include:

- Developing a product from scratch requires **more time and technical expertise** to ensure detailed business requirements for implementation. Opting for a commercial off-the-shelf product could reduce development time and training needs compared to building from scratch.
- **Stable project management and leadership** are crucial; thorough documentation is needed to onboard new team members effectively.
- **Sufficient time must be allocated** for technical contract review, approval, and improved communication for internal review processes.
- Hindsight suggests **adjusting workloads** for training material development and user testing, investing in more technical expertise for requirements, allowing extra time for internal processes, and seeking guidance for contract approval.
- Enhanced change management efforts (e.g., a systematic approach to dealing with the transformation of an organization's goals, processes, or technologies) at the project's outset are recommended to foster enthusiasm and staff commitment to a successful outcome.

The Colorado project team hired a project coordinator who would be committed to the project for three years. Limited resources including budgetary constraints and a restricted timeframe led to a small pool of qualified applicants for the project coordinator position.

The following are recommendations for hiring and retaining a coordinator for innovation projects:

1. Future projects with time-limited funding should implement a rigorous selection process that emphasizes leadership qualities, communication skills, and a track record of successful project management.
2. Emphasize the importance of effective communication and delegation during the project's planning and execution phases. Establish clear lines of communication among team members and stakeholders to ensure efficient information flow.
3. Provide continuous support and guidance to project coordinators to ensure alignment with project objectives throughout the project duration.
4. Ensure that project budgets are realistic and sufficient to attract and retain highly qualified professionals.

Despite significant efforts by staff and administrators involved, complex projects can face insurmountable challenges in the implementation phase. The Colorado sub-grant made significant progress, but ultimately was unable to implement their project within the timeframe of the WSPI grant. The issues faced by the Colorado team (staffing changes and challenges, contracting delays, competing priorities for staff time, detailed technical requirements) could be faced by any WIC agency implementing innovative new strategies. The lessons learned in the Colorado project provide valuable guidance to the continued implementation of this work in Colorado and to other WIC agencies implementing innovative changes to their program operations.

Maintenance

The innovation projects' timelines did not allow for a maintenance phase, but implementation team members identified several factors that are relevant for sustainment of the implemented innovations. The section below includes several themes, identified by WIC staff during the interviews, that describe ideal factors to continue innovative services beyond the grant period. See Appendix D.6 for full maintenance qualitative tables.

Qualitative Findings for Maintenance

Characteristics for Long-term Sustainability

Many WIC staff provided guidance on the characteristics needed to continue innovative work beyond the grant. WIC staff primarily discussed the need for ongoing or new funding to prolong sustainability of services and technology platforms. Staff mentioned additional funding and the ability to retain dedicated staff with specific expertise (e.g., IT, project management, technical assistance for clients etc.) as important factors to ensure seamless client services. One Implementer described the most important thing for sustainability planning as "*…mostly funding to keep it running. Because once you roll this out, you're going to have to do it forever*." Regarding retention of dedicated and motivated staff, a few interviewees noted that providing incentives for staff increased buy-in to continue their work despite challenges. Others noted the need for continued State agency support to keep passionate workers in WIC. As one Decision Maker discussed, "*… once you have your leadership buy-in and you have some folks who are passionate about the work, I would say [our innovation model] can be just as successful for them as it has been for us*."

Barriers to Service Sustainability

Technology gaps and lack of continued oversight emerged as barriers to service sustainability. Some WIC staff identified specific barriers to sustainability of components of the innovation, including technology barriers (e.g., MIS integration), inefficiencies of procurement processes, absence of leadership advocacy, and other factors that contribute to the inability to continue services from the grant. Some agencies described that lack of state involvement not only inhibited growth but also impacted staff buy-in. One Implementer highlighted the impact of including local agency staff and key stakeholders involved in planning of technology rollouts: "*I think the biggest thing is how does the technology project you want to do, how does that integrate with your MIS, the clinic workflow and staffing capacity, and ensuring that local agency staff have a seat at the table pre, during, and post-development of it*?" Regarding

oversight and continued advocacy, one Decision Maker noted that a state-wide rollout of streamlined procedures could not happen without advocacy via regional and state-level buy-in: "*I think staff buy-in both at the state level and at the local agency level… So in order for this to be sustainable, people have to want it to exist and to want it to exist, they have to know what it's about. So just getting the buy in*."

Positive Impacts as a Scaling Strategy

Positive impacts on client services were discussed favorably as first steps to the creation of a new model of WIC services with potential to scale to other agencies. Demonstrating positive impacts on client services was discussed as the first step to sustainability of the innovations. A few WIC staff spoke of positive outcomes from the grant that they were proud to be a part of and hoped to continue. Some staff discussed the benefits of being able to formalize procedures and create infrastructure to continue work that positively impacts clients. As one Decision Maker discussed, "*[WSPI] has laid the foundation for our model. We've been trying to build a [toolkit] for so long so that we can disseminate and train other agencies to have this model*." Other positive impacts include development of materials and making them accessible to staff for future use, positive impacts on client relationships, and generating a better customer service model with the potential of being scaled to other local agencies. One Implementer emphasized this notion as "*Hopefully, [our work to collaborate with health partners] will help them to see the value of WIC and continue to refer participants, or patients, to the WIC program. I also think some of the materials that we developed, that staff can continue to use them. Even some of the local agencies that didn't necessarily participate in this grant would be able to use them and have their staff do something similar with them*."

Editing the Innovation Scope by Enhancing or Streamlining Services Increased Sustainability

In some cases, WIC staff identified important edits to the innovation that narrowed the scope of services, making it more likely to be sustained beyond the grant period. For example, one Implementer shared that WIC participants preferred to talk with clinic staff rather than use one of the available technology innovation components, thus the agency decided to drop the component and use available funds elsewhere. WIC staff also gave input on ways to enhance the current innovation beyond the grant period and ways to streamline operations that will be integrated into daily workflows, increasing the sustainability of the innovation. For example, one Decision Maker mentioned "*[some staff] are talking about continuing with the outreach efforts, which I think is great, but I'd like to expand those outreach efforts going forward*."

Effects of the COVID-19 pandemic on WSPI Innovations

The COVID-19 pandemic had significant impacts on WSPI innovations. These impacts were identified while coding staff interviews and are crucial to understand the context that impacted all sub-grantee projects.

All sub-grantee projects experienced changes to in-clinic procedures and processes due to FNS waivers. Regulatory flexibilities and shifting service models due to the COVID-19 pandemic necessitated sub-grantees' adaptability. Virtual services, concessions, and regulatory adjustments were adopted, but they also posed challenges for some projects. Therefore, while the regulatory flexibilities facilitated telehealth, teleservices, and other remote interactions to manage the pandemic, these resulted in changes to the proposed projects before implementation (e.g., weight and hemoglobin clinic measurements were no longer taken in clinics; recertification appointments were entirely online).

The pandemic disrupted operations, increased workloads for staff, and shifted staff into remote work and delivery of virtual services with little training or preparation. WIC staff noted that communication and outreach became difficult, affecting project adoption and implementation. Conducting outreach activities became challenging due to safety concerns. Team and management-level communication gaps led to delays and missed opportunities. The pandemic also brought shifts in culture and organizational priorities. Remote and virtual options gained prominence, but some participants expressed a desire for in-person appointments or services. Balancing WIC participant preference for mode of service delivery emerged as a critical consideration for future efforts.

Similarly, the COVID-19 pandemic restrictions and waivers disrupted data collection efforts, in some cases sub-grantee evaluations relied on estimates and previous data collection points due to limited in-person visits. Remote services posed challenges in obtaining client feedback, leading to survey fatigue and potentially affecting response rates. Despite these COVID-19 pandemic specific challenges, all sub-grantee project teams made adaptations to their WSPI innovation projects and timelines to implement the best version of their project given the changes to clinical services.

Overall, these impacts underscore the importance of flexibility, effective communication, and strategic adaptation in navigating pandemic-related challenges. Addressing these impacts and learning from them can help future initiatives align better with participants' preferences and address evolving circumstances.

Discussion and Recommendations

This evaluation aimed to explore lessons learned and to synthesize shared findings across WSPI sub-grantees' innovations. The evaluation focused on key themes across projects related to the Reach, Effectiveness, Adoption, Implementation, and perceived Maintenance of the innovations. The following is a summary of key takeaways, implications, and recommendations.

Reach was operationalized as the number or proportion of WIC Participants who engaged with the WSPI innovations across participating sites. The innovation types were heterogeneous, so reach varied widely across sites. Projects that included technology-based features to streamline formerly manual tasks typically found about one in five WIC participants in their priority population were reached by the innovation. Key factors that limited reach for these innovation types was internet accessibility, WIC participants' familiarity with technology, and promotional approaches used. Interviewees described a gap between existing and older WIC participants versus newer WIC participants in terms of uptake in technological innovations. Interviewees stressed that to reach the next generation of WIC participants, WIC will need to integrate more technology-based services to streamline their certification processes.

Effectiveness was focused primarily on WIC participant satisfaction with the innovations. About four in five WIC participants that were reached were "very satisfied" with the various innovations. Interviewees' satisfaction was particularly driven by innovations that were easy to use (e.g., user-friendly features) or that made WIC easier to participate in (e.g., removed the need for in-clinic measurement). Also, innovations that reduced staff administrative burdens allowed for more time during appointments for personal connections between staff and participants. This was seen as key for WIC participant and staff satisfaction.

The WSPI innovation projects had no opportunities for site-level variation in adoption (except for one project: PA/WV). The projects were typically implemented at only one site or implemented across a whole state. Therefore, *adoption* was operationalized as the initiation of the proposed projects in some form. Key factors associated with electing to participate in the WSPI opportunity and the initiation of a WSPI project were compatibility with the mission of the organization, perceived relative advantage, and addressing complexity. Interviewees reported that the WSPI opportunity provided funding for mission-aligned activities such as implementing client-centered improvements to the certification process. The WSPI opportunity was widely used to integrate technological features into certification, which were viewed as advantageous over previous methods by streamlining burdensome tasks and appealing to future WIC participants. And finally, ensuring there was clear vision and proper preparation for staff was seen as crucial for integrating complex initiatives within the WIC system.

The *implementation* assessment centered around understanding staff training needs and exploring implementation challenges across WSPI projects. The innovation projects focused on two main types of training. The first type of training was preparing newly hired staff for new roles related to the innovation project, and the other training type focused on training staff on how to utilize technology-based features that were part of the innovation. Two projects invested extensive hours into staff training (>500 total hours of staff time per organization); these were projects that were larger in scope (e.g., statewide initiatives) and projects that emphasized "people-intensive" innovation (CinnaMoms). Other projects invested relatively less training time (<100 hours of total staff time per organization). Key issues related to project implementation success were staff preparedness, high quality project management support, ability to adapt and be flexible in response to changing needs and challenges, and inclusion of technical experts on the planning and implementation team (particularly for technology-based innovations).

While assessing *maintenance* was beyond the scope of the evaluation, WIC staff were asked about their perception of maintenance. Interviewees mentioned funding being important for sustaining projects that involved new roles (e.g., Medical Liaisons). One state that hired Medical Liaisons was able to maintain the program with additional grant funding they secured, while another state was not able to. However, for some of the technological innovations (e.g., document portals), start-up costs were the majority of expenses and ongoing costs are minimal. Some technological features were discontinued, though, due to limited uptake by WIC participants (e.g., online chat). Interviewees also talked about the importance of leadership buy-in and alignment with long-term goals. Many of the innovations reportedly fit within the long-term movement towards streamlining WIC services using technological advancements, and interviewees saw the progress made during the WSPI projects as steps along that path.

Taken as a whole, themes emerged across the findings that have implications for future efforts to integrate innovations within WIC. Based on the findings of this WSPI initiative, future projects would benefit from ensuring several key approaches are incorporated. Key to successfully initiating the proposed project and minimizing challenges was fit with the mission of the organization and inclusion (into the planning and implementation team) of the person or team that developed the initial vision for the project. Planning and implementation teams would benefit from including diverse expertise (e.g., technical, WIC-centric, legal/procedural, promotions/communication, and other perspectives relevant to the specific innovation). Designing the features, components, and promotional/educational strategy for the innovation should ideally incorporate the end users (e.g., a diverse pool of WIC participants and/or WIC staff who will be involved in the day-to-day implementation of the innovation). Also crucial are

preparing staff to understand the innovation, the importance of the innovation, and the fit of the innovation within the broader WIC system and providing staff training on specific skills related to the innovation. Finally, early in the planning process, sustainability of the innovation should be considered, and choosing innovations that can be sustained without the need for substantial additional funding is ideal.

Strengths and Limitations

The findings of this evaluation should be considered in the context of its strengths and weaknesses. The evaluation utilized common evaluation frameworks (i.e., RE-AIM and i-PARIHS) to guide data collection, analysis, and interpretation. The robust qualitative analysis provided insight into barriers and facilitators for successful implementation. A focus on understanding system-based perspectives allowed for the inclusion of all seven WIC agencies involved in the sub-grants as part of the interview process. Multiple WIC staff perspectives were considered including Doers, Implementers, and Decision Makers, and WIC Participants were well represented among the interviewees. The evaluation (and the projects themselves) faced challenges related to unexpected external events—the COVID-19 pandemic and widespread infant formula recall—both occurring during the implementation phase. WIC agencies and staff at all levels were under immense pressure and faced multiple challenges that required flexibility in project scope and activities. Current clinical practices were already in flux, and thus the full impact of some implemented innovations may be muted. These external events also limited data collection approaches, delayed projects, and limited WIC staff capacity to assist with the evaluation while they focused on higher priority issues impacting the WIC participants they serve. Finally, the heterogeneity of the project types necessitated variation in assessment approaches, which made synthesis difficult, particularly for quantitative data. However, the overarching findings presented here provide valuable insights into these projects and future innovations.

Future Considerations

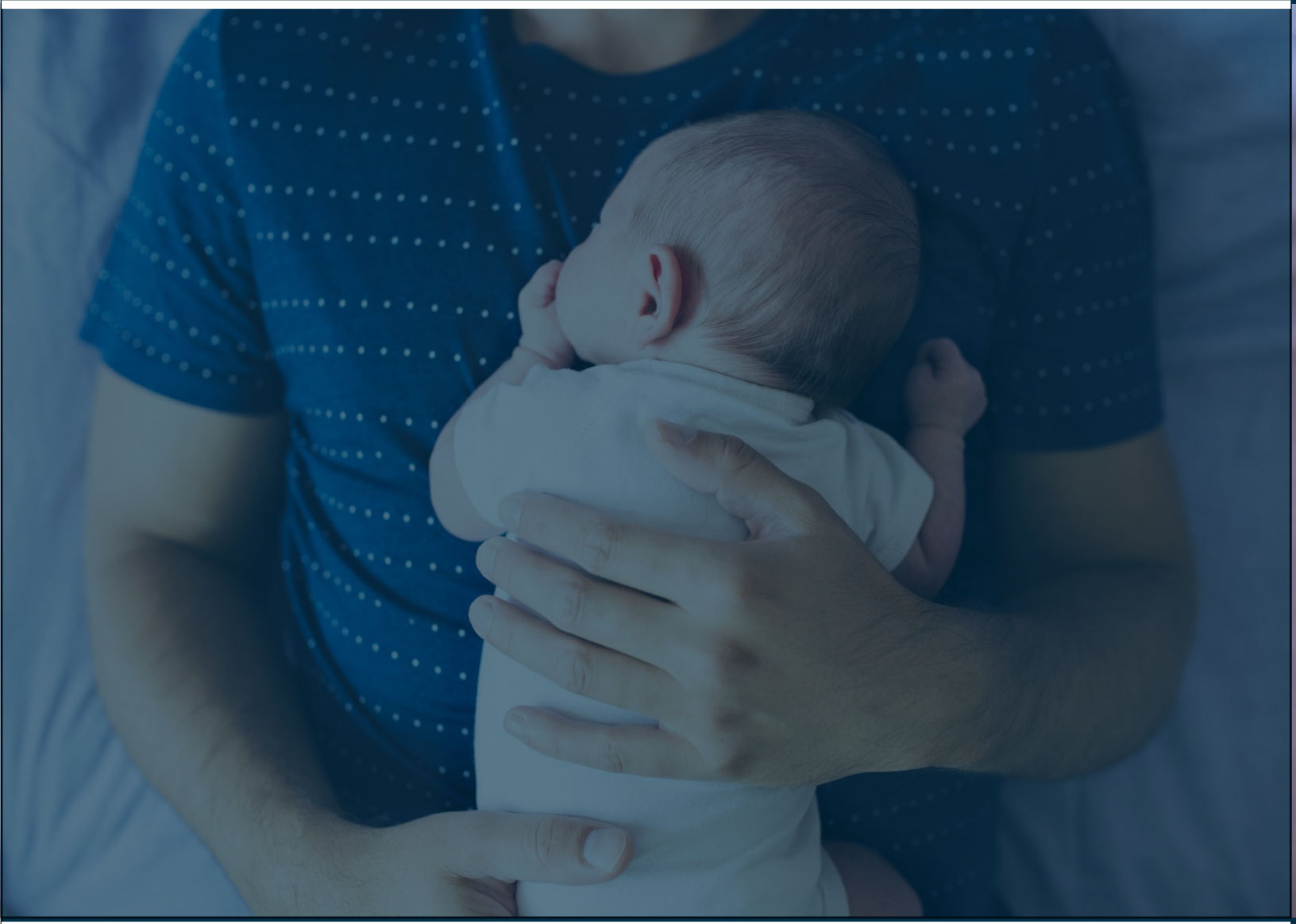
Since this WSPI initiative was awarded, USDA FNS has launched Modernization in WIC efforts. Investment in technology and innovations in practices and processes that enhance the participant experience will take many forms. Understanding the barriers WIC State and local agencies face when adopting and implementing innovations may enhance the success of future modernization projects. This evaluation identified several lessons learned that may be applied to other WIC initiatives.

Related to planning and rolling out innovative projects or programs, WSPI sub-grantees recommended having dedicated project management staff or other personnel to manage the implementation process, recognizing that even relatively small-scale technology projects

required leadership oversight and staff time. In addition, they recommended that when planning projects and setting timelines, time be included for a dedicated planning phase. Having time set aside for a planning phase will allow the WIC agency enough time to engage all partners and end-users (such as participants) in the development process. In addition, State and local agencies will likely benefit from engagement with all users including clients, staff, and technology partners in the earliest stages of the project, especially the planning and development phase. Using participant or staff feedback to iterate and improve innovation during development and early implementation can improve the outcomes by identifying and resolving potential problems in advance. For example, encouraging project teams to consider how and if innovations will improve workflows or in-clinic processes that can reduce administrative and staff burden would increase the success of an innovation. As demonstrated by the majority of the WSPI sub-grantees, it is feasible for local agencies to adopt technology solutions that meet the needs of clients and improve workflow for staff. Using technology to enhance services, including document upload portals, texting and remote/virtual appointments is essential for WIC agencies in the future. Identifying which "suite" of features is most desired and best reduces burden on participants and agency staff is important. Additionally, investing time and resources in staff training and education on the innovations is worthwhile and can provide significant return on investment. Investing in staff may help foster staff buy-in, enhance implementation, increase communication of the innovation to participants, and reduce staff turnover.

In addition, focusing on WIC participants, and recognizing that WIC participants are a diverse group made up of subpopulations with varying needs, was a key lesson learned from the WSPI sub-grant projects. Sub-grantee teams provided recommendations to enhance centering WIC participants in the innovation process. A primary recommendation is to lead with equity-informed and culturally relevant solutions to reach WIC subpopulations. Such innovations could include language adaptations, efforts to develop a diverse workforce, and considerations for rural or remote participants (e.g., broadband access or cell phone reception), among others. When implementing an innovation, participation among subpopulations should be monitored to ensure disparities are not unintentionally widened by the project/program innovations. Technology-based interventions have the capability to enhance participation among subpopulations. For example, communication in client-preferred language can be integrated into many platforms, decreasing burden on WIC staff and increasing opportunities to reach a wider range of participants. However, such technological innovations can also create additional barriers to participation. For example, WSPI sub-grantees discussed the necessity of considering geographic based inequities in broadband or cell service when selecting platforms in order to avoid increasing barriers to participation for rural residents.

Appendices



Appendices

Appendix A: Sub-grant Project Individual Evaluation Links

CSG- In final product, please link to final sub-grantee reports.

Colorado Final Report

Pennsylvania Final Report

Family Services Lincoln Final Report

West Virginia Final Report

Long Island Jewish Final Report

Public Health Foundation Enterprises Final Report

Michigan Final Report

Appendix B: Interview Guides

B1. Staff Interview Guide, Version: Doer

Hello **[INTERVIEWEE NAME]**,

Thank you for making time for the interview today. We really appreciate it!

Before we start, I want to give you some background information. We are conducting interviews with several key personnel involved in implementing and/or overseeing aspects of the **[SUB-GRANTEE PROJECT NAME].** We want to understand your perspective and thoughts about your organization's WSPI innovation project, including your successes, challenges, and opportunities for improving or expanding on your innovation project in the future. The interview should take about 45-60 minutes to complete.

As I mentioned, I'm with the Gretchen Swanson Center for Nutrition. The Center is a research and evaluation firm, and our role is to conduct these interviews. We will keep everything you say confidential, and we will not share any identifiable information about you or anyone in your organization in our reporting. All findings will be presented in aggregate to ensure they cannot be tied back to one person. Finally, know that you do not have to answer any questions you feel uncomfortable responding to, and you may end the interview at any time and for any reason.

> Do you have any questions before we begin?
>
> Do you consent to participating in this interview and having the interview audio-recorded? ***IF YES, START THE RECORDER NOW****

Throughout the interview we will use the term "innovation project" or just "project" to refer to the specific initiative and activities conducted through your WSPI funding.

[NOTE: Be sure to define "innovation project" for the interviewee and make sure they understand what you are referring to.]

SECTION 1: GENERAL

1. Can you start us off by describing what your role is in WIC and on the innovation project?

SECTION 2: ADOPTION

For this next set of questions, I'm interested in understanding the organizational factors that were important when you decided to do this work or begin your innovation project.

2. From your perspective, could you describe the level of support this project had from your supervisors and leadership?

3. **[PRIORITY]** Could you describe staff buy-in and what factors affected buy-in for this project?

SECTION 3: IMPLEMENTATION

Next, I'm going to ask you about the actual implementation of the innovation project.

4. **[PRIORITY]** How prepared did you feel to take on this innovation project?

5. What were your impressions of training you received for this project, if any?
    a. What, if any, changes would you suggest making to the training in the future (e.g., content, timing, length, location)?

6. How did this project impact your duties at WIC, if at all? How do you feel about that?

7. What were some of the specific day-to-day challenges you encountered in your role with this innovation project, if any?
    Probe for examples specific to the site
    Probe for staff, technology glitches, WIC participant resistance
    a. How did you address or overcome these?
    b. How supportive were supervisors when these challenges came up? Can you give an example?

SECTION 4: REACH

Next, we are going to ask about how and more specifically which WIC participants engaged with the innovation project.

8. **[PRIORITY]** Based on your experiences with WIC participants during this project, how aware of the innovation project changes were they?
    a. How receptive were they to these changes?
    b. Where some WIC participants more or less receptive to the changes? Why?

9. Were there any differences in which WIC participants used and/or benefitted from the new innovations compared to the general WIC population you serve?
   [IF YES] Could you describe any differences?
   Probe for sociodemographic differences (race/ethnicity, language, urbanicity, income, tech familiarity, etc.)

10. **[PRIORITY]** Could you describe any key challenges faced, if any, in getting WIC participants to **[PARTICIPATE IN/UTILIZE]** the new innovation(s)?
    a. How were these challenges addressed?
    b. Could you describe any challenges faced by some WIC participants but not others?
    Probe for sociodemographic differences (race/ethnicity, language, urbanicity, income, tech familiarity, etc.)

11. Based on your experiences with this innovation project, what advice on increasing WIC participant participation, related to your innovation project, would you give to your counterparts who implement a similar project?

SECTION 5: EFFECTIVENESS

Now that we've talked about who took part in and was ultimately impacted by the innovation project, let's discuss its impact on WIC participants. All projects funded under this WSPI initiative had a focus on improving the certification process. The following questions are about your innovation project's activities and outcomes related to certification.

12. **[PRIORITY]** How has the innovation project impacted your interactions with WIC participants, if at all? Do you have any examples?

13. **[PRIORITY]** In your role working with WIC participants, could you describe any changes you have seen over the past **[TIMEFRAME RELEVANT TO PROJECT]** in your observations of WIC participant satisfaction with the certification process, if any?
    [IF ANY] How have these changes impacted how WIC participants utilize the WIC Program?
    [IF ANY] How have these changes impacted your experience working with WIC participants?
    [IF NONE] Why do you think there hasn't been any changes despite the efforts of the **[SA or LA]?**

14. **[PRIORITY]** As far as you can tell, were there any differences in WIC participant satisfaction across different sub-groups (race/ethnicity, language, urbanicity, income, tech familiarity, etc.)?

15. **[PRIORITY]** Based on your experiences with this innovation project, what advice on increasing WIC participant satisfaction, related to your innovation project, would you give to others planning to implement a similar project?

SECTION 6: MAINTENANCE

We're almost done. I have just one more question.

16. Based on your experiences with this innovation project, what is needed to sustain the innovation(s) over time (e.g., training, increase staff capacity, staff expertise)?
    a. What changes to the innovations, if any, would you suggest going forward?

SECTION 7: OTHER

17. I've asked you a lot of questions today but is there anything else that you would like to share with me that I didn't ask you about in terms of lessons learned from the innovation project?

Thank you again for your time today and all of the helpful information you provided! Have a great day!

B2. Staff Interview Guide, Version: Implementer

Hello **[INTERVIEWEE NAME]**,

Thank you for making time for the interview today. We really appreciate it!

Before we start, I want to give you some background information. We are conducting interviews with several key personnel involved in implementing and/or overseeing aspects of the **[SUB-GRANTEE PROJECT NAME].** We want to understand your perspective and thoughts about your organization's WSPI innovation project, including your successes, challenges, and opportunities for improving or expanding on your innovation project in the future. The interview should take about 45-60 minutes to complete.

As I mentioned, I'm with the Gretchen Swanson Center for Nutrition. The Center is a research and evaluation firm, and our role is to conduct these interviews. We will keep everything you say confidential, and we will not share any identifiable information about you or anyone in your organization in our reporting. All findings will be presented in aggregate to ensure they cannot be tied back to one person. Finally, know that you do not have to answer any questions you feel uncomfortable responding to, and you may end the interview at any time and for any reason.

Do you have any questions before we begin?

Do you consent to participating in this interview and having the interview audio- recorded?
****IF YES, START THE RECORDER NOW****

Throughout the interview we will use the term "innovation project" or just "project" to refer to the specific initiative and activities conducted through your WSPI funding.

[NOTE: Be sure to define "innovation project" for the interviewee and make sure they understand what you are referring to.]

SECTION 1: GENERAL

1. Can you start us off by describing what your role is in WIC and on the innovation project?

SECTION 2: ADOPTION

For this next set of questions, I'm interested in understanding the organizational factors that were important when you decided to do this work or begin your innovation project.

2. Can you describe how much, if any, say you had in the decision to participate in this innovation project?
   [IF HAD ANY SAY] What impacted your decision to participate?

3. **[PRIORITY]** Could you describe any challenges you ran into getting the site/site(s) up and running?
   If multiple sites, probe on what was the same and/or different between sites

4. **[PRIORITY]** What factors were helpful or facilitated staff uptake or buy-in?

SECTION 3: IMPLEMENTATION

We've talked a bit about how your organization or team made the decision to start the innovation project. Next, I'm going to ask you about the actual implementation of specific activities from the innovation project.

5. **[PRIORITY]** Could you describe how staff were trained or prepared for this innovation project?
   a. Was the amount and type of training appropriate? How so?
   b. How much follow-up training or support was needed by trainees?
   c. Would you suggest making changes to the training (e.g., content, timing, length, location) if you did it again?

6. **[PRIORITY]** How did the final innovation project compare to what was originally proposed? Did *what* you designed differ from what was implemented?
   a. What changed?
   b. Were any components adapted or heavily modified along the way? If so, why?
      Probe about any WIC participant/staff feedback
   c. Were any elements or pieces not implemented as intended? Why?
      Probe about any WIC participant/staff feedback

7. **[PRIORITY]** What were some of the specific challenges for implementation of this innovation project?
   Probe for examples specific to the site
   Probe for staff, technology glitches, client resistance
   a. How did you address or overcome these?
   b. How supportive was leadership/state agency when these challenges came up? Can you provide examples?

8. Based on your experience with implementing this innovation project, what advice would you give to your counterparts who may implement a similar project?

SECTION 4: REACH

Next, we are going to ask about how and more specifically which WIC participant engaged with the innovation project.

9. **[PRIORITY]** Could you describe any key challenges, if any, you faced in getting WIC participants to **[PARTICIPATE IN/UTILIZE]** the new innovation(s)?

a. How were these challenges addressed?
b. Could you describe any challenges faced in engaging some WIC participants but not others?
Probe for sociodemographic differences (race/ethnicity, language, urbanicity, income, tech familiarity, etc.)

10. Could you describe how your team promoted or encouraged WIC participant participation in the innovation project?
    a. What worked well/what didn't? Why?

11. Based on your experiences with this innovation project, what advice on increasing WIC participant participation, related to your innovation project, would you give to your counterparts who implement a similar project?

SECTION 5: EFFECTIVENESS

Now that we've talked about who took part in and was ultimately impacted by the innovation project, let's discuss its impact on WIC participants. All projects funded under this WSPI initiative had a focus on improving the certification process. The following questions are about your innovation project's activities and outcomes related to certification.

12. **[PRIORITY]** From your perspective, what impact did the innovation project have on WIC participant satisfaction with the certification process, if any?
    a. How did this compare to your expected impact?
    [IF LESS] What made it difficult to achieve the expected impact?
    [IF SAME/MORE] What was most helpful in enabling your innovation project to achieve the expected impact?
    b. As far as you can tell, were there any differences in WIC participant satisfaction across different sub-groups?
    Probe for race/ethnicity, language, urbanicity, income, tech familiarity, etc.

13. **[PRIORITY]** Could you describe any unpredicted outcomes from your innovation project related to the certification/recertification process, WIC participant satisfaction, or related impacts, if any?
    [IF ANY] Why did this happen?
    [IF BAD] How could it be avoided?
    [IF GOOD] How could future versions of this project ensure this outcome occurs?

14. Based on your experiences with this innovation project, what advice on increasing WIC participant satisfaction, related to your innovation project, would you give to others planning to implement a similar project?

SECTION 6: MAINTENANCE

We're almost done. I have just one more set of questions. I'd like to hear your thoughts on the project's long-term goals and sustainability.

15. This current innovation project period was short, but what impact would you expect the innovation project to have in the long term/after the grant period ends?

16. What is needed to sustain the work for the innovation project long-term at your organization?
    a. What conditions (like infrastructure and funding) need to be maintained after the end of the grant period for the project to continue successfully?
    b. What program components or implementation practices would need to be maintained for the innovation project to continue successfully?
    c. What modifications may be needed to sustain the innovation project over time (e.g., lower cost, different staff, reduced intensity)?

17. If another State or local agency were to replicate this innovation project, what do feel is critical success?
    a. What program components or implementation practices are essential for replication?
    b. Are there practices you would advise other States and local agencies to avoid?
    c. What advice would you give to other States and local agencies interested in replication or something similar of the innovation project?

SECTION 7: OTHER

18. I've asked you a lot of questions today but is there anything else that you would like to share with me that I didn't ask you about in terms of lessons learned from the innovation project?

Thank you again for your time today and all of the helpful information you provided! Have a great day!

B3. Staff Interview Guide, Version: Decision Maker

Hello **[INTERVIEWEE NAME],**

Thank you for making time for the interview today. We really appreciate it!

Before we start, I want to give you some background information. We are conducting interviews with several key personnel involved in implementing and/or overseeing aspects of the **[PROJECT NAME]**. We want to understand your perspective and thoughts about your

organization's WSPI innovation project, including your successes, challenges, and opportunities for improving or expanding on your innovation project in the future. The interview should take about 45-60 minutes to complete.

As I mentioned, I'm with the Gretchen Swanson Center for Nutrition. The Center is a research and evaluation firm, and our role is to conduct these interviews. We will keep everything you say confidential, and we will not share any identifiable information about you or anyone in your organization in our reporting. All findings will be presented in aggregate to ensure they cannot be tied back to one person. Finally, know that you do not have to answer any questions you feel uncomfortable responding to, and you may end the interview at any time and for any reason.

Do you have any questions before we begin?

Do you consent to participating in this interview and having the interview audio-recorded? ****IF YES, START THE RECORDER NOW****

SECTION 1: GENERAL

Throughout the interview we will use the term "innovation project" or just "project" to refer to the specific initiative and activities conducted through your WSPI funding.
[NOTE: Be sure to define "innovation project" for the interviewee and make sure they understand what you are referring to.]

1. Can you start us off by describing what your role is in WIC and on the innovation project?

SECTION 2: ADOPTION

For this next set of questions, I'm interested in understanding the organizational factors that were important when you decided to do this work or begin your innovation project.

2. **[PRIORITY]** First, can you just give me a little background as to what organizational needs led to your decision to pursue an innovation project specific to certification?
    a. What input or data led to the innovations selected for your project?
    b. How did your experience in the clinic or your clinical staff's experience inform the innovation project?
    c. How did input or experiences of WIC participants inform the innovation project?

3. Can you describe how this innovation project fits into the overall goals and mission for your **[SA or LA]**?

4. **[NOT APPLICABLE TO SINGLE SITE PROJECTS OR STATEWIDE PROJECTS]** How did you choose which sites to include in the project?

a. Could you describe any challenges you ran into getting the site/site(s) up and running?
   If multiple sites, probe on what was the same and/or different between sites
b. What factors were helpful or facilitated site uptake or buy-in?
   If multiple sites, probe on what was the same and/or different between sites

SECTION 3: IMPLEMENTATION

We've talked a bit about how your organization or team made the decision to start the innovation project. Next, I'm going to ask you about the actual implementation of specific activities from the innovation project.

5. **[PRIORITY]** How did the final innovation project compare to what was originally proposed? Did *what* you designed differ from what was implemented?
   [IF ORIGINAL DIFFERED FROM FINAL]
   a. What changed?
   b. Were any components adapted or heavily modified along the way? If so, why?
      Probe about any WIC participant/staff feedback
   c. Were any elements or pieces not implemented as intended? Why?
      Probe about any WIC participant/staff feedback

6. Who delivered or conducted the key activities in your innovation project (e.g., people that trained staff on new procedures, people that used new methods with WIC participants)?
   Probe for staff type and quantity per site
   a. How did this compare to who was planned to deliver the innovation project?
      If different, probe on what was different and why

7. **[PRIORITY]** What were some of the specific challenges encountered when implementing your innovation project?
   Probe for staff, technology glitches, WIC participant resistance
   Probe for challenges related to outside vendors and partners
   a. How did you address or overcome these?
   b. How supportive was your leadership when these challenges came up? Can you provide an example?

8. **[PRIORITY]** Based on your experience with implementing this innovation project, what advice would you give to your counterparts who may implement a similar project?

SECTION 4: REACH

Now I'm going to ask you questions about the "end-users" or WIC participants that engaged in the innovation project. For some of these questions, you may not have the information or details, and that is okay.

9. **[PRIORITY]** Could you describe the population of focus for your innovation project?
    a. **[IF A SPECIFIC POPULATION]** How did they differ from the larger WIC population?
    b. **[IF DIFFERENT]** Why was it important to focus on this group?

10. Could you describe key challenges faced in engaging your population of focus in the innovation project, if any?
    a. How were these challenges addressed?
    b. Could you describe any challenges faced in engaging some WIC participants but not others?
    Probe for sociodemographic differences (race/ethnicity, language, urbanicity, income, tech familiarity, etc.)

SECTION 5: EFFECTIVENESS

Now that we've talked about who took part in and was ultimately impacted by the innovation project, let's discuss its impact on WIC participants.

11. From your perspective, what impact did the innovation project have on WIC participant satisfaction with the certification process, if any?
    a. How did this compare to your expected impact?
    [IF LESS] What made it difficult to achieve the expected impact?
    [IF SAME/MORE] What was most helpful in enabling your innovation project to achieve the expected impact?

12. For your innovation project, another one of your other expected outcomes was **[PROJECT'S SECONDARY OUTCOME(S)].** Could you describe the impact your project had on **[PROJECT'S SECONDARY OUTCOME(S)]**?
    a. How did this compare to your expected impact?
    [IF LESS] What made it difficult to achieve the expected impact?
    [IF SAME/MORE] What was most helpful in enabling your innovation project to achieve the expected impact?

13. Could you describe any unintended outcomes from your innovation project related to the certification/recertification process, WIC participant satisfaction, or related impacts, if any?
    [IF ANY] Why did this happen?
    [IF BAD] How could it be avoided?
    [IF GOOD] How could future versions of this project ensure this outcome occurs?

14. Based on your experiences with this innovation project, what advice on increasing WIC participant satisfaction, related to your innovation project, would you give to others planning to implement a similar project?

SECTION 6: MAINTENANCE

We're almost done. I have just one more set of questions. I'd like to hear your thoughts on the project's long-term goals and sustainability.

15. **[PRIORITY]** This current innovation project period was short, but what impact would you expect the innovation project to have in the long term/after the grant period ends?

16. **[PRIORITY]** What is needed to sustain the work for the innovation project long-term at your organization?
    a. What conditions (like infrastructure and funding) need to be maintained after the end of the grant period for the project to continue successfully?
    b. What program components or implementation practices would need to be maintained for the innovation project to continue successfully?
    c. What modifications may be needed to sustain the innovation project over time (e.g., lower cost, different staff, reduced intensity)?

17. **[PRIORITY]** If another State or local agency were to replicate this innovation project, what do feel is critical success?
    a. What program components or implementation practices are essential for replication?
    b. Are there practices you would advise other State and local agencies to avoid?
    c. What advice would you give to other State and local agencies interested in replication or something similar of the innovation project?

SECTION 7: OTHER

18. I've asked you a lot of questions today but is there anything else that you would like to share with me that I didn't ask you about in terms of lessons learned from the innovation project?

Thank you again for your time today and all of the helpful information you provided! Have a great day!

B.4. Participant Interview Guide

Hello **[INTERVIEWEE NAME]**,

"I'm **[INTERVIEWER NAME],** and I work with the Gretchen Swanson Center for Nutrition. We are talking with you today because you expressed interest in participating in an interview about your experiences with your WIC office. Thank you for your interest in being interviewed.

We are conducting interviews with WIC participants across the U.S., including WIC participants from your WIC office. We want to understand your perspective and thoughts about the services you receive at your WIC office, including positives, negatives, and opportunities for improvements. The interview will take about 30 minutes. Participating in this interview has no known risks. Your participation may benefit the WIC community because it will help us to understand what it is like to participate in WIC and ways to make it better.

With your permission, we will be recording this session to catch all your important thoughts and suggestions, but your name will not be revealed to anyone other than research team members who transcribe the audiotapes. When we report our findings, no names will be used, and the report will be written so that it summarizes the comments of all people we interview. Individual information will not be reported. Your decision to participate today will NOT affect your WIC eligibility or benefits in any way. There are no right or wrong answers. While most of the questions are just about your own experience with WIC, if you are not comfortable answering a question, or if you do not know the answer, we can move on to the next question. You won't be penalized for skipping questions or stopping the interview.

We appreciate your time and the information you are providing us. We will provide you with a $25 gift card upon completion of this interview.

- Do you have any questions for me before I ask for your permission to record? **[ANSWER QUESTIONS]**
- Do you agree to participating in this interview and having the interview audio-recorded? ****IF YES, START THE RECORDER NOW****

SECTION 1. QUESTIONS ASKED OF ALL PARTICIPANTS

1. First, I'm going to ask some questions about you and your experience with the WIC program.
    a. Thinking back *prior* to this appointment, how did you hear about WIC?
    b. How long have you and/or members of your household been a part of the WIC program?
        i. Which members of your household, including yourself, currently participate in WIC?
    b. **[IF APPLICABLE]**: Did you and/or members of household participate in WIC previously (i.e., in the past)?

i. **IF YES:** How many times have you and/or members of your household participated in WIC in the past? And for how long?
ii. **IF YES:** Which members of your household, including yourself, participated in WIC in the past?

2. Now, I am going to ask you your thoughts about the process and steps you took during the most recent certification appointment where you applied or reapplied for WIC benefits (in-person or virtually). This is the appointment when WIC asked you to provide your income, address, and identification.
    a. Could you describe what happened at that appointment? **[MAKE SURE WHAT THEY ARE DESCRIBING IS A CERTIFICATION APPOINTMENT, IF NOT MAKE SURE TO CLARIFY AND GET THEM TO THINK ABOUT THEIR MOST RECENT CERTIFICATION APPOINTMENT]**
        i. How did you schedule this appointment? (e.g., online, walk-in, through text, called WIC directly)
        ii. How long ago was that appointment?
        iii. Was it in-person or virtual (e.g., over the phone or via video)?
        iv. What did you like and not like about it?

SECTION 2. WSPI SUB-GRANTEE SPECIFIC QUESTIONS

[INTERVIEWER INSTRUCTIONS: SKIP TO RESPECTIVE SUB-GRANTEE SPECIFIC QUESTION BLOCK, THEN CONTINUE TO SECTION 3]

SECTION 2.1 Family Services Lincoln WIC Program Questions

Next I'd like to talk about some changes that were made to the Family Services Lincoln WIC Program.

b. Were you aware that Family Services Lincoln WIC offers a web portal where you could upload documents like income verification before your appointment, so you don't have to bring them in?
    i. **[IF YES:]** Did you utilize the portal?
        - **[IF THE PARTICIPANT IS AWARE & USED IT:]**
            - How was your experience with the portal?
            - Did you feel more prepared for your appointment where you applied for WIC benefits due to using the portal? If so, how?
            - Do you plan on using the portal again in the future? Why or why not?
            - How could the portal be improved?

- **[IF THE PARTICIPANT IS AWARE, BUT HAS NOT USED PORTAL:]**
    - Why didn't you utilize it?
    - Do you think the portal would be useful for you in future WIC appointment?

i. **[IF NO:]** Do you think the portal would be useful for you in future WIC appointment?

ii. **[FOR ALL PARTICIPANTS, REGARDLESS OF USE]:** How could WIC make clients more aware of the portal?

c. Were you aware that Family Services WIC offers an online text chat during business hours to answer any quick questions about WIC or to help with appointment scheduling?

i. **[IF YES:]** Did you utilize the WIC text chat?

- **[IF THE PARTICIPANT IS AWARE & PARTICIPATED:]**
    - How was your experience with the text chat?
    - Did you feel more prepared for your appointment where you applied for WIC benefits due to using the text chat feature? How so?
    - Do you plan on using the text chat again in the future? Why or why not?
    - How could the text chat be improved?
- **[IF THE PARTICIPANT IS AWARE, BUT HAS NOT USED THE TEXT CHAT:]**
    - Why didn't you utilize it?
    - Do you think the text chat would be useful for you in future WIC appointment?

ii. **[IF NO:]** Do you think the text chat would be useful for you in future WIC appointment?

iii. **[FOR ALL PARTICIPANTS, REGARDLESS OF USE]:** How could WIC make clients more aware of the text chat?

d. Were you aware that Family Services Lincoln WIC offers a way to schedule appointments online on their website?

i. **[IF YES:]** Did you utilize the website to schedule appointments?

- **[IF THE PARTICIPANT IS AWARE & PARTICIPATED:]**
    - How was your experience with scheduling an appointment online?
    - Did you feel more prepared for your appointment where you applied for WIC benefits due to using the online scheduling feature? How so?

- Do you plan on using the website to schedule appointments again in the future? Why or why not?
- How could the website schedule feature be improved?

- **[IF THE PARTICIPANT IS AWARE, BUT HAS NOT USED THE WEBSITE TO SCHEDULE:]**
  - Why didn't you utilize it?
  - Do you think using the website to schedule appointments would be useful for you in future?

ii. **[IF NO:]** How would a website to schedule appointments be useful for you in future, if at all?

iii. **[FOR ALL PARTICIPANTS, REGARDLESS OF USE]:** How could WIC make clients more aware of using the website to schedule appointments?

e. Were you aware that Family Services Lincoln WIC offers their website in four different languages besides English (Spanish, Arabic, Vietnamese, and Korean)?

i. **[IF YES:]** Have you used the website in any of these other languages? If so, which language did you use?

- **[IF THE PARTICIPANT IS AWARE & PARTICIPATED:]**
  - How was your experience using the website in **[INSERT LANGUAGE]**?
  - Did you feel more prepared for your appointment where you applied for WIC benefits due to using the language options? How so?
  - Do you plan on using the website in **[INSERT LANGUAGE]** in the future? Why or why not?
  - How could the language options on the website be improved?

- **[IF THE PARTICIPANT IS AWARE, BUT HAS NOT PARTICIPATED:]**
  - Do you speak any languages other than English? If so, why did you not use the website in another language?
  - Do you think using the website in different languages would be useful for you in future?

ii. **[IF NO:]** Do you think using the website in different languages would be useful for you in future?

iii. **[FOR ALL PARTICIPANTS, REGARDLESS OF USE]:** How could WIC make clients more aware of the ability to view the website in multiple languages?

SECTION 2.2 Family Services Lincoln WIC Program Questions

Next I'd like to talk about some changes that were made to the Long Island Jewish WIC Program.

b. Were you aware that LIJ WIC is working with healthcare providers in Northwell to help refer moms and families to WIC?
    i. **[IF YES:]** Were you referred to WIC through a healthcare clinic/provider?
        - **[IF THE PARTICIPANT WAS REFERRED THROUGH THEIR CLINIC/PROVIDER:]**
            - Could you walk me through the process of how you were referred to WIC?
            - How was your experience with this referral process? What did you like or not like about it?
            - Did this have any impact on the way you interacted with the WIC staff? If so, how?
            - If you have a future pregnancy, would you want to go through the same referral process?
                i. **[IF WOULD NOT WANT TO:]** How could they improve this process?
            - Would you still have participated in WIC if you did not get referred? Tell me more about that.
    - **[IF NO:]** Would have it been helpful for you if your doctors, nurses, or other healthcare providers helped to connect you with WIC? Why or why not?

c. Were you aware that LIJ WIC offers a service called NowPow. NowPow provides referrals through an App (or printout of an App) to other important services that may be needed by WIC families.
    i. **[IF YES:]** Did you receive any referrals or information in NowPow?
        - **[IF THE PARTICIPANT IS AWARE & USED NOWPOW:]**
            - How was your experience with NowPow referrals?
            - How does this compare to previous ways you have been referred to community resources by WIC?
            - Would you want to use the NowPow referral system again in the future? Why or why not?
            - How could they improve this referral system?
        - **[IF THE PARTICIPANT IS AWARE, BUT HAS NOT USED NOWPOW:]**
            - Why didn't you use the NowPow referral system?
            - Do you think the NowPow referral system would be useful for you in future WIC appointment?
    ii. **[IF NO:]** Do you think the NowPow referral system would be useful for you in future WIC appointments?

iii. **[FOR ALL PARTICIPANTS, REGARDLESS OF USE]:** How could WIC make clients more aware of the NowPow referral system and how to use it?

SECTION 2.3 Michigan WIC Program Questions

Next I'd like to talk about some changes that were made to the WIC Client Connect online portal and mobile app. Some of the updates included the ability to check in for appointments online, share documents on the app, and fill in forms online.

b. Were you aware that Michigan WIC has an online portal and mobile app called WIC Client Connect (WCC)?
   i. **[IF YES:]** Did you utilize the WCC portal/app?
      - **[IF THE PARTICIPANT IS AWARE & USED IT:]** What did you use WCC portal/app to do?
        - How was your experience with the WCC portal/app?
        - Did you feel more prepared for your appointment where you applied for WIC benefits due to using the WCC portal/app? How so?
        - Do you plan on using the WCC portal/app again in the future? Why or why not?
        - What portal/app features were most helpful?
        - How could the WCC portal/app be improved?
      - **[IF THE PARTICIPANT IS AWARE, BUT HAS NOT USED PORTAL:]**
        - Why didn't you use it?
        - Do you think the WCC portal/app would be useful for you in future WIC appointment?
   ii. **[IF NO:]** Do you think the WCC portal/app would be useful for you in future WIC appointment?
   iii. **[FOR ALL PARTICIPANTS, REGARDLESS OF USE]:** How could WIC make clients more aware of the portal?

Now, I have some questions related to the availability of the website in languages besides English. Do you speak any other languages besides English?

c. Were you aware that Michigan WIC has its website available in Spanish, Arabic, and English?
   i. **[IF YES:]** Have you used the website in either of these other languages? If so, which language did you use?
      - **[IF THE PARTICIPANT IS AWARE & HAS USED OTHER LANGUAGES:]**
        - How was your experience using the website in **[INSERT LANGUAGE]**?

- Did you feel more prepared for your appointment where you applied for WIC benefits due to using the language options? How so?
- Do you plan on using the website in **[INSERT LANGUAGE]** in the future? Why or why not?
- How could they improve the language options on the website? What other ways could they improve the website?

- **[IF THE PARTICIPANT IS AWARE, BUT HAS NOT USED OTHER LANGUAGES:]**
  - Do you speak any languages other than English? **[IF NO, SKIP TO iii]** If so, why did you not use the website in another language?
  - Do you think using the website in different languages would be useful for you in future?

ii. **[IF NO:]** Do you think using the website in different languages would be useful for you in future?

iii. **[FOR ALL PARTICIPANTS, REGARDLESS OF USE]:** How could WIC make clients more aware that the website is available in multiple languages?

SECTION 2.4 Pennsylvania WIC Program or West Virginia WIC Program Questions

b. Now I'd like for you to think back to WIC appointments you had **before March 2020**. Could you describe your previous experiences with having height, weight, and blood measured at the WIC clinic?
   i. Who in your household had their height, weight, and hemoglobin measured?
   ii. How did that impact your (their) experience at the WIC clinic, if at all?
   iii. What were your impressions of the process for collecting height, weight, and blood at the WIC clinic?

c. Now back to your recent WIC appointment that we discussed earlier. For that one, height, weight, and blood was not measured, correct? How did that affect your experience at the WIC clinic, if at all?
   i. [**WV ONLY:** Did your clinic ever send you a waiver to fill out so WIC could use your height and weight information from your doctor?]
      1. [**IF YES:** how was that process? Is there anything you would change about the form or process?]
   ii. Did not having these measurements impact your household's thoughts about going back to the WIC clinic? If so, in what way?
   iii. Do you think your household is more or less likely to continue to use WIC long-term due to not having these measurements? Why?

iv. Did not having these measurements change how you or others in your family interacted with WIC staff? If so, please describe.

SECTION 3. FINAL QUESTIONS ASKED OF ALL SUB-GRANTEES

3. What other recommendations do you have to make applying for WIC easier?
   a. **[PROBE, IF NEEDED:]** Think back to the last time you applied for WIC, what could your WIC office do to make applying for WIC easier?

4. What other recommendations do you have to make participating in WIC easier?
   a. **[PROBE, IF NEEDED:]** What could your WIC office do to make participating in WIC easier?

SECTION 4. WIC PARTICIPANT SPECIFIC QUESTIONS

I will read out each question and the response options. Please choose the best option that applies to you.

a. Are you . . . **[READ ALL. CHECK ONE.]**
   - ❑ Hispanic or Latino
   - ❑ Not Hispanic or Latino
   - ❑ Prefer not to answer

b. How would you characterize your race? **[READ ALL. CHECK ONE.]**
   - ❑ American Indian or Alaska Native
   - ❑ Asian
   - ❑ Black or African American
   - ❑ Native Hawaiian or Other Pacific Islander
   - ❑ White
   - ❑ Prefer not to answer

c. What is your age?
   - ❑ **[ENTER AGE]:** _____
   - ❑ Prefer not to answer

d. What is your gender?
   - ❑ Male
   - ❑ Female
   - ❑ Other: ____
   - ❑ Prefer not to answer

e. What is the highest level of education you have attained? **[READ UNTIL R. INDICATES ANSWER. CHECK ONE.]**

- ❑ Elementary school (6 years or less of education)
- ❑ Some high school (7–11 years of education)
- ❑ High school diploma or GED
- ❑ Some college
- ❑ Associate's degree
- ❑ Bachelor's degree
- ❑ Advanced degree
- ❑ REFUSED

f. Which of the following was true during your last WIC appointment? You can provide more than one answer as needed.

- ❑ I (or my spouse) was pregnant or had recently given birth within the previous 6 weeks
- ❑ I (or my spouse) was breastfeeding and had given birth within the previous 12 months
- ❑ I (or my spouse) was not breastfeeding, but had given birth within the previous 6 months
- ❑ My infant(s) was less than 12 months old (and was enrolled or applying for WIC)
- ❑ My child(ren) was at least 1 year old and less than 5 years old (and was enrolled or applying for WIC)
- ❑ Prefer not to answer
- ❑ Other _____

g. Have you, or members of your family, ever received food through the . . . **[READ LIST]**?

[IF RESPONDENT SAYS 'NO' TO 'EVER' THEN SKIP 'CURRENTLY' OPTION]

TAILOR TO STATE PROGRAM NAMES WHERE APPLICABLE	Q38A. Ever	Q38B. Currently	Q38C. How long have you participated
i. Supplemental Nutrition Assistance Program (SNAP)	❍ YES ❍ NO ❍ UNSURE	❍ YES ❍ NO ❍ N/A	YEARS ____ MONTHS ____
ii. Head Start/Early Head Start	❍ YES ❍ NO ❍ UNSURE	❍ YES ❍ NO ❍ N/A	YEARS ____ MONTHS ____
iii. Free or Reduced-Price School Lunch or Breakfast Program	❍ YES ❍ NO ❍ UNSURE	❍ YES ❍ NO ❍ N/A	YEARS ____ MONTHS ____
iv. Summer Food Service Program (SFSP), for kids when not in school	❍ YES ❍ NO ❍ UNSURE	❍ YES ❍ NO ❍ N/A	YEARS ____ MONTHS ____
v. Free meals for children at daycare centers (Child and Adult Care Food program) (CACFP)	❍ YES ❍ NO ❍ UNSURE	❍ YES ❍ NO ❍ N/A	YEARS ____ MONTHS ____
vi. Local/community food bank or pantry	❍ YES ❍ NO ❍ UNSURE	❍ YES ❍ NO ❍ N/A	YEARS ____ MONTHS ____
vii. Commodity Supplemental Food Program, which provides food packages that are distributed through State and local agencies	❍ YES ❍ NO ❍ UNSURE	❍ YES ❍ NO ❍ N/A	YEARS ____ MONTHS ____
viii. Medicare/Medicaid	❍ YES ❍ NO ❍ UNSURE	❍ YES ❍ NO ❍ N/A	YEARS ____ MONTHS ____
ix. Unemployment benefits	❍ YES ❍ NO ❍ UNSURE	❍ YES ❍ NO ❍ N/A	YEARS ____ MONTHS ____
x. Disability benefits	❍ YES ❍ NO ❍ UNSURE	❍ YES ❍ NO ❍ N/A	YEARS ____ MONTHS ____

h. Counting yourself, how many adults aged 18 years old or older live in your household?

- ❑ **[ENTER NUMBER OF ADULTS]:** __
- ❑ Prefer not to answer

i. How many children less than 5 years old live with you in your household?

- ❑ **[ENTER NUMBER OF CHILDREN LESS THAN 5]:** __
- ❑ Prefer not to answer

j. How many children aged at least 5 years old and less than 18 years old live with you in your household?

- ❑ **[ENTER NUMBER OF PEOPLE BETWEEN 5-18]:** __
- ❑ Prefer not to answer

SECTION 5. CLOSING

Thank you for taking the time to answer my questions today. It's been great talking with you! Before we hang up, I just need to get your contact information so that I can get you your $25 gift card.

The gift card is electronic so that you can get it instantly and use it online. Do you have an email address you'd like to use?

Email:_____. **[REPEAT EMAIL ADDRESS TO CONFIRM].** Please note that you will need to enter in this same email address to confirm it's you when you get the email to get the gift card.

> **[IF EMAIL ADDRESS NOT AVAILABLE/PREFERRED:]** Okay, no problem. We can text the gift card number and information to you. What's a good phone number to send it to? Phone number:_____
>
> **[IF TEXTING NOT AVAILABLE/PREFERRED:]** Okay, no problem. We can mail a physical gift card to you. What's a good mailing address to send it to?
> Address:_____ City:_____State: _____ Zip code:_____
> Please allow for 5-7 days for the gift card to arrive.

[CONFIRM FIRST AND LAST NAME, IF NEEDED, BEFORE ENDING CALL]

Appendix C: Qualitative Codebook

Name	Description
1. Characteristics of the Innovation	
a. Underlying knowledge - Evidence - Research and published guidelines	Presence or absence of findings from quantitative, qualitative, or mixed methods studies, as well as literature reviews, that show the efficacy, effectiveness, or other evidence for the innovation (e.g., its utility or acceptability). Also includes discussion about published guideline recommendations.
b. Underlying Knowledge - Evidence - Clinical experience	Presence or absence of professional knowledge of or experience with the (WIC) Innovation which is based upon WIC clinic practice/process or workflow. Is often tacit or intuitive knowledge.
c. Underlying knowledge - Evidence - Patient needs, preferences, and experiences	Presence or absence of patients' personal knowledge of and experiences with an WSPI innovation, including current or previous experiences with the innovation, the extent to which the innovation met/meets their needs and preferences.
d. Underlying Knowledge - Evidence - Local practice information	Presence or absence of sources of evidence related to the WSPI innovation from the context of care such as the Local agency or clinic. Includes but is not limited to audit and performance data, report cards, progress reports, fidelity ratings, quality improvement and program evaluation data, and financial data/implications.
e. Clarity	Degree to which the WSPI Innovation is understood, including specifics of what components of the innovation must be implemented (for fidelity) and/or what can be adapted or changed. X-exclude training comments. If they weren't trained well enough to understand the components or how to use them code for Facilitation T/E as well.
f. Degree of fit	Extent to which the WSPI innovation is compatible with 1) the values and norms of individuals (i.e., WIC staff) implementing the innovation and/or 2) the existing practices and operations of the setting, including workflows, processes, roles, policies, etc.
g. Degree of novelty	Extent to which the WSPI innovation or components of the innovation is/are new to or different from individuals (i.e., WIC Staff) current thinking, ways of relating to and interacting with each other, or practice. x-previous WIC literature doesn't support. Function (form) is more important than 'wow' factor.
h. Usability	Degree of ease or difficulty with which the WSPI innovation can be, is, or was adopted and/or used, including the accessibility and availability of information/tools/guides regarding how to adopt/use the innovation. NOTE: Usability is critical to WIC Participants but how to code for end user versus usability (by staff); Could also be at WIC LA staff level, WIC clinic level, etc
i. Relative advantage	Comparison of the WSPI innovation with an existing program, practice, or alternative solution and the degree to which one is perceived and/or objectively observed to be more advantageous than the other in meeting WIC client, clinical, and/or organizational goals and needs. WIC organizational goals could be a the LA or clinic level.

j. Trialability	Whether the WSPI innovations or suite of products (i.e., data portal, chat bot, etc.) has been tested (or experimented with) on a small scale, including discussion about whether it is possible or not possible to conduct a pilot).
k. Observable results	Degree to which positive results/benefits of one or more than one of the WSPI innovations are directly observable/visible.
l. Complexity	Ways in which the WSPI innovation itself is simple or complicated. Discussion may be about the number of innovation components and/or interaction between them, the number and difficulty of behaviors that those delivering or receiving the innovation must perform, the number of groups or organizational levels targeted by the innovation, and/or the number and variability of outcomes.
2. Recipients	
a. Personal attributes - Values and beliefs	Personal traits or characteristics of any recipient(s). This can include tolerance of ambiguity, general intellectual ability, motivation to change, values, competence, innovativeness, seniority or tenure, learning style, being self-aware, reliable, other personality traits, etc.
b. Personal Attributes - Goals	Personal traits specific to goals/goal driven language by WIC doers or implementers.
c. Skills and knowledge	What recipients know and understand about the WSPI innovation and/or whether recipients have the ability/expertise to perform the tasks required for implementation.
d. Time, resources, support (How time, resources and support affect recipients)	How the presence or absence of sufficient time, resources and support is affecting/affected by the ability of a specific recipient (individual or team) to implement or receive the WSPI innovation. This is time/support/resources at the doer/implementer level.
e. Collaboration and teamwork	Group processes and team-related issues, including presence or absence of interprofessional collaboration, communication, and teamwork within teams, between teams and managers, and/or between individuals who work together toward a common goal; team building activities; areas of disagreement/conflict between team members or stakeholder groups; and available conflict management/resolution strategies. May include comments related to external team members not understanding or cooperating with WSPI innov. Effort.
f. Existing networks (How existing networks affect recipients)	How formal and informal networks and/or relationships is affecting/affected the ability and/or motivation of a specific recipient (individual or team) to implement or receive the WSPI innovation. Networks/relationships may be professional, task-related, or social and may occur at any level or across levels of the context (WIC setting). Examples of formal networks/relationships include memberships, listservs, communities of practice, learning communities, learning collaboratives, practice-based research networks, etc. Examples informal networks/relationships include social practices such as getting together with colleagues; friendships; "huddles" among clinical providers/teams; etc.
g. Power, authority, and autonomy	WIC processes, local clinic or agency. Power and/or authority may be derived from organizational role (e.g., leadership), professional role (e.g., physician, nurse, etc.), expertise, relationships to powerful others and/or ability to offer or deny rewards or use the threat of force to gain compliance. This would be power, authority and autonomy to implement various pieces of the WSPI innovations.
h. Presence of boundaries	Experience with boundaries between WSPI implementation teams or groups (e.g., professions/occupations, work units, service lines, roles) that influence implementation of the WSPI innovations. Examples include

	discussion about the lack of communication between primary care or hospitals referrals and WIC clinics; could include communication or lack thereof between WIC LA staff and front desk staff. May include comments about how various roles within WIC and the different types of professionals (see codebook).
i. General attitude	How the interviewee thinks or feels about the WSPI innovation generally. Examples include what they like, don't like, enjoy, etc.
j. Local opinion leaders	How the interviewee thinks or feels about the innovation generally, e.g., that they like it or don't like it, it is helpful, or they enjoy using it.
3a. Context - Inner, Local (LA or clinic, lower-level leadership)	
i. Formal and informal leadership support (Leadership support)	Local—within LA/clinic: Characteristics or behaviors of formal or informal leaders that either support or interfere with the implementation to sustain of the WPSI innovation. To code here: the conversation is at the local/CLINIC level. Note it can be positive or negative; how WIC leadership supports or fails to support the adoption and implementation of the WPSI innovation. If this is not about the WSPI innovation, it should be coded outside of i-PARIHS/Re-AIM.
ii. Culture (Culture and climate)	Culture of the WIC clinic organization or organizational unit, including prevailing norms, values, beliefs, meanings, understandings, philosophies, way of life, and assumptions. Also includes discussion about the current climate of the organization or organizational unit, e.g., staff empowerment, morale, attitudes, job satisfaction, burnout, etc., as well as the degree of stability/instability of the environment in which implementation is occurring/will occur.
iii. Past experience with innovation, change (History of innovation and change)	How the organization or organizational unit has historically experienced, undertaken, and responded to past change initiatives and/or innovations.
iv. Evaluation and Feedback processes (Evaluation, monitoring, and feedback)	How the WIC clinic or LA collects, assesses, monitors and disseminates data/information about clinical processes and outcomes, economic outcomes, user experiences, clinical performance, etc. Also includes discussion about data sources (e.g., data dashboards, medical records) and ways in which results are fed back to and used by individuals, teams, and services (e.g., through presentations and/or formal reports). This information may be used, e.g., to understand current ways of working or to improve processes.
v. Political factors and dynamics	WIC organizational politics (i.e., how individuals or groups use political strategies to gain/use power and/or social influence in order to positively/negatively affect decisions and activities related to the adoption or implementation of an innovation). For example, they might create conflict, form alliances, bargain, use stalling tactics, discredit others, or compromise. If relevant, this code also includes discussion about the larger political environment (e.g., state/national government) (see codebook).
vi. Infrastructure, resources, and support	Presence or absence of infrastructure (e.g., facilities, space, equipment, transportation), resources (e.g., funding, staffing, time, education, skills training, materials) and/or support (e.g., supervisory, clerical) for implementing the WSPI innovation.
3b. Context - Inner, Organizational (State agency, higher level leadership)	

i. Leadership and senior management support	Senior management and/or WIC SA: Characteristics or behaviors of formal or informal leaders that either support or interfere with the implementation to sustain of the WPSI innovation. To code here: the conversation is at the local/CLINIC level. Note it can be positive or negative; how WIC leadership supports or fails to support the adoption and implementation of the WPSI innovation. If this is not about the WSPI innovation, it should be coded outside of iPARIHS/Re-AIM.
ii. Culture (Culture and climate)	Culture of WIC at the State or perhaps LA + health system interaction (LIJ) or between WIC State agency (WA/PA) including prevailing norms, values, beliefs, meanings, understandings, philosophies, way of life, and assumptions. Also includes discussion about the current climate of the organization or organizational unit, e.g., staff empowerment, morale, attitudes, job satisfaction, burnout, etc., as well as the degree of stability/instability of the environment in which implementation is occurring/will occur. Impacts of the COVID-19 pandemic on the culture/norms in clinic should be included here.
iii. History of innovations and change	How the organization or organizational unit has historically experienced, undertaken, and responded to past change initiatives and/or innovations.
iv. Organizational priorities (Policies and priorities [includes mandates])	Organizational policies, policy drivers, mandates, and/or priorities; whether/how these related to/support/hinder the innovation and/or its implementation; and the changes required. Policies are the decisions, plans, and actions that an organization, organizational unit, state or country take to achieve specific goals. They include statements of what needs to happen and how (e.g., legislation enacted by a government, regulations or rules issued to carry out the intent of laws or of regulatory bodies, etc.).
v. Learning networks (Network and relationships)	Formal or informal networks and/or relationships that may be/have been leveraged to support or hinder implementation. Networks/relationships may be professional, task-related, or social and may occur at any level or across levels of the context. Examples of formal networks/relationships include memberships, listservs, communities of practice, learning communities, learning collaboratives, practice-based research networks, etc. Examples of informal networks/relationships include social practices such as getting together with colleagues for lunch; regular hallway conversations with certain colleagues; friendships; "huddles" among clinical providers/teams; etc.
vi. Structures and systems	Formal and informal ways in which the organization or organizational unit is structured and managed and/or its processes for accomplishing work. Examples of structure include authority hierarchies (e.g., chain of command), service lines, matrices, specialized or functional units or departments, inter-/multi-disciplinary teams and task forces, and decision-making levels represented in organizational charts. Although structure and systems are not always distinct, systems generally are related to organizational routines and processes, e.g., for information sharing, learning, workflow, IT, etc.
vii. Absorptive capacity	How the WIC Clinic or unit (e.g., department or clinic) identifies, acquires, assimilates, transforms, and/or applies new, valuable knowledge (e.g., evidence, Guidelines, best practices). This includes analyzing, processing, interpreting, understanding, combining with existing knowledge, and applying/incorporating new knowledge into organizational competencies and routines.
viii. Political factors and dynamics	WIC organizational politics (i.e., how individuals or groups use political strategies to gain/use power and/or social influence in order to positively/negatively affect decisions and activities related to the adoption or

	implementation of an innovation). For example, they might create conflict, form alliances, bargain, use stalling tactics, discredit others, or compromise. If relevant, this code also includes discussion about the larger political environment (e.g., state/national government) (see codebook).
x (ix). Infrastructure, resources, and support	Presence or absence of infrastructure (e.g., facilities, space, equipment, transportation), resources (e.g., funding, staffing, time, education, skills training, materials) and/or support (e.g., supervisory, clerical) for implementing the WSPI innovation.
3c. Context - Outer	
i. Policy drivers and other priorities and regulatory frameworks (Policies and priorities [includes mandates])	Policy drivers are forces that influence policy decisions, e.g., serious problems, i.e., high rates of suicide; legal or ethical concerns, i.e., lack of equity; and crisis events, i.e., hurricanes and forest fires. Mandates are formal orders/commands/requirements and may be component of written policies. Organizational priorities are identified areas of focus, e.g., improving access to care and reducing medical errors in healthcare settings. Reference is at WIC State agency or federal level; this would be specific reference to FNS policy directives and/or guidance from SA that impacted implementation of the WSPI innovations. This may be positive--as in these mandates required us (WIC clinic) to move in this direction and/or other mandates hindered our ability to do WSPI innovation.
ii. Interorganizational networks and relationships	Formal or informal networks and/or relationships that may be/have been leveraged to support or hinder implementation. Networks/relationships may be professional, task-related, or social and may occur at any level or across levels of the context. Examples of formal networks/relationships include memberships, listservs, communities of practice, learning communities, learning collaboratives, practice-based research networks, etc. Examples of informal networks/relationships include social practices such as getting together with colleagues for lunch; regular hallway conversations with certain colleagues; friendships; "huddles" among clinical providers/teams; etc.
iii. Incentives and mandates (Incentive and rewards)	Mechanisms/strategies that motivate/encourage/reinforce or that deter/discourage the implementation of the innovation and proposed changes, including incentives/rewards (e.g., casual dress day; pizza day, time off; recognition; financial incentives, i.e., pay for performance; etc.) and disincentives (e.g., negative performance reviews, reprimands, regulatory requirements, etc.).
iv. Political factors and dynamics	WIC organizational politics (i.e., how individuals or groups use political strategies to gain/use power and/or social influence in order to positively/negatively affect decisions and activities related to the adoption or implementation of an innovation). For example, they might create conflict, form alliances, bargain, use stalling tactics, discredit others, or compromise. If relevant, this code also includes discussion about the larger political environment (e.g., state/national government) (see codebook).
v. Infrastructure, resources, and support	Presence or absence of infrastructure (e.g., facilities, space, equipment, transportation), resources (e.g., funding, staffing, time, education, skills training, materials) and/or support (e.g., supervisory, clerical) for implementing the WSPI innovation.
4. Facilitation Activities	

a. Providing education, information - Marketing or promotion	Marketing materials for the WSPI innovation and/or organizational change processes and providing information to promote/publicize the WSPI innovation. This includes: 1) the content of market materials; and/or 2) the process of marketing.
b. Providing education, information - Providing education on how to use the innovation	Educating stakeholders on the new skills related to the WSPI innovation. This includes: 1) the content of education/information (e.g., information about the innovation and evidence for it, reasons for change, potential outcomes, clinical knowledge/skills needed, etc.); and/or 2) the process of providing education/information (e.g., teaching, training, mentoring, coaching, supervision, experiential/active learning, etc.).
c. Collecting data, providing feedback	Collecting data and other information specific to the WSPI innovation to 1) assess and understand the local context, baseline performance, and implementation barriers/enablers; 2) collect/monitor implementation activities, progress, and outcomes; and 3) provide stakeholders with feedback on data and updates on implementation activities and relevant professional or system-level information. This is a cluster code which can be sub-coded with the following activity codes: Conducting ongoing monitoring of innovation.
d. Building relationships, teams, and networks	Engaging and building relationships with WIC stakeholders, seeking their participation and buy-in (all levels of WIC) for the WSPI innovation project, overcoming resistance to change, managing groups and team processes (including creating an atmosphere of mutual respect, empowering group members, and building relationships between experts/organizations. This is a cluster code that can be sub-coded with the following activity codes: Engaging stakeholders, obtaining buy-in, Fostering networking with experts
e. Enabling, fostering change	Encouraging, promoting and helping to support changes in the organizations specific to WSPI innovation, including by interceding and liaising with leadership or other stakeholders and assisting with the development of strategies and policies. The target of change efforts may be the organizational structure or culture or the target of change may not be specified but the methods of fostering change are specified. (For example, discussion may be about assisting stakeholders with conducting quality improvement.
f. Problem identification and resolution	Internal problem solving by WSPI innovation teams. Conducting or helping stakeholders 1) identify, become aware of, or clarity implementation challenges/barriers/problems and/or 2) generate potential solutions/countermeasures or select the one(s) most likely to address/solve implementation challenges/barriers/problems. This is a cluster code and can be sub-coded with the following activity codes: Problem identification, Problem solving.
g. Planning, preparing for implementation	Helping stakeholders develop or refine Action/Implementation plans for the WPSI innovations, come to consensus, adapt the innovation to the local context (structure, staffing, culture, and other initiatives) and current WIC clinic conditions due to COVID-19 pandemic share a vision for change, and identify goals and priorities. This is a cluster code that can be sub-coded with the following activity codes: Action/implementation planning, adapting innovation to local context, Developing shared vision/consensus building.
h. Helping to define, identify, and fill stakeholder roles	Helping to identify and select local change agents (e.g., facilitators, QI team members, local champions, opinion leaders) and/or hire innovation providers (WSPI technology support), as well as establish, describe/clarify, and/or allocate facilitator and stakeholder roles and responsibilities. This is a cluster code

	and can be sub-coded with the following activity codes: Describing/clarifying roles and responsibilities, Helping to hire clinical program staff, Helping identify/select local change agents.
i. Providing administrative, technical support	Conducting administrative tasks that support the operationalization of implementation activities and providing technical support, i.e., practical help and assistance to support implementation of the WSPI innovation. Examples of administrative tasks include arranging calls & meetings for the implementation team about the WSPI innovation, and implementation site visits specific to WPSI innovation; developing/preparing and disseminating minutes/reports and educational/marketing materials about the WSPI innovation.
j. Using interpersonal skills to create a supportive environment	Using positive, supportive behaviors and communications to create and open, supportive, and trusting environment conducive to change, including being generally helpful and available, communicating regularly, acknowledging ideas and efforts and celebrating achievements/success related to the implementation and success of the WSPI innovation. This code also includes selectively reducing the level of facilitation support, including positive supportive behaviors, in order to allow the transfer of facilitation.
k. Obtaining, disseminating innovation or facilitation knowledge	Obtaining information about/developing skills needed for facilitating implementation of the WSPI innovation or fostering dissemination of knowledge about the WSPI innovation(s) or facilitation other than at the implementation site(s). Facilitators may foster dissemination by attending, presenting at or organizing non-local meeting or by assisting with dissemination at sites not receiving facilitation. This is a cluster code that can be sub-coded with the following activity codes: attending, presenting at, and/or organizing non-local meetings; fostering speak of clinical innovation/facilitation methods; obtaining training/continuing education.
5. RE-AIM	
a. Reach	The absolute number, proportion, and representativeness of WIC participants who benefitted from and/or participated in the innovation. Barriers and facilitators to reaching more WIC participants or reaching certain sub-groups of WIC participants. Reason WIC participants participated or did not participate. Description of target audience and rationale, and degree to which the target audience was reached.
b. Effectiveness	The impact of the innovation on client satisfaction, both negative and positive. Heterogeneity of effects on client satisfaction across sites and/or sub-components of the intervention, and reasons for heterogeneity and/or success or lack of success.
c. Adoption	The absolute number, proportion, and representativeness of a) local agencies and/or clinics that participated in the innovation; and b) WIC staff who deliver the innovation as part of their day-to-day duties. Reasons for adopting the innovation at the organizational and staff level. Staff and organizational level buy-in, and effects on staff satisfaction.
i. Health equity considerations in Adoption	Quotes that answer the questions: Did all settings/staff equitably adopt the innovation? Which settings and staff adopted and applied the innovation? Which did not and why? Were low-resource settings able to adopt the innovation to the same extent as higher-resource settings? What adaptations might be needed to facilitate adoption?

d. Implementation	Consistency of delivery of the innovation as originally intended. Reasons for modifications made to the innovation and rationale. Costs of implementation including perceptions of costs and types of costs.
i. Health equity considerations in Implementation	Quotes that answer the questions: Were the innovation and implementation strategies equitably delivered across settings/staff? Which settings/staff successfully delivered the innovation and implementation strategies and which did not and why? Do all settings/staff have the capacity and resources to deliver the innovation on an ongoing basis? What adaptations might be needed to promote equity and address social determinants of health?
ii. Maintenance	Perceptions of the extent to which: a) any effects on client satisfaction will be beyond the life of the grant; and b) the innovation will become institutionalized or part of the routine organizational practices and policies. Includes proportion and representativeness of settings that continue the innovation and reasons for maintenance, discontinuance or adaptation.
6. COVID-19 Pandemic Impacts to Innovation	
a. Planned procedure changes due to COVID-19 pandemic waivers	Project procedure changes to original proposed innovation due FNS waivers. These procedure changes were planned BEFORE innovation implementation. Waivers that may have affected proposed innovations: waiver to remove requirements for in-person office visits at enrolment or re-enrolment, provide the flexibility to postpone lab tests (i.e., bloodwork) or weight and length/height measurements typically required to determine eligibility, suspend requirements for in-person pickup of vouchers/checks/EBT).
b. Unexpected COVID-19 pandemic-related impacts on implementation and adoption	During grant period, unexpected ways in which the COVID-19 pandemic emergencies impacted project adoption and implementation (e.g., communication and outreach issues, limited staff for innovation implementation, ability of State agency and local agency to implement the innovation while responding to infant formula recall or to CVB increases).
c. Long-term shifts in culture and organizational priorities	Shifts in culture and organizational priorities related to lessons learned during the pandemic and that have affected innovation implementation/maintenance (e.g., offering remote appointment alternatives to accommodate participants' interest in remote options).
d. Differences between expected and actual reach of the innovations effected by pandemic	Differences in the representativeness and number of participants staff expected to benefit from/participate in the innovation versus who the innovation actually benefited. These differences in expected versus actual reach are explicitly caused by the COVID-19 pandemic.
e. Other COVID-19 Pandemic impacts	

Appendix D: Qualitative Thematic Tables

D.1: Reach Thematic Table

Theme	Description	Stakeholders				Examples
		Decision Maker	Implementers	Doers	Participants	
Tech familiarity was an indicator of whether WIC participants were likely to use the innovation.	Many staff and one participant said that those in younger generations or new to WIC were characterized as more tech-savvy and more likely to use the innovation than older generations or existing WIC participants (all subgrantees).	x	x	x	x	"So I feel like a lot of our clients that are using it are younger, in their 20s. I think a lot of our clients that have been with us for a while tend to call us or use that phone to call and talk to us versus going on the website. And then our new clients, we have for percentages of people using it, I feel like our new clients use it more often. Brand new clients use it more often than our current clients." - Implementer "Definitely tech familiarity because a lot of the time some clients prefer more paper copies and all that and they're not that tech savvy to use app, especially clients who are a little bit older compared to the younger generation. And also depends on what kind of smartphone they have as well. If they have access to internet. So that's another thing." - Doer "Interviewer: So were you aware that [Subgrantee WIC Program] offers a web portal where you could upload documents, like your income verification before your appointment so that you don't have to bring them in? Respondent: No, but I don't believe I'd be interested in it because I'm not good with stuff like that. I am probably old fashioned, I'd like to just take it in." – Participant
In rural communities, there was less uptake of the innovation.	A few staff identified that those in more rural communities struggled to	X	x	x		"Otherwise, I think the only downside is if you don't have providers participating. [Subgrantee Health System] has a lot of practices throughout

	use the innovation. Technical challenges such as cellphone/internet signal availability (CO, MI, PA/WV), and fewer medical providers available to provide referrals, were limitations to reaching rural populations.					the state, but there are still pockets, especially in the rural locations, that it's an independent physician and they may not participate in the Health Information Network because it's a free service for so long and then the physician has to pay for dumping their EMR within that." – Implementer "I'd say maybe some people in rural counties or rural areas, they might not have access to the internet or the phone. Some of them do have PO boxes, so they might have to travel a little bit just to get their mail. So we can't really email a lot of the participants. A lot of them don't have emails that we could send things to." – Doer
The different types of communication strategies to reach participants had different levels of success.	Staff and participants discussed the effectiveness of different innovation promotion strategies. Most participants heard of the innovation through the WIC staff/appointments and that is how most participants suggested it be shared. This is congruent with how staff said they were sharing the innovation. However, staff also said that they were sharing the innovation through social media, but no participants identified that as a way they had heard of the innovation nor did they suggest using that as a	x	x	x	x	"They gave me the information about it in the office at my first WIC appointment" – Participant

	way to promote the innovation. Finally, staff also said that they were sharing the information via text, but few participants said they were reached by text, but many suggested that as an option to promote the innovation. (all subgrantees)					
Unique outreach strategies helped reach underrepresented communities.	Both PHFE staff and focus groups identified important considerations for reaching the Black/African American community including: • Building trust within the community • Ensuring participants are able to see themselves in the program • Implementing outside-the-box outreach strategies to increase program awareness • Developing culturally appropriate materials	x	x	x	x	"I think just going back to understanding who your population is and really listening to their stories so that you really know what their needs are, what exactly it is that you need to do with your project, to shape around what is going to benefit them the most from something like this. [...]" -Implementer "I would say, I guess, broaden the spaces where WIC is advertised, because from what I know, and excuse the way I'm going to say it, WIC is known for low-income families, so helping other individuals know, outside of spaces that society sees is where low-income families go, the certain grocery stores, the county building. Yeah, those are two places that I know of and that I know from other clients that have said it. Broadening the scope. Maybe if they can afford commercials on TV, the billboard. Billboards outside of low-income communities, because, especially at this time and this day and age, people need as much help as they can get. Especially with milk being $20 a gallon and eggs being $10 for 12 eggs. You know what I'm saying? Or a dozen. Just broadening the scope and opening up the eyes of people outside of, in quotes, low-income communities, who are

						particularly Black and Brown communities, to let them know that ... I know the marketing spec piece is for Black women, but Black women, we're not just in the grocery store. We're not just in the county building. A lot of us have full-time jobs outside of the communities we dwell in, so I guess, finding out where we are, outside of those spaces." -Participant
Spanish-speaking WIC participants had difficulty using the innovation.	Bilingual/Hispanic/refugee clients were resistant to using the innovation (e.g. technology or translation barrier) (FSL, MI, PA/WV).		x	x		"Well, as I mentioned earlier, some of our Spanish-speaking clients do struggle a little bit more with that. And it's hard to say why. Is it a language barrier? Is it a technology barrier? I can't say for sure. But I do see that there is a bit of a struggle there in some cases, yeah." - Implementer

D.2: Effectiveness Data Table

Theme	Description	Stakeholders				Examples
		Decision Maker	Implementers	Doers	Participants	
Participant dissatisfaction with certification appointments was attributed to lack of in-person interaction and lack of flexibility.	When participants were not satisfied with their certification appointments participants said it was usually due to: • Missing in-person interaction or not liking virtual appointments (MI, PA/WV, PHFE) • Lack of flexibility and choice in scheduling their appointments (PA/WV, PHFE, FSL)				x	"I mean, I like it on phone, but then since the COVID shut down, I like going in there, you know, talk to the people or them getting weighed" - Participant "I'd just like to add one. I notice my next appointment I'm having is coming up in August, but the time. I see that they put a time for 10:00. Sometimes, I'm busy in the morning so sometimes, I would like if they can give you the option that you can choose the time will be more convenient to us." - Participant
There were a variety of reasons that helped WIC participants' satisfaction with the innovation and certification appointments.	Both participants and staff noted that WIC clients were satisfied with the certification process because it was easy and quick. Some said that virtual/remote appointments helped make certification easier (MI, PA/WV, FSL) and others said having clear instructions/requirements on how to certify also made it easier to certify (FSL).	x	x	x	x	"No, I just think it was fairly easy to me. It wasn't hard, no, I didn't really have any feedback, negative feedback towards that." - Participant "I think the online process was very straightforward. It was not a difficult at all and just to have an account and put the information there, some of the household information and also, what documents should be uploaded were discussed in the website very well. So for me, it was really straightforward and easy." - Participant "Well, I was hopeful. I was hopeful that it would help retain participants. You know, that coming in when you don't have good transportation, and you're calling a couple

	Participants were satisfied with the innovation because of: • Removed transportation barriers • Made certifying and continuing participation in WIC easier • Made it easier to continue participation in WIC • Helped clients feel more prepared for appointments • Innovation was easy to use • Improved appointment experience • Made scheduling appts easier • General positive feedback					kids, and you work full-time is I think a real barrier for some of our participants. So anything that we can do to help them along without making them come in constantly is the plus for our business. And I think it will help them stay." - Implementer
Both technical and nontechnical issues impacted WIC participant satisfaction with the innovation.	Technical issues impacted satisfaction with the innovation (e.g., signal connection/loading times and issues with password setting/signing in (MI, CO)). Non-technical issues also impacted satisfaction with the innovation (e.g., confusing instructions (FSL), Privacy concerns (PA/WV))	x	x	x	x	"Sometimes when I'm logging in, they'll ask me to change the password. And if it's the new year... Well, if they just ask me to redo the password, sometimes I'll forget the password, and then it's kind... And then I get locked out, and then I have to make a call. I don't know. Just make it easier to redo. I don't know how to do that, though." - Participant

Strong customer service was key for WIC client satisfaction with appointments, and the innovations strengthened services for participants.	Most participants and a few staff agreed that great customer service (e.g. staff were nice, genuine, helpful, accommodating, patient, etc.) is key for WIC client satisfaction with appointments (FSL, MI, PA/WV, PHFE). For some, it helped with retention (PHFE and LIJ)	x	x	x	x	"But I think having a helpful staff, having a friendly staff, offering the different referrals I think really helped a lot, having community referrals for them so that... Just showing them that we cared, I think helped keep them engaged and on the program longer." -Decision Maker/Implementer "I don't have any complaints whatsoever. The people are very friendly there. That's probably what really stuck out." - Participant
Shorter appointment times yielded higher WIC participant satisfaction with certification.	Many staff and one participant said that quicker appointments led to high WIC client satisfaction with certification. This led to more quality time with the clients. (CO, FSL, LIJ, MI, PA/WV)	x	x	x	x	"They do everything really well. And usually it usually doesn't take very long. So it's a nice appointment to go to because you don't have to worry about entertaining your kids for, think it's usually like a half hour. I don't know how long it would take now. I think at that time I was still pregnant with the twins, so I only had two that they had to go through, but everybody's really nice in there." - Participant "The interaction, I don't think it affected much. The only thing is I'm getting some more extra time to focus on my client and their concern because some of the changes saved me quite a bit of time during the appointment. So that's the only fact that other than that, I think there's no other fact so far." - Doer
Unique to PHFE: Connection with community members embedded in the innovation-supported reach and effectiveness.	This builds from the reach theme for underrepresented communities on how the community is important for reach AND effectiveness (community helps increase	x	x		x	"My experience being a CinnaMom has been very excellent. I remember my first time joining, the group discussion was about after you've had your baby, the post-depression. It was so many resources and all the CinnaMoms being transparent, you didn't feel alone. It just made me feel like

	client satisfaction) within these populations.					this is where I belong. There's was no judgment. The young lady showed us some exercises that will improve our mood, our emotions, so that we could be relaxed when we breastfeed or just go about our daily lives being inspired to depend on CinnaMoms. I just personally want to thank you guys for that because that was a really dark time for me. It's just been an awesome experience, and I just pray and ask God... no pun intended to anyone's religion, but to keep this CinnaMoms going. This is something that we need in our community with our cultures being mixed and everyone getting along and breaking down those barriers that no one wants to talk about or even bring up. So it's been a beautiful experience and I'm just so happy to be a CinnaMom. So happy." - Participant

D.3: Adoption Data Table

Theme	Description	Stakeholders			Examples
		Decision Maker	Implementers	Doers	
Important factors that contributed to adopting and committing to the WSPI grant were rooted in the staff's dedication to improving WIC participant services by enhancing current client-centered practices, creating long-lasting staffing infrastructure, adopting technology that aligned with long-term goals, perceived relative advantage over current approaches, among other WSPI grant ideals that were compatible with the mission and values of WIC organizations.	A key theme related to adoption of the WSPI innovation was compatibility with the mission and values of the organization. When asked to give insight into the rationale behind applying and committing to the WSPI grant, WIC staff described their primary motivation as formalizing procedures and creating internal infrastructure that positively impacts WIC participant services. Some staff discussed being driven by a desire to have consistent services among WIC Local Agencies (e.g., to increase WIC retention and participation for populations that may move frequently). Others described the grant as a vehicle to further explore COVID-19-related opportunities that opened the door to discussing long-term technology goals to ease staffing challenges and add other components that streamline certification appointments for staff and WIC participants. An important characteristic of those who adopted new technology was that it increased flexibility, made WIC more accessible to participants, and supported the expansion of services. A few Decision Makers described WSPI as a way to create technology infrastructure and corresponding staff oversight, which ultimately allowed further reach to new generations that are more comfortable with technology as their preferred communication. Most WIC staff thought the grant opportunity aligned well with long-term state initiatives and saw it as a chance to refocus processes that	X	X	X	"Obviously the overall high level goal of [WIC agency] is to provide the best possible services for our clients in order to improve health outcomes. To be able to do that, being able to allow staff to dedicate more time to providing those services as opposed to navigating screens is really important. This also really fit well into another one of our really long-term initiatives. We've been going through a client-centered initiative for about five or six years where we're looking at all of the different aspects of WIC and how we can make them more client centered so that's focused on things like our staff training and how we can train them to be more client centered in their interviewing process and things of that nature. This just fit right in on how we continue to make our services client centered and focusing on the needs of the family as opposed to the needs of the system."- Decision Maker "I think it was just something that we were all on board, supervisors especially, just to improve any WIC services or make it easier for our clients. Especially after COVID, everything was done web based over Zoom or over the phone, it was just something additional to add to our WIC services to in someway help more of the younger generation, to tell you the truth, to get our services out there."- Doer "the reason we applied for the grant and for the money part was all the parts related to

	overburden LA staff and provide relief for staffing challenges by facilitating administrative tasks for client appointments. For some, the grant acted as a catalyst for improvements in staff and participant processes in a package that facilitated scalability and large-scale WIC expansion for other LAs. A few Decision Makers explained that the WSPI grant allowed for the validation of a data-driven outreach and service delivery model. The grant allowed them the opportunity to formalize procedures that create infrastructure that positively impacts clients.				measuring and following a cohort and really dedicating staff time to this and dedicating staff time to implementing [our program] so that we could measure it."- Decision Maker "I'm sure we would've taken the opportunity even if there hadn't been a pandemic. But the fact that we were in a pandemic really... There was a lot of changes going on in other states, or other programs were doing a lot of things to accommodate clients not wanting to go to the store, not feeling comfortable going to their appointments. And so it was an opportunity for us to make some of those same changes to accommodate how things had changed because of the pandemic."- Decision Maker
When determining agencies to include in the WSPI grant, WIC SA staff offered important sampling considerations, such as community variability, scalability potential, and staff capacity.	Some Decision Makers gave insight into the factors that went into sampling and scalability for WIC agencies. Considerations include allowing agencies to *choose* pilot involvement and establishing a goal to create a diverse sample of pilot agencies and launching new procedures that could support agencies with varying caseloads. Staff buy-in was also important in this process, and allowing agencies to be autonomous in their participation was a successful approach for some agencies. Few WIC staff offered considerations that were important while determining pilot agencies and the subsequent scalability of projects. Some staff shared that it was better to roll out new processes in one or a small group of pilot agencies before expanding to others to be better in the position to control processes and outcomes. This was emphasized by those who adopted new technology, as testing was	X	X		"We were trying to get a good mix of agencies that were of different sizes, handling different size caseloads. They were also geographically located in different geographical locations as well"- Decision Maker "And when we discussed internally what piloting would look like, we said realistically we can only do one agency. One, we were worried on piloting and supporting more than one agency."- Implementers "I think it was just opened up to everyone. Whoever wants to participate, you're more than welcome to participate. A lot of agencies chose not to, a lot of agencies kind of keep their WIC scope pretty limited where other grantees are always looking to do more and provide more services. So yeah, I think my understanding was it was opened up to everyone and whoever wanted to participate can participate."- Decision Maker

	identified as an important phase to change processes with staff input.				
Challenges that inhibited some agency's ability to deploy WSPI activities were rooted in bureaucratic barriers, such as contract procurement execution, limited staffing capacity to learn new processes, and changes in key personnel during the grant period.	A few Decision Makers expressed difficulty not being a part of the team that originally applied for WSPI grant. In some cases, Decision Makers had to continue work without the leader who applied for the grant, received conflicting guidance from State Agency leadership, were not involved in identifying barriers to participants on which the grant was founded, and described additional struggles of continuing work without being involved from project inception and carrying out another's vision. Some WIC staff described factors that contributed to challenges that arose during project planning. Staffing challenges were identified, such as the increased staff burden due to additional tasks that were distributed among existing personnel. For technology-driven projects, some staff described hardships derived from learning new technology and needing to provide technical assistance to WIC participants without having aid or resources. A few Decision Makers described challenges within the procurement period. The time needed to execute contracts took much longer than originally anticipated, causing a domino effect of project delays. Some recommended including information technology personnel included in the project idea conception period would alleviate future issues.	X	X	X	"So it's just one more thing, one more task added to our other tasks in the office, but it's things that you learned throughout the entire process of something new."- Decision Maker "So each LA has different hurdles in that area of hiring and bringing staff in, where other local agencies, they were just able to hire within and didn't really have any concerns or were able to get someone in from the outside relatively quickly. So it really just depends on the local agency. They all have their own processes we kind of have to respect and a lot of them because it was a time limited position, when they originally rolled it out well it was only going to be for nine months. And then you can't really tell them it's going to be extended because that stuff all had to go through its own channels and stuff."- Decision Maker "Way too late in the process. And I mean, I remember some meetings, but then we had this long period of time where we were working through contracts, and people just went about their business and stuff. So it was a struggle, right from the beginning."- Implementer "we have seen that several WIC staff don't feel very comfortable using [the innovation], and in turn, if they are not comfortable using the app and then that prevents them from promoting [it] to WIC clients because of being unable to

					answer if they ask for any questions”- Decision Maker “At that point, I don't even know who had volunteered to be lead. That's how disconnected I was from the whole thing,”- Decision Maker
Staff morale facilitated project uptake and commitment to change during early project adoption and created long-lasting positive effects. Addressing perceived complexity through clear vision and building staff capacity and buy-in became crucial throughout project adoption phase.	WIC staff reflected on lessons learned on factors that assisted the planning and preparation phase of the WSPI grant. Many staff described that morale-related factors were crucial for project support which positively impacted the promotion of the innovation and improvement of the WIC participant experience. For some, discussing project goals and rationale directly with staff benefitted staff's knowledge and buy-in, which positively impacted commitment, clients, and subsequent clinic flow. For many WIC staff, supervisor and leadership support was critical to boosting morale, often leading to staff determining how to streamline existing clinical procedures in a way that doesn't add burden. Some Decision Makers found it important to emphasize the importance of staff insight and contributions to WSPI goals, which positively impacted activities and staff buy-in. Some staff described feelings of empowerment from leadership, which led them to take the initiative to establish best practices in clinical operations. For projects that were technology-focused, it was important for the project team to extensively discuss the current scope of technology so that additional technology	X	X	X	“So getting that feedback in at step one, I think, set the stage for success for this intervention because then we didn't have issues with buy-in, we didn't have problems with, "Respondent, here's an enhancement," but we don't really find it useful for our work because it came from them, the suggestions came from them. They were absolutely part of the whole discussion process at [project feedback level] in order to agree on the final [innovation] that were put into place that did not come from a higher level to a lower level. I would say that everyone was equally at the table. I feel that was very important.” - Decision Maker “Yeah, I think that's a great question, because I kind of put it to them as, "This will be something that will take our time upfront, and we are going to need to put time into it, but I think in the long run, it will definitely save us time and improve our processes." And I would say that's how I gained buy-in. But in the same token, it's important to say that all along, those enhancements proved to be just that. It wasn't like we were saying, "This is going to be an improvement and this is going to help you," and then it didn't, it didn't come to fruition.” - Implementer

	components can be incorporated into existing infrastructures if possible. Some staff described that local agency representatives' involvement was crucial for estimating staff capacity, scope, and logistics. For technology-heavy innovations, having a local agency representative in the decision-making process could have relieved future challenges.				"Other advice I would give them for... All right, so for their staff application, I definitely would highly recommend engagement and buy-in with local agencies. The state may have ideas on what we think is a high priority, even what we think will streamline the process but until you actually engage with those people who are doing that process every day, you don't really know if your change has the intended impact or if it has unintended impacts that could potentially make the process worse, or if other people have better ideas than you do. I know a lot of people struggle to hear that. And then for client facing technologies, my biggest recommendation is ensuring that client facing technologies are as intuitive as possible. Needing to train clients is very difficult so making sure that something is so easy to navigate that you don't need training I think is really important to the success of client facing technologies."- Decision Maker
Prioritizing language support services helped to enhance equity in WIC certification process.	A few WIC staff emphasized the importance of translation accessibility for WIC participants among availability of other language support services. A few staff cautioned to allow for additional time to process translations and engage in quality assurance checks, account for dialect differences, and shared that translations for government programs are nuanced and require coordination between translator groups and WIC staff to explain WIC-specific knowledge and determine the best way to phrase things such as acronym and medical terms. One grantee site described the multifaceted benefits and recommended connecting with community partners for translation services.	X	X	X	"We told them which languages we wanted, and we were particular that we wanted the translating of that to come from somewhere locally here in [our state] because... I don't know if you know that, in different areas the dialects get different, and we wanted whatever language we had translated to be dialect for our community."- Decision Maker "So with [one language], they tried to use Google Translate first and then just have our staff look over it and it was completely wrong. So our staff had to go through it word by word and give them what it was supposed to say and then they revised it. Then also once it was on the website they're like, "Those two words

					are flipped" or "It needs to say this instead of that." So I feel like [for that language], I have more confidence in that one since it was our staff that did it and they looked over it a couple of times."- Implementer "I believe I mentioned it before, the translation for other languages, I feel like for anything I think that's the big thing that I look for first. Is it in Spanish? If it's not, why not?"- Doer
Staff training should be prioritized to increase staff morale and for staff to feel comfortable in learning new processes and procedures.	A few WIC staff explained multiple benefits to putting in extra time and effort into staff training practices. Some techniques described were to provide advanced notice of training topics, provide details such as screenshots and supporting documents when capable, and set expectations early in the planning phase. These factors create a supportive environment where staff are encouraged to collaborate and test ideas prior to launch. Other staff described the rationale behind new technology efforts and learned it was crucial for buy-in and feedback. The more staff are excited about new procedures, the more likely it is to have a positive impact on clients. For technology-heavy innovations, including a testing environment is a recommendation to increase staff confidence in new procedures. Explaining the scope of work, rationale of why the innovation is needed, getting staff familiar with the innovation with practice in a test environment, ensuring webinar and training accessibility, and setting a "go live" date are important steps in building staff trust and confidence. In addition, Showing staff the	X	X	X	"Yeah, so as far as training the local staff, we would've told them ahead of time of what was coming. It's always good to create a plan, let them know what's coming ahead of time, kind of give them sneak peeks, even screenshots or things like that. And then we would've planned to have some sort of training, whether that was done by us or the contractor. Some sort of training, some supporting documents, and it's always really helpful, we feel, to have like a sandbox environment where they can go in there and try it out before they go live with the production version of the platform. So that would've been our preference, to give quite a bit of lead time to talk about it, to show screenshots, for staff to block their schedules for trainings, and to have a little bit of time but not too much because we feel like just-in-time training is good to be able to play in that sandbox environment."- Decision Maker "We would do it maybe a month before and we would explain what the tool is, why it's important, get their buy-in, build awareness of it, get them familiar with what it looks like in the webinar, then get them access to the training environment, say, go ahead and play

	innovation in advance and walking them through each new component to orient them to new procedures.				around, and then have a go live date."- Implementer
A few WIC staff expressed benefits and improvements made to client services with long-lasting potential, which served as motivation to adopt the innovations.	The WSPI grant allowed WIC agencies to explore new client services, including partnerships that facilitated the continuity of care for participants. Other positive impacts included: - the development of remote services that increased reach, - creation of processes that increased time to develop relations with clients and provide staff relief, - user friendly improvements; experimenting with what elements could be streamlined by moving from staff facing to client-facing, and - utilizing existing resources and scaling from LA to SA procedures	X	X	X	"Although continuity of care wasn't an actual component of the program, we were looking at how that connection with the [health partnerships] could facilitate whether or not we knew... we wanted to know what the [partner] was doing so that we would be consistent with what they were telling participants and information they were giving participants so that we weren't on two different planes and confusing that participant"- Decision Maker "A lot of them have trouble maybe like I said, with transportation or might with their children, bringing their children in or maybe communication with doctors to try to get the information that we need. This cuts out like a middle man form. It will benefit them immensely with us, being able to [utilize the innovation] and get the information we need that way,… [to better serve families], especially since we haven't had eyes on most of these children for two years…"- Doer "I have such a positive experience. I know others have stated they've been kind of told off by participants sometimes or sometimes they get upset, participants. I have not had that yet. I don't know if the energy I bring kind of calms them down when I call or talk to them, but I have not had that experience, so no."- Doer
During the planning phase, WIC Staff highlighted the	WIC staff emphasized the importance of team structure and staffing resource allocation. For some projects, key personnel include SMEs in	X	X	X	"The agency that took existing WIC staff and added were much more successful than those that brought in brand new employees."

importance of functional diversity in the project team configuration. Staff input was critical to determining operations, priorities, and feasibility of the innovations.	policy, trainers, nutrition consultants, clinic staff, data manager, and evaluation specialist. A few WIC staff shared considerations for hiring, including a recommendation to hire additional people for coverage of typical administrative tasks during the grant period and other forms of intentional hiring. Another successful consideration for hiring practices included obtaining diverse, bilingual WIC staff will reflect inclusivity and represent the surrounding community. Other recommendations included building in sustainable measures so staff hired can be allocated permanently. Regarding staff retention, project managers were recommended to keep the project on track especially during periods of low staff retention. Leadership was also an important theme, as one grantee cited leadership advocacy that supports innovative measures as an important factor for project uptake. Many WIC staff remarked crucial elements of the innovation planning that were made due to local agency staff involvement. Local agency and clinic staff were critical in identifying whether the grantee wanted to apply for the grant, how to streamline existing clinical procedures in a way that doesn't add burden, improvements that could be made to clinic procedures and subsequent identification of grant opportunities, and improvements that could be made to clinic procedures. 1. Some WIC staff recommended incorporating input from big and small agencies for well-rounded procedure creation.				- Decision Maker “With our three project specialists at the end of this grant term, one of them has already been promoted to nutritionist and is entering her dietetic internship, and then another one is becoming a breastfeeding peer counselor. Right? So in terms of, not only bringing them into the door, but now you have a pipeline where these two staff members are entering two fields that we want to diversify”- Decision Maker “I thought this [the grant] was a good opportunity to branch out a little bit…And, as I did that, it's rewarding in some sense. But then, you're taking on more responsibility, so it's a double-edge sword.”- Doer “So representatives from [our technology vendor], the state team, all of them came together to basically identify pain points at the local agency level. In the certification process, the main idea was to identify barriers and to see how we could bring about, or rather how the enhancements that would come up [to address those pain points]…they had six local agencies participating”- Decision Maker

D.4: Implementation Data Table

Theme	Description	Stakeholders			Examples
		Decision Maker	Implementers	Doers	
Planning and project management	Effective planning and project management practices played a crucial role in the successful implementation of the innovations. Some staff recognized the importance of internal alignment and communication within their organization, which helped them manage staffing issues and facilitated staffing priorities. They also acknowledged the need for realistic timelines and the involvement of all relevant stakeholders from the beginning, which allowed for better decision-making and avoided potential delays. The project team demonstrated creativity and adaptability in addressing staffing and resource constraints, finding solutions such as hiring additional staff or redistributing responsibilities. They emphasized the value of early and ongoing conversations, involving legal departments, and setting clear priorities to guide the project.	**x**	**x**	**x**	"Back in the summer, when we were determining if we have to shave anything off of the release, what would it be? Knowing what the priorities were for each of the different high-level requirements and features, as well as comparing that against the level of effort and complexity, made it super straightforward." - Decision Maker
Comprehensive training and staff expertise	Comprehensive training, staff expertise about WIC, and staff buy-in, play vital roles in the successful implementation of WSPI innovations. Some implementers and a few Decision Maker and doers emphasized the importance of comprehensive training to ensure staff are well-prepared to implement innovations effectively. It is crucial to have staff members with the WIC knowledge, capacity, and interest to dedicate time and effort to the implementation process while also considering their workload and availability. The involvement of project managers, WIC frontline workers, and tech	x	x	x	"When you have excitement or you have buy-in on the staff side, it certainly helps in promoting that to your clients as well, because they kind of feel that energy. […] I expected some pushback, and happily got a little in the very beginning, because they realized the benefit. And so I think that that filtered down to how they presented that to clients as well." -Implementer "Whoever's manning the chat really has to be an expert at your program because if they're not, then it's spending more time running

	experts can contribute to smoother implementation. Challenges related to staffing, transitions, and specific expertise need to be addressed to overcome potential obstacles (e.g., WIC staff turnover leading to the loss of MIS experts).				around trying to find the answer than just answering it, which is what the customer or client wants ultimately: a quick answer." - Decision Maker
Adaptation and flexibility	An iterative quality improvement approach supported the successful implementation of the innovations. Many doers, some DECISION MAKER, and a few implementers discussed how learning from challenges helped to implement the innovation. The staff recognized the importance of trial and error, understanding that not all ideas would work effectively. They learned from their initial attempts and adjusted accordingly. Additionally, they considered the effectiveness of tools and features, ensuring that they were helpful rather than burdensome. Resource constraints posed challenges, but the staff found creative solutions, such as seeking additional funding or considering dedicated staff members. Delays and timing challenges required adjustments to implementation plans, while effective communication and collaboration with stakeholders were essential for success. The staff also focused on improving user understanding and engagement, providing examples and clear instructions to enhance participation. Innovation teams remained adaptable and flexible in their duties and plans to implement the innovations despite changing circumstances. Most DECISION MAKER and a few implementers and doers discussed implementation challenges with their WSPI innovations that required staff to adapt and be flexible with project implementation One key	x	x	x	"Honestly, the biggest one is getting people to completely fill out the ARHI form correctly... So we made an example that we share... And we laminated the example so they can see it when they come into office." - Doer "Some of it was trial and error, like, 'Oh, well, that actually won't work,' or something like that.- Decision Maker But we ended up doing a phased implementation when we originally planned to do one big release that included all of the enhancements and improvements as a part of this grant. And all of a sudden, as we were going through the real world that was 2022, that just became not feasible."- Decision Maker "I can't say the pandemic had nothing to do with [changes to the innovation]. It definitely provided an opportunity, though, as we completely shifted our service model. Frankly, we've all just learned to be flexible, but that was the biggest [lesson]. We had really thought we'd have support circles live again. We thought we would have people back in sight, seeing people live much more than we are. We doing a little bit, not that much, but I would say it went largely according to plan, and I'll be honest."- Decision Maker

	characteristic of staff was their ability to pivot and adjust plans as circumstances changed. For example, the formula recall and the COVID-19 pandemic forced changes in project timelines, staffing, and priorities. The teams involved demonstrated flexibility by finding workarounds, such as using a text messaging program for client communication when in-person appointments were no longer a viable strategy to promote the innovations and shifting in-person training to remote sessions. They also adjusted project goals and timelines, requested no-cost extensions, and reprioritized tasks based on urgency and client needs. Additionally, effective communication and understanding between grantors and grant recipients played a crucial role in accommodating changes, allowing for extensions, and maintaining a supportive environment throughout the process. Successful implementation was influenced by collaboration with pilot agencies, iterative development processes, stakeholder involvement, and community partnerships. Some DECISION MAKER, implementers, and doers discussed how collaboration and stakeholder engagement played crucial roles in implementing the innovations. Some of these lessons stemmed from challenges with upward communication, indicating a need for improved channels to ensure that feedback from frontline staff reaches leadership. Pilot agencies emerged as pivotal contributors, providing valuable ideas, feedback, and input throughout the implementation process. The iterative nature of the process, driven by staff feedback and joint application design sessions, allowed for refining				"The community partners are important too. Because we have partnerships with a lot of other organizations too like Black Infant Health and the fatherhood group, what is it called, the Department of Public Health, they have a fatherhood group that we partner with. […] I think those external community partnerships are also very important to get the word out and have people's support." - Doer "I think the problem was the communication. […] I think leadership did not realize that there was an issue going down. And I think a lot of us communicated that, but I think it was too late, because we really weren't brought in until it was that moment." -Implementer "I would say the thing that surprised me the most were which features the local agency staff got super excited about over others. Very trivial things that didn't take us too long to do, they tended to be like, this is saving me 30 hours a day. […] Then some of the stuff that we felt like was the most complicated, we probably saw the least amount of engagement out of just because it was either a brand-new thing that folks didn't know that was there or it was something that was just not a frequently occurred type of situation. It was more just interesting to see how different features were received afterwards." - Decision Maker "So I feel like we had lots of dreams of what to do, and a lot of the dreams didn't become reality because it just wasn't feasible for us, or it just would have been a lot more work on

	requirements and aligning innovations with stakeholder needs and preferences. Additionally, community partnerships facilitated outreach efforts and connected individuals with services. Communication with healthcare providers presented challenges, underscoring the need for efficient communication channels when engaging external stakeholders. A client-centric approach allowed for the prioritization of innovation elements in the implementation process. A few staff members discussed how their client-centric approach to the innovation design allowed them to prioritize features to be implemented when faced with resource constraints and challenges. First, there was a focus on making the innovation more user-friendly for clients, even if it meant additional steps for staff. The goal was to save time for clients and allow them to focus on more meaningful aspects of their appointments. Second, gathering client feedback was essential, as it redirected initial ideas and ensured alignment with client needs and preferences (e.g., changing the schedule for support circles). Third, addressing language barriers by offering support in multiple languages, as some of the innovations did, demonstrated a commitment to inclusivity and diversity. Fourth, understanding client needs by monitoring the usage of the innovation features helped ensure that the introduced features were genuinely beneficial (e.g., discontinuing the chat feature due to lack of use). Finally, efforts to enhance communication and accessibility, such as helplines and mobile app links, improved the overall client experience.				the back end or for the employees than what it was worth. And we also got some feedback from clients of maybe that's not something that they really want right now. So yeah, when we started it was, we had our thoughts of this is the path we're going to take and then when we started talking to clients and talking to staff, they kind of went down a different path with some of our ideas." - Implementer "Be creative, make sure you're always talking with the community. I think that one thing that made [our innovation] so successful is that we seek the answers in the community. We often think around and have our think tanks, but the answers are in our community. And I think every time I do a focus group or listen to a survey, I'm like, they're talking to us now. They want us to change our support group hours. Right? So it doesn't have to just work for us, but it also has to work for them as well." - Decision Maker

Technical challenges	Adapting innovation plans and ongoing evaluation of existing information systems allowed staff to navigate technical constraints and systems integration for successful innovation implementation during the WIC certification process. Most DECISION MAKER, some implementers, and a few doers discussed technical limitations and challenges in integrating existing WIC systems with new systems. System limitations, information access constraints, and system compatibility issues affected the intended functionalities of the innovations. However, while there were challenges with technical considerations and integrating systems, the initial excitement surrounding the innovations spurred staff to explore new ideas (e.g., pivot from a Health Information Exchange model to a health care provider outreach model). Overcoming technical difficulties and system integration issues played a crucial role in ensuring successful implementation. Ensuring a timely resolution of technical issues and effective collaboration between stakeholders were important in addressing these challenges. Additionally, adapting to variations across states and agencies, considering the cost implications of modifying systems, and finding workarounds were essential for progress.	**x**	**x**	**x**	"One of the things from a technology standpoint that I would recommend avoiding is a one-track mindset; you always need to be willing and able to adapt and overcome, since you don't know what the barriers might be". - Decision Maker "As we worked through the process, some of the things that seemed feasible, as we actually got into the development side and the testing side, we realized that they were not. Or it required, like I said before, a change to the MIS, and then we could update that feature."- Decision Maker "It is usually not a quick process. I would agree. The MIS is definitely showing its age at this point."- Decision Maker

D.5: i-PARIHS Data Table

WSPI Innovation Projects i-PARIHS Framework Thematic Table

i-PARIHS Construct(s)	i-PARIHS Sub-Construct(s)	Theme	Descriptions	Examples
Characteristics of the innovation	Underlying evidence • Local Practice information • Research and Guidelines • Participant needs, preferences, and experiences	Decision Makers leveraged local data, knowledge, and research for innovation design and implementation.	Most Decision Makers discussed using a combination of local practice information (e.g., quantitative and qualitative local data), knowledge about other projects' outcomes, and health disparities research to design and implement their projects. Modifications to the projects were also influenced by local practice information or similar projects. The information gathered helped them identify participant needs, preferences, and experiences with similar innovations, such as the level of trust in sharing medical information, optimal scheduling for support groups, language translation requirements, and desired features of web portals. Local practice information was particularly important in assessing the capacity to implement the innovations.	"So in our data from the longitudinal studies that we have been doing about the [PROGRAM NAME] experience, the longitudinal surveys and the focus groups informed our work" - Decision Maker "When we looked at that initial study about getting their medical data [from health care providers], that's going to shorten their certification time." - Decision Maker
Characteristics of the innovation	Complexity Usability Clarity Degree of novelty	Subgrantees worked to address the complexity of innovations to streamline implementation.	The subgrantees faced challenges when integrating complex innovations with the requirements of the WIC program and existing information systems. However, as most staff discussed, they were able to adapt and streamline the implementation process. The complexity of the innovations arises from various factors, such as integrating different components, introducing additional steps for staff, requiring technical knowledge, addressing communication challenges, and getting participants to engage with the innovation elements (e.g., filling out forms to authorize access to the health information network). To overcome these complexities, some staff suggested simplifying the	"Some of our local agency staff might be an older generation, and so it may have been difficult for them to latch on to this. And again, it's just comfort level with how they do things. So thinking about the tech savviness of staff in using the tool and then internet access for our clients and the fact that clients had to be somewhat tech-savvy themselves." - Implementer

			innovation, improving user-friendliness, and providing adequate regular training and support to implementers and doers. Innovations' complexity led to usability challenges among both staff and participants. These challenges included technological barriers, difficulties with document uploads, confusing user experiences, technical issues, participants' lack of awareness and training, and limited functionality (e.g., inability to schedule through web portal directly, increasing back and forth with staff to schedule appointments). Despite these challenges, the subgrantees improved usability through each lesson learned. Pilot projects are inherently dynamic and may undergo direction shifts. Therefore, doers and implementers often require clarification about the project's status and the next steps to proceed effectively. Regular meetings are considered helpful in maintaining clarity and alignment, especially due to the novelty of the innovations. There was a learning curve for staff members as they adapted to the changes and acquired new skills and knowledge. However, doers and implementers noted that limitations related to user-based factors, such as digital literacy and internet access, still exist.	"It's not real like you just click on anthropometrics or vitals or something and you just get the information you want. You might have to look here or there to gather all the information that you want. It doesn't sound like it's a super user-friendly system that we can just have a client in front of us and be able to get into that system and find the data we need in a quick, easy manner. It's almost like it has to be pre-planned, so what our staff does is a few days before that client's appointment, I feel we're doing this so difficult on ourselves." – Implementer
Characteristics of the innovation	Trialability	Subgrantees had to navigate the parameters of WIC systems when testing elements of the innovation.	Some decision-makers discussed the intricacies of piloting an innovation within the existing structures of WIC that often do not provide the needed flexibility to implement the innovative changes (e.g., one subgrantee had to roll changes to their system statewide to test app changes among a few local agencies while). Selecting diverse agencies with manageable caseloads for piloting is preferred to represent different profiles and assess effectiveness across various settings. Also, in preparation for piloting an innovation, just-in-time	So wasn't a clean way because the MIS is being used by everybody because it's statewide. There wasn't a way to just restrict the enhancements for use by the pilot agencies only, and not everybody else, but the client surveys and the staff surveys were only sent out to the participating pilot agencies. - Decision Maker

			training and providing training materials in advance are considered important for staff confidence. Collaboration with vendors or contractors during testing is seen as crucial.	"It was all through production and during testing. And there was one testing period that actually made us really nervous, because we had to test messaging and the messaging, in order to do that, we had to sign in as a client and in order to sign in you actually had to use, I think a client ID to test the messaging feature, and we had to test texting. And because it was production, we had to use a real family" – Decision Maker
Characteristics of the innovation	Degree of fit	Subgrantees had to balance innovation implementation with daily activities and practices.	Subgrantees had to navigate balancing innovation and existing systems and practices within WIC. Overall, the innovations had varying degrees of compatibility with the values and norms of WIC staff and the existing practices and operations of the setting. Some aspects aligned well (e.g., using Zoom for support groups as it was also being used for regular appointments), while others required adjustments or faced challenges due to technical limitations or differing preferences. Still, the overarching purpose of the innovations aligns with the goal of modernization and streamlining processes in the WIC program.	"I think for [State agency] WIC itself; the mission is to provide the best services that we can, and in the process, help improve health outcomes for the WIC clients. I think for when we look at this project as a whole, I think the better quality of services that we provide and encourages WIC clients to continue participating, there is potential for us to retain them for a longer period of time, and that in turn results in the improved health outcomes, is what we believe."- Decision Maker
Characteristics of the innovation	Observable results Relative advantage	Innovations improved communication between staff and participants.	Many doers and implementers observed that innovations helped to streamline connections between staff and participants (e.g., reducing document verification at the certification appointment, thus allowing more time for nutrition education), even if it created more work on the back end for staff (e.g., multiple text and emails to clarify document upload). While a few doers and	"It is a little bit more work on our end. Because let's just say the participant goes on the website, fills out all the information, requests an appointment. On my end, there's still an extra step because I still need to make sure with their proof of income that it

			implementers were critical of the additional steps innovations created, many considered the innovations as providing a relative advantage.	is in the last 30 days, that they meet the income guidelines. I still have to go through a series of other income questions for the client to ensure that that is the only source of income. So, it was a little bit more work for us on that perspective, so sometimes there would be more as in a phone call, an email, a text with the client to get that extra information." -Doer
Recipients	Personal attributes and beliefs	Staff felt that WIC innovations facilitated connections and client-centered care motivating implementation.	Recipients are focused on client-centered care. Most Decision Maker, implementers, and doers are motivated by improving the client experience and reducing disparities in WIC certification, retention, and experience. They express a client-centered approach, emphasizing kindness, patience and making the certification process easier for clients. Motivation, passion, and dedication to improving WIC services, addressing disparities, and supporting breastfeeding were commonly discussed as impacting innovation implementation.	"We use the [TRANSLATION SERVICE] when the mom was tasked, it was noted in the task if the mom was non-English speaking. If they chose to have WIC reach out to them, [we] already had the interpreter on the line. So I think that might have helped with make a better customer experience rather than trying to communicate to the person, "Hold on, I got to get an interpreter on the phone." It eliminated that step, and I feel maybe made a better customer experience." – Decision Maker/Implementer
Recipients	Collaboration and teamwork Skill and knowledge	Collaboration and teamwork during the WIC innovations led to successful implementation.	Many staff members interviewed agreed that collaboration and teamwork are crucial in WIC innovation implementation. Collaboration with external partners, interprofessional collaboration, and clear communication with all stakeholders are emphasized. The involvement of staff with high WIC knowledge and staff functional diversity (i.e., individuals with a variety of backgrounds, skills, and training working together) is highlighted as influencing successful implementation. For	"Yeah. I think where we really had some struggles within our management of the project... And that ended up being a real problem for the worker bees. So it always looks good on paper until the person who actually has to do the work gets involved." - Implementer

			example, having in-house bilingual WIC staff helped facilitate Spanish translations because they knew the WIC program and had the language skills; whereas getting external partners to translate resources without having the WIC program background delayed the translation process. Leveraging technology for collaboration (e.g., videoconference, email) is mentioned, and staffing capacity and time constraints are identified as significant challenges for creating synergy between stakeholders.	"I think the biggest barrier was we developed a packet for the physicians and there were just some delays with the company that was doing the work... I feel like we didn't get that out to the local agency staff as quickly as we would've liked to." -Implementer
Recipients	How time, resources and support affect recipients	Resource constraints and staffing among subgrantees create challenges during innovation implementation.	Most staff interviewed identified challenges during implementation due to resource constraints (especially in the context of COVID-19 pandemic issues). Staffing shortages, competing responsibilities, and additional work “on the back end” are mentioned as limitations and challenges in implementing innovations. Limited resources, funding, administrative and workload challenges, and communication gaps impact successful implementation.	"I think some of the barriers were possibly due to other more pressing situations within the offices in the workplace that had to take up front, like having adequate staff, working with new policies and things like that. It probably wasn't put on the front as much type of thing." -Doer
Context characteristics	Structures and systems	Integrating innovations with existing WIC information systems presented challenges for subgrantees.	A few Decision Makers discussed how implementing new innovations often faces challenges in integrating with existing WIC information systems. Existing systems are not flexible enough to accommodate changes easily, requiring subgrantees to modify their original plans. This creates complexity for staff, such as additional steps or systems not communicating with each other.	“It really comes down to a state agency having an MIS that is flexible enough to integrate other technologies. Otherwise, if you have to do it separately, it's too clunky, it's too burdensome. You're not setting the program up for success.” -Implementer “The state does hold us back a lot in terms of being able to integrate the system that they make us use for our appointments and the system that is needed to communicate with our clients. And so, it is still hybrid. It will

				always be a hybrid, but we are trying to communicate with them on a different level. With that, it does create a little bit more work on our end, and the goal was to create less work" - Decision Maker
Context Characteristics	Leadership support Culture and climate	Organizational culture, leadership support, and communication emerge as key factors in WIC innovation implementation.	Supportive and innovative organizational cultures, with dedicated leadership, are seen as crucial for successful implementation by most staff interviewed. Effective communication, collaboration, and staff involvement at various organizational levels are emphasized. Lack of clear communication between DM, doers, and implementers led to confusion and frustration. Clear instructions, examples, and a smooth document upload process are mentioned as factors contributing to effective implementation.	"I think part of it is just the type of leaders that our organization attracts because as I was mentioning, we're so community-focused. It's hard to find a leader that doesn't recognize things like how important WIC is as a service to our patients. And I think any opportunity to streamline or better that, everyone is on board with because everyone is so dedicated to making sure that we have the right processes in place to give our patients what they need in terms of medical and other care and support, that just makes our jobs a lot easier when we want to do something innovative to further that mission." – Decision Maker/Implementer "They supported me, they helped guide me. If I needed any extra training about anything, I was able to go back to another training and get the help that I need so I could feel prepared to do my job." - Implementer

Context characteristics	Policy drivers and regulatory frameworks	External influences and policy constraints impacted subgrantees' WIC innovation implementation.	A few Decision Makers discussed how federal and state policies/oversight, regulatory constraints, contractual rules, and funding limitations shape the implementation of WIC innovations. These external influences affect decision-making, project timelines, and the ability to make changes. One of the key regulatory constraints mentioned is the control exerted over the Management Information System (MIS) by a consortium of states. The inability to make changes to the MIS due to the need for consistency across participating states highlights how regulatory limitations can impact the implementation of desired innovations. This restriction not only affects data integration but also hampers the efficient delivery of services, as certain features or functionalities had to be modified from what was initially planned. The impact of federal and state oversight is evident in the challenges faced in obtaining approvals, executing agreements, and navigating policy changes. This bureaucratic process, coupled with the time required for policy changes, underscores the influence of federal agencies on the pace and feasibility of implementing innovations.	"The state runs it [the MIS system] and our state, along with 13 other states, use this Journey health charting system. So, anytime there's a change of any sort, all 13 states have to be aware of it, they have to be onboard with the change, they have to be onboard with the interface." - Decision Maker "For [access to] the [HEALTH INFORMATION SYSTEM [it has to be a wet signature, meaning that it cannot be a faxed copy. They have to mail back their actual signature, which is a problem that we did not anticipate having, because that makes it very difficult to get anybody to sign those things and return them." - Decision Maker
Facilitation	Marketing and promoting the innovation	Staff capacity constraints impacted sub-grantees' ability to consistently promote innovations through multiple education approaches.	Promoting the innovations through a variety of methods facilitated implementation and uptake. Texts, emails, and QR codes are useful ways to promote innovations to WIC participants. Many staff indicated that promoting WIC innovations requires a great deal of planning and consistent staff time. Promotion to participants should be consistent, detailed, and use plain language. WIC agencies implemented many different promotion strategies, including texting, social media, and mail, as well as in-person appointments. Each strategy presented its own challenges. A few Doers and	"Well, I personally, I feel like they did a pretty good job of letting me know. Well, but I guess they could keep reiterating it because I didn't think about it up until you said it now, and I had a few appointments before this phone call." -WIC participant "There's the social media aspect of it, where they're trying to build

			Implementers noted that WIC participants have different preferred types of promotion, so it is important to utilize a mixed-methods approach to marketing. A few WIC participants recommended WIC clinics promote the benefits of the innovations (e.g., saving time, streamlined processes, and ease of use) at the time of the appointments. If the innovation is available in multiple languages, WIC participants recommended promoting the innovations in those languages. Some WIC participants identified hospitals, OB-GYN offices, and other social service agencies as good places to market WIC innovations. Many WIC participants recommend sending regular reminders about new WIC innovations.	the Instagram, the Facebook, the Twitter. So it does take a lot of time. Just like anyone who's trying to build their own personal social media for a business or a platform, it takes a lot of time.'' - Implementer
Facilitation	Providing education on how to use the innovation	Sub-grantees invested time training staff and participants on using the innovation.	Sub-grantees used many different methods to educate WIC staff and participants on the innovations. Staff sent emails and texts to WIC clients to provide information. A few Doers noted that webinars for WIC participants and education during appointments were helpful. A Decision Maker recommended developing technology that is as intuitive and easy to use as possible to avoid the need for in-depth training. Decision Makers and Implementers developed and conducted staff training in collaboration with local agencies and providers. One sub-grantee chose to use a “train the trainer” approach, in which Decision Makers trained implementers, and implementers then trained the doers. Decision Makers walked Implementers through the innovation, tested potential scenarios, and answered questions. A few Implementers and	“Staff is like your frontline. You have to make sure your frontline is always up-to-date, educated, and involved.” -Doer "So it was kind of a train the trainer type thing where we were provided the information during the monthly updates from the state and then that I took that back to our teams and we did standup brief update meetings about the updates to our database or my WIC system and how it was going to change, and then provided the handouts that the state had given us where the changes were outlined the day after the update. And a lot of just

			Doers talked about challenges related to training over Zoom due to the COVID-19 pandemic. Many staff mentioned the importance of providing space to ask questions and fully understand the innovation's features. Implementers played a key role in training by providing feedback throughout development of the innovations and supporting Doers as they went through training. Many Doers felt the training was informative and sufficient for them to effectively use the innovation. Recorded webcasts and PowerPoints of training were helpful reference materials for implementers and doers. Because of staff turnover, it can be difficult to make sure all staff are consistently up-to-date and well-trained in the innovation. A few Implementers recommended developing a toolkit to train future staff on the innovation.	one-on-one conversations with supportive paperwork and handouts." -Implementer
Facilitation	Collecting data and providing feedback	Sub-grantees provided opportunities for WIC staff and participants to give feedback on the innovation and used the feedback to implement changes.	Sub-grantees discussed the processes for data collection from state and local agency staff. Business process analyses and time audits were helpful tools to see what could be improved and if the implementation is effective. Weekly data analyses of appointments and certifications helped Decision Makers determine if the innovation was working as intended and if any changes needed to be made. Many Decision Makers discussed the importance of scheduling meetings and interviews with staff during development and implementation to ensure that their needs were met by the innovation, and implementing their recommendations accordingly. WIC agencies should communicate with staff, be realistic about what can be done and changed related to the innovation, and keep staff informed about changes throughout the process. One state	"Initially, before taking on any of these, deciding on any of these enhancements that needed to go into the system, we conducted a business process analysis, which then we walked through the whole certification process with these local agency partners, who were then able to identify some of the issues that they face during the certification process. I think from that acted as a baseline for which we then identified which of what can be improved and what would bring most value to the WIC staff and then to the clients as well. I think for that one, and then for surveying the clients that were

			agency stressed the value of engaging with local agencies through listening sessions and hiring staff at the state level who had worked at the local agency level. Decision Makers recommended supporting and appreciating new staff and communicating with staff about what was going well and what was not going well throughout implementation. A few Implementers and Doers discussed how they appreciated that leadership took the time to get feedback from staff and answer their questions. Sending text surveys and collecting verbal feedback during appointments were important ways to listen to WIC participants' experiences with the innovation. Staff cautioned against sending too many texts and/or surveys to avoid overburdening participants. Transparency about the purpose of the surveys and providing incentives are important factors when collecting data from participants.	going through the certification processes, I think for those purposes, it was very important and beneficial to have pilot agencies."- Decision Maker "I mentioned before it did take the extra time, but we reaped the following benefits. This was big for me, the ability to provide local agency input on system enhancements, because that, to me, made a huge difference. And actually, seeing those implementations as well, knowing that we had a say in that and knowing that we were part of that, because sometimes things look a little different here at the local level than they do at the next level and how that actually plays out in the clinic." -Implementer
Facilitation	Building relationships, teams, and networks	Strong internal teams and external networks facilitated the successful implementation of the WIC innovations.	Shortly after the grant is awarded, sub-grantees recommended forming an internal core team with different specialties. Many Decision Makers and Implementers discussed the importance of hiring staff for the innovation project who have a prior understanding of WIC policies and procedures, who are interested in and committed to the project, and who have experience working with the priority population. However, hiring staff for the innovations project presented challenges related to time and infrastructure. A few Decision Makers and Implementers noted that it was difficult to hire someone for a time-limited position. It took longer	"And then just having a core team of people who are interested and committed to what we're doing. Because it was a big time commitment for all of our staff, with all the testing we had to do, all the meetings we had. So making sure that the staff you have included actually want to be there, and are interested in the outcome of the changes you're trying to make. I feel like we had a great team, and that made a huge difference." -Decision Maker

			than expected and a great deal of staff effort to hire new staff. The roles that staff suggested to build a strong team include: • Project manager/grants coordinator • Training lead • Nutrition consultant and/or registered dietitian • Policy analyst • Business analyst • Tech engineers • Tester/test manager • Social media/brand ambassador • Help desk staff (if needed) Staff also discussed the importance of building relationships with external stakeholders, including local agencies, other state departments, medical providers, and organizations doing similar work. Many Decision Makers mentioned challenges working with contracted partners, including effectively communicating technical needs and hiring contractors with the appropriate skills for the tech build and translation features. Continuous communication and providing updates to stakeholders during development and implementation was important to maintain partnerships (e.g., LIJ constantly communicated with OBGYN partners which facilitated the project's success).	"So, kind of bringing in people from the frontline that actually understand what the problems are, involving them to understand the barriers has been helpful for us."- Decision Maker
Facilitation	Enabling and fostering change	Adequate grant funding enables the implementation of innovations.	Decision Makers and Implementers discussed how grants are catalysts for doing the work that WIC agencies want to get involved in. Funding to hire key staff that have the skills and interest to work on the projects facilitated the success of the innovation (e.g., Funding to hire a medical liaison	"So, that's where you actually need to bring down grant dollars more to keep funding those kinds of positions. So, my position and my whole team, we're largely

			to provide outreach to physicians helped increase caseload and referrals). Consistent funding beyond the grant period is important for the maintenance of changes brought on by the innovation.	funded by grant dollars to bring in other money to do other things. So, you have to be thinking, "when I hire this person on a grant, how do I also ensure that they will have the skills and interest in a WIC position?" – Decision Maker "We want this model to not mirror the breastfeeding peer counselor, but we want this model to be something that folks that hopefully our government, our leadership can see as a model to support our postpartum families across the long term. Right? So we're hoping this could be the buddy system, not just the breastfeeding peer counselor, but the supportive service, the WIC doula of this, that's providing that postpartum care. So with the funding, we hope that we can indeed have continued funding." - Decision Maker
Facilitation	Identifying and resolving problems	Sub-grantees recommend preparation to be flexible to adjust projects' scope throughout development and implementation.	Some staff talked about the importance of flexibility and being able to adjust expectations and goals as needed (e.g., flexibility to change communication plans so more WIC participants in PA and WV knew about the innovation facilitated improved outreach efforts). A few Decision Makers recommended being reasonable about the scope of the project's goals early on and scaling down if necessary. Projects should decide on the highest priority features early on in development in case	"So, I mean, I feel you have to give grace with any pilot or anything in that part that you're going to have a lot of kinks. There's going to be a lot of stuff that you have to work out. Especially, like I said, you're dealing with [personally identifiable information] and you're dealing with authorizations and trying to make sure

			adjustments are required in the future and consistently revisit project goals by thinking ahead to 6-month and 1-year touchpoints. Staff discussed that identifying and resolving problems requires staff time, skills, and resources. Having knowledgeable and skilled staff facilitated the resolution of issues and coordinating features of the innovations (e.g., Spanish-speaking staff took the time to edit the translation of FSL's website).	everything's done correctly." - Doer "I think it would be more we saw things that we needed to pivot and change as we went, because within any kind of project, the goals and everything stay consistent, but how you implement matters and how the execution matters. So when, for example, we had one of our first support circles and we didn't really have roles, and it was just we had a person that was introducing everybody and then the structure was there, but it wasn't concrete. And so I think we had to have a better discussion of like, "Okay. For it to flow better, we should have at least some kind of structure when it comes to who's the host, who's chat box moderator," because we were doing it virtually." -Implementer
Facilitation	Planning and preparing for implementation	Sub-grantees allocated extra time for the planning and development phases which facilitated implementation.	Many Decision Makers and Implementers talked about the time it takes to plan and prepare for implementation. It takes a great deal of time to compile feedback, identify any constraints, hire and train staff, decide on evaluation questions, and address any roadblocks or hurdles. Putting procedures in place early and preparing to make changes to the original plan based on feasibility are recommended. A phased roll-out of innovation features may support a successful and feasible	"Contracting took us a really, really long time. I don't really know the reason for that, but we weren't under contract until late in the summer, so we didn't really even kick off until... I don't remember exactly when, but it was probably six months later than we had planned. So timing all around and resourcing all around

			implementation. One Decision Maker recommended starting with a smaller grant before a larger grant to develop the foundation of a project. Hiring staff was a noted challenge and opportunity in the planning phase. Some Decision Makers mentioned the importance of hiring staff to do the clerical work while others complete the grant work. A core team of staff working on the grant is beneficial for successfully completing contracting and grant requirements. Project leads should plan for the time it will take for staff to learn and use the innovation.	and internal communication and processes have all really been challenging for us." -Decision Maker "Then there was just a lot of work with compiling the feedback and identifying which of that made sense based on the technology constraints, time constraints or the cost constraints. I think we then narrowed down everything to see what would bring most value, and actually which of those we would be able to implement in the time that we have available, actually." -Decision Maker
Facilitation	Using interpersonal skills to create a supportive environment	Decision Makers and Implementers supported WIC staff and participants throughout implementation.	A few staff noted that administrative and technical support from the evaluation team and project leadership was critical for success. Quarterly evaluation check-in meetings with the other sub-grantees were helpful to keep sub-grantees on track. Supporting staff with implementation was noted by a few Decision Makers, Implementers, and Doers. Ensuring that staff have the support and resources they need to offer good customer service to WIC participants is important (e.g., PHFE offered support circles for CinnaMoms staff to improve program implementation). A few Implementers and Doers mentioned how helpful their supervisors were throughout implementation by asking for feedback. A Doer noted that staff appreciate that leadership took the time to get feedback from staff and answer their questions.	"My supervisors have been amazing with the challenges that came up. Like I said in the beginning, they noticed a little bit with communication as well. So I know that they would ask some people from state for more information, if ... as well as the medical liaisons ourselves, trying to get more information on it, especially in the beginning with what the job would entail to let us know exactly what we would be doing. They have allowed time from our schedule for the touchpoint meetings. They've been supportive with that where we ... especially in the beginning, we're trying to figure out exactly

			Some Implementers discussed the importance of interpersonal skills to support WIC participants. Staff who were engaged and excited about the innovation and used patient centered education conducted successful outreach to other staff and WIC participants.	what we were going to be doing, how we were going to be doing it." -Doer "I was pretty much just practicing my participant centered education skills, asking permission to ask a question, and then sharing with her about CinnaMoms, and then all the other things with her benefits that I noticed in her WIC file. It was successful. I got her to pick up her Farmer's Market checks the next day and encouraged her to use her benefits because they expired in the next two days. It was her last month receiving food as a postpartum woman. She had a lot there, and there was nothing there. She just appreciated someone calling her and checking to see, "Okay, what can we do to help you?" -Implementer
Facilitation	Obtaining, disseminating innovation or facilitation knowledge	Decision Makers and Implementers disseminated information to other WIC agencies	Decision Makers and Implementers recommended disseminating to other local agencies (e.g., MI will use conferences and meetings as an opportunity to share about the innovation). Once the infrastructure of the innovation is built, it is easier to spread to other local agencies. Having a team of staff that is excited to share the information is important for successful dissemination.	"So, our next step is to now show them what we did with this grant so that they can just apply it in their other local agencies. Because once you build it, once you have the infrastructure, it's way easier to just spread it." -Decision Maker "Yeah, that's good because this has laid the foundation for other grants. It has laid the foundation for our model. We've been trying to build a CinnaMoms toolkit for

				so long so that we can disseminate and train other agencies to have this model. I think it's also a framework for hiring. We can use this hybrid model for bringing in our entry level employees into the pipeline in hopes that you're investing into their future here at the WIC program. So I think you have not only this being a model for funding to sustain the program, but also for our third goal of increasing and building the pipeline of staff." -Decision Maker

D.6: Maintenance Data Table

Theme	Description	Stakeholders			Examples
		Decision Maker	Implementers	Doers	
Gaps in technology and lack of continued oversight emerged as barriers to the sustainability of services stemming from the grant.	Some WIC staff identified specific barriers that inhibit the sustainability of components of the innovation, including technology barriers (e.g., MIS integration), bureaucratic inefficiencies of procurement processes, absence of leadership advocacy, and other factors that contribute to the inability to continue services from the grant. Some agencies described that lack of state involvement not only inhibited growth but also impacted staff buy-in to current clinic processes. A Decision Maker noted that a state-wide rollout of streamlined procedures could not happen without advocacy via regional and state-level buy-in. One Decision Maker noted that the inclusion of top-level leadership in the grant application phase would help create a long-lasting impact and ensure funding and continuation of innovative services.	X	X		"I think the biggest thing is how does the technology project you want to do, how does that integrate with your MIS, the clinic workflow and staffing capacity and ensuring that local agency staff have a seat at the table pre, during and post-development of it?"- Implementer "I don't know if this works the same in every state, but [State Department] is really slow at reviewing all of that stuff, so we're halfway through this year with no contract, and we haven't heard back about that competitive renewal yet."- Decision Maker/Implementer "I think staff buy-in both at the state level and at the local agency level and just more integration of medical liaison responsibilities into clinic. So in order for this to be sustainable, people have to want it to exist and to want it to exist, they have to know what it's about. So just getting the buy in"- Decision Maker "…The other issue that we had initially was sustainability had to do with the advocates were going to help with the sustainability issue but when we started discussing the project with them, we had some issues with advocates who were only allowed to advocate and submit funding to local areas and not to the actual state for an actual statewide project…"- Decision Maker
Prolonged sustainability of innovative services is enabled by funding, retention of dedicated staff, and the ability to	Many WIC staff provided guidance on the characteristics needed to continue innovative work beyond the grant period. Largely, staff cited important components such as additional funding and the ability to retain dedicated staff with specific expertise (e.g., IT, project	X	X	X	"I think one of the lessons learned probably was to have at least one person at the local agency level who is a designated person that will understand these changes better and be in a position to educate the rest of the staff within the agency or be able to deliver those changes, because I think oftentimes with everything else they have going on, not everybody is able to attend the trainings and get up to speed."- Decision Maker

recalibrate goals as a team to decide targeted procedures worked well and should continue after the grant period.	management, TA for clients etc.). A few WIC staff noted that providing incentives for staff increased retention and buy-in to continue their work despite challenges and having to sometimes work in imperfect systems. Others noted the need for continued State Agency support to keep passionate workers in WIC. A few Decision Makers noted the need for long-term planning with respective stakeholder groups, including State partners and community organizations. Discussion with partners that made innovation possible on a regular basis opened the door to recalibrating goals at the end of the project and identifying procedures that worked well. Regular communication and transparency with partners allowed project personnel to maximize the infrastructure built during the innovation period to continue adding new services when able.				"So, you need to be offering positions that are creative and different., Be training them in the WIC world, and then find these paths because no one probably wants to be a [WIC staff position] forever. I mean, some people do, but many people want growth and opportunities…"- Decision Maker "So I mean, one of the big advantages that we have is that the infrastructure is already in place in the form of the MIS and the enhancements made to the MIS and to the [innovation] are permanent. So they will continue hopefully to improve the client and staff experience well after project funding ends."- Decision Maker "I think, for us at the state level to continue meeting regularly. Just to keep touching base about how things are going, or different feedback that we're getting as we continue to make enhancements to the system."- Decision Maker
In some cases, WIC staff identified important edits to the innovation that narrowed the scope of services, making it more likely to sustain leaner operations and determine characteristics for long-term sustainability.	At the end of the grant period, some WIC staff took stock of the changes made and decided to remove services. Staff discussed eliminating services created by the innovation that were not impactful to clients, didn't streamline certification appointments as imagined, were not worth the additional budget required to sustain, or learned of pending State Agency changes that would integrate desired technologies in a better and long-term way. Thinking of the project in a fluid and flexible way helped extend	X	X		"So one thing that we thought about and we implemented, which we probably will not continue, is the [innovation feature]. We haven't had a lot of people using it for the price of it. We have a lot of people just emailing us or calling us, or they just do a lot more of requesting appointments and not asking questions over the online chat that we found just was not feasible."- Implementer "The [innovation feature], I guess, budget wise it is extra on top of just kind of keeping the [maintenance]. So that is another thing that we looked at as well for usage versus the price of it."- Implementer

	the agency's ability to continue services in a feasible way.				
After the grant ended, WIC staff gave input on ways to enhance the current innovation beyond the grant period to further tailor to community needs and staff needs.	Many WIC staff discussed high-level modifications they would like to see their innovation evolve after the grant period ends. Some of the ways in which the innovations can be improved included procedural suggestions, such as finding ways to automate services that require less oversight and finding ways to integrate and formalize what worked well into existing clinical procedures. WIC staff input would contribute to building new complimentary services that bring further value to clients and staff, and scale the innovations out to other Local Agencies or statewide. Improved technical support to WIC participants was a theme identified to help keep innovations sustainable, such as editing client-facing documents to include plain language with instructions that help participants navigate use. A few staff noted they would like to see the innovations adapt technological components to increase user-friendly aspects. Increased marketing and promotion would also help WIC staff promote new services and keep WIC participants informed of what's available to them.	X	X	X	"Obviously we need to see what we can do with that form or how to address it to make it a little easier for people to fill out, and I think that's just trial and error with that. I think once maybe some promotion, and I don't know how the promotion can be made, if it could be made through the app or even just more handouts and just approved handouts to say, "We have this option."…"- Doer "I think moving forward after this grant period is over, we're going to try some different things as far as trying to get them integrated in the clinic versus just entering information in." - Decision Maker "But some are talking about continuing with the outreach efforts, which I think is great but I'd like to expand those outreach effort efforts going forward."- Decision Maker "For example, sustaining the enhancement that we already implemented as part of this project, it's pretty straightforward now. Now that the changes are in the system, maintaining those automatically gets lumped into our existing maintenance and operation contract with [IT contractor] so that makes it easy for those things to continue as is, which is all well and good…"- Decision Maker
WIC staff identified technological advancements that support and streamline operations and plan	Some WIC staff discussed their agency's desire to maintain technological elements of the innovation, including continued language support services, and other components that have a positive impact on clients and staff (e.g.,	X	X	X	"I also think that the Arabic translation was huge when it comes to accessibility, things like that. But also I've even seen this already has started paving the way for now we got through the development barriers associated with implementing things in the Arabic language. Now all of a sudden we're implementing other forms in our MIS in the Arabic language

to integrate these aspects of the innovation into daily practices. Many WIC staff provided guidance on the characteristics needed to continue innovative work beyond the grant.	website maintenance, messaging systems, etc.). Despite procurement and learning curve barriers, patient and document portals were also seen as important ways to streamline appointments for both staff and WIC participants. Furthermore, WIC staff emphasized personnel characteristics that were important in maintaining innovative practices. A few Decision Makers noted their intention to maintain communications with the partnerships forged during the grant (e.g., PCPs, other health agencies, and interagency support). Many WIC staff also mentioned the need for dedicated tasks for specific personnel, which sometimes included staff outside of WIC.				and letting that continue on past the project so that we can continue to promote inclusivity and connect with the clients of different languages, which I think is really exciting to see." - Decision Maker "I don't know that we need to make any more modifications than the ones we've already done. I mean, again, it all depends on whether we would ever get access to the HIE potentially. But for the document stuff, I think we've already made so many modifications, I think we're finally going to be in a better place now with that."- Implementer "…There's a lot of great groundwork laid with the outreach to healthcare providers and there's relationships that were built and they need to be maintained. So just doing regular outreach and make sure, periodically, stop in and say, "Hey, you guys need any more forms or whatever it is." Well, we have to do outreach materials and just make that effort to maintain those relationships with the healthcare providers… Those relationships that were built through this project and then that information that's continually exchanged there..."- Decision Maker
Positive impacts on client services were discussed favorably as first steps to the creation of a new model of WIC services that can be scalable to other agencies.	A few WIC staff spoke of positive outcomes from the grant that they were proud to be a part of and hope to continue. Some staff discussed the benefits of being able to formalize procedures and create infrastructure to continue work that positively impacts clients. Other positive impacts include development of materials and making them accessible to staff for future use, positive impacts on client relationships, and generating a better customer service model with the potential of being scaled to other Local Agencies.	X	X		"I mean the grant allowed us to catalyze the work that we had done up to that point and formalize it, and we can easily sustain the roles... And now, with this other grant that we just got to catalyze it to spread a little bit more, and then when our report is done, we're going to give that to you all, of course, but we're also going to use that to take parts of it out and share it at NWA and share it with other locals and share it at our California WIC conference. And I just see maintenance happening in all different ways. And there's no way without this grant, we would be this far along. We just wouldn't have been able to do the hiring that we could do and the pushing it out and really not only just the measuring it, but the starting to understand, "Oh, okay. If you can use this grant to hire this way, it not only pushes your project objectives forward, but it pushes WIC with it.""- Decision Maker

					“I also think some of the materials that we developed, that staff can continue to use them. Even some of the local agencies that didn't necessarily participate in this grant would be able to use them and have their staff do something similar with them.” - Implementer “We are working toward a document repository, and hopefully we’ll have that going here within the next year because we finally have some things moving. So I think that will definitely help us going forward because it actually started us having more of those conversations now to get that set up.” - Implementer

Appendix E: WIC Participant Self-reported Satisfaction with Respective WSPI Innovation

Factor	FSL		LIJ		MI		PA		PHFE		WV	
	%	n	%	n	%	n	%	n	%	n	%	n
Satisfaction with the Document Upload Portal												
Very satisfied	60%	9	-	-	-	-	-	-	-	-	-	-
Total number of respondents (unweighted *n*)	-	15	-	-	-	-	-	-	-	-	-	-
Satisfaction with the Online Appointment Scheduling Feature												
Very satisfied	20%	1	-	-	-	-	-	-	-	-	-	-
Total number of respondents (unweighted *n*)	-	5	-	-	-	-	-	-	-	-	-	-
Satisfaction with the Online Text Chat Feature												
Very satisfied	50%	3	-	-	-	-	-	-	-	-	-	-
Total number of respondents (unweighted *n*)	-	6	-	-	-	-	-	-	-	-	-	-
Satisfaction with the Spanish Information and Features												
Very satisfied	77%	10	-	-	-	-	-	-	-	-	-	-
Total number of respondents (unweighted *n*)	-	13	-	-	-	-	-	-	-	-	-	-
Satisfaction with the number of community resource referrals I receive (e.g., food pantries, support groups, SNAP, etc.)												
Very satisfied	-	-	77%	70	-	-	-	-	-	-	-	-
Total number of respondents (unweighted *n*)	-	-	-	91	-	-	-	-	-	-	-	-
WIC Connect is easy to use												
Strongly agree	-	-	-	-	54%	86	-	-	-	-	-	-
Total number of respondents (unweighted *n*)	-	-	-	-	-	158	-	-	-	-	-	-
Using WIC Connect helps my WIC appointment go faster												
Strongly agree	-	-	-	-	44%	71	-	-	-	-	-	-

Total number of respondents (unweighted *n*)	-	-	-	-	-	161	-	-	-	-	-	-
I like using WIC Connect												
Strongly agree	-	-	-	-	55%	88	-	-	-	-	-	-
Total number of respondents (unweighted *n*)	-	-	-	-	-	161	-	-	-	-	-	-
I feel comfortable and included during CinnaMoms Support Circles												
Strongly agree	-	-	-	-	-	-	-	-	69%	200	-	-
Total number of respondents (unweighted *n*)	-	-	-	-	-	-	-	-	-	290	-	-
I am satisfied with the CinnaMoms content and topics are relevant to me as a Black mother												
Strongly agree	-	-	-	-	-	-	-	-	71%	205	-	-
Total number of respondents (unweighted *n*)	-	-	-	-	-	-	-	-	-	290	-	-
I am satisfied with the community resources offered at the CinnaMoms Support Circles												
Strongly agree	-	-	-	-	-	-	-	-	73%	213	-	-
Total number of respondents (unweighted *n*)	-	-	-	-	-	-	-	-	-	290	-	-
I have a more enjoyable WIC appointment when my counseling is done by CinnaMoms staff												
Strongly agree	-	-	-	-	-	-	-	-	64%	183	-	-
Total number of respondents (unweighted *n*)	-	-	-	-	-	-	-	-	-	284	-	-
I feel that CinnaMoms meets the needs of Black women and their families												
Strongly agree	-	-	-	-	-	-	-	-	71%	204	-	-
Total number of respondents (unweighted *n*)	-	-	-	-	-	-	-	-	-	286	-	-
WIC participants who did not take H/WT/Hmgb measurements during their recent in-person WIC appointment rated the following												
Helpfulness of WIC staff												
Excellent	-	-	-	-	-	-	60%	164	-	-	56%	18

Total number of respondents (unweighted *n*)	-	-	-	-	-	-	-	272	-	-	-	32
Amount of time it took												
About right	-	-	-	-	-	-	89%	243	-	-	81%	26
Total number of respondents (unweighted *n*)	-	-	-	-	-	-	-	272	-	-	-	32
Overall, how satisfied were you with your last WIC appointment?												
Very satisfied	-	-	-	-	-	-	76%	208	-	-	88%	28
Total number of respondents (unweighted *n*)	-	-	-	-	-	-	-	272	-	-	-	32