Pennsylvania/West Virginia Innovation Grant

West Virginia WIC

Final Report to the U.S. Department of Agriculture Food and Nutrition Service

2019-2022 WIC Special Project Innovation Grant

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Executive Summary

Introduction and Background

At the onset of this project, West Virginia sought to address the lengthy certification process in the clinic. Our participants are sometimes bound by limited public transportation schedules as well as difficult to manage work schedules, making it imperative that the program for WIC (the supplemental food program for Women, Infants, and Children) adjust our services to meet their needs. The initial project aimed to track the amount of time participants spent in the clinic both pre and post intervention. The Pandemic Disaster Declaration forced WIC to become more flexible and West Virginia opted to use the physical presence waivers for the safety of our participants and staff. Operations during the pandemic forced us to adjust to focus on our ability to get anthropometric and hematological data from participants who we would not otherwise have access to their health data as they were not present in the clinic. As we conducted remote appointments and adopted physical presence waivers, it became evident that our mission of health surveillance would suffer. Through this project we were able to assess the availability of health data through the West Virginia Health Information Network (WVHIN) as well as participants' willingness to allow WIC access to their health information. All West Virginia WIC participants were targeted in this project.

Project Overview

The first project goal was to streamline the certification process and assess the relevance of WVHIN information for required WIC data. The second project goal was to reduce the redundancy of tasks for WIC staff and barriers to program participation. It was intended that WIC staff having access to the medical records data would decrease the frequency of which anthropometrics and hemoglobin values are completed and obtained in the clinic. This goal was to be achieved by hiring Medical Liaison staff for each participating agency. By minimizing the tasks to be completed for a WIC appointment in the clinic, appointment time may be shortened for participants. The last project goal was to incorporate a document portal to incorporate telehealth into WIC service provision. Remaining on pace with changes in healthcare technology and service delivery ensures WIC services are a relevant part of the medical community. This project spanned from November of 2021 to September of 2022.

Key Findings

23% of contacted participants elected to participate in the WVHIN WIC innovation project by returning signed forms. In total, 1343 appointments had data available within the health information network. In 27.3% of appointments anthropometric data was available but not usable (n=668), and in 12.8% of appointments hemoglobin data was available but not usable (n=313). This resulted in a reduction of 700 tasks that would have been done either in clinic or not done at

all due to physical presence waivers. WIC participants who have height, weight, and hemoglobin data in the WVHIN do not have to complete height, weight, and/or hemoglobin measurements in the WIC clinic during their certification appointment. WIC participants (n=213) who completed in-person certification appointments during the evaluation period were asked if they had their own (or their spouse's) height, weight, or hemoglobin measured (41.8% "Yes") or their child's height, weight, and/or hemoglobin measured (60.1% "Yes"). For 85.0% of in-person visits, either an adult or child, or both, reported having height, weight, and/or hemoglobin measured. We compared metrics of appointment satisfaction (i.e., "staff helpfulness," length of appointment," and "general satisfaction") between the groups that had height, weight, and/or hemoglobin measured versus those that did not. There were no statistically significant differences between those who did have their anthropometric and hematologic data taken in clinic versus those who did not.

Project Conclusions and Lessons Learned

There is an opportunity to utilize a health information network for more than basic hematologic and anthropometric data. While the goal of this project was to explore the utility of that information for the WIC certification process, there are other uses for many health information networks. These networks create a ready-made network for referrals, in addition to containing information about immunizations and lead testing. Lastly, some networks may have connections to other community resources, giving WIC the option to not only refer to other providers, but to gain referrals from those providers and other partners. All personnel and technology aspects of these projects are sustainable. Any group wishing to undertake a project like this needs to start planning very early, understand the process of implementing WVHIN access, all the players involved and sign offs needed. Gaining access can be a lengthy process and it is important to be prepared. Our team will continue our partnership with the WVHIN. We will continue to use the information found in the network in order to complete certification appointments. In the future we hope to extend the partnership to include referrals to and from our local WIC clinics.

Section 1: Introduction

1.1 Background

The barriers to certification this project was originally intended to address was the lengthy certification process in the clinic. Our participants are sometimes bound by limited public transportation schedules as well as difficult to manage work schedules, making it imperative that WIC adjust our services to meet their needs. The initial project aimed to track the amount of time participants spent in the clinic both pre and post intervention. The Pandemic Disaster Declaration forced WIC to become more flexible and West Virginia opted to use the physical presence waivers for the safety of our participants and staff. Operations during the pandemic forced us to adjust to focus on our ability to get anthropometric and hematological data from participants who we would not otherwise have access to their health data as they were not present in the clinic. As we conducted remote appointments and adopted physical presence waivers, it became evident that our mission of health surveillance would suffer. Through this project we were able to assess the availability of health data through the WVHIN as well as participants' willingness to allow WIC access to their health information.

The target population was all West Virginia WIC participants. Having health data for WIC certifications is crucial to continuing to provide our participants with the health surveillance they have come to expect from WIC. Since COVID impacted their ability to come into our offices, this was one way to give participants a WIC experience as close to what they were used to as possible.

This project employed Enhancement Opportunity One. This enhancement opportunity focused on adopting policies, practices, and/or technologies that enable participants to initiate and complete allowable portions of certification procedures online. This project focused on allowing participants to initiate getting anthropometric and hematologic data needed for certification from an online health information exchange. Additionally, this project employed Enhancement Opportunity Four, a WIC agency led innovative strategy to improve the WIC certification process that is not captured by Enhancement Opportunities 1-3. Choosing to use the health information exchange technology to get information needed ahead of time allows for less time in the clinic which in turn benefits our busy participants.

1.2 Goals and Objectives

The first project goal was to streamline the certification process and assess the relevance of WVHIN information for required WIC data. It was intended that the certification process would be streamlined through use of Medical Record portals and referrals that would provide necessary eligibility documentation and medical information, prior to appointments. Information could be

validated, and participants could be prescreened prior to their in-person or virtual appointments. The second project goal was to reduce the redundancy of tasks for WIC staff and barriers to program participation. It was intended that WIC staff having access to the medical records data would decrease the frequency of which anthropometrics and hemoglobin values are obtained in the clinic. By minimizing the tasks to be completed for a WIC appointment in the clinic, appointment time may be shortened for participants. The last project goal was to continue to incorporate telehealth into WIC service provision. Remaining on pace with changes in healthcare technology and service delivery ensures WIC services are a relevant part of the medical community. Furthermore, Millennials and Gen Z mothers rely on, prefer, and expect technology as a service delivery modality, eliminating a barrier to receiving WIC services. West Virginia WIC intended to implement a document portal which would allow for participants to sign needed forms prior to their appointments. Prior to COVID, West Virginia was going to pursue outreach to the medical community. This goal was not pursued because of the restrictions around hospital and doctors office visitations. Additionally, WVHIN has their own team to complete outreach for joining the network, so it was decided that West Virginia would dedicate their resources to the aforementioned goals instead.

The goals impacted both WIC participants and WIC clinic staff. Allowing WIC access to the WVHIN allowed for WIC staff to continue providing quality nutrition assessments and education to our WIC participants.

By having access to relevant healthcare information, the WIC certification process could be hastened and therefore reduce the burden of participation on participants. Participants that feel less burdened by WIC participation are more likely to be retained as participants so long as they or their children are WIC eligible. Less time spent by staff completing tasks that participants' health care providers have already completed also allows them to focus on other elements of WIC such as nutrition education and providing community resources to the participants.

Section 2: Project Implementation

2.1 Project Timeline

The first project goal was to streamline the certification process and assess the relevance of WVHIN information for required WIC data. It was intended that access to this system would happen by signing a Memorandum of Understanding (MOU) by December 31, 2021. The second project goal was to reduce the redundancy of tasks for WIC staff and barriers to program participation. It was intended that WIC staff having access to the medical records data would decrease the frequency of which anthropometrics and hemoglobin values are obtained in the clinic. This goal was to be achieved by hiring Medical Liaison staff for each participating agency. This goal date was pushed back due to COVID and was intended to be completed by November 12, 2021. By minimizing the tasks to be completed for a WIC appointment in the clinic, appointment time may be shortened for participants. The last project goal was to incorporate a document portal to incorporate telehealth into WIC service provision. Remaining on pace with changes in healthcare technology and service delivery ensures WIC services are a relevant part of the medical community.

This project was originally centered around reducing the amount of time spent in the WIC clinic. Due to the available physical presence waivers in place during COVID, these goals had to be adjusted to fit the current state of WIC. The above reflected timeline is the project after the accepted revision in September of 2022.

Medical Liaisons were hired to complete the bulk of the work, which involved using the WVHIN for access to data and inputting that data into our MIS. Additionally, these employees were meant to use DocuSign as a means to contact the participants. State agency staff that were included in the workgroup to aid in implementation were the nutrition services coordinator, research specialist, outreach coordinator, policy and procedure coordinator, staff trainer, MIS coordinator, and the local agency monitor with input from the state director as needed.

2.2 Key Actions Taken to Implement Project

The first phase of implementation of the project was to have all appropriate parties sign the MOU for access to the WVHIN. This part of the process started in November of 2019. Due to delays from COVID, this portion of the project was not completed in West Virginia until October 8, 2021. After the MOU was signed, Medical Liaisons had to be hired and trained. All medical liaisons were hired by November 1, 2021. The initial training on West Virginia WIC specific procedures such as using our MIS system and overall medical liaison responsibilities was held on December 13, 2021. After this training, the medical liaisons were then expected to begin distributing paperwork that allowed WIC to access the WVHIN data. This was completed

this way in order to get the most out of the training with WVHIN. After gathering these documents, West Virginia WIC was granted access to the WVHIN on January 25, 2022. The second training specific to WVHIN and conducted by an employee of WVHIN was held on January 27, 2022. During that training medical liaisons were able to use real data from our participants in order to understand how to use the health information network to the fullest extent. After this training, medical liaisons were able to begin working full time on getting data from the WVHIN and inputting that information into our management information system in order to certify participants.

In order to evaluate the availability of WVHIN data, tracking sheets were developed. One sheet was used to track signed releases for health information, which gave us permission to look the participants up in the WVHIN. The second tracking sheet was used to track available data within the WVHIN. These tools initially were to be completed by December 17, 2021 but were not completed until March 14, 2022. In addition to the tracking sheets, surveys were used to gauge both participant and staff understanding of the project. Surveys were developed by GSCN and administered to participants and staff starting in August of 2022 and ending in September of 2022. Staff and participants were scheduled to be interviewed, but no participants were available to complete the interviews.

Lastly, at the end of the project West Virginia was finally able to secure a contract for document portal services. Unfortunately, this document portal was not available for use during this grant period; however, the state is using it for ongoing WIC purposes with funding from a different grant.

The above activities allowed West Virginia to streamline the certification process, reduce the redundancy of tasks completed by clinic staff, and make progress toward incorporating telehealth into West Virginia WIC.

State agency staff that were included in the workgroup to aid in implementation were the nutrition services coordinator, research specialist, outreach coordinator, policy and procedure coordinator, staff trainer, MIS coordinator, and the local agency monitor with input from the state director as needed. The state agency staff was integral in getting the MOU signed, as well as facilitating any training needed. Additionally, state agency staff were tasked with maintaining the data needed for evaluation and the grant reporting. Medical Liaisons were hired to implement the project in the clinic. Their supervisors also provided them with the clinic level support needed to make this project successful.

Contact with the participants was the responsibility of the medical liaisons. This means that the medical liaison staff were sending authorization for release of health information forms as well as keeping track of the forms once they were returned. Additionally, medical liaisons were tasked with tracking the availability of data within the WVHIN. In order to keep the project running smoothly, state agency staff mentioned above as well as medical liaisons and their

supervisors met frequently to ensure progress toward goals and to make adjustments when necessary.

Five additional FTE were needed to complete medical liaison duties for this project. One of these staff members did not stay with WIC in this role for the duration of the project. For many of the clinics, these were new employees to WIC. These employees had to integrate into a very sensitive clinic environment due to COVID as well as the Abbott formula recall in February 2022. By the end of the project, the medical liaison staff was understood as a role integral to clinic flow and modernization of the WIC program.

West Virginia WIC partnered with the WVHIN in order to gain access to health records from area doctors offices. Additionally, West Virginia WIC is now using document portal services.

West Virginia's challenges were as follows. When deciding how to obtain consents, the only way to do so and be able to get information in time for the participants appointment was to send the consent forms out by mail. This is a challenge in and of itself as mail is not the preferred method of communication for many of our participants. Additionally, the logistics of how to mail, scan, and store the paperwork took quite a while to figure out a system that worked for everyone. It was eventually decided that each local agency would be responsible for storage of the paper documents for the federally mandated required amount of time.

The project allowed staff to avoid conducting 700 in-clinic measurements by utilizing HIN data. While staff felt it was easy to use and access HIN data, they felt the process for obtaining permissions from WIC participants was not streamlined. Mailing forms to have participants correctly sign and return was not efficient as only 23% of nearly 13,000 mailed forms were returned with signed permission forms. Medical liaisons recommended making forms more understandable for participants and collecting permissions either in-person or remotely via electronic signature.

As with most projects that happened in early 2020, COVID was disruptive to the original goals. The solution to this problem was to switch from a time based project in which we measured the amount of time participants spent in the clinic to one that focused on the utility of available medical information. In this switch, it was difficult to clarify the research question and make sure that our variables were both measurable and valuable to understand. GSCN and the state agency collaborated to create goals that were able to be used for the project.

Lastly, during the implementation of the project we found that there was an excess of paper tracking that must be completed for the authorizations for release of health information. It is the hope that with the document portal implementation that the burden will be decreased for the staff.

Despite the challenges presented by both "normal" processes and the unexpected pandemic, West Virginia WIC worked hard to make this project successful. By the end of the grant period, four of the eight local agencies were successfully using data from the WVHIN to certify participants. In addition, we were able to start brainstorming more ideas for how to improve the project as we look to the future in continuing our work of modernizing West Virginia WIC. It was important that West Virginia WIC stay flexible and open minded as we pursued this project. Thanks to the flexibility of our staff and the willingness of each employee to work toward the common goal we were able to be successful. Additionally, WVHIN was helpful in navigating a unique situation as we became their first use case for using data for WIC.

Our staff worked through challenges diligently as they came up. People were willing to share ideas and be inventive in their thinking. Additionally, our local agency staff were open about their struggles and allowed the state agency staff to collaborate with them on the solutions.

2.3 Project Budget and Expenses

The total cost of the project billed to the innovation grant was $70,629.00. This cost was incurred when the document sharing portal was set up. Due to extensive problems with releasing an RFQ for portal services, WV was only able to bill for DocuSign services for June 2022. West Virginia budgeted for travel related to in-person kick off and wrap up meetings with grantors; however, due to the pandemic the kick off in-person meeting was canceled. No West Virginia staff were able to travel to the in-person wrap up meeting, therefore no travel costs were incurred. In West Virginia, most of the grant funds were allocated to medical liaison staffing at the local level. However, due to the extensive administrative barriers with establishing grant agreements and moving funds between the grantor to the State of Pennsylvania (PA), Innovation Grant funding was not utilized for staffing expenses. For example, the fully executed agreement between PA and WV did not occur until June 2, 2022. This created an insufficient timeline for accomplishing the process necessary to establish sub-recipient Innovation grants with Local WV WIC Agencies prior to the end of the grant period. In addition, if the sub-recipient Innovation grants would have been established the timeline would have also been insufficient for the Local WV WIC Agencies to complete funding posting modifications within their accounting systems for the Nutrition Services and Administration grant funding utilized to pay the Medical Liaison costs beginning October 1, 2021 by the end of the federal fiscal year. No unplanned costs occurred over the duration of this project.

2.4 Project Transferability

All meetings regarding the Innovation Grant were documented via meeting minutes. These minutes include documentation of decisions made and the person or people responsible for carrying out the work related to the decisions. Additionally, training documents were created

within PowerPoint presentations. Both meeting minutes and training materials are sharable beyond our state agency.

The best practices recommended by West Virginia WIC is to ensure to document all meetings, as well as phone calls. As this was a consortium project with Pennsylvania it was important that all project components be documented to avoid duplicate work as well as keep partners informed of progress being made.

Our staff were incredibly flexible when it came to this project. WIC was faced with many challenges during the duration of this grant and our staff took them all in stride. Additionally, having the WVHIN be so flexible and open to helping us was a large benefit. While the original project timeline set forth in 2019 was not able to be met, the revised timeline offered in September of 2022 was met.

The initial barrier was gaining access to the WVHIN and understanding how we can use that data. As the WVHIN houses confidential information for many people, it is imperative that the safety and security of the data be kept as a high priority. When an agreement was drawn up between WV WIC and WVHIN, it was later discovered that an agreement already existed within the larger Department of Health and Human Resources (DHHR). It would have saved a considerable amount of time on both the WV WIC and the WVHIN staff had that agreement been public knowledge. The solution to this challenge was to sign an addendum to the already standing agreement between WVHIN and West Virginia DHHR. After that was signed, WIC then had to create policies that allow our staff to use WVHIN data for certifications. The first step to creating these policies was to understand who would have access to the WVHIN from WIC and create the training to safeguard the information within the WVHIN as well as ensure our employees knew how to operate within our management information system (MIS). Secondly, WIC had to develop a way for our participants to opt into allowing us to use the information within the WVHIN to access information for their WIC appointments. The legal teams of both WVHIN and WIC had to work together to create a consent form for participants that met both agencies legal requirements. There were roadblocks of language differences between the legal teams, so it is important to keep in mind that WIC language and language within the health care system may be different if you choose to pursue a project like this.

The second barrier we ran into was how to train WIC employees. While we train new employees on the use of MIS, we now need to train them on how to use the WVHIN system. The WVHIN was not equipped with test cases that were applicable to our use case, so we had to send WVHIN consent forms out prior to the training held by WVHIN staff so that our employees could learn in real time using real data. Additionally, we had to decide who to train. Given the sensitive nature of the data, we elected to only train the medical liaisons first with supervisors being invited to the training so that they could understand the nature of their employees job.

Staffing shortages are hard to overcome in many areas of West Virginia due to the lack of available people qualified for positions. Due to these limited staffing capacities, some local agencies could not participate in the project because people could not be found to fill open positions.

If possible, it would be beneficial to test the products you will be using within your team. By only watching demonstrations it can be very difficult to understand how that will work inside of a WIC clinic. Additionally, having a fully formed idea prior to watching demonstrations would be helpful moving into implementation. Because of the delays and changes in this project it was difficult to remember back to demonstrations that happened over a year ago to make the best possible choice.

If another agency wishes to pursue a similar intervention, it would be of great benefit to them to ensure that all training happens in person at the same time if at all possible. While COVID restrictions forced most of our training online, it would have been helpful to have people who wish to be in person to have that ability. In addition, having training happen all at once over the course of a day would likely resolve many questions that came up after training. If we would've known to get the authorization for release of health information forms signed well in advance, we could have done this. As always, pilot projects must be flexible and employees should understand that; however, it is important to try and know as much as you can up front.

Section 3: Evaluation Design and Methods

3.1. Evaluation Design and Setting

WV WIC's certification enhancement innovation involved utilizing the WVHIN to gain access to WIC participants' anthropometric and hemoglobin data to reduce redundancies during WIC certification appointments. Data about the WVHIN was collected in each participating clinic by WIC staff.

This was a cross-sectional evaluation study, including both quantitative and qualitative data analysis, guided by the Reach, Effectiveness, Adoption, Implementation, and Maintenance (RE-AIM) framework. RE-AIM is a program planning and evaluation framework that can be used to determine effectiveness of an initiative, and considers factors associated with external validity such as reach, adoption, implementation, and maintenance of an innovation or intervention. Following this sub-section, the remaining times RE-AIM is used in section/sub-section framing, the order A, I, R, E, and M, will be followed for a more linear description of the findings.

- Reach: breadth and representativeness of the innovation's exposure to a target population.
- Effectiveness: the degree to which the innovation achieved it's intended effect(s).
- Adoption: the number of targeted sites/settings/staff that utilized the innovation, and barriers/facilitators.
- Implementation: Consistency, cost, and fidelity of the delivery of the innovation.
- Maintenance: Sustainability (or perceived sustainability) or innovation effects over time.

The final evaluation metrics were developed in an iterative co-design process between WV WIC and the Gretchen Swanson Center for Nutrition (GSCN). All components of RE-AIM had at least one corresponding metric. Assessing maintenance was beyond the scope of this evaluation, but perceived feasibility of maintenance was assessed qualitatively. Data collection was guided by the RE-AIM table set forth collaboratively between GSCN and WV WIC staff.

3.2. Data Sources and Measurement Tools

Data were collected from November 15, 2021 to September 30, 2022. Data sources included tracking forms, administrative records, surveys, and staff interviews. Table 1, displays the RE-AIM metrics and data sources assessed for this evaluation. Surveys and interviews were conducted by GSCN staff with surveys being administered via phone notification or email link. Interviews were conducted via zoom conferencing. GSCN staff developed surveys with input from WV WIC staff. Interview guides were created by GSCN. Tracking forms for in-clinic data collection were created in Google Sheets by the WV WIC Innovation Project Workgroup staff and distributed to medical liaison staff prior to the start of data collection.

3.2.1. Data Sources

Clinic Staff Tracking Form. This form was completed by medical liaisons daily to track the utilization of anthropometric and hemoglobin data accessed from the WVHIN. Anthropometric and hemoglobin data was coded if available and if usable/current (i.e., within 60 days for height and weight, and 45 days for hemoglobin). These forms were aggregated at the state level and sent to the evaluation team.

WV Participant survey. The online survey asked about demographics, satisfaction with the certification process, if their most recent appointment was in-person or remote, if the respondent or a child had height, weight, and/or hemoglobin measured during their visit, and if they previously had height, weight, and hemoglobin measured at WIC during a certification appointment prior to March 2020.

WV WIC Staff survey. This online survey was provided to medical liaisons responsible for completing the day-to-day tasks related to the innovation such as accessing WVHIN data for certification appointments. The survey asked about their perceptions on, and satisfaction with, the innovation as it related to their duties with WIC.

Administrative records. Records were kept to track the local agencies and clinics that participated in the innovation, WIC staff trained to perform medical liaison duties, returned WVHIN authorization forms, and the number of staff hired for the grant and continuing after the grant period.

Staff interviews. WV WIC staff were interviewed about the project. Key insights are included in relevant sections within sections 4 and 5. Formal qualitative analysis and findings are included in the overarching evaluation report that describes findings from all projects included in this Food and Nutrition Service funded initiative.

3.3. Participants and Recruitment

3.3.1. WIC Participants

All WIC participants who had the WIC Shopper application downloaded received notification of an available survey with a link to the WV Participant survey. Those that wished to participate completed the survey. Incentives for survey completion were provided in the form of a gift card raffle. The survey was sent to approximately 30,000 WIC participants with 1,549 completing at least 80% of survey questions. Of the 1,549 with completed surveys, 213 (13.8%) reported completing a recent in-person certification appointment and were included in the analytic sample. WIC participants also provided data indirectly through the Clinic Staff Tracking Form described above.

3.3.2. WIC staff

Clinic Staff Tracking Forms were completed by each medical liaison, who was responsible for finding information within the WVHIN and within the MIS of West Virginia WIC. Medical liaisons involved in accessing WVHIN data were asked to complete the WIC Staff survey. A total of six surveys were sent and six completed at least 80% of the questions.

3.4. Evaluation Variables

3.4.1. Adoption

For adoption, the number and proportion of local agencies and clinics that participated in the innovation was documented.

3.4.2. Implementation

There were a number of implementation metrics including quantifying reduced anthropometric and hemoglobin measuring tasks being performed by clinic staff, staff satisfaction with the innovation from their perspective on the process, the number of WV clinic staff trained on WVHIN portal usage, and assessing availability of WVHIN data from medical providers from both urban and rural areas. It was hoped that both urban and rural providers would be participating and have data available for use for certification appointments within the WVHIN. Rural counties in West Virginia are Barbour, Boone, Brazton, Calhoun, Clay, Doddridge, Gilmer, Grant, Greenbrier, Hampshire, Hardy, Harrison, Jackson, Lewis, Lincoln, Logan, Marion, Mason, McDowell, Mercer, Mingo, Monroe, Morgan, Nicholas, Pendelton, Pleasants, Pocohontas, Preston, Randolph, Ritche, Roane, Summers, Taylor, Tucker, Tyler, Upshur, Webster, Wetzel, Wirt, and Wyoming as defined by the Federal Office of Rural Health Policy which was last updated in September of 2021.

3.4.3. Reach

The primary reach metrics included the number and proportion of participants that returned WVHIN authorization forms during the study period and the number and proportion of WIC participants with usable anthropometric and hemoglobin data accessed in the WVHIN.

3.4.4. Effectiveness

The primary effectiveness metric was client satisfaction with in-person clinic visits for certification, comparing those that did not have to do height, weight, and hemoglobin to those that did. Also, satisfaction was compared between WIC participants with the improved certification process to WIC participants from local agencies who did not participate.

3.4.5. Maintenance

Maintenance was assessed by documenting the number of staff hired for the grant and that would be staying on after the grant period. Also, during qualitative interviews, leadership described the long-term feasibility of the innovation within PA WIC.

3.5. Analysis Approach

The statistical analyses were largely descriptive including means, counts, proportions, and trends over time. Independent samples t-tests were used to compare satisfaction scores between the group that had measurements taken versus the group that did not (Welch's t-test was used when variances were unequal). Appointment satisfaction metrics (i.e., “staff helpfulness,” length of appointment,” and “general satisfaction”) were scored 1-5 (Strongly disagree/Very dissatisfied = 1 to strongly agree/very satisfied = 5) for perceived staff helpfulness and general satisfaction with their appointment. For length of appointment, scores were 1 for “way too long”/”way too short,” 2 for “a little too long”/”a little too short,” and 3 for “about right.”

Section 4: Project Findings

4.1. Sample Characteristics

4.1.1. WIC Participants

WIC participants (n=213) who completed an in-person certification appointment during the evaluation period were 29.1 (SD=8.3) years old on average (median = 27, range = 18-59). The sample was mostly non-Hispanic white (88.3%) with some representation from other racial-ethnic groups including Latino/Hispanic (4.2%), non-Hispanic black (4.2%), multi-racial/-ethnic (1.4%), Asian and Middle Eastern (1.0%), and tribal/indigenous groups (1.0%). WIC participants' highest educational attainment included bachelor's degrees or higher (14.1%), associates degrees, trade schools, or some college/in-college (31.5%), high school diplomas or equivalent (47.0%), and less than high school education (7.5%).

4.1.2. WV WIC medical liaisons

Six (out of seven) medical liaisons provided survey data for the evaluation. They had been employed with WIC for less than one year (n=3), 1-2 years (n=1), 3-5 years (n=1), and 6-10 years (n=1).

4.2. Adoption

A total of five local agencies (out of eight) and 35 clinics (out of 57) ultimately participated in the innovation project. Based on staff interviews, the primary reported reason for participating in the innovation project was local agency leadership buy-in to innovation within WIC in general, and in particular projects that may streamline and improve client and staff experiences. The main reported reason for not participating was limited staffing capacity and bandwidth to take on additional tasks associated with the innovation project.

4.3. Implementation

4.3.1. Staff training

There were two staff trainings held, one covering general duties of the medical liaisons and one covering WVHIN issues and tasks.

- Training #1: General duties of the medical liaisons (December 13, 2021).
    - Topics: Outreach marketing, entering family alerts into MIS, policy and procedure, and documentation and tracking.

    - Attendees: 4 instructors and 14 staff members (7 medical liaisons, 3 supervisors planned to be trained by 1 staff training specialist, 1 outreach coordinator, 1 nutrition consultant, and 1 research specialist; 4 instructors).
    - Format: 5 hours, virtual, completed in one session.
    - Challenges: Since the project had not started yet, it was difficult to convey the information concretely. The group had initial difficulty understanding their role and the project overall.
- Training #2: WVHIN issues and tasks (January 27, 2022).
    - Topics: How to utilize the WVHIN system.
    - Attendees: 17 staff members (7 medical liaisons and 9 state agency staff, trained by one subject matter expert on the WVHIN).
    - Format: 4 hours, virtual/in-person hybrid, completed in one session.
    - Challenges: The training was pushed back because there needed to be real releases of health information on file to use as test cases to allow trainees to understand how the WVHIN functions. Once there were test cases to practice on, it was realized that the WV MIS system was not set up for this kind of data entry and adjustments were needed.

4.3.2. Decrease in tasks being performed by clinic staff

Over the course of the grant period, 700 anthropometric measurements and hemoglobin tests were not performed in the clinic because information within the WVHIN was available for use (Figure 1). This represents 3% of total certification visits in the implementation agencies from January to September 2022 (note that one agency no longer had a medical liaison after March 2022).

4.3.3. Medical liaison satisfaction

Six of the seven medical liaisons who accessed the WVHIN data and used the data for certification appointments completed a staff satisfaction survey. They were asked about their perceptions of the process for "getting WIC participant permission, accessing data, and/or using data from the Health Information Network for certification appointments." Four (100%, two selected "Don't know/not applicable") felt using WVHIN data makes certification appointments more efficient, five (83%) felt the accessing the WVHIN data was easy, three (50%) felt the process for getting WIC participant permission to use their Health Information Network data was streamlined, and three (50%) were satisfied with the overall process. Although the sample is small, it seems staff felt the WVHIN data was easy to access and made certification appointments more efficient, but the process for getting permissions may need further refinement.

The six medical liaisons were asked for their recommendations for improvement, and five of the six provided responses. Medical liaisons provided advice about improving the process for

obtaining written permission from WIC participants to access their WVHIN data, and advice about improving the process for accessing WVHIN data.

For obtaining permissions during the innovation project, WV WIC mailed paper forms for participants to sign – either a permission form or a denial of permission form – and mail back. WV WIC was seeing very few in-person appointments during the pandemic and had not yet established a document portal as an approved means to acquire permissions electronically.

Medical liaison recommendations for obtaining written permissions:

- Ensure the forms are easy to understand. Medical liaisons pointed out that WIC participants had trouble reading and interpreting the wording of the forms, understanding the difference between the permission and denial forms (sometimes signing both), and the formatting included a mixture of boxes and lines made it difficult to know where to sign and provide information. This was due to the many legal reviews the form went through at both West Virginia DHHR and WVHIN.
- Collect forms either in-person (e.g., during certification appointments) or remotely via electronic signature. Mailing forms (although a necessity for this innovation project) was not an efficient or effective approach.

For accessing WVHIN data, medical liaisons searched for for height, weight, and hemoglobin data for participants that has already been provided to the database by a participant's primary care provider. The data must be current to be usable for WIC purposes.

Medical liaison recommendations for accessing WVHIN data:

- Make it easier to pinpoint records and data. Currently, medical liaisons have to sort through all the records and each document to find an individual and locate their relevant data. Medical liaisons suggested a tab be added to quickly see all the charted height, weight, and hemoglobin data.
- Encourage primary care providers that participate in the WVHIN to measure and provide height, weight, and hemoglobin to the WVHIN. These measures, particularly hemoglobin, are not routinely collected during doctor visits and so often current data for all three measurements (i.e., height, weight, and hemoglobin) is not available.

4.3.4. Providers from both urban and rural areas represented in WVHIN
Nearly one-third of health care providers (HCP) from unpopulated areas in WV had anthropometric and hemoglobin data for potential WIC participants, and two thirds came from HCP in populated areas (Table 2).

4.4. Reach

Out of the 12,826 forms mailed to WV residents, 23% accepted to participate in the Health Information Network WIC innovation project by returning signed forms (Table 3).

In total, 1343 appointments had data available within the health information network. In 27.3% of appointments anthropometric data was available but not usable (n=668), and in 12.8% of appointments hemoglobin data was available but not usable (n=313) (Table 4).

4.5. Effectiveness

WIC participants who have height, weight, and/or hemoglobin data in the WVHIN do not have to complete height, weight, and/or hemoglobin measurements in the WIC clinic during their certification appointment. WIC participants (n=213) who completed in-person certification appointments during the evaluation period were asked if they had their own (or their spouse's) height, weight, or hemoglobin measured (41.8% "Yes") or their child's height, weight, and/or hemoglobin measured (60.1% "Yes"). For 85.0% of in-person visits, either an adult or child, or both, reported having height, weight, and/or hemoglobin measured. We compared metrics of appointment satisfaction (i.e., "staff helpfulness," length of appointment," and "general satisfaction") between the groups that had height, weight, and/or hemoglobin measured versus those that did not.

It is important to note that it is not known if all who reported completing an in-person certification appointment without having height, weight, and/or hemoglobin measured were able to avoid these measurements because their data was obtained from the WVHIN. However, from a WIC participant's point of view, the administrative processes that allowed the measurements to be avoided are likely not apparent and the salient element of the appointment that might affect satisfaction between the two groups is undergoing, or not, the height, weight, and/or hemoglobin measurements.

Table 5 shows the association between appointment satisfaction metrics and having to undergo height, weight, and/or hemoglobin measurement. There were no statistical relationships between undergoing height, weight, and/or hemoglobin measurement during a certification appointment and satisfaction with the appointment.

4.6. Maintenance

WV WIC hired and trained seven medical liaisons to conduct the functions needed for utilizing WVHIN data for certification appointments. In regard to sustainability, WV WIC was able to secure a FFY2022 WIC Infrastructure Grant to continue the project through FFY 2024. This funding also supported expansion to include all eight Local WIC Agencies and outreach to healthcare providers. This will allow an assessment to determine effectiveness with full use of the document sharing portal, and a client service redesign model upon expiration of physical presence waiver. WV will determine if medical liaison duties will be absorbed as other duties of clinic staff or if the position yields effective changes to participant flow and time in clinic to

continue as a separate funded position using WIC Nutrition Services and Administration funding.

Section 5: Project Conclusions and Lessons Learned

5.1. Conclusions and Next Steps

5.1.1. Opportunities to refine this innovation project or similar innovations

There is an opportunity to utilize a health information network for more than basic hematologic and anthropometric data. While the goal of this project was to explore the utility of that information for the certification process, there are other uses for many health information networks. These networks create a ready-made network for referrals, in addition to containing information about immunizations and lead testing. Lastly, some networks may have connections to other community resources, giving WIC the option to not only refer to other providers, but to gain referrals from those providers and other partners.

5.1.2. Sustainable and unsustainable aspects of the innovation project

All personnel aspects of these projects are sustainable. In addition, the use of the health information network will be sustainable so long as we continue the collaborative project with WVHIN. The only part of this project that was not sustainable, due to its inefficiency, was only brought about by the inability to implement the document portal within the grant period. We were forced to obtain authorizations for the release of health information via mail and paper, which was a significant amount of time and paperwork. As we implement the document portal, this unsustainable portion of the project will be replaced by a more efficient process.

5.1.3. Next steps for the innovation project

Our team will continue our partnership with the WVHIN. We will continue to use the information found in the network in order to complete certification appointments. In the future we hope to extend the partnership to include referrals to and from our local WIC clinics.

5.1.4. Future adaptions or changes

We will be implementing a document portal to eliminate some of the time spent completing paperwork. While we will still have to send documents electronically, it will reduce the time spent with paperwork. In addition, we will be focusing on integrating the position which handles the health information network into the day to day clinic.

5.2 Lessons Learned

5.2.1. What were the top three lessons learned from this project?

There were many lessons learned along the way of completing this project. The first lesson learned along the way was one regarding securing access to the health information network. When the group set out to begin this project, no one in the Office of Nutrition Services was aware of an already standing agreement between the West Virginia Department of Health and Human Resources (WV DHHR) and WVHIN. The WV DHHR staff who initially put the master agreement in place who initially put that agreement in place between the two entities have since left their positions, so it wasn't until much later that West Virginia WIC discovered that the contract was already in existence. This allowed us to make an addendum to the already standing agreement rather than create an agreement from scratch. Even then, the review process from both the West Virginia Department of Health and Human Resources as well as the WVHIN was lengthy. Any group wishing to undertake a project like this needs to start planning very early, understand the process of implementing WVHIN access, all the players involved and sign offs needed. We had many lessons learned surrounding training, but the one that was maybe the most important from the perspective of West Virginia WIC was that in order to train to use a health information system, you need to have permission to find data from real people. The WVHIN stores sensitive information and without access to real data, test cases are incredibly difficult to understand. The last and most important lesson learned was making sure the WIC management information system (MIS) was compatible with entering data that would be available in the health information network. We had to work with our MIS team in order to find a system that would allow us to use the health information within our existing system, as we do not have the ability to change many functionalities of our system in house.

5.2.2. What are the top three best practices you would give to other WIC agencies seeking to implement similar enhancements to improve the certification process?

The first best practice West Virginia WIC would recommend is to plan ahead on how you would like to integrate the use of a system like this one in your clinic. It is very hard to change course once you start down a certain path, so it is crucial that you think through the entire certification process and not just think about the anthropometric and hematologic data. Starting work early with your MIS team and your local agency staff can ensure a smooth transition from exclusively in clinic data collection to a collaborative effort between doctors, staff utilizing the health information network, and the staff in the clinic. The second best practice we would recommend is to make sure you have all needed information before you start your training. West Virginia was able to do before rolling out the program was to obtain consent forms from our participants before we had a representative from the WVHIN was in person to train our staff which was a big help in the training process. The last recommended best practice is that it should be a priority to look within your agency, department, or bureau to ensure that an agreement does not already exist that your agency could be added to for any health information networks. This would save a significant amount of time and effort on all parties involved.

5.2.3. What do you wish you knew before working on the project? How would you have done anything differently?

In order to make the most of this project, it would have been beneficial to have a clear picture in mind of what the end product of this endeavor would look like. Having the ability to know what we know now, it would have been easier to train staff. Many of our implementation staff had never worked in WIC prior to this project, which made it difficult to integrate them into the clinics. Instead of training them separately, it would have likely been more successful if the staff had prior training in the intake and/or lab portion of a WIC clinic. While our employees did a fantastic job of being trainable and adaptable, having employees with prior WIC knowledge would have allowed for an easier collaboration effort between the state agency workgroup team and local agency employees.

Section 6: Appendices

Table 1. RE-AIM Table for West Virginia Innovation Project.

RE-AIM Component	Metric	Data Source
Adoption	Proportion of WV local agencies and clinics participating in the innovation	Administrative Records
Implementation	Medical providers from both urban and rural areas to provide usable HIN data	Clinic Staff Tracking Form
Implementation	Decrease in anthropometric and hemoglobin measuring tasks being performed by clinic staff	Clinic Staff Tracking Form
Implementation	Staff satisfaction with innovation	WV WIC Staff survey
Implementation	Number of WV clinic staff trained on HIN portal	Administrative Records
Reach	Number of participants with usable anthropometric and hemoglobin data accessed in the HIN	Clinic Staff Tracking Form
Reach	Proportion of participants that returned HIN authorization forms	Administrative Records
Effectiveness	Reported client Satisfaction	WV Participant survey
Maintenance	Number of hired/assigned staff continuing with grant components after grant period ends	Administrative Records

Figure 1. Count of tasks not performed in the clinic due to the WVHIN usable anthropometric and hemoglobin data.

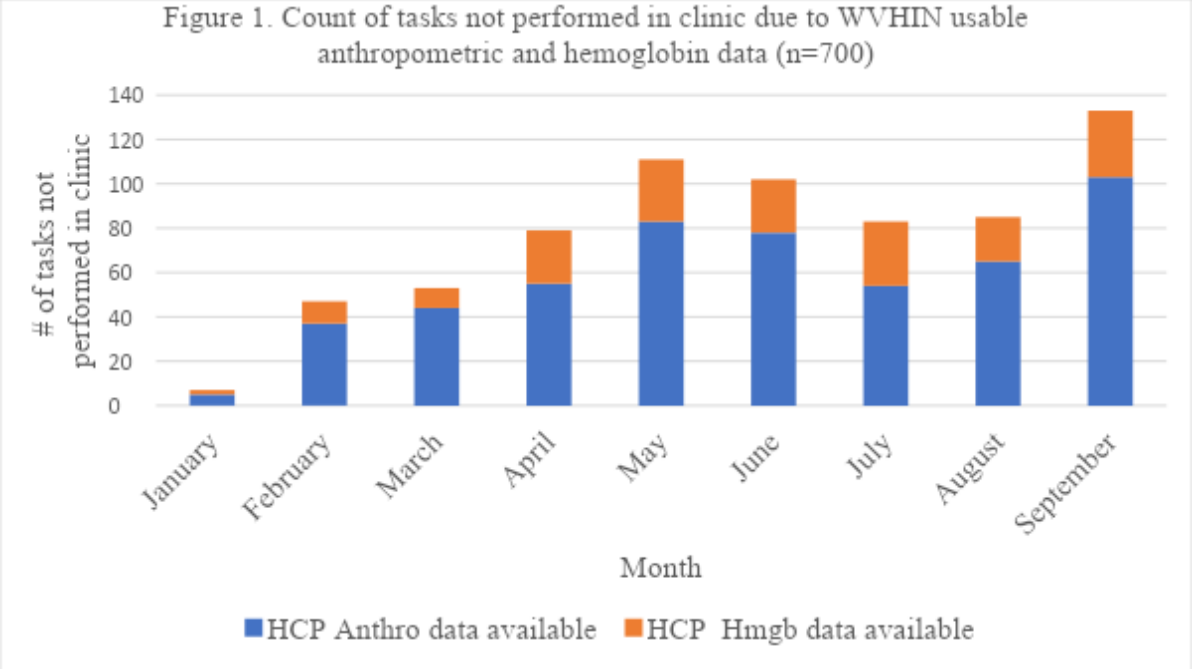

Table 2. Count and percentage of HCP from populated and unpopulated areas providing WIC data (n=89)*

Region	n	%
Unpopulated	31	34.8
Populated	58	65.2

*Removed the duplicates for HCP data. Most WIC participants missing provider information in WVHIN dataset (n=1409).

Table 3. Count and percent of forms that were returned and signed (n=12826)

Returned and signed	n	%
Yes	2953	23.0
No	9876	77.0

Table 4. Count of available data for WIC certification appointments.

Was data available for the appointment?	Frequency	%
Yes*	1343	54.82
No	1107	45.18

*Includes appointments where data was available but not usable (Anthro data >60 days old or Hemo data >90 days old).

Table 5. Relationship between undergoing height, weight, and/or hemoglobin (HT/WT/Hmbg) measurements and appointment satisfaction (n=610)

Variable	Response	N	Staff Helpfulness [A]	Length of Appointment [B]	General Satisfaction [C]
Child HT/WT/Hmgb Measured	No	85	4.40 (0.77)	2.86 (0.44)	4.66 (0.93)
	Yes	128	4.42 (0.80)	2.93 (0.29)	4.70 (0.82)
Adult HT/WT/Hmgb Measured	No	124	4.39 (0.82)	2.89 (0.39)	4.69 (0.85)
	Yes	89	4.45 (0.74)	2.92 (0.31)	4.67 (0.89)
Any HT/WT/Hmgb Measured	No	32	4.40 (0.87)	2.75 (0.57)	4.72 (0.89)
	Yes	181	4.41 (0.77)	2.93 (0.30)	4.67 (0.86)

A: Score range 1-5, 1 = "Poor" to 5 = "Excellent"
B: Score range 1-3, 1 = "Way too long" or "Way too short," 2 = "A little too long" or "A little too short," 3 = "About right"
C: Score range 1-5, 1 = "Very dissatisfied" to 5 = "Very satisfied"