Vermont WIC VITLAccess Evaluation Report

VITLAccess Implementation and Evaluation Report

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VERMONT
DEPARTMENT OF HEALTH

VITLAccess Evaluation Report

Executive Summary

The Vermont WIC program collects measurement and blood iron information from WIC participants as part of the health assessment process. Prior to COVID-19, these data were most often collected directly during in-person WIC appointments. During COVID-19, the program transitioned to remote appointments and program staff were unable to regularly collect recent measurement and blood iron data. Use of the health information exchange through a limited access user role in its clinical portal, VITLAccess, was granted as a way to obtain these clinical data indicators and conduct thorough health assessments. Vermont WIC conducted an evaluation to understand the impact of access to the Vermont Health Information Exchange for recent measurement and blood iron data on missing records and clinic staff workflow.

Evaluation Design and Questions

The evaluation was designed to assess the VITLAccess training and integration of VITLAccess in the WIC program workflow. It also evaluated outcomes on incomplete records in three time periods. Both quantitative and qualitative methods were used including staff surveys and interviews, record analysis of WIC administrative data, and VITLAccess log-in and chart access data.

Evaluation Questions

1. How effective was the training on the VITLAccess system?
2. What impact will VITLAccess have on staff workflow?
3. What is the impact of VITLAccess on the amount of missing measurement and blood iron data?

Conclusions

Overall respondents had a positive experience with both the VITLAccess training and the processes of incorporating VITLAccess into their workflow. Staff found the training to be useful, informative, clear, and time efficient. The training provided clarity on policies and procedures and the importance of using VITLAccess in their workflow. The data indicate that trends in VITLAccess use by WIC staff are regional and dependent on whether providers consistently provide patient data into the health information exchange. In other words, in regions where no or few practices are using the health information exchange, WIC staff are primarily utilizing VITLAccess as a back-up tool rather than a primary data source.

Assessing trends in missing records has been challenging to tease out due to:

- The changing context of program waivers,
- Use of alternative valid data sources for measurements and blood iron, and
- Inconsistencies with how the data are documented in the WIC management information system, Ceres, which impacts how the records are queried and aggregated

However, even with these challenges, differences were observed across the three time periods.

VITLAccess Evaluation Report

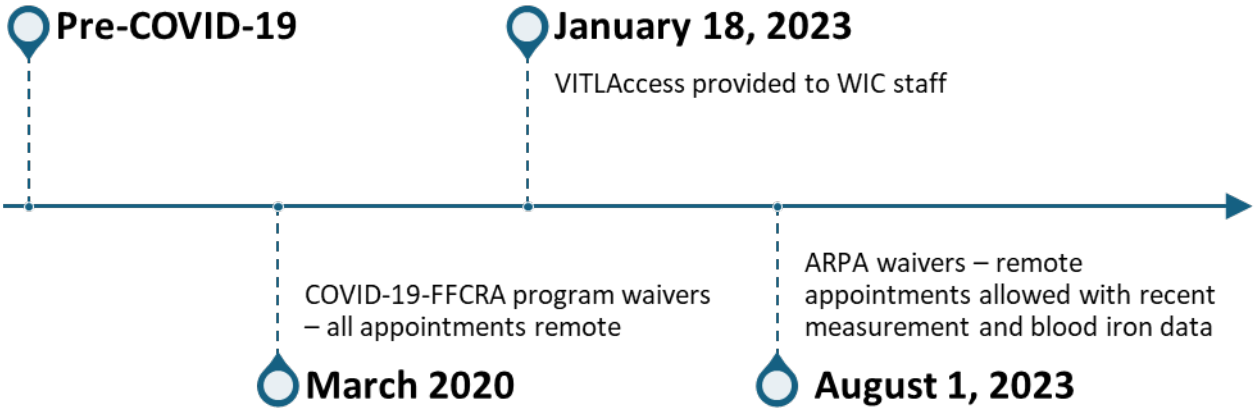
Background

The Vermont WIC program collects measurement and blood iron information from WIC participants as part of the health assessment process. Prior to COVID-19, these data were most often collected directly during in-person WIC appointments. During the COVID-19 public health emergency, all WIC appointments transitioned from in-person to telephone to align with physical distancing guidance. Vermont WIC was granted a federal program waiver through the Families First Coronavirus Response Act (FFCRA), eliminating the need for annual physical presence at appointments, which normally is required in WIC regulations. Remote appointments improved overall kept appointment rate and continues to be highly valued by WIC participants primarily due to their convenience. However, a consequence of remote appointments has been a lack of current measurement and blood iron information needed to conduct thorough health assessments. Prior to COVID-19, these data were gathered in-person in clinic. WIC implemented procedures to respond to the public health emergency by either using measurement data from previous appointments, or using measurements provided by the family and marking them inaccurate with a specific disaster code in the management information system.

With authority granted by the Vermont Commissioner of Health, the Vermont WIC staff were provided access to the Vermont Health Information Exchange (VHIE) to collect clinical measurement and blood iron data. The clinical data collected allows staff to conduct necessary health and nutrition assessments such as identifying participants with low birth weight, those with low iron levels, those who have poor weight gain, or those who are at risk for obesity. Local WIC staff use the VITLAccess clinical portal, with limited permissions, to obtain this information.

In late 2022, the WIC program created a new policy and procedure with guidelines for accessing this system. In January of 2023, WIC, in partnership with VITL (the organization that oversees the VHIE), provided training on the new policy and procedure, how to log-in and use the system, and expectations around its use.

In May 2023, the public health emergency ended, followed by, in August, the ending of program waivers that were put in place under FFRCA. The WIC program operationalized a new waiver authorized by the American Rescue Plan Act (ARPA). The new ARPA waiver allows for remote appointments with the collection of recent measurement and blood iron data. VITLAccess continued to be used to provide clinical data needed for health assessments, however many appointments returned to in-person if measurement and blood iron data were not available.



Evaluation

Within the context of these national program changes, Vermont WIC conducted an evaluation to understand the how using VITLAccess in clinic would change the amount of missing measurement and blood iron data and the impact of using VITLAccess on clinic workflow.

Evaluation Design and Questions

The evaluation was designed to assess the process of the VITLAccess training and integration of VITLAccess in the WIC program workflow in addition to the outcomes of the integration in 3 time periods.

Process Evaluation

1. How effective was the training on the VITLAccess system?

Outcome Evaluation

2. What impact will VITLAccess have on staff workflow?
3. What is the impact of VITLAccess on the amount of missing measurement and blood iron data?

Time Period	Dates
Pre - COVID	03/01/2018 – 03/15/2020
During – COVID	03/16/2020 – 01/17/2023
Third Period (VITLAccess) – COVID	01/18/2023 – 3/31/2024

The evaluation was modeled from a utilization and participatory framework. The team utilized a mixed-methods approach to data collection and analysis.

Data Source	Method	Analysis
Staff feedback	Survey	Quantitative and qualitative
Staff feedback	Site Interviews	Qualitative
Programmatic data	Database query of WIC administrative data	Quantitative

Evaluation Results

The post training survey was developed to assess the effectiveness of the initial VITLAccess training.

A virtual training on VITLAccess was held on January 17, 2023 for WIC staff. The first survey was administered immediately following the training. VITLAccess log-in credentials were initially only provided to WIC staff conducting health assessments, therefore staff invited to the training were WIC certifiers and supervisors. The training was recorded with the expectation that any new staff onboarded must first view the training prior to using the system.

A second survey was administered in July 2023, 6 months after the initial training and 1 month before ARPA waivers were implemented. Administrative record analysis was conducted to assess changes in incomplete records and the use of inaccuracy codes for measurements and reasons bloodwork was not collected across 3 time periods.

Results are grouped in response to the evaluation questions:

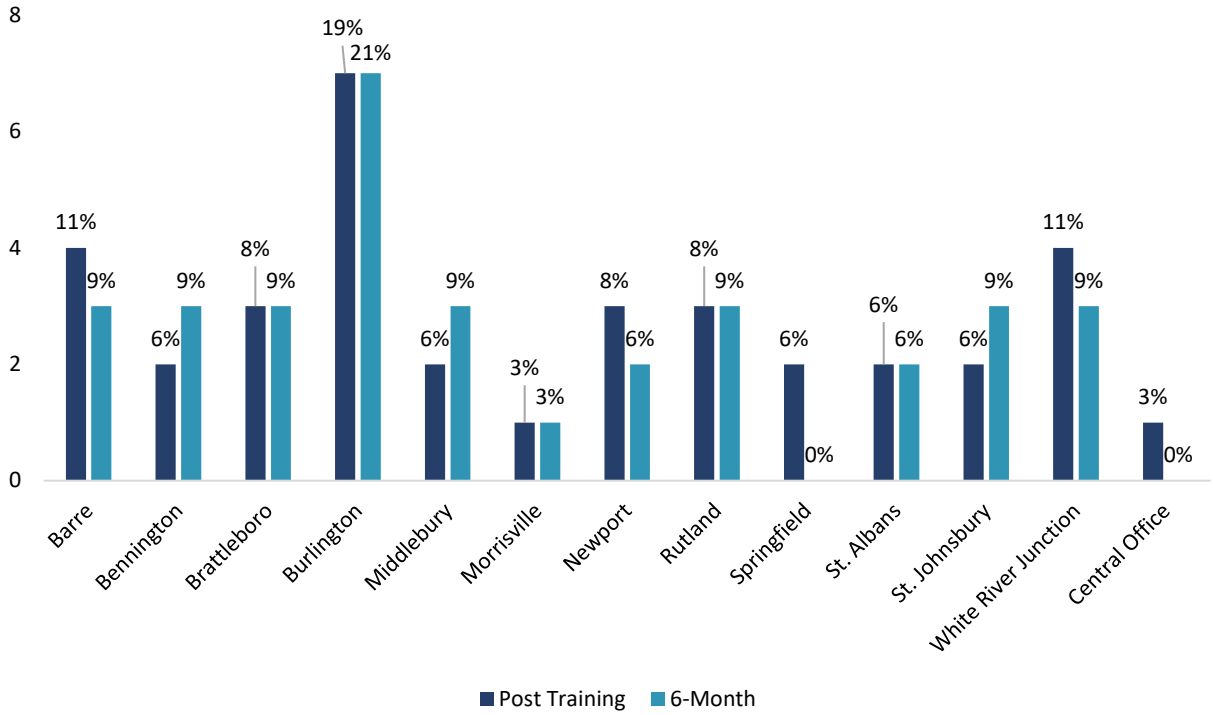
EQ1. How effective was the training on the VITLAccess system?
EQ2. What impact will VITLAccess have on staff workflow?
EQ3. What is the impact of VITLAccess on the amount of missing anthropometric and blood data?

Survey Participants

Both the Post-Training Survey and the 6-month Follow-up Survey were sent to all regional WIC offices and staff who conduct health assessments (certifiers). Participation varied across both locations and data collection time points. There were 36 respondents for the Post-Training Survey and 33 respondents for the 6-month Follow-up Survey, as such percentages are reported within the figures in addition to counts on the y-axis.

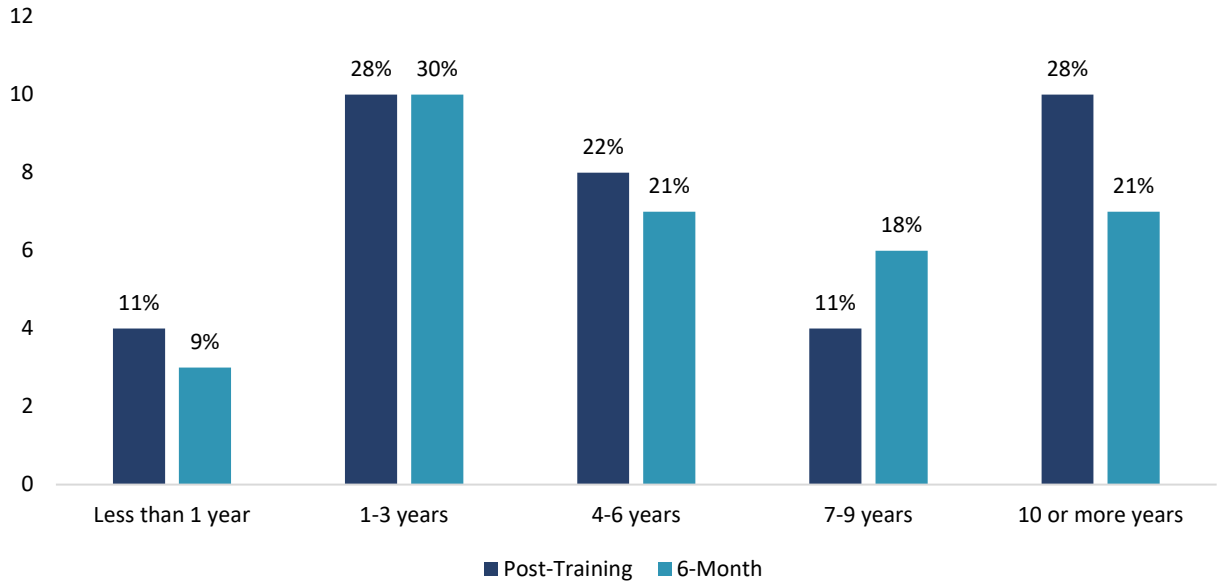
Across both the Post-Training Survey and the 6-month Follow-up Survey, the highest concentration of respondents was found in Burlington.

Work Location



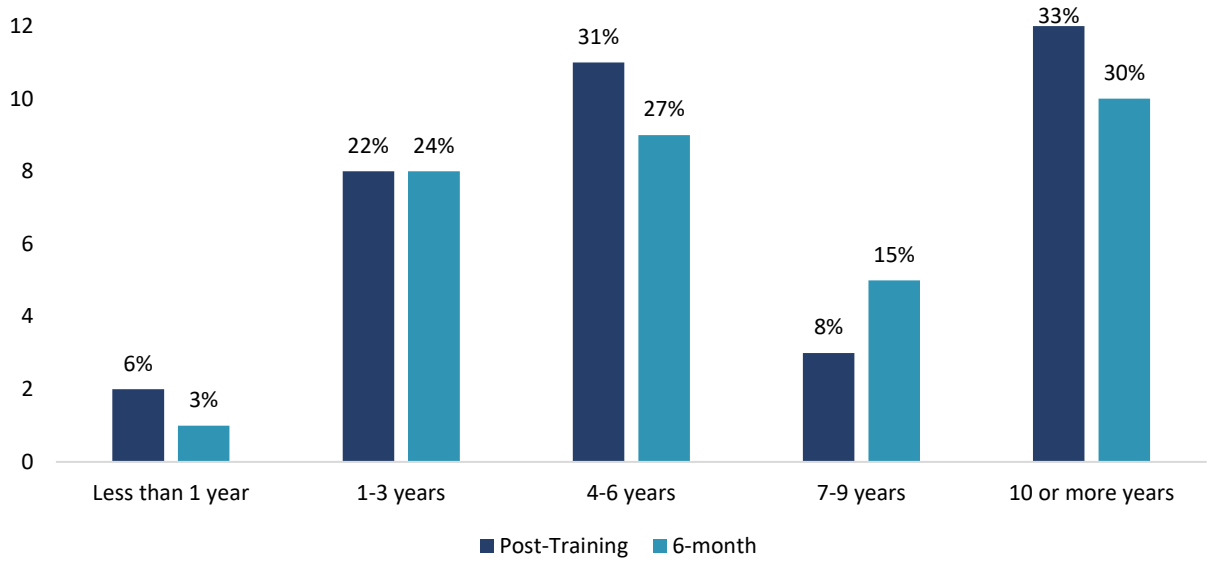
Participants were asked how long they had worked in their current position. Most participants had been in their current position for either *1-3 years* or *10 or more years* for the initial survey and *1-3 years, 4-6 years* or *10 or more years* for the follow-up survey.

Time in Position



Finally, participants were asked how long they had worked at WIC. The majority of respondents had been at WIC for *10 or more years*, followed by *4-6 years*, and finally *1-3 years*.

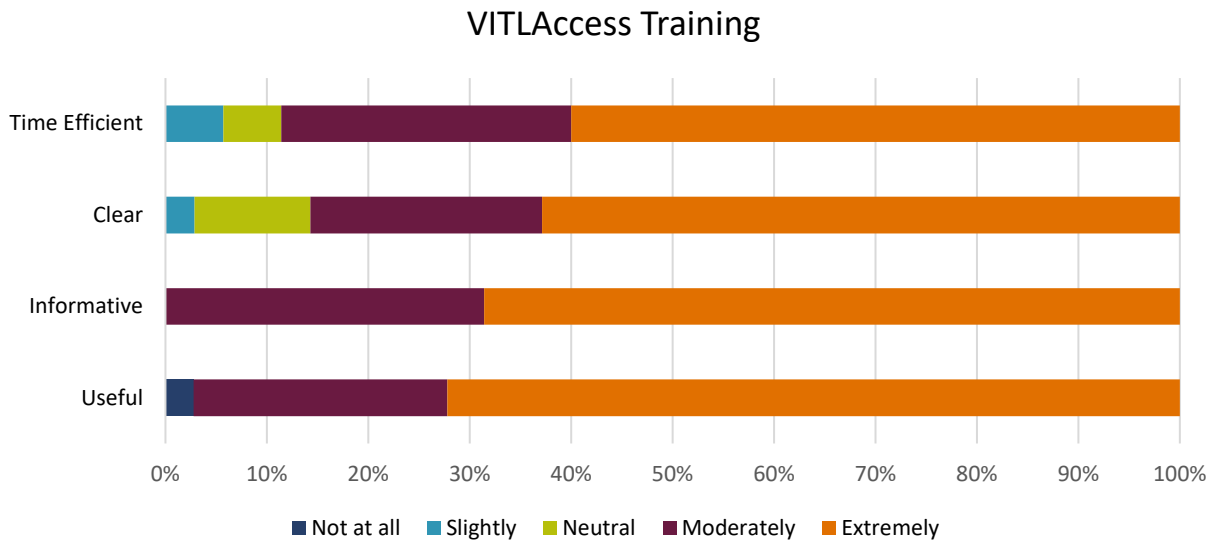
Time at WIC



EQ1. How effective was the VITLAccess training?

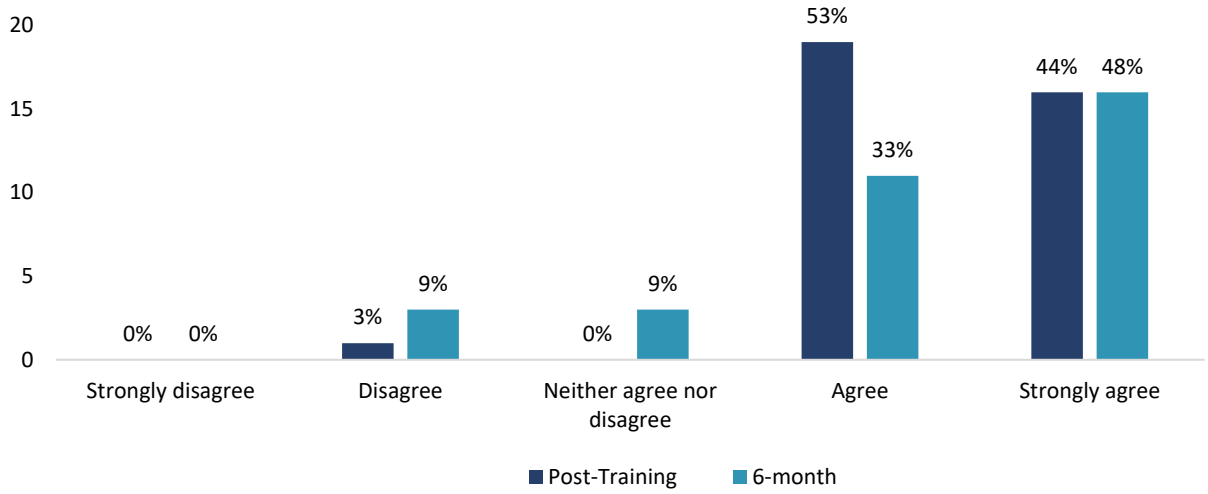
In response to Evaluation Question 1 (EQ1), respondents found the VITLAccess training to be overwhelmingly positive as reported on the initial survey. Only one participant found the training to not be *useful*, two participants indicated that it was only *slightly* time efficient, and one indicated it was only *slightly* clear.

VITLAccess Training



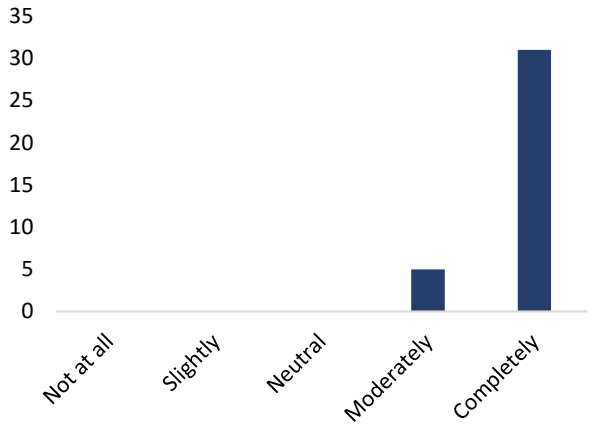
Participants were asked several questions about their perceptions of integrating VITLAccess into their workflow based on the training. In the Post-Training Survey and the 6-month Follow-up, participants were asked to rate the following statement "It is clear how VITLAccess will be/should be[1] incorporated into my workflow." Across both time points, the majority of respondents indicated that they *agreed* or *strongly agreed* that it was clear how VITLAccess should be incorporated into their workflow.

Clarity of VITLAccess Integration

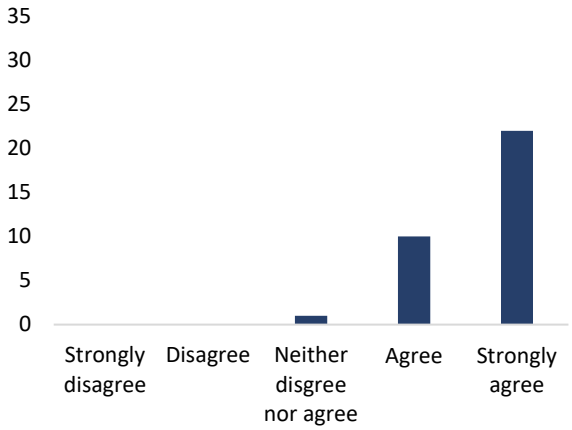


In the Post-Training Survey, participants were asked if they understood VITLAccess policies. At the 6-month follow-up, participants were asked how confident they were in their ability to use VITLAccess in accordance with the policies and procedures. Although there were three fewer respondents at the 6-month follow-up, there was still a high level of confidence in their understanding of policy and procedure that came from the initial training, and which lasted through the implementation.

Post-Training



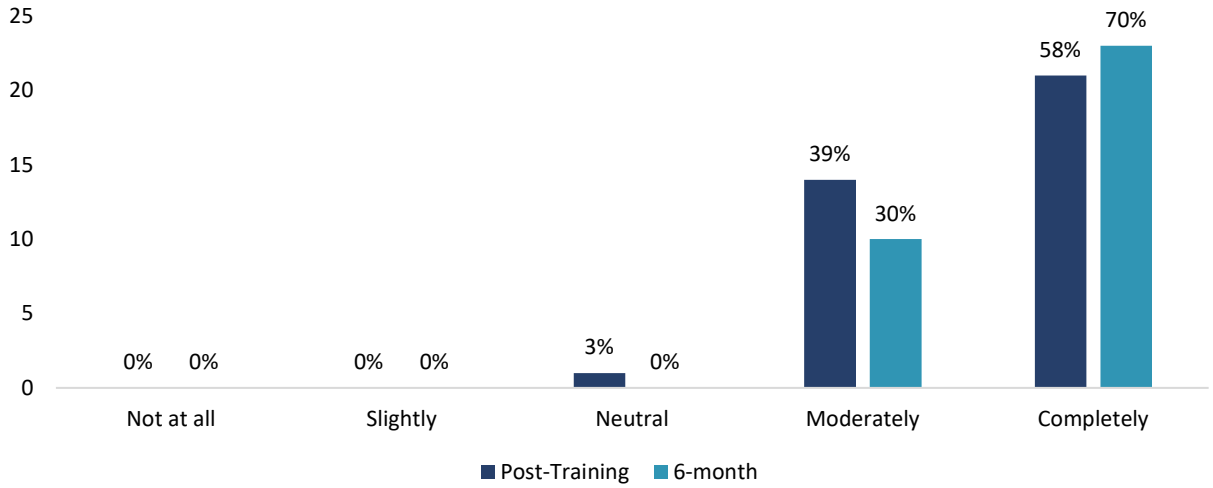
6-month



[1] Tense was changed to reflect the appropriate time point, pre-implementation versus post-implementation of using VITLAccess.

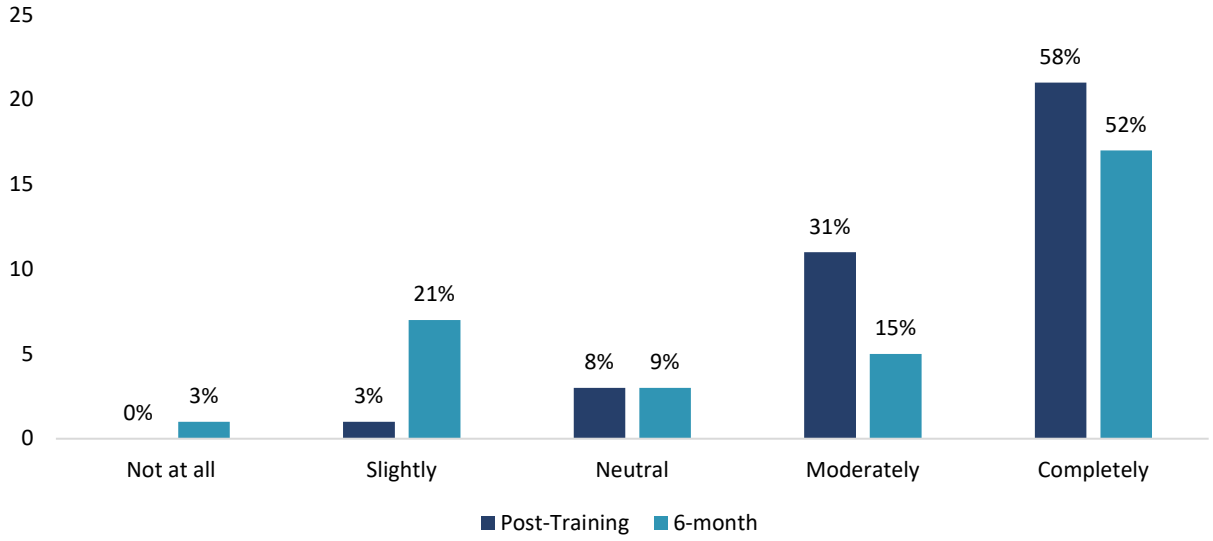
After the training, participants were asked if they understood how to use VITLAccess. This same question was posed at the 6-month follow-up. At both timepoints, respondents were confident in their understanding of how to use VITLAccess.

Understanding VITLAccess



Participants were asked if they understood who to contact if they had questions about using VITLAccess. Responses varied across timepoints. Results indicated a marginal decrease in knowledge of who to contact at the 6-month follow-up with a higher percentage of respondents indicating they were only *slightly* confident in who to contact.

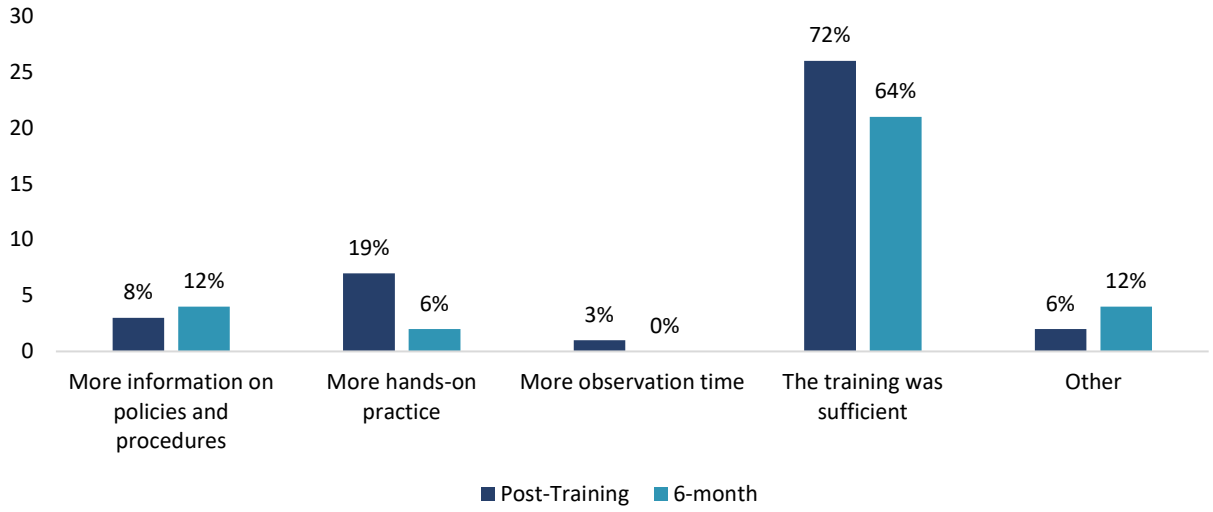
Contact for Support



Participants were asked what additional support they needed to feel comfortable incorporating VITLAccess into their workflow. There was a slight increase in the need for more information on policies and procedures from the Post-Training Survey and the 6-month Follow-up Survey. As expected, there was a reduction in the need for hands-on practice from time one to time two.

There was very little need for more observation time expressed across both timepoints. Most respondents indicated that the training was sufficient at both timepoints. Several respondents indicated that they "*…just need providers that utilize [VITLAccess].*" One respondent indicated that they would benefit from "*specific instructions on how [VITLAccess] should be incorporated into workflow. And how to maintain respect for participant privacy*."

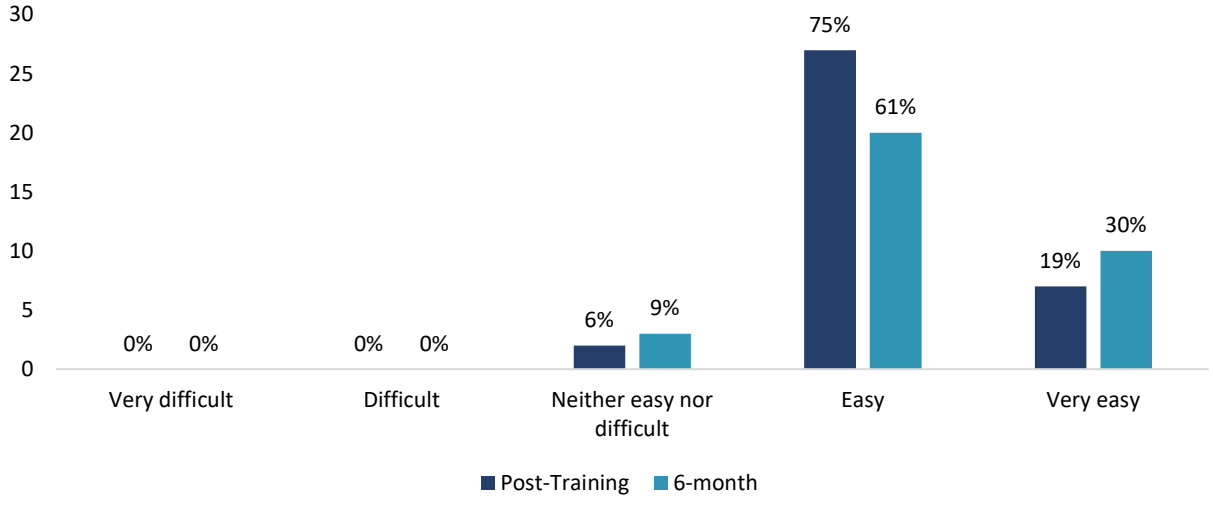
Additional Support



EQ2. How has VITLAccess impacted staff workflow?

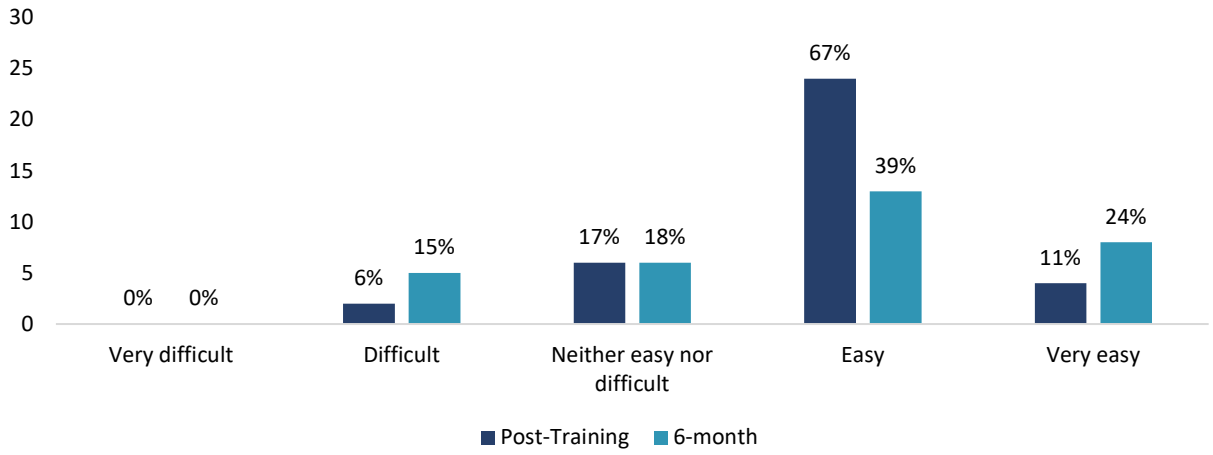
Participants were asked how easy they thought VITLAccess is to use. In the Post-Training Survey most respondents indicated that they thought VITLAccess seemed *easy* or *very easy* to use. Results from the 6-month Follow-up Survey indicated that there was a slight reduction in the percentage of respondents indicating that VITLAccess was *very easy* to use but an increase in the percentage of respondents indicating that VITLAccess was *easy* to use.

Easy to Use



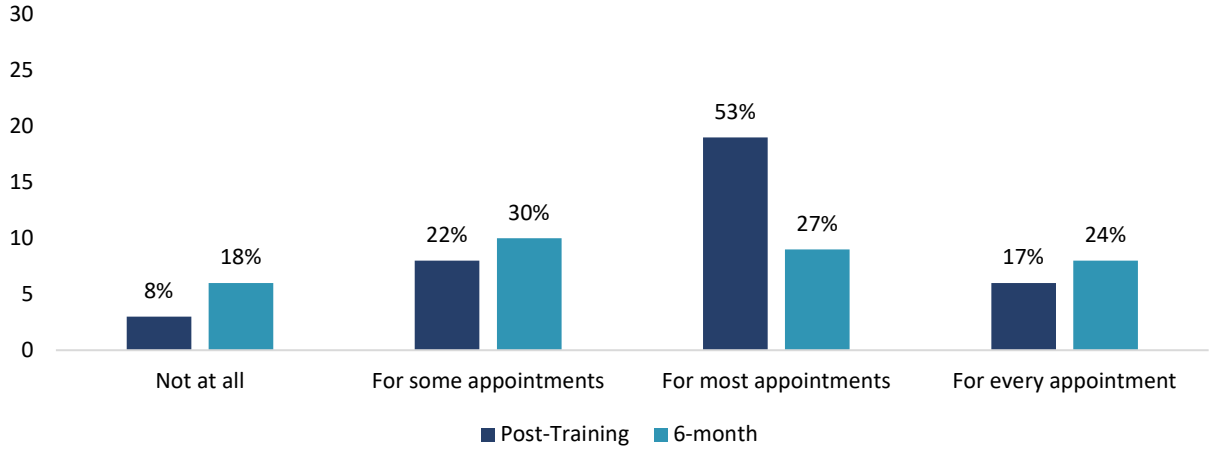
Participants were asked to rate how easy or difficult incorporating VITLAccess into their workflow would be (Post-Training Survey) and how easy or difficult incorporating VITLAccess into their workflow has been (6-month Follow-up Survey). The majority of respondents indicated that they believed it would be *easy* to incorporate VITLAccess into their workflow. At the 6-month follow-up, respondents were slightly more distributed in their response even though the majority still indicated that it had been *easy* or *very easy* to incorporate VITLAccess into their workflow. One respondent indicated that they believed it would be difficult to incorporate VITLAccess into their workflow because "*… it will be time consuming and just another thing that we are required to do during appointments that already do not have a lot of time built in.*"

Ease of VITLAccess Integration



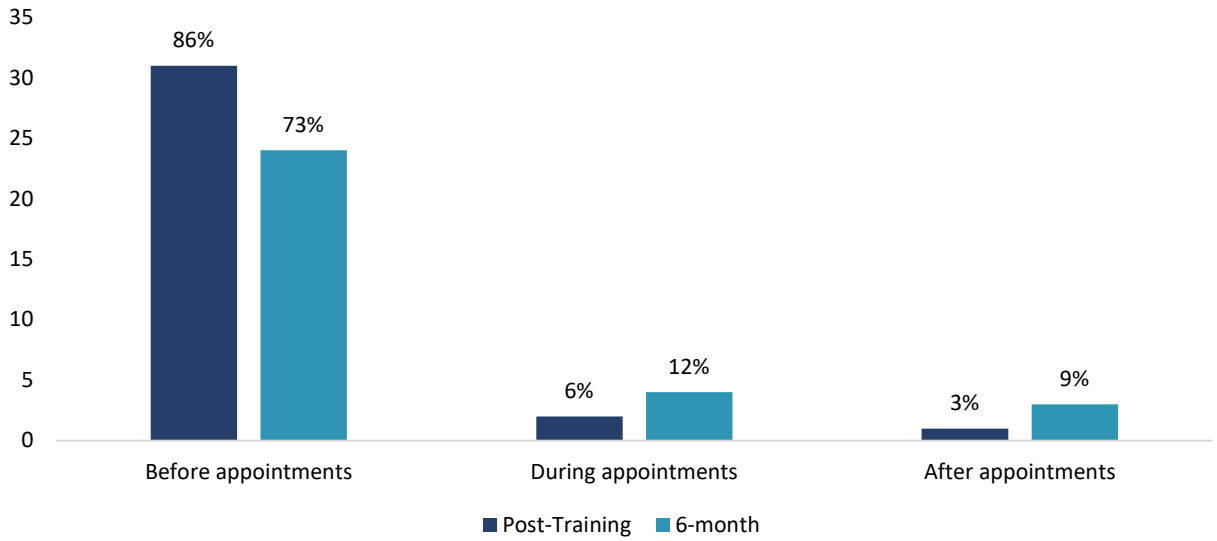
In the Post-Training Survey, participants were asked how often they thought they would use VITLAccess in their workflow. Most respondents anticipated using VITLAccess for *most appointments* followed by *some appointments.* Results from the 6-month Follow-up Survey indicated that respondents were fairly evenly distributed across *some, most,* and *every* appointment categories.

Frequency of Use



In the Post-Training Survey, participants were asked when they anticipated using VITLAccess in their appointment workflow. Most respondents indicated that they anticipated using VITLAccess *before* their appointments. In the 6-month Follow-up Survey, participants were asked when they were using VITLAccess in their appointment workflow, again most respondents indicated that they were using VITLAccess *before* their appointment with marginal increases in the *during* and *after appointments categories*.

Appointment Use



In the Post-Training Survey, participants were asked how they anticipated VITLAccess changing their workflow. Prospectively, respondents mostly expressed positive sentiments in regard to VITLAccess's utility; "*the ease of having accurate and current measurements will be amazing!*" One respondent stated,

> *It will very drastically streamline clinic prep! I am very excited about this. A lot of time has been spent on hold with MD offices waiting for measurements/readings. It will be very helpful to be able to get this information on our own time, and lead to less disruption in MD offices as well!*

However, there were some respondents that expressed some skepticism about the limitations that they anticipated while integrating VITLAccess into their workflow such as it would be "*more time consuming for clinical prep."* One respondent stated,

> *Normally, we have participants tell us if they have updated measurements, so this will add time to the clinic process if we all have to go into the charts and add them in prior to doing their appointments.*

In the 6-month Follow-up Survey, participants were asked how VITLAccess had actually changed their workflow. Many respondents had positive feedback regarding the utility of the system, indicating that "*[It has] saved time calling MD offices for measurements (and bothering them!)*" One respondent stated,

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I am primarily accessing VITL for Tele WIC appts and High Risk follow up appts as part of my clinic prep. I do the majority of my clinic appts in person and can gather the info needed in real time. Having accurate, current data for these phone appts makes my assessments more accurate and allows me to focus on the actual needs of the family.

Some respondents indicated that accessing data in the system was difficult, "*it is more time consuming to go in and look for the information when it is hardly ever even there*", indicating room for improved procedural communication. One respondent stated,

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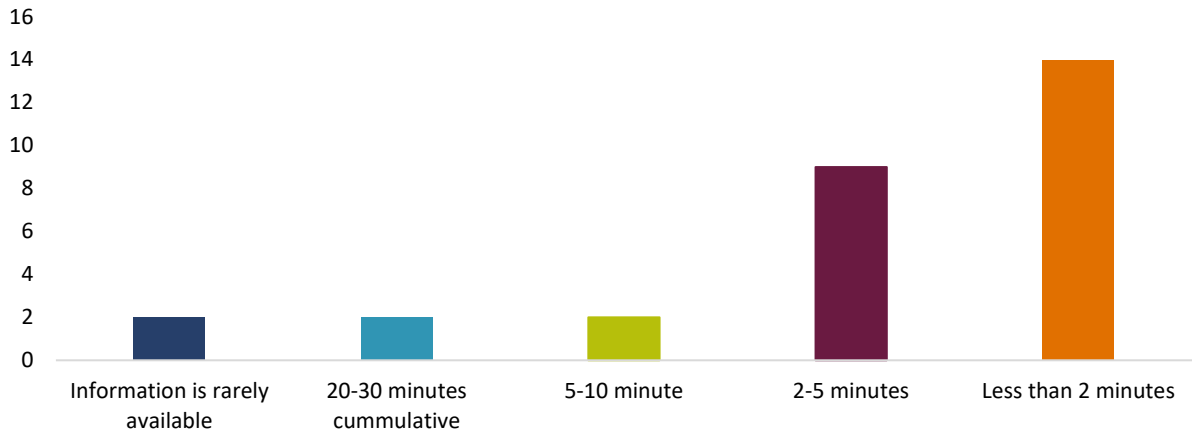
It has become an extra task that does not provide the information we need. Many of our practices do not use VITL, so we are looking up participants and finding no measurements available for us to use.

This variability appears to be indicative of regional differences in rates of provider use of VITLAccess. In other words, in regions where no or few practices are using the health information exchange, WIC staff are primarily utilizing VITLAccess as a back-up tool rather than a primary data source.

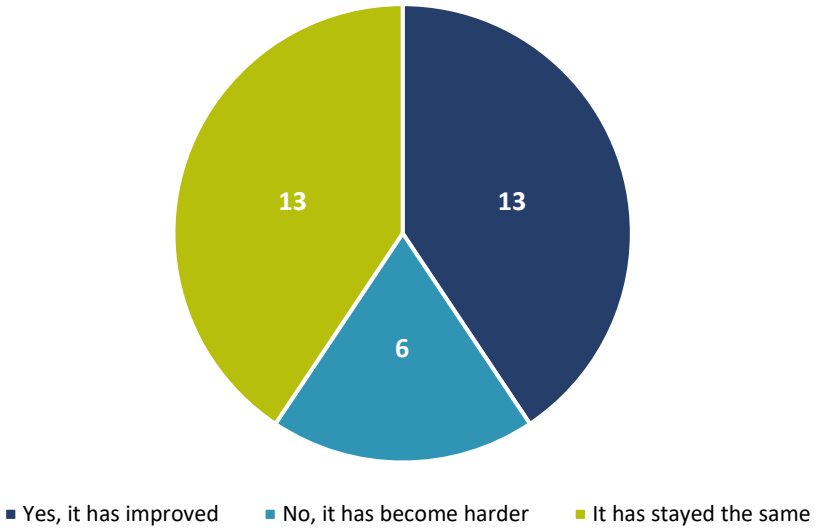
In the 6-month Follow-up Survey, participants were asked to qualitatively report how long it takes them to access the information they need through the VITLAccess system. The majority of respondents indicated that it was taking 5 minutes or less to find the information that they needed in VITLAccess. A few respondents indicated that it took 20-30 minutes cumulative (for their caseload batch), and some indicated that the information is rarely available in VITLAccess.

Time to Find Information



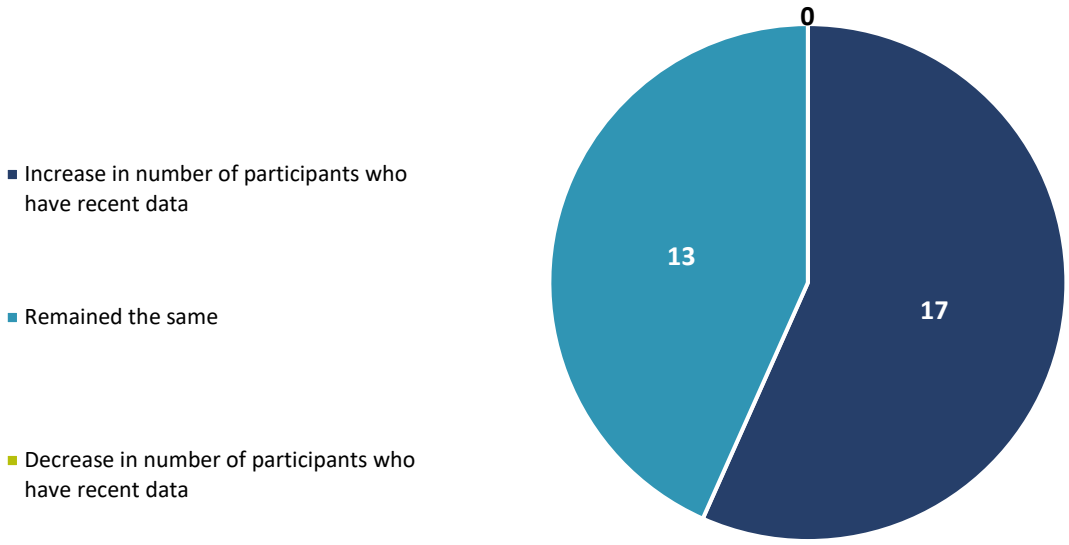
In the 6-month Follow-up Survey, participants were asked if VITLAccess had improved their workflow. Most respondents indicated that their workflow had improved or stayed the same, although some (less than a quarter of respondents) indicated that it had made their workflow more difficult.

Workflow Improvement



In the 6-month Follow-up Survey, participants were asked to indicate what the impact was of using VITLAccess on the number of participants who have recent data. All respondents indicated that it had either increased the number of participants who have recent data or the estimated number of participants with recent data had remained the same. None of the respondents indicated that it had decreased the number of participants who had recent data for their appointments.

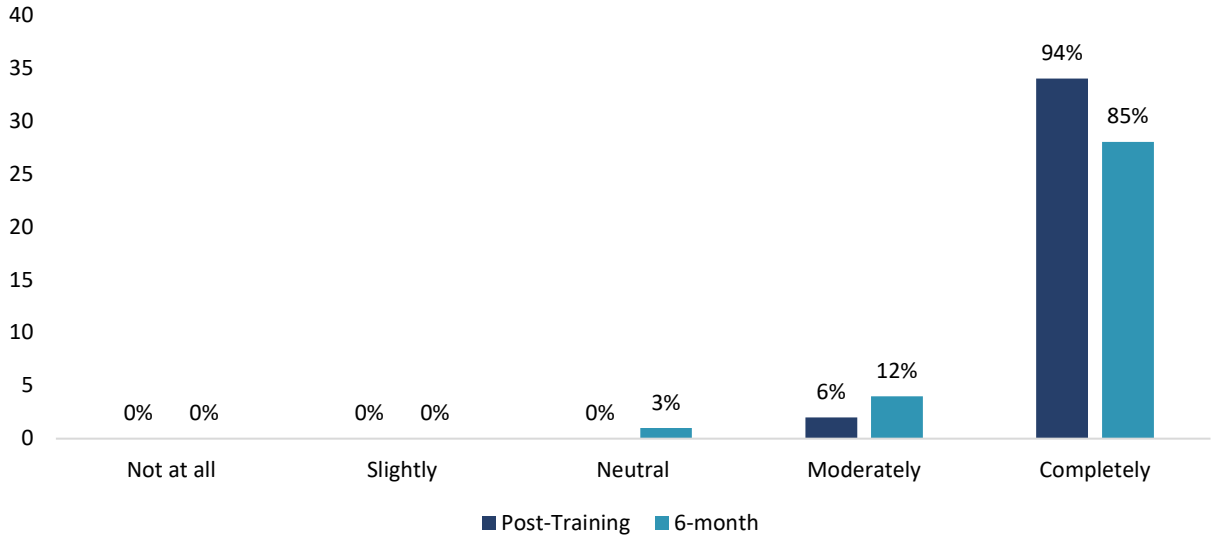
Data Availability



Additional Pre and Post Survey Results

In both the Post-Training Survey and the 6-month Follow-up Survey, participants were asked if they understood why VITLAccess was being incorporated into their work. Results from the Post-Training Survey indicated that respondents were very confident in their understanding of why the WIC program was incorporating VITLAccess into their workflow. At the 6-month follow-up, there was a slight decrease in understanding but for the most part respondents were still grounded in their understanding of why incorporating VITLAccess was important.

Understanding the use of VITLAccess



In the Post-Training Survey, participants were asked if there was anything else they would like to share about the training. Respondents were overwhelmingly appreciative of the training content and utility. Additionally, concern was expressed about access to personal health information, "*I would like it noted that I feel uncomfortable having access to so much health information on individuals. I could wish that I only had access to anthropometrics and HGB results.*" Finally, one respondent noted that there might be a learning curve but that ultimately it would be worth it.

We'll figure it out. I feel like if we're able to do this for families and they don't have to come in for measurements it is a worthwhile process to figure out. It doesn't seem like it's a super tricky program to search, I'm a little concerned about how to find hemoglobin data but that might just take some practice.

Qualitative Site Interview Results

Due to the regional variation discovered with the WIC programs initial use of VITLAccess, the evaluation plan evolved to dig deeper into the local context using the method of key informant interviews, a deviation of the original plan to conduct a 12-month survey. These interviews help

to answer evaluation question 3: *How has VITLAccess impacted staff workflow?* Twelve interviews made up of seven questions were conducted with program staff, most frequently the WIC supervisor. Interviews were recorded and notes taken. Answers were compiled for each question and were analyzed for themes that were similar among the District Offices and those that differed. The surveys were conducted in March of 2024, about 6 months after the implementation of the ARPA waivers in the program.

*Q1: How has your office incorporated the use of VITL**Access** into the workflow?*

Similarities

Remote Appointments / Overcoming barriers: Several offices mentioned using VITLAccess to determine if a participant is eligible for remote appointments. VITLAccess can help in assessing whether needed clinical data are present for remote certifications, which can help with barriers to access appointments (e.g. transportation).

Scheduling: Similarly, many offices utilize VITLAccess for clinic preparation in general. This involves checking measurements and blood work for upcoming appointments, which can facilitate scheduling. Several offices mentioned using VITLAccess to manage no-show appointments more efficiently. By checking if measurements are available, staff can determine if the appointments can be held remotely, reducing the impact of missed appointments.

Usage for High-Risk Follow-up: a few offices mentioned using VITLAccess for high-risk follow-up appointments, so it seems it can help in managing specialized cases.

Overall, while there are variations in how each office specifically utilizes VITLAccess within their workflow, common themes include:

- Its use for remote appointments
- Clinic preparation
- Managing no-show appointments
- Participant health assessments

Differences

Provider Participation: Healthcare provider use of VITLAccess differs by region. Limited usage / lack of reliance on VITLAccess due to healthcare provider participation (or the absence of relevant data in the system) contributes to the differences in daily workflow between offices. For example, Bennington’s staff don't use VITLAccess frequently, whereas Newport utilizes it comprehensively for both remote and in-person appointments.

Variability in Prioritization: There's variability in the use of VITLAccess access among Program Technicians. Program Technician were approved for access upon District Office request beginning in December 2023. An example of this is how St. Albans mentioned that VITLAccess isn't a huge priority for their Program Technician, and while they have an account, they have not yet completed the training. Conversely, Barre highlighted the importance of having a Program Technician involved in the VITLAccess process to enhance efficiency.

Overall, some key findings that illustrate the differences between offices are:

- Provider participation
- Office protocols
- Perceived utility for everyday workflow

*Q2: How have you personally incorporated VITL**Access** into your workflow?*

Similarities

Utilization by Program Technicians: In several offices, Program Technicians are primarily responsible for using VITLAccess. This includes offices like Barre, Brattleboro, and White River Junction, where program technicians are the main users.

Limited Personal Usage (by supervisors/respondents): Many respondents (those not directly involved in certifying), note limited personal usage of VITLAccess. This is evident in responses from Barre, Bennington, WRJ, and Burlington, where individuals mention not incorporating VITLAccess into their own workflow.

Differences

Quality Control Checks: Burlington mentioned using VITLAccess for quality control checks to verify information accuracy. This supervisory or "auditing" type of use, rather than direct involvement in appointment processes, is a different type of usage compared to other offices.

*Q3: In what ways have you found VITL**Access** to be helpful?*

Similarities

Remote Appointment Accessibility / Streamlining Clinic Processes: As mentioned previously (Q1 similarities), many offices highlight the ability of VITLAccess to facilitate remote appointments, particularly for clients who may face barriers such as distance or transportation issues. Several offices mentioned how VITLAccess helps in streamlining clinic processes and reducing administrative burden, mainly due to these remote appointments being available.

Improved Data Availability: Another similarity between respondents is them mentioning the usefulness of VITLAccess when the data for hemoglobin levels, weights, and heights are present. This data availability is beneficial for better assessments of families not seen in a while (reacclimating to in-person appointments), as noted in responses from Newport and Morrisville.

Differences

Outreach: Morrisville mentions that VITLAccess helps in outreach for new babies, ensuring timely access to breastfeeding support.

Varied Levels of Helpfulness: The degree to which VITLAccess is useful varies between offices, from not useful at all (White River Junction) to very useful (Burlington). This is similar to Q1 as well.

*Q4: If any, what difficulties have you encountered in using VITL**Access**?*

Similarities

Inaccurate or Incomplete Data: Several districts encounter challenges related to inaccurate or incomplete data in VITLAccess.

Data Navigation in VITLAccess: Offices note that data is sometimes stored in different areas which isn't always clear. For example, Springfield noted difficulty in finding measurements within VITLAccess tabs, with data often located in notes from emergency department visits. White River Junction mentions difficulty in finding measurements buried within progress notes, while Burlington mentioned challenges in ensuring that staff focus on relevant information for WIC appointments since there is a large amount of health data in VITLAccess that is not relevant. Other offices have mentioned this as well.

Differences

Specific Workflow Challenges: Each district faces unique workflow challenges related to VITLAccess usage. For instance, Barre discusses difficulties in accessing specific measurements like head circumference and maintaining accurate data in pediatric patients, while Bennington highlights the need for users to navigate the system effectively to access relevant information for WIC appointments. Sometimes one anthropometric measurement is present, and the other is missing. In Newport's response, they mention, "Occasionally, height may not be there or hemoglobin, but lead, in IMR [Immunization Registry], weird weight may be a percentile instead of a pound". Similarly, St. Albans notes, "Weights but not heights, one day out of range can't use them."

Overall

The similarities and differences for this question are kind of one in the same. Across various districts, challenges with VITLAccess include inaccurate or incomplete data, technical issues, and usability/navigation issues. While some districts prioritize VITLAccess and encounter specific data availability challenges, others face infrequent usage by providers (or none) or lower prioritization due to workflow considerations. Despite these differences, the overarching goal remains ensuring accurate and accessible data.

Q5: Are there certain providers/practices where you are consistently not finding the data you need in VITLAccess?

In general, each district office encounters challenges with certain providers or practices where necessary data is consistently not found in VITLAccess. These challenges range from specific practices not using VITLAccess reliably to issues with data integration between different healthcare systems. A couple districts (White River Junction / Newport) mention some of their caseload using New Hampshire based healthcare providers that do not send data to the Vermont health information exchange. The table below shows the healthcare providers district offices identified where data has not been available in VITLAccess for use by WIC.

District Office	Healthcare Provider
Barre	Gifford Health Care practices (Berlin) Dartmouth-Hitchcock Medical Center and Clinics Tree of Life Medicine (naturopath)
Bennington	Southwestern Vermont Medical Center Pediatrics Dartmouth-Hitchcock Medical Center and Clinics
Brattleboro	North Star Health - Rockingham Health Center Sojourns Community Health Clinic (holistic practice) Southwestern Vermont Medical Center
Burlington	Essex Pediatrics Timberlane Pediatrics Community Health Centers of Burlington
Middlebury	Naturopathic providers
Morrisville	Lamoille Health Partners (Cambridge, Stowe, Morrisville) Women's Center at Copley (Hemoglobin sometimes available at Copley lab, but not height and weight)
Newport	Blue Spruce Health Providers in Littleton, NH
Rutland	Community Health
Springfield	North Star Health (Springfield, Ludlow, Bellows Falls, Charlestown)
St. Albans	Dr. Nasca Monarch Maple Pediatrics
St. Johnsbury	Northern Counties Health Care (Danville, St. Johnsbury) Little Rivers Health Care Upper Valley Pediatrics (Bradford) Providers in Littleton, NH
White River Junction	Gifford Health Care Little Rivers Health Care Dartmouth Hitchcock Medical Center and Clinics (Alice Peck Day Pediatrics, Mt. Ascutney and Ottauquechee Health Centers) Upper Valley Pediatrics (Bradford, Thetford) White River Family Practice

*Q6: What else regarding your experience with VITL**Access** that you would like to share with us?*

Similarities:

Appreciation for VITL's Benefits: Despite challenges, many districts acknowledged the benefits of VITLAccess in improving access to healthcare information and facilitating WIC appointments.

Concerns about Privacy and Data Security: There are concerns across districts regarding privacy and data security when accessing information through VITLAccess. This includes worries about accidentally viewing sensitive information (especially in areas such as progress notes).

Desire for Enhanced Data Integration: Several districts expressed a desire for better integration of data from healthcare providers into VITLAccess. This includes but is not limited to, concerns about timeliness of data uploads, completeness of information, and the need for clearer distinction between relevant health metrics and other data, which is mentioned above (privacy concerns, progress notes, etc.).

Differences:

Provider Engagement: As mentioned previously.

Summary: Across districts, there is a shared desire for enhanced data integration from providers, recognition of VITL's benefits, and concerns about privacy and data security. Differences exist in terms of provider engagement, and perspectives on the user experience in terms of the necessity of using VITLAccess for everyday workflow, as well as workflow efficiency (ranging from “is this a waste of my time?” to “this is very beneficial”).

Q7: What additional training needs do you or your office have, if any?

Similarities

Satisfaction with Current Training: Many districts expressed satisfaction with the current level of training received for using VITLAccess.

Perceived User-Friendliness: Several districts mentioned that VITLAccess is user-friendly and intuitive once staff members become familiar with it.

Differences

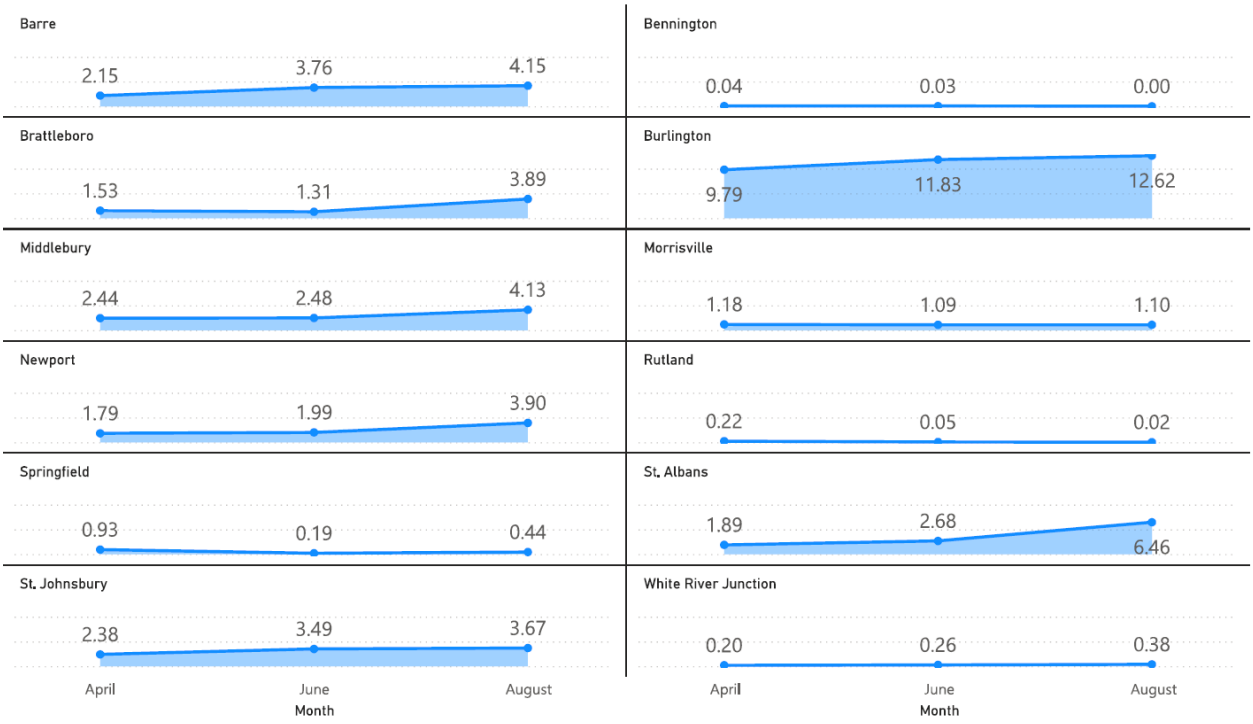
Request for Periodic Refresher Training: Morrisville is one of the only districts to suggest that occasional refresher sessions would be beneficial, however they acknowledge that the current training suffices. Barre mentioned training as part of onboarding. Finally, Burlington mentioned a lack of specificity in the protocol. They suggested reiterating protocol annually, as every practice is different in where they put info (measurements not always in the Vitals tab).

Summary: Overall, the districts are content with the current level of training for VITLAccess and have not requested any immediate need for additional training. It’s generally agreed upon by the respondents that VITLAccess is user-friendly and straightforward (intuitive) to navigate once staff members are acquainted with it.

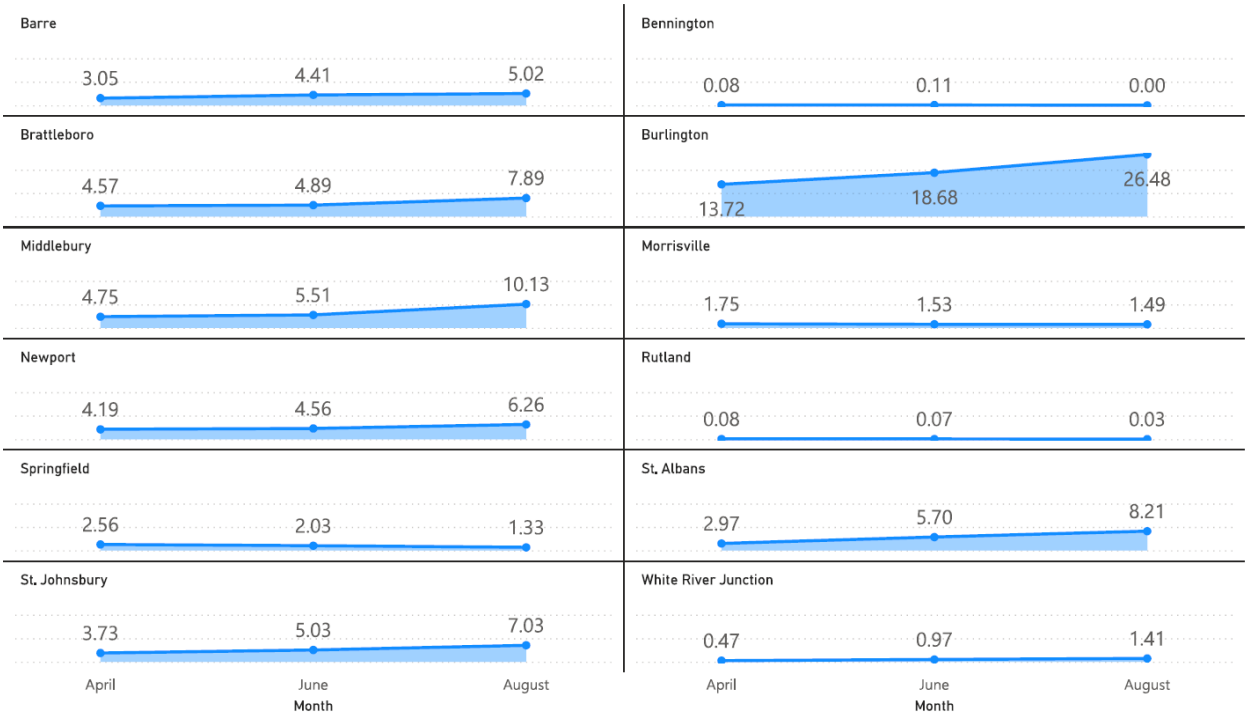
Staff Log-in and Chart Access Data

The average number of logins and charts access increased over time since the training in offices where healthcare providers are sending data into the health exchange. This increase includes the Barre, Brattleboro, Burlington, Middlebury, Newport, St. Albans, and St. Johnsbury district offices. In Bennington, Morrisville, Rutland, Springfield, and White River Junction, usage has remained flat.

Average Number of Logins Per Day by Month and District Office



Average Number of Charts Accessed Per Day by Month and District Office



EQ3. What impact did VITLAccess have on missing anthropometric data?

There is no way to track data source in the anthropometric or blood records within the Vermont WIC management information system. Without this direct way to measure how often VITLAccess was used to provide the clinical data needed (as opposed to other ways such as a fax from a provider or a visit summary provided directly from the family), this evaluation measured the changes in inaccuracy codes and missing records in different time periods.

The anthropometric analysis included data only associated with certification appointment types. For the hematologic analysis, mid-certification and certification appointments were included since bloodwork is often taken at the mid-certification appointment.

Anthropometric

At the start of COVID-19, when WIC began operating under the FFCRA waivers, staff were advised to use the added inaccuracy code of “Disaster” with self-reported heights and weights for women and new infants or children with no previous measurements. For infants and children with prior measurements, staff were advised to re-enter prior measurements, using the previously recorded measurement date. In these cases, no inaccuracy code was used as the measurements were not inaccurate, just older. Practically, these re-entered records would be considered missing, since no new information to conduct the health assessment was available. However, because these records appear “complete” in the system, they were not able to be included in the analysis.

The relative percentage of inaccuracy codes used was highest during COVID for both children and women participants. In the third period, which included the start of staff use of VITLAccess and later the start of the ARPA waivers, inaccuracy codes were used more frequently prior to the ARPA waiver operationalization, as expected. The Disaster code was used most prior to ARPA, after which the code was deactivated in the management information system. It should be noted that the inaccurate reason code of "Inaccurate Source" was used frequently after ARPA waivers were in place, as well as "Noncompliant" for post-ARPA height.

Inaccuracy Codes for Anthropometric Data

Time Period	Children	Women
Pre-COVID Height	4.42%	0.15%
Pre-COVID Weight	2.84%	0.62%
COVID Height	27.90%	29.50%
COVID Weight	26.70%	58.31%
3rd Period Height	13.30%	10.30%
3rd Period Weight	10.82%	22.44%

Inaccuracy Codes for Anthropometric Data - 3rd Time Period Breakdown

Code	Pre-ARPA Height	Post-ARPA Height	Pre-ARPA Weight	Post-ARPA Weight
Disaster	2195 (17.8%)	4 (.0%)	2313 (18.7%)	5 (.0%)
Lack of or Equipment Failure	0 (0%)	6 (.0%)	0 (0%)	2 (.0%)
Noncompliant	13 (.1%)	189 (1.4%)	3 (.0%)	74 (.6%)
Other	12 (.1%)	39 (.3%)	11 (.1%)	42 (.3%)
Transfer-In	0 (0%)	1 (.0%)	0 (0%)	0 (0%)
Inaccurate Source	574 (4.6%)	195 (1.5%)	710 (5.7%)	229 (1.7%)
User Error	0 (0%)	1 (.0%)	0 (0%)	0 (0%)
Weighed in Parent's Arms	0 (0%)	0 (0%)	4 (.0%)	55 (.4%)
Total Records	**12366**	**13207**	**12366**	**13207**

The relative percentage of missing records for anthropometrics was higher during the third period than any other, particularly for missing heights. As mentioned, during staff interviews it was noted that records in the health information exchange associated with sick or emergency department visits include weights, but often not heights.

The proportion of records with missing anthropometric data rose to 5.24% during the 3rd period, averaging 5.67% before ARPA (the first half of the 3rd period) and 4.85% after ARPA (the second half of the 3rd period). Due to the 3rd period having fewer total records compared to the other two time periods, its overall impact on the total percentage of records with missing anthropometric data throughout our study was less significant, amounting to approximately 2.55% for the entire study period.

Missing Anthropometric Data by Time Period

	Weight Only	Height Only	Weight & Height	Time Period Sum	Records Sum	Relative % of Missing Anthro.
Pre-COVID	55	391	223	669	45504	1.47%
COVID	88	864	400	1352	60776	2.22%
3rd Period	36	1071	234	1341	25573	5.24%
Total	179	2326	857	3362	131853	2.55%

Missing Anthropometric Data 3rd Time Period Breakdown

	Weight Only	Height Only	Weight & Height	Time Period Sum	Records Sum	Relative % of Missing Anthro.
Pre-ARPA	19	573	108	700	12366	5.67%
Post- ARPA	17	498	126	641	13207	4.85%
Total	36	1071	234	1341	25573	5.24%

Hematologic

Missing blood iron data was highest during COVID and prior to VITLAccess use beginning, as expected. With the start of VITLAccess the data show an increase in complete records, and with the start of ARPA waivers and more in-person appointments, the percent of complete records is near to pre-COVID proportions. The breakdown of reasons why bloodwork was not completed was also analyzed for the third period. As expected, at the beginning of ARPA, the Disaster reason code was deactivated and a limited number of records with that code were found. However, with the start of ARPA, percentage of those with a reason of “Refused” increased to 16.2%.

Missing Hematologic Data Time Period Breakdown

	Pre COVID	COVID	Pre ARPA (3rd period)	Post ARPA (3rd period)	3rd Period Total
Bloodwork Taken	21616	4795	2042	5411	7453
Total Records	32969	43951	8240	9329	17569
% Complete	65.56%	10.91%	24.78%	58.00%	42.42%

No Bloodwork Completed Reasons - 3rd Time Period Breakdown

	Pre-ARPA	Post-ARPA
Infant Younger than 11 Months of Age	661 (8%)	791 (8.5%)
Attempted but Incomplete	4 (.0%)	269 (2.9%)
Disaster	5141 (62.4%)	24 (.3%)
Equipment not Working	11 (.1%)	239 (2.6%)
Not Needed at this Visit	44 (.5%)	884 (9.5%)
Physical problem prevents safe bloodwork collection	0 (0%)	3 (.0%)
Pre-existing Medical Condition	0 (0%)	1 (.0%)
Refused	25 (.3%)	1510 (16.2%)
Total Records	8240	9329

Data Analysis and Interpretation

Both quantitative and qualitative data analysis were conducted. The survey data review included analyzing changes between the 2 survey time periods as well as qualitative data and quotes for a deeper understanding of impacts to workflow. These impacts were further explored and analyzed in the interviews.

WIC administrative data are housed in a State-hosted database and report queries can be written to pull reports used for data analysis. The query for this analysis was based on a prior project studying attributes associated with WIC appointment types. The query was modified to match the date parameters for this project and data were filtered to match the needs of the analysis.

The anthropometric analysis included data only associated with certification appointment types. In the WIC management information system, anthropometric data are required to complete the certification and issue food benefits. All other appointment types were excluded from analysis. Inaccurate data are broken into two categories: missing data and entries with inaccuracy codes assigned to them in either anthropometric column (height and/or weight). During COVID, staff were advised to reenter older anthropometric records with the original

measurement date and to not mark those records as inaccurate. The data were accurate, just old. However, when pulling the data, this results in a complete record in the system, so one that was not coded as “missing” – even though there were no new measurements for that particular certification appointment. This procedure resulted in an overestimation or inflation of "complete" records.

For the hematologic analysis, mid-certification and certification appointments were included since bloodwork is often taken at the mid-certification appointment. The reasons bloodwork was not taken were also analyzed. Both Hemoglobin and hematocrit data were reviewed, although hematocrit is not the test regularly performed at WIC clinics.

Continuous Improvement

While conducting this evaluation Vermont WIC employed continuous improvement strategies both at the implementation levels and within the evaluation itself. For example, during the course of implementation, it was determined by program leadership that district office leadership could request access for program technicians to gain credentials to VITLAccess after viewing the training recording. Providing this additional access to frontline staff has had the dual benefit of streamlining chart preparation for clinic and limiting regular access to the health record to less people, which can protect privacy.

Additionally, due to the regional variation in VITLAccess use, it was decided to pivot from conducting a 12-month survey to key informant interviews with each office to collect more detailed information.

Finally, the program continues to strengthen the partnership with VITLAccess and has been simultaneously exploring a technical connection between the health information exchange and the WIC management information system. This connection would eliminate the need for the clinical portal as the data will be imported directly. Results of this evaluation show the benefits of engaging in this new scope of work and will help prioritize outreach to healthcare providers to improve the quality and quantity of the data within the health information exchange itself.

Conclusions

Throughout the course of the evaluation, the context within which the Vermont WIC program was operating changed significantly. The public health emergency ended, program waivers changed, and the method of how the program conducts appointments evolved. These changes made measuring the direct impact VITLAccess had on decreasing the number of missing records challenging.

Overall, through the primary data collected from WIC staff, respondents have had a positive experience with both the VITLAccess training and the processes of incorporating VITLAccess into their workflow. The most significant barrier to success appears to be regional differences in provider use results in low availability of participant data within the system.

EQ1. How effective was the training on the VITLAccess system?

Overwhelmingly, respondents found the training to be useful, informative, clear, and time efficient. The training provided clarity on policies and procedures and the importance of using VITLAccess in their workflow. Overall, respondents were clear about who to contact if they need additional assistance or support in incorporating VITLAccess into their workflow. Finally, respondents indicated that the VITLAccess training session was sufficient to facilitate implementing the integration, speaking to the quality of the training. At the 6-month follow-up, some participants indicated that they could use a refresher on VITLAccess policies and procedures and that they might benefit from clearer instructions on how best to integrate it into their workflow.

EQ2. What impact will VITLAccess have on staff workflow?

Sentiments regarding the utility of incorporating VITLAccess as a tool into clinical workflow are mixed. However, these data indicate that the benefits are noteworthy. When participant data are available in the system, VITLAccess has been instrumental in filling a gap that would otherwise pose barrier to having complete anthropometric data. When participant data are available, respondents indicated that workload was decreased by eliminating the need to contact providers. When data are not available, accessing VITLAccess adds to clinical prep time and is viewed as a burden. Use of VITLAccess by providers seems to be a key factor in participants' views of the systems benefits and utility to their clinical prep workflow. The data indicate that prioritizing the use of VITLAccess can be regional, in other words, for regions where no or few practices are using it, it is primarily utilized as a back-up tool. This process seems to be taking place organically. Additionally, it was noted in the interviews that there are times when part of the needed data are present, but not a complete dataset. For example, a recent weight may be present due to a sick visit, but no recent height is available.

EQ3. What is the impact of VITLAccess on the amount of missing anthropometric and blood data?

In terms of missing records, the percentage of records with missing anthropometric data increased during the 3rd period to 5.24%. It's worth mentioning that this is an average, as prior to ARPA the percentage of records with missing anthropometric data was 5.67% (the first half of the 3rd period) and is 4.85% post ARPA (the second half of the 3rd period). Since the 3rd period has fewer total records compared to the other two time periods, its impact on the total percentage of records with missing anthropometric data throughout our study was less significant, sitting at approximately 2.55% for the entire study period.

Unlike anthropometric records, blood records saw the opposite effect. During the 3rd period the percentage of records with missing blood data (hemoglobin and hematocrit) decreased compared to our COVID timeline and is trending back towards pre-COVID levels. Hemoglobin specifically saw a large jump in the completeness of data, from 25% pre-ARPA (first half of 3rd period) to 58% post-ARPA (second half of 3rd period).

Logic Model

Inputs	Activities	Outputs	Short term outcomes	Mid-term outcomes	Long term outcomes
Local WIC Staff State WIC/FCH Staff Public Health Analyst Staff WIC administrative data Authority for VITLAccess Training resources from VITLAccess Buy-in from leadership (FCH and OLH)	Analyze current landscape of missing measurement/hematologic data in WIC system, pre and during COVID, document methods for future analysis. Write Policies and Procedures (P & P) for VITLAccess use. Add VITLAccess check to current Management Evaluation tool for monitoring. Provide training to staff. Write procedures for on-boarding new staff and restricting access for staff who separate from employment in WIC. Use VITLAccess to access measurement/hematologic data.	Baseline analysis of current landscape of missing anthropometric and hematologic data complete. Written P&P complete with reference to other relevant WIC P&Ps. Log-ins to VITLAccess Access created. Updated Management Evaluation tool. Training completed. On-boarding/off boarding procedures documented.	Local staff understand the purpose of VITLAccess to support health assessments in clinic. Staff understand how to use VITLAccess Access according to policies and procedures. State staff understand on-boarding and offboarding processes.	Local staff use VITLAccess and input relevant measurement/hematologic data into the WIC MIS. Local staff use information from VITLAccess to conduct meaningful health assessments and provide appropriate nutrition education and counseling. Families are able to continue remote appointments if that is their preference. The overall amount of missing anthropometric and hematologic data in the WIC management information system decreases.	WIC Families use information from WIC clinic staff in appointments to engage in health behaviors. Data systems are integrated to provide efficient, high-quality services. Realize the vision for bolstering public health by leveraging VHIE infrastructure and existing technical capabilities.

Post-Training Survey

Thank you for participating in the training today. The purpose of this survey is to collect data that will help us understand how access to this system will impact clinical workflow and missing data as a result of the pandemic. These data will be used to improve internal operations and for public dissemination in support of integrated data systems for clinical purposes. Any data that is presented publicly will be deidentified and reported in aggregate (i.e., no one will be able to identify a single person's response). There is no risk to you if you choose to participate in this survey. The survey should take about 5 minutes to complete. If you have any questions or concerns, please contact Amy Malinowski at amy.malinowski@vermont.gov. Thank you for your time.

1. I consent to participate in this survey.

( ) Yes

( ) No

2) Please select your work location

( ) Barre

( ) Bennington

( ) Brattleboro

( ) Burlington

( ) Middlebury

( ) Morrisville

( ) Newport

( ) Rutland

( ) Springfield

( ) St. Albans

( ) St. Johnsbury

( ) White River Junction

( ) Central Office

3) How long have you been in your current position?

( ) Less than 1 year

( ) 1-2 years

( ) 3-6 years

( ) 7-9 years

( ) 10 or more years

4) How long have you worked in the Vermont WIC program?

( ) Less than 1 year

( ) 1-2 years

( ) 3-6 years

( ) 7-9 years

( ) 10 or more years

The next several questions will assess your perceptions of the effectiveness of today's training and the use of VITLAccess.

5) How long have you worked in the Vermont WIC program?

Useful	( ) Not at all ( ) Slightly ( ) Neutral ( ) Moderately ( ) Extremely
Informative	( ) Not at all ( ) Slightly ( ) Neutral ( ) Moderately ( ) Extremely
Clear	( ) Not at all ( ) Slightly ( ) Neutral ( ) Moderately ( ) Extremely
Time efficient	( ) Not at all ( ) Slightly ( ) Neutral ( ) Moderately ( ) Extremely

6) It is clear how VITLAccess will be incorporated into my workflow.

( ) Strongly disagree ( ) Disagree ( ) Neither disagree nor agree ( ) Agree ( ) Strongly agree

7) Incorporating VITLAccess into my workflow will be:

( ) Very difficult ( ) Difficult ( ) Neither difficult nor easy ( ) Easy ( ) Very easy

8) Please explain why incorporating VITLAccess into your workflow will be difficult.

_____

_____

9) I understand why we are using VITLAccess in the context of our work.

( ) Not at all ( ) Slightly ( ) Neutral ( ) Moderately ( ) Completely

10) I understand polices around using VITLAccess.

( ) Not at all ( ) Slightly ( ) Neutral ( ) Moderately ( ) Completely

11) I understand how to use VITLAccess.

( ) Not at all ( ) Slightly ( ) Neutral ( ) Moderately ( ) Completely

12) I understand who to contact if I have questions about VITLAccess.

( ) Not at all ( ) Slightly ( ) Neutral ( ) Moderately ( ) Completely

13) I am confident in my ability to use VITLAccess in accordance with the policies and procedures that were presented today.

( ) Strongly disagree ( ) Disagree ( ) Neither disagree nor agree ( ) Agree ( ) Strongly agree

14) Please rate how easy VITLAccess is to use.

( ) Very difficult ( ) Difficult ( ) Neither difficult nor easy ( ) Easy ( ) Very easy

15) Please tell us what additional support (if any) you need to confidently incorporate VITLAccess into your workflow.

( ) I need more information on VITLAccess policies

( ) I need more information on VITLAccess procedures

( ) I need more hands on practice with VITLAccess

( ) I need more observation time to understand VITLAccess

( ) I don't need additional support; the training was sufficient

( ) Other needs: _____

16) How often do you think you will use VITLAccess for anthropometric and hematologic data?

( ) Not at all

( ) For some appointments

( ) For most appointments

( ) Every appointment

17) When do you anticipate utilizing VITLAccess the most?

( ) Before appointments

( ) During appointments

( ) After appointments

18) Compared to the current system of accessing this information from medical providers, how will VITLAccess change your workflow related to clinic preparation?

_____

_____

_____

_____

19) Is there anything else you would like to share about today's training or the incorporation of VITLAccess into your workflow?

_____

_____

_____

_____

Thank You!

Thank you for taking our survey. Your response is very important to use. If you have any questions, please reach out to Amy Malinowski at amy.malinowski@vermont.gov.

6-month Follow-up Survey

Introduction

Background
By authority granted by the Vermont Commissioner of Health, the Vermont WIC program has been given access to the Vermont Health Information Exchange (VHIE) to access clinical measurement and hematologic data. The information collected will help staff to conduct necessary health and nutrition assessments such as identifying participants with low birth weight, those with low iron levels, those who have poor weight gain, or those who are at risk for obesity. Local WIC staff will use the VITLAccess Clinical Portal (the online portal through which the VHIE can be accessed) to access this information.

The WIC program has created a new policy and procedure on access to this system (and others that facilitate WIC participant certifications and health assessments). WIC, in partnership with VITL (The organization that runs the VHIE) will provide continued training on this new policy and procedure, how to log-in and use the system, and expectations around its use.

During the COVID-19 public health emergency, all WIC appointments transitioned from in-person to over the phone. Vermont WIC was granted a waiver eliminating the need for physical presence at appointments. Remote appointments helped to mitigate the spread of the virus through physical distancing, improved overall kept appointment rate, and continue to be highly valued by WIC participants primarily due to their convenience. However, a consequence of remote appointments has been a lack of current anthropometric and hematologic information needed to conduct thorough health assessments. WIC implemented procedures to respond to the public health emergency which using measurement data from previous appointments and marking them inaccurate with a specific disaster code in the management information system.

The Vermont WIC program intends to offer a variety of appointment options into the future to meet participant needs, including by phone, by video, and in person. To help fill the information gap with respect to measurement and hematologic data, WIC staff will be trained on and use VITLAccess. The program will conduct an evaluation to understand the impact access to this system on missing data as a result of the pandemic as well the impact of using the system on clinic workflow. This is the 6-month follow-up survey.

1) I consent to participate in this survey

( ) Yes

( ) No

Evaluation of WIC Clinical Staff Access to the Vermont Health Information Exchange

2) Please select your work location

( ) Barre

( ) Bennington

( ) Brattleboro

( ) Burlington

( ) Middlebury

( ) Morrisville

( ) Newport

( ) Rutland

( ) Springfield

( ) St. Albans

( ) St. Johnsbury

( ) White River Junction

( ) Central Office

3) How long have you been in your current position?

( ) Less than 1 year

( ) 1-2 years

( ) 3-6 years

( ) 7-9 years

( ) 10 or more years

4) How long have you worked in the Vermont WIC program?

( ) Less than 1 year

( ) 1-2 years

( ) 3-6 years

( ) 7-9 years

( ) 10 or more years

5) It is clear how VITLAccess should be incorporated in my workflow.

( ) Strongly disagree ( ) Disagree ( ) Neither disagree nor agree ( ) Agree ( ) Strongly agree

6) Incorporating VITLAccess into my workflow has been:

( ) Very difficult ( ) Difficult ( ) Neither difficult nor easy ( ) Easy ( ) Very easy

7) Do you have enough support to integrate VITLAccess into your workflow effectively?

( ) Yes

( ) No

8) What does your current support structure look like for integrating VITLAccess?

_____

_____

_____

_____

9) I understand why we are using VITLAccess in the context of our work.

( ) Not at all ( ) Slightly ( ) Neutral ( ) Moderately ( ) Completely

10) I am confident in my ability to use VITLAccess in accordance with policies and procedures.

( ) Strongly disagree ( ) Disagree ( ) Neither disagree nor agree ( ) Agree ( ) Strongly agree

11) I understand how to use VITLAccess.

( ) Not at all ( ) Slightly ( ) Neutral ( ) Moderately ( ) Completely

12) I understand who to contact if I have questions about VITLAccess.

( ) Not at all ( ) Slightly ( ) Neutral ( ) Moderately ( ) Completely

13) Please rate how easy VITLAccess is to use.

( ) Very difficult ( ) Difficult ( ) Neither difficult nor easy ( ) Easy ( ) Very easy

14) Please tell us what additional support (if any) you need to confidently incorporate VITLAccess into your workflow.

( ) More information

( ) More practice

( ) More observation

( ) Training was sufficient

( ) Other needs:: _____

15) How often are you using VITLAccess for anthropometric and hematologic data (for WIC Purposes)?

( ) Not at all

( ) For some appointments

( ) For most appointments

( ) Every appointment

16) On average, how long is it taking you to access the information you need through VITLAccess?

_____

17) When are you utilizing VITLAccess the most?

( ) Before appointments

( ) During appointments

( ) After appointments

18) Has VITLAccess improved your workflow?

( ) Yes, it has improved

( ) No, it has become harder

( ) It has stayed the same

19) How has your workflow changed due to VITLAccess being incorporated?

_____

_____

_____

_____

20) What is the impact of having VITL access on the number of participants who have recent data?

( ) Increase in number of participants who have recent data

( ) Remained the same

( ) Decrease in number of participants who have recent data

21) Please share any reflections you have about your experience using VITLAccess.

_____

_____

_____

_____

Thank You!

Thank you for taking our survey. Your response is very important to use. If you have any questions, please reach out to Amy Malinowski at amy.malinowski@vermont.gov.

District Office Interview Guide

Introduction and Consent

Hi and thank you for speaking with me about your office's use of VITLAccess.

During this interview, I will ask you questions about your experience using the VITLAccess clinical portal and about your office procedures. There are no right or wrong answers – we just want to hear your honest feedback. These details will contribute to our overall evaluation and help inform best practices and recommendations for use.

The interview should last about 30 minutes.

I would like to audio-record this interview to make sure I do not miss any of your feedback.

Do you have any questions?

Do you agree to take part in the interview?

Do you agree to be recorded? If you do not agree to be recorded, we will take written notes only.

Questions

1. How has your office incorporated use of VITL into the workflow?
2. How have you personally incorporated VITL into your workflow?
3. In what ways have you found VITL to be helpful?
4. If any, what difficulties have you encountered in using VITL?
5. Are there certain providers/practices where you are consistently not finding the data you need in VITL?
6. What else regarding your experience with VITL that you would like to share with us?
7. What additional training needs do you or your office have, if any?