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INNOVATIONS

## Cultivate Fund Case Study: Northeast Valley Health Corp

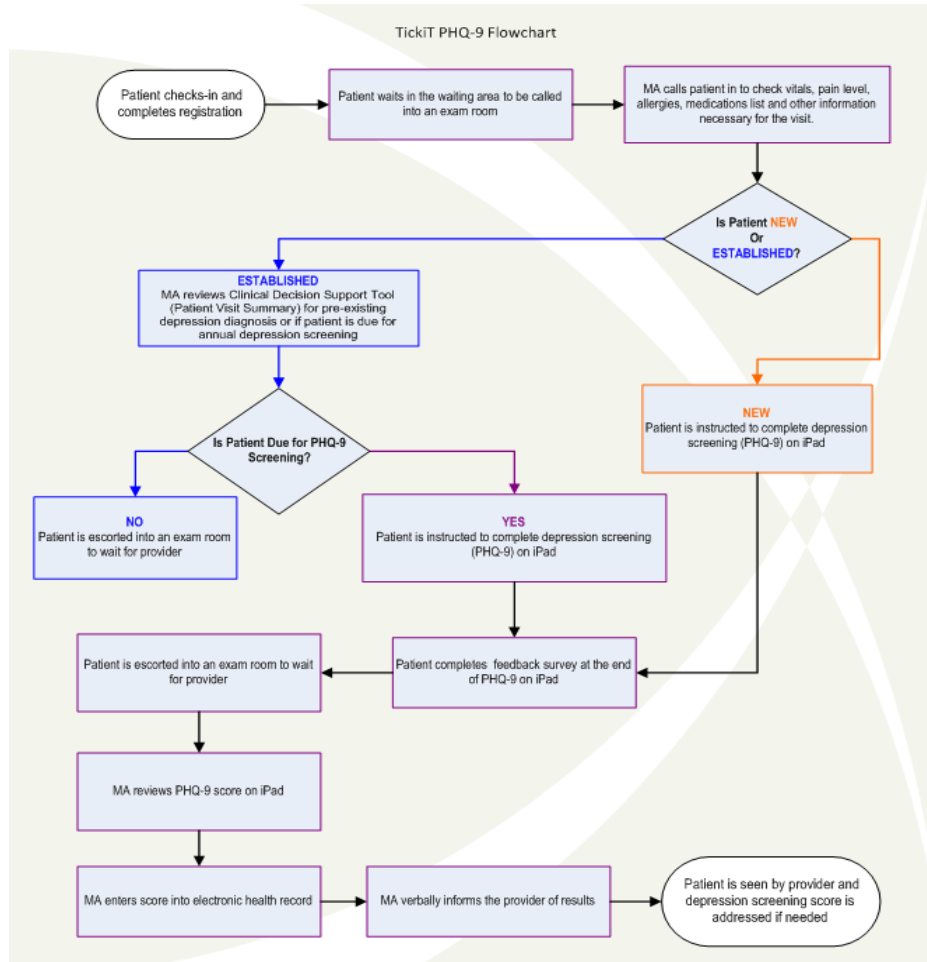
At Northeast Valley Health Corporation (NEVHC), a patient should expect to spend an average of almost 90 minutes at their office visit. A goal has been established to reduce this time to less than 60 minutes. NEVHC providers and staff already collect extensive health information from patients to better serve their needs. Assessment tools and questionnaires, such as the Staying Healthy Assessment required by Medi-Cal, the NEVHC Adult Patient History Form, Ages and Stages developmental screening, and Immunization Contraindications are a routine part of the registration process and are essential for NEVHC to provide comprehensive, personalized care. In order to make the time spent waiting to see a provider or care team member more efficient, the team explored a method that would increase the use of technology and make distribution of questionnaires more streamlined.

NEVHC tested [TickiT®](#), a product developed by Shift Health as an interactive mobile questionnaire platform designed to engage patients. The interface is user-friendly and data can be collected at the point of care for more efficient appointments and quality improvement efforts. TickiT® was tested at one of NEVHC's largest clinic sites, the Pacoima Health Center. Patients 18 and over in the Adult Medicine Department were targeted. The team at NEVHC selected TickiT® so they could highlight critical information about each patient and allow for more productive appointments and more engaged patients. The medical assistant also would transcribe data from the PHQ-9, a depression screening inventory, into the patient's electronic medical record, so an additional goal was set to improve efficiency of the visit and reduce data entry errors. The team worked with the vendor to create a user-friendly, electronic version of the PHQ-9, as well as an agenda setting tool, "Making the Most of Your Visit" (MMV), which allows patients to write responses to the question, "What do I want to ask my doctor today?" The PHQ-9 is given to new patients, existing adult patients (annually), and patients being followed for depression. The MMV is given to all patients, new and existing. Paper versions of these documents are not currently integrated into the electronic health record and are discarded after use. NEVHC piloted TickiT® using an iPad, with the goal of improving efficiency of the visit, reducing cycle time, and improving patient engagement. The technology allowed patients to complete the PHQ-9 questionnaire using user-friendly graphics on an iPad. The patient was then prompted to complete a brief survey providing feedback about the TickiT® application and survey experience. The following five questions were asked:

- *Understanding the questions in this survey was... (just think about the wording)...* (User prompted to respond "very easy," "easy," "confusing," "very confusing" or is allowed to skip the question.)
- *Using this app was...* (User prompted to respond "very easy," "easy," "confusing," "very confusing" or is allowed to skip the question.)
- *I think the survey is helpful for the doctors and nurses...* (User prompted to respond "yes" or "no" and is allowed to skip the question.)
- *Answering those questions helped me feel ready for my visit...* (User prompted to respond "yes" or "no" and is allowed to skip the question.)
- *Is there anything else you want to say about this survey?* (Open-ended response or allowed to skip the question.)

On average, the entire process took an average of about 5 minutes, but was dependent on the patient's level of comfort with technology and if the patient required guidance from the medical assistant or health educator. After survey completion, the application automatically calculates the patient's PHQ-9 score and displays a red-flag to alert the care team member of a score that may indicate a depression diagnosis. The medical assistant then manually enters the patient's responses into the electronic health record and then notifies the provider. The provider then discusses the results with the patient. A patient flowchart was developed for this process (see figure).

The team encountered a number of challenges during the testing period. Although patients and staff responded favorably to TickiT® and its user friendly graphics, the innovation team was unable to automatically integrate the results of the PHQ-9 and



MMV questionnaires directly into NEVHC's electronic health record. Instead of having the data available in the health record for clinical decision support at the time of the visit, TickiT® would generate a score report and the care team member would still have to enter the patient's responses into the health record and communicate the score to the provider for review. In fact, since the team could not integrate the agenda setting tool data into the health record nor print it out from the tablet, the digital version of the tool was actually more challenging to use than continuing the process on paper. As a result, the agenda setting tool could not be fully implemented without the capability of printing directly from the iPad or interfacing the responses directly into the electronic health record.

On the patient-facing side, despite ease-of-use of the technology, most patients were confused about the vocabulary and nature of the depression inventory questions. The care teams as well as the health educator on site were still required to walk the patient through the questionnaire so that they had a better understanding of how to respond to each question.

Also, while patient feedback data indicated that users found the app easy to use and they said they understood the questions in the survey, the patients' answers seemed to be inconsistent with observations made by the staff and health educator. When using the app, most patients did have questions about the PHQ-9. Unfortunately, this barrier makes it challenging to reduce cycle time by using a digital survey.

Overall, the innovation team's experience with the new technology was positive. The team reported that patients of all ages and literacy levels adapted well to it, patients had the opportunity to ask more questions about these tools and become more engaged in their care compared to the paper version, and staff was receptive to using it to replace paper. The digital survey also eliminated the need for staff to manually add up the PHQ-9 score and ensured that the patient answered all the questions.

However, integration into the electronic health record was a main concern, and if successfully addressed, would allow the team to expand the use of TickiT®. It also would eliminate the process of hand-keying responses, save time, reduce potential data-entry errors, and ultimately maximize the time the patient spends with the provider or other members of the care team. Unfortunately, until TickiT® can fully integrate into NEVHC's electronic health record, the innovation team has not chosen to continue or spread this product across the organization. Moving the PHQ-9 and MMV questionnaires from paper to an electronic tablet did not result in improved efficiency as the team had hoped. The MA still has to assist the patient with the questionnaires and then manually transcribe the results into the EHR. Although the team feels there is a strong potential for a product like TickiT®, it has decided to use paper for both of these tools until the product can fully integrate into its EHR.

NEVHC has recently purchased an [OTech software application](#) for a pilot at its San Fernando Health Center School Based Clinic. The OTech application is easy to use and is tablet-based, gathering information from individuals in the clinical setting and fully integrating this information into the electronic health record. NEVHC uses NextGen as its electronic health record and the OTech software is compatible with the EHR. The product is currently being tested as a method to electronically register patients for their appointment without the assistance of a registration staff member. NEVHC also will test it with the PHQ-9. The PHQ-9 will be transferred from its original paper version electronically to enable the patient to complete the questionnaire on a tablet. Although the graphics will not be as user friendly as those developed by TickiT®, the software has the potential to improve the efficiency of the visit and reduce transcription errors. The MMV tool also will be tested. The innovation team is hopeful that by integrating the MMV tool into the EHR, the provider and care team will be able to easily use the patient's agenda to increase patient engagement during the visit.

	NEVHC		SFDPH		Livingston	
	Vendor		Vendor		Vendor	
	TickiT®		TickiT®		Press Ganey Point of Care	
Innovation Team Impressions Before and After Experience with New Technology	First Impressions	After User	First Impressions	After User	First Impressions	After User Experience
	<b>Use cases:</b>					
Check-in						
Assessment	X	X				X
Eligibility						
Patient Satisfaction	X	X	X	X	X	X
Demographics			X	X		X
<b>Criteria/Factor:</b>						
Easy to use and provides engaging way to gather feedback from patients	X	X	X	X	X	X
Compatible for low literacy (non-English speaking) patients		X	X		X	X
Ability to streamline how we gather information from patients	X		X	X		X
Ability to turn the data into actionable information we can use	X		X			X
Ability to integrate the data gathered from patient into the EMR	X					X
Ability to provide the aggregated data back to us in an easy to view format	X		X	X		X
Flexibility in platform for multiple use cases and modes of delivering/collecting information (e.g., visual, audio, phone, desktop, tablet)			X	X		
Scalable/potential for spread to other sites	X		X	X		X
Affordable/perceived to deliver high value relative to cost	X		X	X		X
Company has customer traction/experience implementing in the safety net	X		X	X		X
Company is financially viable	X		X	X	X	X

Note: any cell left blank means that staff felt the technology did not fit that particular criterion