

**Race to the Top – Early Learning Challenge:
Electronic Screening Initiative
Interim Report
Updated June 3, 2016**

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I. Project Overview

Minnesota is making progress in improving the delivery of developmental and social-emotional screening of young children by piloting electronic access to the Ages & Stages Questionnaires, Third Edition (ASQ-3) and Ages & Stages Questionnaires: Social-Emotional (ASQ:SE) screening instruments. The purpose of the project is to improve access to developmental and social-emotional screening for families and screeners, increase the number of children screened, and to support the coordination of care for young children and collaboration across sectors within the pilot sites.

The Minnesota Department of Education (MDE) is contracting with Patient Tools, Inc. for access to a newly developed electronic developmental and social-emotional screening system. Patient Tools, Inc. is providing access to the screening instruments and an electronic data management system for programs participating in the pilot. Patient Tools, Inc. is providing access to the app-based screening instruments, installation of the data system, and technical support to programs participating in the Initiative.

The electronic screening system through Patient Tools, Inc. is an app-based system that allows the screening instruments to be completed on any personal or desktop computer, tablet, or mobile device without Internet connection at the time of screening. Screening programs have the option to send a link to families to invite them to complete the screening questionnaires electronically before an appointment. The Patient Tools, Inc. app-based screening system includes use of the audio versions available in Hmong, Spanish, Somali, and English languages.

Project and Quality Improvement Activities

The Electronic Screening Initiative is using the Model for Improvement, a Quality Improvement model, as a framework to guide the implementation and testing of changes. Pilot sites participating in the project are part of a learning collaborative and receive Technical Assistance from project staff and consultants, participate in webinars and in-person learning sessions, and submit monthly and quarterly data to project staff to track their progress.

Project AIM

By May 2016, all pilot sites will use the developmental and social-emotional electronic screening system so that screening, referral, and follow-up coordination is enhanced where applicable.

Goals

- 95% or more of target populations (children birth through 5, birth to 3, or 3 through 5) are screened based on the site screening protocol.
- 80% or more are screened electronically.
- 75% or more of families give high ratings for ease of use with the electronic screening process.

- 90% or more of the screening staff express satisfaction with the electronic screening process.
- 95% or more of those coordinating services across different organizations within a community would agree that the app system makes it easier to communicate with other screening programs and/or service providers when necessary.

II. Findings from Quality Improvement Data

State of the Collaborative

The eleven participating pilot sites from across the state include a diverse array of screening programs, including local public health, school districts, Head Start and Early Head Start, primary health care and mental health providers. Implementation of the electronic screening system started in August 2015, with a few pilot sites launching the use of the system at that time. Since then, programs continue to implement the use of the system at their site(s). As of May 1, 2016, eight of the 11 pilot sites have implemented and are using the electronic screening system.

Table 1. Participating pilot sites and status of implementation. Some pilot sites consist of multiple agencies or programs participating in the project.

Pilot Site	School District	Early Head Start/Head Start	Local Public Health	Primary Care	Mental Health	Child Care	Serves Families in RTT-ELC Transformation Zone	Implemented as of May 1, 2016
Fraser Clinic					X		X	X
Hennepin Co. Public Health			X	X			X	
HORIZON Public Health			X	X				
Minneapolis Public Schools	X						X	X
Reach Up, Inc.		X						X
Rochester Public Schools	X							X
St. Luke's Pediatrics (& Duluth partners)	X		X	X				X
St. Paul Public Schools	X						X	X
Washington Co. Public Health		X						X
Westside Community Health Services				X				X
White Earth Early Childhood Programs						X	X	

Measuring the Percentage of Children Screened Electronically of All Children Screened

Goal: 80% or more of children screened are screened electronically.

Measure: Number or percentage of children screened using electronic access (reported monthly, compared to number of children screened using paper-based tools)

Of the eight programs that have implemented the use of the electronic screening system as of May 1, 2016, six of those sites have reached the goal of 80% or more of children screened at the program site are being screened with the electronic screening system. The majority of children being screened at these sites are using the electronic screening system to complete developmental and social-emotional screening.

<u>Pilot Site</u>	<u>% of Children Screened Electronically</u>
Fraser	100%
Minneapolis Public Schools	94%
Reach Up, Inc.	92%
Rochester Public Schools	92%
St. Paul Public Schools	86%
West Side Community Health Services	95%

The data shows that the overall number of children screened electronically is increasing over time. The data from individual sites shows that a few of the programs have increased the number of children screened electronically over time, however, the numbers fluctuate by month. The increase in the aggregate number probably also reflects the addition of newly implemented sites.

Chart 1. Aggregate Number of Children Screened Electronically, All Sites

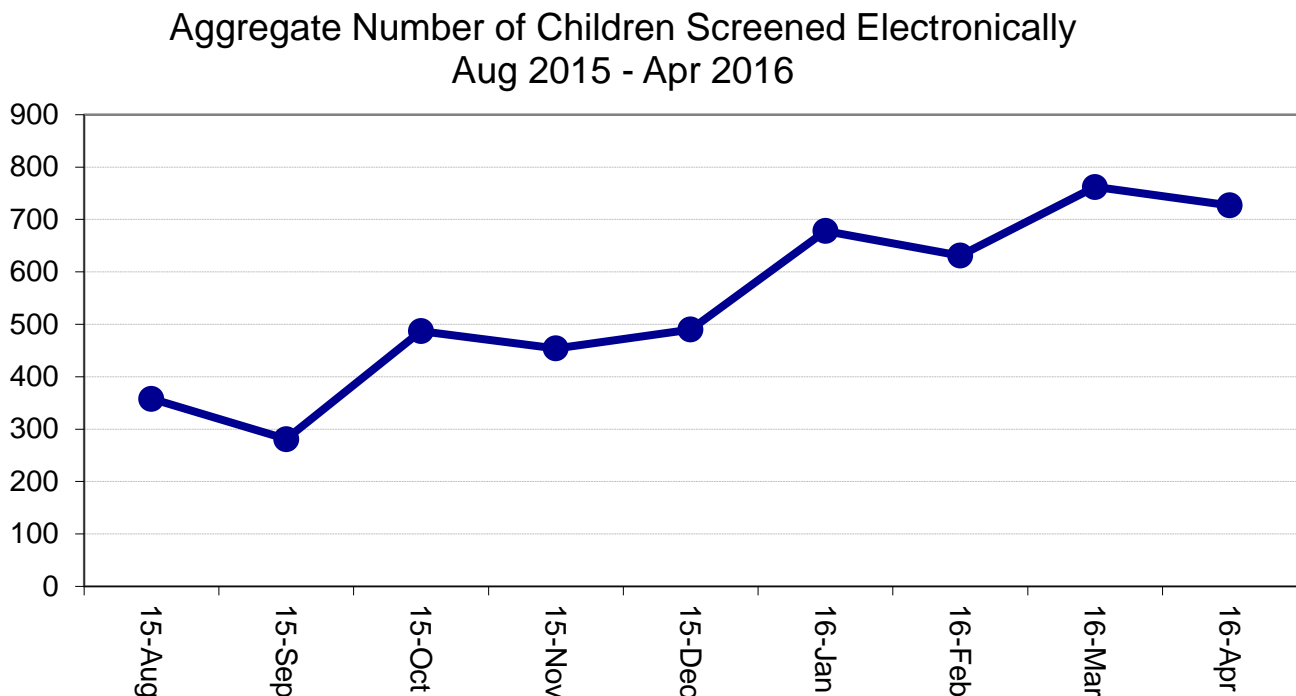


Table 2. Number of Children Screened Electronically, by Site and Month, Aug 2015 – Apr 2016

	Fraser	MPS	Reach Up	Rochester	St. Louis Co.	St. Luke's	SPPS	Washington Co.	West Side CHS	Total screened per month, all sites
Aug	--	163	125	70	--	--	--	--	--	358
Sep	--	98	89	90	--	1	--	3	--	281
Oct	7	200	78	104	--	39	38	21	--	487
Nov	7	109	31	115	--	81	96	15	--	454
Dec	9	209	13	106	--	44	89	20	--	490
Jan	7	240	38	119	--	93	167	14	--	678
Feb	7	241	19	119	--	43	171	22	9	631
Mar	7	248	16	132	4	84	174	22	75	762
Apr	3	288	34	109	N/A	48	127	26	92	727
Total screened by site, Aug 2015 – Apr 2016	47	1,796	443	964	4	433	862	143	176	4,868 Total

Measuring Family Experience Using the Electronic Screening System

Goal: 75% or more of families give high ratings for ease of use with the electronic screening process.

Measure: Parent report on ease of use of electronic screening system, measured through two questions built into the electronic screening system.

Two questions have been built into the electronic screening system so that parents are prompted to answer the questions at the end of the developmental and/or social-emotional electronic questionnaire. The two questions are not asked if a parent completes an audio version of the questionnaire. Parents have the option to not answer the questions. The two questions and their response categories are:

- Using this app to do screening for my child is:
 Not Easy Easy Extremely easy Prefer not to answer

- Using this app helps me to understand and support my child's growth and development:
Yes No I don't know Prefer not to answer

Aggregate and site specific responses are reviewed monthly by project staff and pilot sites. For the month of April 2016, the majority of parents rated the electronic screening system (app) as being “easy” or “extremely easy” to use. The majority of parents also indicated that the app helps them in understanding and supporting their child’s growth and development. This data has been consistent over time, with little change in the aggregate responses from parents from month to month. The project is meeting the goal of having 75% or more of families give high ratings for ease of use with the electronic screening process.

Parent response data, all sites - April 2016

Using this app to do screening for my child is:

1) Not easy	12	2.1%
2) Easy	256	44.2%
3) Extremely Easy	295	50.9%
4) Prefer not to answer	<u>16</u>	<u>2.8%</u>
Total	579	100.0%

Using this app helps me to understand and support my child's growth and development:

1) Yes	383	66.1%
2) No	62	10.7%
3) I don't know	111	19.2%
4) Prefer not to answer	<u>23</u>	<u>4.0%</u>
Total	579	100.0%

Goal: 90% or more of the screening staff express satisfaction with the electronic screening process.

Staff completing the monthly data submission at each pilot site have also answered quarterly survey questions about their experience using the electronic screening system. Staff are asked to answer questions about the benefits of using the app, the administration of screening using the app, and how the app supports referral activities, anticipatory guidance and communication with other providers. Staff experience/satisfaction questions were asked at baseline in August 2015 and again in November 2015 and February 2016. The baseline survey also included questions about use and experience with paper-based screening. The questions in November and February were only asked of pilot sites where the app-based system had been implemented and is in use. This report does not include data or results for all of the staff satisfaction questions, but rather looks at one of the general questions asking about staff satisfaction with the app. Further data

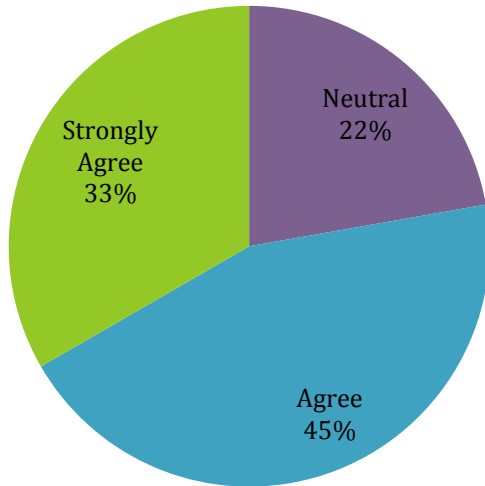
analysis can be done after the final data collection point in May and could include a more in-depth look at responses to all of the staff satisfaction questions.

In February 2016, of the pilot sites using the app-based system, 78% of respondents indicated that they *Agree* or *Strongly Agree* that their program benefits from using the app. In this analysis, this question will be used as a proxy for general staff satisfaction with the app-based system. Although this does not meet the goal of 90% or more of the screening staff expressing satisfaction with the electronic process, it is an increase in satisfaction levels from what was reported in November 2015, with 57% of respondents indicating that they *Agree* or *Strongly Agree* that their program benefits from using the app.

Our program benefits from using this app.

Responses from February 2016

Value	Percent	Count
Strongly Disagree	0.0%	0
Disagree	0.0%	0
Neutral	22.2%	2
Agree	44.4%	4
Strongly Agree	33.3%	3
	Total	9



Goal: 95% or more of those coordinating services across different organizations within a community would agree that the app system makes it easier to communicate with other screening programs and/or service providers when necessary.

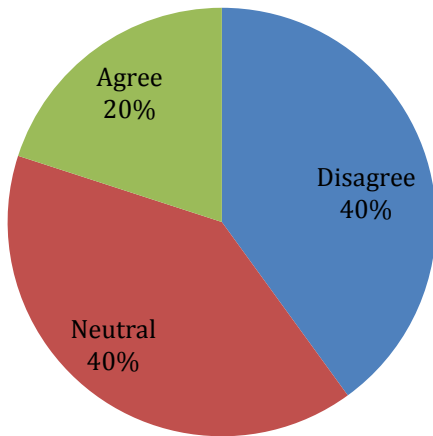
At project baseline (August 2015), before the use of the app-based system was implemented, pilot sites were asked to respond to questions about their experience using paper-based screening methods, which many of the programs were already using. When asked to select a categorical response to the statement below, the majority of respondents indicated that they either Disagreed or were Neutral.

Using the paper screening and referral process, it is easy to communicate with a child's primary care provider/early childhood program/other community based service provider when necessary.

Responses from August 2015

Value	Percent	Count
Strongly Disagree	0.0%	0
Disagree	40.0%	4
Neutral	40.0%	4

Agree	20.0%	2
Strongly Agree	0.0%	0
	Total	10

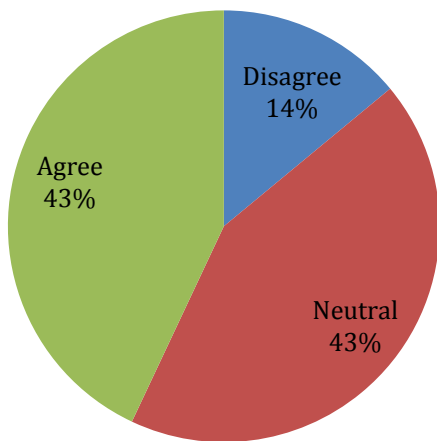


When participating pilot sites were asked about the ease of communication with other providers when using the app-based system, respondents indicated a much higher level of agreement with the statement that using the app makes it easier to communicate other providers than was indicated when asked about paper-based screening.

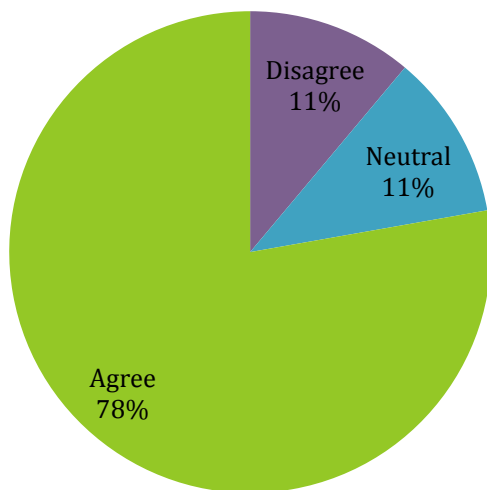
This app makes it easier to communicate with a child's primary care provider/early childhood program/other community based service provider when necessary.

Responses from November 2015

Value	Percent	Count
Strongly Disagree	0.0%	0
Disagree	14.3%	1
Neutral	42.9%	3
Agree	42.9%	3
Strongly Agree	0.0%	0
	Total	7



Responses from February 2016



Value	Percent	Count
Strongly Disagree	0.0%	0
Disagree	11.1%	1
Neutral	11.1%	1
Agree	77.8%	7
Strongly Agree	0.0%	0
	Total	9

III. Successes

Two of the project goals are consistently being met.

The data shows that two of the project goals are consistently being met:

- 80% or more of children being screened at the participating pilot sites that have implemented electronic screening are being screened electronically.
- 75% or more of families give high ratings for ease of use with the electronic screening process.

Several programs have commented on how the families they serve really like completing screening in an electronic format rather than a paper form.

A third goal is likely also being met, but is not being measured by state staff. Pilot sites can implement a measure at the local level to determine if the goal is being met:

- 95% or more of target populations (children birth through 5, birth to 3, or 3 through 5) are screened based on the site screening protocol.

Electronic Screening facilitates the screening and documentation process.

Qualitative data collected from the pilot sites shows that at least two of the participating pilot sites think that electronic screening has made their screening process faster and that their programs are able to screen more children overall as a result of the use of the app-based system. Data collected from the pilot sites also indicates that the app facilitates easier administration and documentation.

Pilot sites continue to be engaged in quality improvement activities and in reaching project goals.

Despite significant challenges and setbacks for some pilot sites, all sites are submitting monthly data reports and attending project activities.

The vendor, Patient Tools, Inc. has been responsive to the needs of pilot sites and to the State of Minnesota.

Because the app-based system is still under development by Patient Tools, Inc., the vendor is able to take the feedback they receive and make some changes to meet the needs of the pilot sites.

IV. Challenges

Technology issues, both with the app-based system itself, and programs local I.T., have proved to be the greatest challenge to most pilot sites.

All pilot sites have reported technology barriers with the app-based system itself, such as having frequent technical glitches occur during the screening process, needing multiple software updates from the vendor in order for the system to work properly, and experiencing technical glitches that require frequent support from the vendor. Significant support from the screening program's I.T. staff has been necessary, and if not available at a pilot site, has been a barrier to implementation for some pilot sites.

Piloting a system that is still under development has been a challenge in that components of the system are not yet in place. For example, when the pilot launched, the option for families to complete the screening on a mobile device before their appointment was not yet available, and this has been a barrier to some programs wanting to use this feature (Follow Along Programs and primary care providers). Additionally, many local public health programs participating in the pilot are trying to integrate their existing data system with the electronic screening data management system. This has caused delay in implementation for these programs.

Technology problems are barriers in their own right, but can also lead to a sense of fatigue and loss of momentum among the pilot sites. Some programs have commented on the technology barriers leading to a loss of “buy-in” among program/agency leadership and screening staff.

Most pilot sites are not using a “community-model” approach to pilot the app-based system, so the full functionality of the app-based system is still mostly untested.

Three of the pilot sites are planning to use a community-model approach when piloting the app-based system, meaning that the pilot sites consist of multiple partnering programs that plan to communicate and/or share data in some capacity through the app-based system. Of these three pilot sites, St. Luke’s Pediatrics and its Duluth partners have started to use the app-based system, but are still working on implementing the community model. The other two pilot sites, Hennepin County and HORIZON Public Health, are in the process of planning with their partnering programs, but have not yet implemented the use of the app-based system. Because of this, we do not know how well this function of the app-based system will work. A project extension through December 2016 will give the pilot sites additional time to test the community-model approach.

V. Lessons Learned

Develop a readiness checklist.

Use the data collected from the pilot sites to create a checklist for programs new to electronic screening to determine if they are “ready” to implement the use of electronic screening. This will help ensure successful outcomes for programs and efficient and effective use of resources.

The amount of technology barriers determines how quickly a program can implement the use of the app-based system.

Some pilot sites were able to implement the use of the app-based system right away (although oftentimes on a small scale). These sites often had fewer technology barriers, which allowed them to launch the project quickly. Sites that were able to implement right away had support from their own I.T. staff (funding, staff time, and buy-in). These early implementers also did not focus on connecting existing data systems to the app-based system. Programs that are delayed in implementation point to limited local I.T. capacity and/or local I.T. policies as a barrier to implementation. Many of the programs that have not yet implemented are working on connecting an existing data system to the app-based system, which takes more planning and more time.

Programs must have local I.T. involved in the process from the very beginning. I.T. support at the program level is critical and planning discussions must include I.T. before moving forward with implementation. Some pilot sites were able to secure their in-house I.T. services by paying for some of the I.T. staff time spent on the project.

Focus on the community-model approach of the Patient Tools, Inc. electronic screening system.

One of the needs identified for screening and early childhood programs in Minnesota is to better coordinate early identification, referral and follow-up services for young children and their families. We have yet to fully test and the Patient Tools, Inc. app-based system in how it supports coordination between screening and service providers. It will be important to learn from the few

pilot sites that will be testing the community-model approach, to help determine how best to implement the app-based system in communities across the state.

VI. Sustaining and Spreading Electronic Screening Efforts in Minnesota

As emphasized throughout this report, it will be important to re-evaluate the progress of the pilot sites at the end of the project extension in December 2016 to determine future efforts to support electronic screening in Minnesota.

Given the quantitative and qualitative data that has been submitted to date, it is clear that families like the electronic screening system and that some programs have found efficiencies using the system. Technology barriers have caused delays in implementation, and difficulties for screening staff implementing the electronic screening system.

Knowing that significant barriers to implementation exist, it is unlikely that current pilot sites and any additional programs would be interested in contracting independently with both Patient Tools, Inc. and Brookes Publishing (like the State has had to do for the pilot) to pay to continue to use the electronic screening system.

It is recommended that any efforts for sustainability and spread of the electronic screening system include a state funded (at least in part) initiative. Programs will need Technical Assistance and a streamlined way to access the electronic screening system. Discussions are currently taking place to determine the potential role of electronic screening in the Help Me Grow initiative as well as the Early Childhood Comprehensive Systems grant.

The family satisfaction data is very positive and should be considered a strong rationale for moving forward with sustainability of a statewide electronic screening system.