Expanding Early Identification Efforts through Electronic Development and Social Emotional Screening

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Category: **Promising Practice**

TITLE V/MCH BLOCK GRANT MEASURES ADDRESSED

NPM #6: Percent of children, ages 10 through 71 months, receiving a developmental screening using a parent-completed screening tool

NOM #13: School readiness

BACKGROUND

In Minnesota, there are several publicly-funded programs that perform developmental and social-emotional screening of young children (birth through 60 months). Most of these screening programs use paper-based screening instruments. Unfortunately, programs have experienced challenges associated with such paper-based systems, including: increased computation errors based on hand-scoring the instruments; limited access to screening instruments in alternative formats for hard-to-reach and diverse families, inconsistent/nonexistent coordination and sharing of screening results between providers, and a lack of a centralized data system to understand which children are being screened and which are being missed. These challenges pointed toward the need for a centralized electronic screening platform that could be used by agencies that provide screening to families of young children.

PROGRAM OBJECTIVES

1. Improve access to developmental and social-emotional screening for families and for screening professionals through the use of an electronic screening system.
2. Increase the number of children screened, specifically focusing on populations that are currently hard to reach (i.e. homeless, highly mobile, and non-English speaking children and families) in part through the use of audio versions of the screening instruments
3. Support community collaboration across sectors and the coordination of care for young children within pilot communities.

TARGET POPULATION SERVED

Families with children 0-60 months of age being served by one of the state's publically-funded developmental and social-emotional screening programs, such as Head Start, Family Home Visiting, primary care and Early Childhood Screening.

PROGRAM ACTIVITIES

Ten community-level, public screening agencies, including education, public health, primary care and Head Start programs, participated in a sixteen-month electronic screening pilot opportunity from August 2015 through December 2016. Electronic access to screening instruments, including the Ages & Stages Questionnaires, Third Edition (ASQ-3) and Ages & Stages Questionnaires: Social Emotional (ASQ:SE), was provided to families served by the participating agencies. This electronic system automatically identified the age-appropriate interval that families should complete based on their child's date of birth and weeks premature (if necessary), scored each completed screen, created a screening summary to be shared with families and other providers, and provided a platform for sharing screening data between providers. Most importantly, to assure increased screening access for low literacy and non-English speaking children and families, the system provided translated versions of the ASQ-3 and ASQ:SE in Spanish, Hmong, and Somali, and provided audio versions of the instruments in English, Spanish, Hmong, and Somali.

PROGRAM OUTCOMES/EVALUATION DATA

Eight of the ten community-level pilot sites had fully implemented electronic screening access for the families they served and submitted 11,043 ASQ-3s and ASQ:SEs to the system. Of the eight, six sites reached the goal of 80% or more of children screened at the program site having been

screened with the electronic screening system (paper screening was still used for the remaining 20%).

Overall, a high percentage of families reported that the electronic system is *extremely easy* or *easy* to use (95%) and that it helped them to understand and support their child's growth and development (64%). Of all the pilot sites that responded to the staff satisfaction survey in the project's final quarter, 63% indicated they agreed or strongly agreed that the app made it easier to administer the ASQ-3/ASQ:SE. Nearly 90% of pilot site staff *agreed* or *strongly agreed* the app makes it easier to provide effective, appropriate, and timely anticipatory guidance to families.

Even though this project did not have specific outcome measures, at least four of the participating pilot sites commented that electronic screening made their screening process faster, and that their programs were able to screen more children overall as a result of using the electronic screening system. Data collected from the pilot sites also indicated that the electronic screening system facilitated easier administration and documentation, such as electronic age/interval selection, scoring and summary development.

PROGRAM COST

Over the 16-month period, there was a 0.5 – 1.0 FTE state agency project planner providing oversight, training, and data reporting to the local community agencies, as well as overall coordination with the electronic screening vendor. Each local agency received a $5000 grant to support their program staffing and IT capacity to participate in the project. The contract with the electronic screening vendor for $60,000 included access to the electronic screening system, all technical support to the local agencies, and their per screen costs.

ASSETS & CHALLENGES

Assets
- Electronic screening increased capacity and timeliness among specific types of screening programs.
- The system's automated scoring and screening interval selection assured results were accurate.
- Electronic screening enabled pilot sites to look closer at aggregate screening results and identify themes.
- Ninety-five percent of parents rated the electronic screening system as being "easy" or "extremely easy" to use.
- Ninety percent of the screening staff express satisfaction with the electronic screening process.
- Three of the sites successfully worked with the vendor to develop an additional data interface

between the electronic screening system and their local agency data system to avoid duplicate data entry.

Challenges
- All pilot sites reported technology barriers with the electronic 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.
- The at-home functionality of the electronic screening system was not able to be implemented by any of the pilot sites which would have allowed families to login to a website that provided access to the age-appropriate screening instrument that was due for their child.
- The pilot sites did not use a "community-model" approach to pilot the app-based system across several local agencies, so the full functionality of the app-based system was mostly untested.
- While the Spanish audio versions seemed to work well for families, the Hmong and Somali audio versions had minor translation errors and dialect issues that caused concern.

Overcoming Challenges
- Local agencies participated in periodic webinars (community of practice) to share strategies related to the ongoing technology challenges.
- The electronic screening vendor continued working to develop a family-friendly electronic screening portal for parents to login and complete the screening intervals ready for their child before scheduled appointments.
- The translations in Hmong and Somali were scheduled for review due to the ASQ:SE-2 instrument becoming available. The audio formats will be re-recorded as well.

LESSONS LEARNED

- Future technical assistance will include an electronic screening readiness checklist to assure that local agencies have a clear understanding of the local IT requirements and capacity needed for implementing an electronic screening system.
- While some of the sites experienced positive outcomes using this system, it might not be a good fit for all types of screening programs. The local public health pilot sites expressed challenges in using the electronic screening format within their Family Home Visiting programs. The electronic device was viewed as a distraction and a barrier for

reflective practice and building a one-on-one relationship with the caregiver. Clinic providers also felt that incorporating electronic screening in the clinic setting was much more challenging than expected, and actually preferred using the paper forms. However, providers were encouraged by the development of the new portal option for families to complete their screenings electronically before their scheduled appointments.

- For agencies that had not started using screening instruments before this project, it was important to develop their program's screening flow before introducing the electronic screening device to families and providers. Agencies needed to become familiar with the screening instruments, how and when to introduce them to families, and schedule enough time for families to complete them and the provider to review the results. The electronic component added a separate layer of instructions and time to learn and it was very overwhelming to learn both at the same time.

FUTURE STEPS

Over half of the electronic screening pilot sites have continued using the electronic screening system beyond the project timeline and are testing the at-home portal and other new features before they become available to participating families and other interested agencies. Several new agencies have begun working with a different electronic screening system vendor. The state-level coordinator maintains contact with all electronic screening sites to continue learning about successes and challenges that may help inform future statewide screening initiatives, especially related to the development of a statewide screening portal for the state's Help Me Grow system expansion.

COLLABORATIONS

An interagency team of staff from the Minnesota Departments of Education, Health, and Human Services provided oversight and guidance to this project to assure the needs among each sector of public screening providers and their population of families were embedded into the testing phase. Overall, there were seven screening programs governed by three state agencies that collaborated on this project. There were also several focus group meetings held in advance of choosing an electronic screening vendor that included local representatives from each of the public screening programs (Head Start, public health, education, and primary care). Through these meetings, information was obtained on priorities and needs of an electronic screening system for the community-level programs and families they serve.

PEER REVIEW & REPLICATION N/A

RESOURCES PROVIDED
- Access to the Patient Tools, Inc. electronic screening system components
- "Model for Improvement" quality improvement training and ongoing guidance
- ASQ-3 and ASQ:SE materials and training
- Screening, referral and follow-up recommendations and training for MN screening providers

Key words: developmental screening, social-emotional screening, electronic screening, ASQ-3, ASQ:SE

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