Varnish! Michigan Babies Too! Program Evaluation Report November, 2016

Prepared by:
Michigan Public Health Institute, Center for Child and Family Health

Executive Summary

For very young children who are at high risk for dental decay, having early access to prevention is the key to avoiding the pain, discomfort and other negative health effects associated with oral disease. As part of Michigan's effort to reduce childhood caries, the Michigan Department of Health and Human Services (MDHHS) Oral Health Program developed the Varnish! Michigan Babies Too! program to offer support tools and training to primary care physicians and clinic staff to implement preventive oral health services during well-child visits, with a primary focus on children up to age three (0 to 35 months). The overall goals of the program are to increase the awareness of oral health among medical providers, facilitate the incorporation of oral health into well-child visits, and to increase access to oral health preventive services among young children at high risk for dental caries.

The purpose of this report is to present the findings and recommendations from an evaluation of the implementation of the Varnish! Michigan Babies Too! program. The report is intended to provide program decision makers with information to enhance program operations by improving quality, effectiveness, and provider satisfaction.

At least 3,199 children throughout the state of Michigan received oral health care through the collaborative work of the MDHHS Oral Health Program and Babies Too! providers from October 1, 2015 to May 1, 2016. The findings from this evaluation indicate that the majority of providers believed that they were adequately trained, were confident in performing the oral health services, and were satisfied with nearly all aspects of the program. Most providers implemented the program according to program guidelines, however, they did note a multitude of factors that influenced the frequency of services provided to clients. The most frequently encountered challenge to offering the Babies Too! program was lack of time, followed by obtaining parental consent, reporting program data, and getting staff buy-in to incorporate these services into well-child visits. Despite these challenges, a vast majority of providers stated that that they saw value in the program and that it increased access to dental services that their clients would not normally have received. Future versions of the Babies Too! program could benefit from wide-spread education on fluoride, easily accessible program information, the expansion of Babies Too! training opportunities, the designation of program champions within each provider agency/organization, and a simplified reporting system.

Table of Contents

Introduction

Overview of Project

The Varnish! Michigan Babies Too! program, first implemented in Michigan in 2008, was developed to encourage Medicaid medical providers to: incorporate oral screenings and apply fluoride varnish to infant and toddler teeth (age 0-35 months) during well-child visits, and refer infants to a dental home by age one. Through the program, providers are reimbursed by Medicaid for oral screenings and varnish applications and the Michigan Department of Health and Human Services (MDHHS) supplies providers with free fluoride varnish in exchange for the collection of screening data.

As a first step in the process of being a Babies Too! provider, interested providers must complete Module 6, "Caries Risk Assessment, Fluoride Varnish, and Counseling" of the Smiles for Life Curriculum. First developed in 2005, Smiles for Life is a National Oral Health Curriculum that produces educational resources to ensure the integration of oral health and primary care. After completion of the Smiles for Life training, providers submit documentation to the Early Childhood Oral Health Coordinator within the Oral Health Program at the MDHHS. The Early Childhood Oral Health Coordinator then provides either onsite or web-based training of the Babies Too! program to providers and other site staff. Upon completion of the Babies Too! training, a formal agreement is signed between the MDHHS Oral Health Program and participating agencies. Through this collaborative agreement, the providers agree to conduct a caries risk assessment, oral screening, fluoride varnish application, and parent oral health education as part of well-child visits. In addition, providers agree to collect and submit screening data to the Oral Health Program and the Oral Health Program sends free fluoride varnish to providers, as supplies allow, for the period of the agreement. The logic model for the Babies Too! program displays the program processes from the initial provider training to the short term and long term outcomes of the program (Appendix A).

Evaluation

Evaluation Purpose

A comprehensive evaluation plan was developed by the Center for Child and Family Health (CCFH) at the Michigan Public Health Institute (MPHI) in partnership with the Program Director and Early Childhood Oral Health Coordinator within the MDHHS Oral Health Program. The purpose of the evaluation was to focus on the implementation of the Varnish! Michigan Babies Too! program to enhance program operations by improving quality, effectiveness, and provider satisfaction with the program. The findings and recommendations from this report will be used to inform decision making for future improvements to the Varnish! Michigan Babies Too! program.

Key Evaluation Questions

The evaluators with CCFH at MPHI met with the MDHHS Oral Health Program Director and Early Childhood Oral Health Coordinator to discuss the scope and purpose of the evaluation as well as to develop evaluation questions, data collection methods, and instrumentation. The evaluation design, including both process and outcome evaluation, addressed the following key questions:

Process Evaluation Questions

- How many providers were reached by the Babies Too! program and what were their characteristics?
- Does the Babies Too! training adequately prepare the participants to incorporate an oral health initiative into their practice?
- What was the perceived confidence level of providers in the delivery of the Babies Too! program?
- To what extent did providers implement the Babies Too! program according to program guidelines?
- How satisfied were Babies Too! providers with the program?
- Was the supply of varnish adequate relative to the reported number of children who received varnish from data screening forms?

Outcome Evaluation Questions

- How many children age 0-35 months were reached through the Babies Too! program?
- What are the perceived barriers and benefits of the Varnish! Michigan Babies Too! program?

Evaluation Methods

The data in this report was generated from three sources: Babies Too! program records, Babies Too! screening data, and an electronic survey of Babies Too! providers.

Babies Too! Program Records

The Early Childhood Oral Health Coordinator at the MDHHS used an Excel database to track all Babies Too! providers who have completed the Smiles for Life and Babies Too! trainings. The database tracked participating providers, as well as the receipt of screening data and when and how much fluoride varnish was sent to providers. Data from the time period of October 1, 2015 to May 1, 2016 was used to determine the number and location of providers that participated in the program, as well as to determine the amount of fluoride varnish that was sent to each participating agency during that time frame.

Babies Too! Screening Data

The Babies Too! screening forms were designed to collect demographic information for each patient and to collect oral screening data and referrals for follow up treatment, if needed. These forms, which were completed by the Babies Too! providers, were submitted to the MDHHS Oral Health Program and entered into a central database. The database tracked the number of children seen in the program, demographics of the population seen, and the oral health of the populations who received services within the program. Screening data from the time period of October 1, 2015 to May 1, 2016 was used to identify the number and demographics of children screened within the Babies Too! program and the types of oral health services they received.

Babies Too! Provider Survey

An electronic survey was sent to all Babies Too! providers on March 1, 2016. The purpose of the survey was to gain a better understanding of how providers implemented the program within their facility, the challenges they encountered while implementing the program, and the providers' satisfaction with each aspect of the program. The survey was closed on May 20, 2016. A total of 58 providers completed the survey. Survey Respondents were from all over the state and covered nearly all counties served by the Babies Too! program. Figure 1 presents the number of survey respondents by county. The survey questions are included in Appendix B.

The majority of survey respondents were nurses (55%), followed by physicians (19%), front office staff (9%), and medical assistants (7%) (Table 1). Nearly half of survey respondents practiced in a local health department (48%), 20% practiced in a private office, 14% practiced in a WIC clinic, and 10% in a hospital/academic setting (Table 2).

Figure 1. Survey Response, Varnish! Michigan Babies Too! Provider Survey, 2016

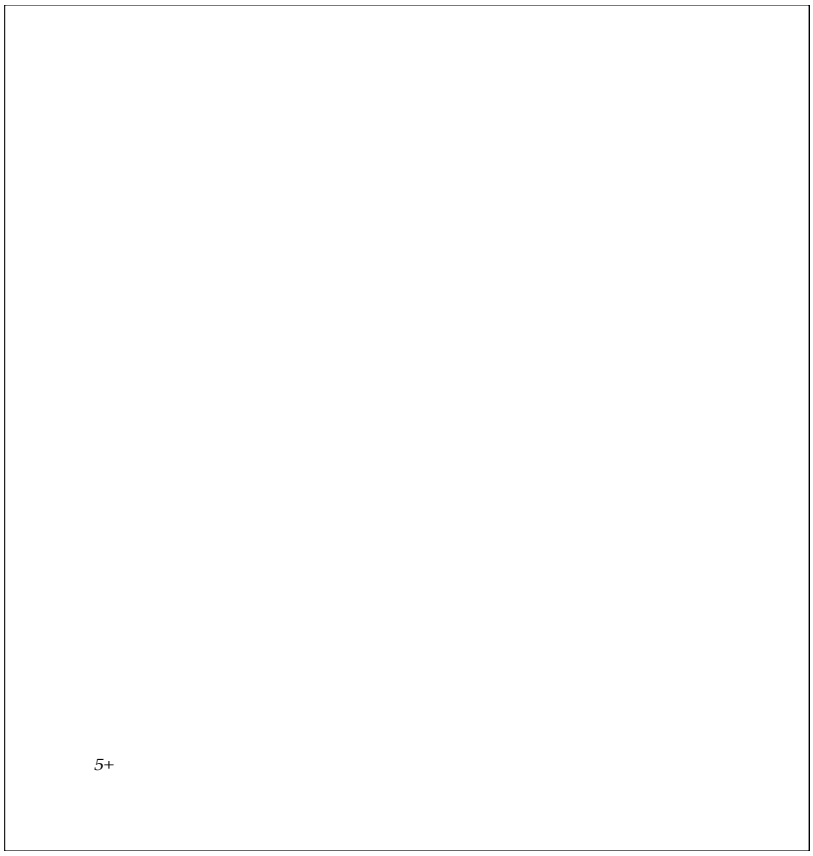


Table 1. Survey Respondents by Provider Type

	N	%
Nurse	32	55
Physician	11	19
Front Office Staff	5	9
Medical Assistant	4	7
Other	3	5
Nurse Practitioner	2	3
Dietician	1	2
Total	58	

Other includes: Oral Health Coordinator, RN/Office Manager, WIC Clerk/Technician
Source: Babies Too! Provider Survey, 2016

Table 2. Survey Respondents by Practice Setting

	N	%
Local Health Department	28	48
Private Office	11	19
WIC Clinic	8	14
Hospital/Academic Facility	6	10
FQHC	3	5
Other	2	3
Total	58	

Other includes a pediatric clinic at a local health department and a rural health clinic
Source: Babies Too! Provider Survey, 2016

The number of providers trained in each practice setting, as reported by survey respondents, ranged from 1 to 70 providers, with an average of 8 providers and a median of 5 providers per setting. Approximately 23% of respondents reported that their practice settings had 1 to 2 providers trained, 25% reported having 3 to 4 providers trained, 27% reported having 5 to 7 providers trained, and 25% reported having 8 or more providers trained in the Babies Too! program (Table 3). As reported by respondents, the majority of providers were nurses or physicians (64%) (Table 4). Other providers trained included front office staff (9%), medical assistants (9%), nurse practitioners (6%), physician assistants (6%), and dieticians (3%).

Table 3. Number of Providers Within Each Practice Trained in the Babies Too! Program*

As Reported by Survey Respondents

	N	%
1 to 2	13	23
3 to 4	14	25
5 to 7	15	27
8 or more providers	14	25
Total Respondents^	56	

^2 respondents skipped this question;
Average = 8
Median = 5; Range = 1 to 70 providers
Source: Babies Too! Provider Survey, 2016

Table 4. Types of Providers Within Each Practice Trained in Babies Too! Program

As Reported by Survey Respondents

	N	%
Nurse	46	43
Physician	22	21
Front Office Staff	10	9
Medical Assistant	10	9
Nurse Practitioner	6	6
Physician Assistant	6	6
Dietician	3	3
Resident	2	2
WIC Clerk/Technician	2	2
Total^	107	

^Multiple responses allowed;
Source: Babies Too! Provider Survey, 2016

Evaluation Findings

Key Evaluation Question 1: Providers Reached

How many providers were reached by the Babies Too! program and what were their characteristics?

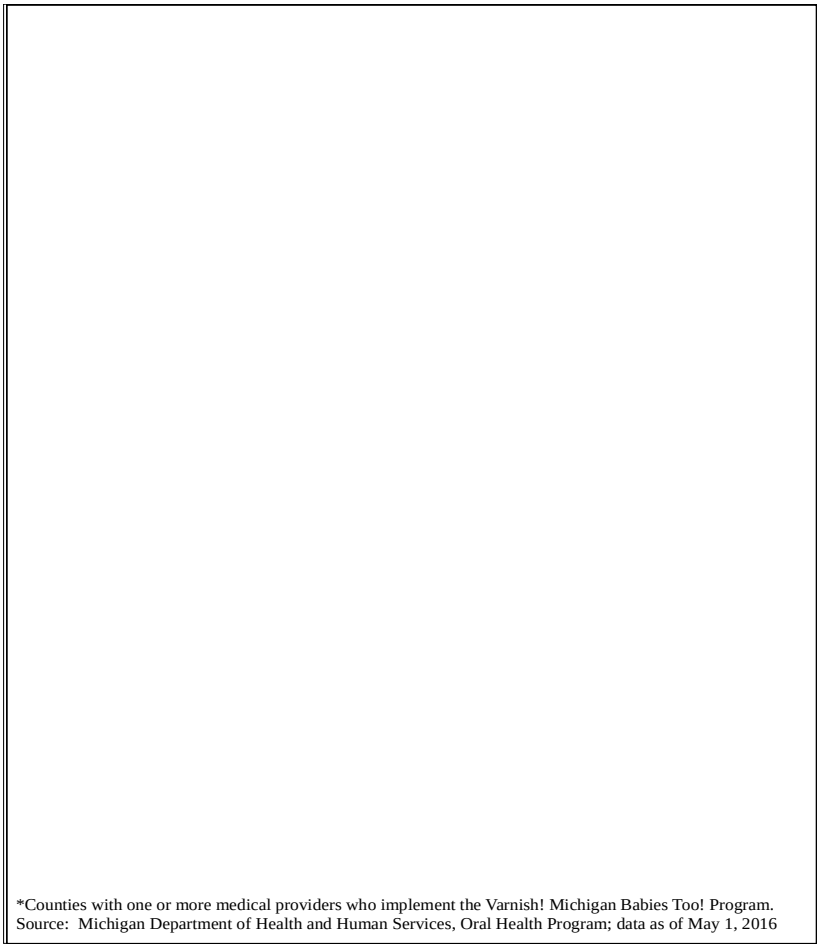
As of May 1, 2016, there were 45 different practices, with a total of 398 providers who participated in the Babies Too! program. The majority of practices that participated were private practices (40%) and local health departments (38%), followed by federally qualified health centers (7%), hospitals/academic institutions (7%), community-based clinics (4%), head start programs (2%), and rural health clinics (2%). According to MDHHS program records, the number of providers trained in each practice setting ranged from 1 to 68 providers, with an average of 9 providers and a median of 5 providers per setting. Approximately 18% of practices had 1 to 2 providers trained, 29% had 3 to 4 providers trained, 16% had 5 to 7 providers trained, and 38% had 8 or more providers trained in the Babies Too! program (Table 3). Babies Too! providers offered services in 56 of the 83 counties in Michigan (Figure 2).

Table 5. Number of Providers Within Each Practice Trained in the Babies Too! Program

	N	%
1 to 2	8	18
3 to 4	13	29
5 to 7	7	16
8 or more providers	17	38
Total Practices	45	

Average = 9; Median = 5; Range = 1 to 68 providers
Source: Michigan Department of Health and Human Services, Oral Health Program, Babies Too! program data as of May 1, 2016

Figure 2: Varnish! Michigan Babies Too! Providers by County*, 2016



*Counties with one or more medical providers who implement the Varnish! Michigan Babies Too! Program.
Source: Michigan Department of Health and Human Services, Oral Health Program; data as of May 1, 2016

Key Evaluation Question 2: Training

Does the Babies Too! training adequately prepare the participants to incorporate an oral health initiative into their practice?

Ninety-three percent of respondents were trained in the Babies Too! program through in-person MDHHS training, web-based MDHHS training, or a combination of these (Table 6). Of these, 35% of respondents were trained through the web-based MDHHS training, 26% received in-person MDHHS training, 20% received both web-based and in-person MDHHS training, and 9% received the web-based training with additional training from a staff member in their office. Eight percent of respondents did not receive any MDHHS training. Of these 6% were trained from another staff member in their office and 2% received training from a pediatric dental CME course.

Nearly 90% of respondents felt that the training they received was adequate. Only 13% of providers did not view the training as adequate (Table 7). Of the providers who viewed the training as inadequate, the mode of training received by the provider was in-person MDHHS training (n=3), in-person and web-based MDHHS training (n=2), and training by another staff member (n=2). Although the numbers are small, it should be noted that of the three providers who only received training from another staff member in their practice, two providers (67%) thought the training was inadequate which reinforces the need for providers to receive either in-person or web-based MDHHS training.

The reasons given for feeling inadequately trained included needing an in-person demonstration of varnish application, not having received adequate training, having the length of training and implementation of the program too far apart, not receiving enough information on identifying early signs of decay during training, and needing follow up after the training to be sure that services were adequately provided (Table 8).

Table 9 presents the providers' perception of how helpful the Babies Too! training was in their work with implementing the program. Almost all providers thought that the training was 'very helpful' or 'helpful' in all aspects of the Babies Too! program. Only 2% to 4% of respondents felt that the training opportunities were not helpful.

Outstanding training needs, as reported by survey respondents, are presented in Table 10. Training needs include new staff training, receiving refresher trainings or annual webinars to reinforce program implementation, the need for more information on the program in general and specifically provider eligibility, in-person demonstrations, training for providers who don't apply varnish so that they have the ability to educate patients, and the need to simplify the paper work process.

Key Evaluation Question 3: Confidence in Program Delivery

What was the perceived confidence level of providers in the delivery of the Babies Too! program?

Table 11 presents the providers' confidence level in implementing the Babies Too! program. Almost all providers were 'very confident' or 'confident' in all aspects of the Babies Too! program. Programs areas where providers were least confident were recognizing signs and symptoms of decay and billing and reimbursement procedures; 14% and 12% of providers reported being 'not confident' in these areas.

Table 6. Training Received for Babies Too! Program

	N	%
Web-based MDHHS training	19	35
In-person MDHHS training	14	26
In-person/web-based MDHHS training	11	20
Web-based MDHHS training/trained by another staff member	5	9
Trained by another staff member	3	6
In-person MDHHS/web-based MDHHS/other training	1	2
Other	1	2
Total^	54	

^4 respondents skipped this question
Source: Babies Too! Provider Survey, 2016

Table 7. Training Received for Babies Too! Program Was Adequate

	N	%
Yes	47	87
No	7	13
Total^	54	

^4 respondents skipped this question

	N	%
Source: Babies Too! Provider Survey, 2016		

Table 8. Reasons Why Babies Too! Training Was Not Adequate

	N	%
Need in-person demonstration/observe varnish application	3	38
Was never formally trained/only received training by coworker	2	25
Timeframe between training and program implementation too long	1	13
Need more information on identifying caries/early signs of decay	1	13
Need follow up training to make sure services are adequately provided	1	13
Total^	8	
Source: Babies Too! Provider Survey, 2016		

Table 9. Helpfulness of Babies Too! Program Training Opportunities

	N	%
Program orientation and procedures		
Very helpful	23	44
Helpful	27	52
Not helpful	2	4
Total^	52	
Obtaining/completing the parent consent forms		
Very helpful	21	39
Helpful	31	57
Not helpful	2	4
Total^	54	
Providing oral health education to parents		
Very helpful	23	47
Helpful	25	51
Not helpful	1	2
Total^	49	
Conducting oral health risk assessments		
Very helpful	22	44
Helpful	26	52
Not helpful	2	4
Total^	50	
Completing dental screening procedures		
Very helpful	21	42
Helpful	28	56
Not helpful	1	2
Total^	50	
Applying fluoride varnish		
Very helpful	25	50
Helpful	23	46
Not helpful	2	4
Total^	50	
Completion of treatment records/screening form		
Very helpful	22	42
Helpful	29	55

	N	%
Program orientation and procedures		
Not helpful	2	4
Total^	53	

^Respondents who reported that they did not perform this task were excluded from the analysis; 4 respondents skipped this question

Source: Babies Too! Provider Survey, 2016

Table 10. Outstanding Training Needs Among Babies Too! Providers

	N	%
New staff training	4	36
Refresher course/annual update webinar	2	18
General information on program/information on provider eligibility	2	18
In-person demonstration	1	9
Training for technicians/dieticians for education purposes	1	9
Paper work needs to be simplified	1	9
Total^	11	

Source: Babies Too! Provider Survey, 2016

Table 12 presents training modality received among providers who reported being 'very confident' in implementing the Babies Too! program. Providers who received web-based MDHHS training in combination with supervision or mentorship with a colleague were more confident in implementation of the program compared to those who received other training types. A greater proportion of providers who received web-based MDHHS training in combination with training from another staff member felt 'very confident' in program implementation in almost all aspects of the Babies Too! program; although, still only less than half of providers were 'very confident' in recognizing signs and symptoms of dental decay (40%). It is important to note that none of the providers trained from a colleague only, with no formal training from the MDHHS, were 'very confident' in program implementation (data not shown in table), which reiterates the importance that providers receive formal MDHHS training.

Some providers received both in-person MDHHS training and web-based MDHHS training. There was no indication that having received both these trainings improved the confidence with implementing the program compared to providers who received only one or the either training type (Table 12). When looking at in-person and web-based MDHHS training types separately, findings indicate that providers who received in-person MDHHS were slightly more confident in program implementation than those who received the MDHHS web-based training only, which reiterates the notion that having an experienced and knowledgeable individual to reinforce program techniques and procedures can increase provider confidence with program implementation. Providers receiving in-person training, compared to web-based training only, reported being more confident in providing oral health education to parents (69% vs. 44%), applying fluoride varnish (69% vs. 50%), and completing data screening forms (58% vs. 42%) (Table 12). A smaller proportion of providers receiving in-person training,

Table 11. Provider Confidence in Performing Babies Too! Program

	N	%
Assessing caries risk and protective factors		
Very confident	21	42
Confident	25	50
Not confident	4	8
Total^	50	
Recognizing signs and symptoms of dental decay		
Very confident	17	34
Confident	24	48
Not confident	7	14
Total^	48	
Providing oral health education and guidance to parents		
Very confident	28	56
Confident	20	40
Not confident	2	4
Total^	50	
Applying fluoride varnish		
Very confident	29	58
Confident	18	36
Not confident	2	4
Total^	49	
Billing and reimbursement for procedures		
Very confident	12	24
Confident	17	34
Not confident	6	12
Total^	35	
Knowing how/when/who to refer children to a dentist		
Very confident	19	38
Confident	28	56
Not confident	4	8
Total^	51	

	N	%
Assessing caries risk and protective factors		
Completing program data screening form		
Very confident	25	50
Confident	25	50
Not confident	2	0
Total^	50	

^Respondents who reported that they did not perform this task were excluded from the analysis; 4 respondents skipped this question

Source: Babies Too! Provider Survey, 2016

Table 12. Providers 'Very Confident' in Implementing Babies Too! Program by Mode of Training

Respondents who reported that they did not perform this task were excluded from the analysis, The respondent (n=1) who received "other" training was excluded from the analysis; Source: Babies Too! Provider Survey, 2016

	Providers Trained^ N	Providers 'Very Confident' in Implementation N	%
Assessing caries risk and protective factors			
In-person MDHHS training	13	4	31
Web-based MDHHS training	18	7	39
In-person/web-based MDHHS training	11	5	45
Web-based MDHHS/another staff member	5	3	60
In-person/web-based/other training	1	1	100
Total	49	21	43
Recognizing signs and symptoms of dental decay			
In-person MDHHS training	13	4	31
Web-based MDHHS training	18	7	39
In-person/web-based MDHHS training	9	3	33
Web-based MDHHS/another staff member	5	2	40
Total	47	16	34
Providing oral health education and guidance to parents			
In-person MDHHS training	13	9	69
Web-based MDHHS training	18	8	44
In-person/web-based MDHHS training	11	5	45
Web-based MDHHS/another staff member	5	4	80
In-person/web-based/other training	1	1	100
Total	49	27	55
Applying fluoride varnish			
In-person MDHHS training	13	9	69
Web-based MDHHS training	18	9	50
In-person/web-based MDHHS training	10	5	50
Web-based MDHHS/another staff member	5	4	80
In-person/web-based/other training	1	1	100
Billing and reimbursement for procedures			
In-person MDHHS training	6	3	50
Web-based MDHHS training	13	4	31
In-person/web-based MDHHS training	9	1	11
Web-based MDHHS/another staff member	4	3	75
In-person/web-based/other training	1	1	100
Total	35	12	34
Knowing how/when/who to refer children to a dentist			
In-person MDHHS training	14	3	21
Web-based MDHHS training	18	7	39
In-person/web-based MDHHS training	10	4	40
Web-based MDHHS/another staff member	5	3	60
In-person/web-based/other training	1	1	100
		1	100
In-person MDHHS training	1		
Total	51	19	37
Completing the data screening form			
In-person MDHHS training	12	7	58
Web-based MDHHS training	19	8	42
In-person/web-based MDHHS training	10	5	50
Web-based MDHHS/another staff member	5	4	80
Trained by another staff person	3	1	33
Total	50	25	50

		Providers Trained^	Providers 'Very Confident' in Implementation	
Total		48	28	58

	Providers Trained^	Providers 'Very Confident' in Implementation

compared to those receiving web-based training, were confident in assessing caries risk (31% vs. 39%), recognizing the signs and symptoms of dental decay (31% vs. 39%), and knowing how/when/who to refer children to a dentist (21% vs. 39%), however, these were fairly low for both training modalities.

Key Evaluation Question 4: Program Fidelity

To what extent did providers implement the Babies Too! program according to program guidelines?

The MDHHS Oral Health Program follows the American Academy of Pediatrics (AAP) guidelines for oral health risk assessment. According to the AAP, all children should begin receiving oral health risk assessments by six months of age and risk assessments and clinical evaluations should be done at every well child visit to determine which infants would benefit from early, more aggressive intervention. On the provider survey, when asked how often oral health risk assessments were performed on patients zero to two years (0 to 35 months), approximately 35% of respondents reported that assessments were performed at every well-child visit and 29% reported they were performed twice a year only (Table 13). One-quarter of respondents (25%) reported other time frames in which oral health risk assessments were performed within their practice settings, which varied by circumstance and age of child. At some practices, assessments were performed every three to four months, once a year, or only at preselected visits. Some respondents stated that risk assessments were performed at WIC visits but more often upon parent request. Other responses indicated that risk assessments were performed only at well-child visits when insurance covered the service or that they varied by insurance coverage. Some respondents indicated that they provide oral health risk assessments starting at nine months or that they offer these twice a year to children ages one to three years. One respondent indicated that the assessment varied by provider with some practice providers performing oral health risk assessments at well-child exams whereas other providers were not.

Of the 38 survey respondents who provide oral health risk assessments, 61% were nurses, 29% were physicians, and 5% were nurse practitioners. The most commonly used tool was the MDHHS Risk Assessment Tool on the Babies Too! parent consent form (58%). The American Academy of Pediatrics/Bright Futures Oral Health Risk

Table 13. Performance Frequency of Oral Health Risk Assessments

For Patients 0 to 2 Years among Babies Too! Providers

	N	%
At every well-child visit	19	35
Twice a year only	16	29
Other	14	25
We do not perform oral health risk assessments	3	5
I don't know	3	5
Total^	55	

^3 respondents skipped this question
Source: Babies Too! Provider Survey, 2016

Assessment Tool was reportedly used by 29% of respondents, 5% of respondents reported using their own risk assessments questions, 5% reported using the American Dental Association Caries Risk Assessment Tool, 3% reported using the American Academy of Pediatric Dentistry Risk Assessment Tool, and 3% reported using no specific tool or method.

The AAP recommends that an oral screening be part of every routine visit, beginning at six months of age. On the provider survey, when asked how often oral screenings were performed on patients zero to two years (0 to 35 months), approximately 41% of respondents reported that screenings were performed at every well-child visit and 25% reported they were performed twice a year only (Table 14). Nearly one-quarter of respondents (23%) reported other time frames in which oral screenings were performed, which varied by circumstance and age of child. At some practice settings, screenings were performed every three to four months or twice a year with the frequency varying due to reason of visit, time constraints during visits, or if the parent requested more frequent screenings. Some respondents stated that screenings were performed at WIC visits. Other providers reported completing oral screening only when fluoride varnish applications were performed. Other responses indicated that screenings only occurred when insurance covered the procedure or when permission was obtained by the parent. Some respondents indicated that they provide oral screenings every three months starting at nine months of age or twice a year for patients between the ages of one to three years.

Of the 37 survey respondents who provided oral screenings, 62% were nurses, 30% were physicians, 5% were nurse practitioners, and 3% were medical assistants. The most common method used for screenings was the knee to knee method (78%), followed by the table exam (11%), and other methods (11%), which consisted of using a combination of the knee to knee method, table exam, parent's arms, or parent's lap.

Table 14. Performance Frequency of Oral Screenings

On Patients 0 to 2 Years among Babies Too! Providers

	N	%
At every well-child visit	23	41
Twice a year only	14	25
Other	13	23
We do not perform oral screenings	3	5
I don't know	3	5
Total^	56	

^2 respondents skipped this question
Source: Babies Too! Provider Survey, 2016

The AAP recommends that fluoride varnish be applied to the teeth of all infants and children at least once every six months and preferably every three months, starting when the first tooth erupts and until establishment of a dental home. When providers were asked how often fluoride varnish applications were performed on patients zero to two years (0 to 35 months), approximately 32% of respondents reported that fluoride varnish was applied twice a year for all patients zero to two years and 18% reported they were performed at all well child visits for all patients zero to two years, regardless of caries risk (Table 15). Nearly one-half of respondents (45%) reported other time frames in which fluoride varnish was applied, which varied by circumstance and age of child. At some practices, fluoride varnish was applied four times a year or twice a year with some frequencies of application varying based on caries risk and whether a dentist has applied varnish already. Some respondents stated that fluoride varnish was applied at WIC visits or whenever they could get parents to consent. Other responses indicated that fluoride applications only occurred when insurance covered the procedure. Some respondents indicated that fluoride varnish applications were performed every six months or twice a year on patients starting at six months, nine months or twelve months of age. One provider stated they apply varnish on patients at one year, 18 months, and two years of age.

Of the 39 respondents who provided fluoride varnish applications, 67% were nurses, 26% were physicians, 5% were nurse practitioners, and 3% were medical assistants. The most common method used to apply varnish was the knee to knee method (87%), followed by the table exam (8%), and other methods (8%), which consisted of using a combination of the knee to knee method, table exam, and parent's arms.

All survey respondents (100%) reported that parents and caregivers were educated on oral health. Table 16 presents the methods providers used to educate parents and caregivers on oral health. The most commonly used methods of educating parents and caregivers included providing written information (40%), providing oral advice/explanations during well child visits (36%), and displaying posters within the practice setting (22%).

Table 15. Performance Frequency of Oral Screenings

On Patients 0 to 2 Years among Babies Too! Providers

	N	%
At all well child visits for all patients 0-2 yrs	10	18
Twice a year for all patients 0-2 yrs	18	32
Twice a year for high risk patients 0-2 yrs	1	2
We do not apply fluoride varnish on patients 0-2 yrs	1	2
I don't know	1	2
Other	25	45
Total^	56	

^2 respondents skipped this question

Source: Babies Too! Provider Survey, 2016

Table 16. Methods of Educating Parents on Oral Health among Babies Too! Providers

	N	%
Provide written information on oral health	49	40
Provide oral advice/explanations during well child visits	45	36
Have posters displayed on oral health	27	22
Other	3	2
Show video on oral health in office	0	0
We do not educate parents on oral health	0	0

	N	%
Total^	124	

^Multiple responses allowed
Source: Babies Too! Provider Survey, 2016

As part of the Babies Too! program, screening data forms need to be completed and submitted to the MDHHS Oral Health Program in exchange for free fluoride varnish. Babies Too! program data from October 1, 2015 to May 1, 2016 was analyzed to determine what percent of providers submitted screening data. Of the 48 agencies that were active during this time frame, 28 agencies (58%) did submit screening data and 17 agencies (35%) did not submit screening data. Survey findings indicated that nearly half of providers who completed screening forms were nurses (44%), followed by physicians (16%), front office staff (10%), and medical assistants (10%) (Table 17).

According to AAP recommendations, children determined to be at high risk for dental caries should be referred to a dentist who is willing and capable of providing a dental home by 12 months of age. The majority of providers (87%) reported that there was an easily accessible dental referral list in their office (Table 18). Nearly half of providers (49%) reported that there was a designated person who regularly updates the office's oral health referral list. For children referred for treatment, 42% of providers indicated that there was follow up with families to make sure the child received treatment and 44% of providers indicated that there was no follow-up on referrals.

Table 17. Babies Too! Screening Data Form Completion by Provider Type

	N	%
Nurse	36	44
Physician	13	16
Front Office Staff	8	10
Medical Assistant	8	10
Nurse Practitioner	5	6
Physician Assistant	4	5
Other	3	4
Resident	2	2
I don't know	2	2
Total^	81	

^Multiple responses allowed
Source: Babies Too! Provider Survey, 2016

Table 18. Referrals among Babies Too! Providers

	N	%
Has an easily accessible dental referral list in office		
Yes	48	87
No	6	11
I don't know	1	2
Total^	55	
Has a designated person who regularly updates referral list		
Yes	27	49
No	21	38
I don't know	7	13
Total^	55	
Follow up with referrals to ensure treatment		
Yes	23	42
No	24	44
I don't know	8	15
Total^	55	

^3 respondents skipped this question
Source: Babies Too! Provider Survey, 2016

Key Evaluation Question 5: Provider Satisfaction with Program

How satisfied were Babies Too! providers with the program?

Table 19 presents the providers' level of satisfaction with the Babies Too! Program. The majority of providers were 'highly satisfied' or 'satisfied' with most aspects of the program. Dissatisfaction with the program was generally quite low. Workload was the program area that received the highest level of dissatisfaction; however only 16% of providers reported being 'dissatisfied' and 6% of providers reported being 'highly dissatisfied' with the added workload.

Table 19. Providers' Satisfaction with Babies Too! Program

	N	%		N	%
In-person training/web-based training			*Additional Workload to Implement Program*		
Highly satisfied	21	45	Highly satisfied	6	12
Satisfied	20	43	Satisfied	27	53
Neither	5	11	Neither	7	14
Dissatisfied	1	2	Dissatisfied	8	16
Highly dissatisfied	0	0	Highly dissatisfied	3	6
Total^	47	100	Total^	51	100
Educational Materials			*Ease of Completing Program Forms*		
Highly satisfied	20	39	Highly satisfied	11	21
Satisfied	27	53	Satisfied	31	60
Neither	3	6	Neither	8	15
Dissatisfied	1	2	Dissatisfied	1	2
Highly dissatisfied	0	0	Highly dissatisfied	1	2
Total^	51	100	Total^	52	100
Availability of supplies			*Reimbursement for Medicaid*		
Highly satisfied	26	52	Highly satisfied	9	21
Satisfied	20	40	Satisfied	23	53
Neither	3	6	Neither	9	21
Dissatisfied	1	2	Dissatisfied	2	5
Highly dissatisfied	0	0	Highly dissatisfied	0	0
Total^	50	100	Total*	43	100
Satisfied	24	50			
Neither	6	13			
Dissatisfied	0	0			
Highly dissatisfied	0	0			
Total^	48	100			

Respondents who reported that they did not perform this task were excluded from the analysis; ^5 respondents skipped this question; *6 respondents skipped this question

Key Evaluation Question 6: Supply of Fluoride Varnish

Was the supply of varnish adequate relative to the reported number of children who received varnish on data screening forms?

Babies Too! program data was analyzed to assess the amount of fluoride supplied to Babies Too! providers relative to the amount of children seen in the program. From October 1, 2015 to May 1, 2016, screening data submitted by providers showed that 3,199 children were seen in the Babies Too! program. Of these children seen in the program, fluoride varnish applications were provided to 3,112 children. According to Babies Too! program data, during the same time frame, the MDHHS Oral Health Program sent 6,765 fluoride varnish applications to Babies Too! providers, which is an excess of 3,653 fluoride varnish applications. As discussed previously, approximately 35% of Babies Too! providers failed to submit screening data to the MDHHS Oral Health Program. Therefore, the reported number of children seen in the program is an under estimate of the actual number of children seen and may account for this discrepancy.

Key evaluation question 7: Children Reached

How many children age 0-35 months were reached through the Babies Too! program?

From October 1, 2015 to May 1, 2016, there were 3,199 children seen in the Babies Too! program. Table 20 displays the services that children within the program received. Of these, 3,148 children (98%) received oral health screenings, 2,503 children (78%) received oral health risk assessments, 2,980 children (93%) received one fluoride varnish application, and 132 children (4%) received a second varnish application.

Table 20. Babies Too! Program Services Received

	N	%
Received oral health screening	3,148	98
Received oral health risk assessment	2,503	78
Received 1st varnish application	2,980	93
Received 2nd varnish application	132	4

Total children seen = 3,199
Source: Michigan Department of Health and Human Services, Oral Health Program, Babies Too! Screening Data from October 1, 2015 to May 1, 2016

Table 21 displays characteristic among clients seen in the Babies Too! program from October 1, 2015 to May 1, 2016. Nearly 75% of children were white, 14% were black, and 13% were other races or multi-racial. Nearly 10% of clients were Hispanic. The average age of Babies Too! clients was 18 months. Sixteen percent of clients were less

than 12 months of age, 54% were between the ages of 12 months and 24 months, and 30% were over 24 months of age. White spot lesions and early childhood caries were identified in 5% and 4% of children, respectively. Of the 35,817 teeth screened, 5% of teeth had previous caries treatment and 1% of teeth had untreated dental decay. Of the children screened, 44% were referred for dental treatment.

Table 21. Babies Too! Program Client Characteristics

	N	%
Race		
White	2,105	74
Black	389	14
Other	367	13
Total^	2,861	
Ethnicity		
Hispanic	279	9
Not Hispanic	2,731	91
Total^	3,010	
Age		
< 12 months	486	16
12 to 23 months	1,613	54
24-35 months	897	30
Total^	2,996	
Dental Disease		
No. of children with white spot lesions*	173	5
No. of children with early childhood caries*	115	4
No. of teeth with dental decay**	291	1
No. of teeth with previous caries treatment**	1,881	5
No. of children referred for dental treatment*	1,383	44

^Unknown/Missing data: Race=338, Ethnicity=189, Age=203; *Total children receiving an oral screening = 3,148; **Total number of teeth present = 35,817

Source: Michigan Department of Health and Human Services, Oral Health Program, Babies Too! Screening Data from October 1, 2015 to May 1, 2016

Key evaluation question 8: Benefits and Barriers

What are the benefits and barriers of the Babies Too! program?

When asked to describe the one thing they liked best about the Babies Too! program, the vast majority of providers cited the ability to offer this preventative service to their clients. Many providers stated that their clients were getting a service they would not otherwise have received. One provider stated that the program "satisfies a need that is really prevalent in our community" and another provider stated that the program allowed

them to provide “more well-rounded patient care”. One provided reported that what they liked best was “the benefit of getting patients to understand to start taking care of the teeth as soon as they erupt and that waiting until a patient is 3 years old to see a dentist is old news”.

Providers were also asked to describe the biggest challenge in implementing the program. The most frequently cited challenge related to time. Several providers stated that adding this program into an already busy schedule was their biggest challenge. One provider stated “For a WIC visit, I do the WIC visit, immunizations, Denver Screenings and now varnish. [This] significantly diminishes the time I have to listen and talk to the parent.” It was also noted that entering and submitting data and completing the billing added additional work. Parent compliance was another common challenge cited by providers. Many providers stated that they had to educate parents on the importance of fluoride but also dispel myths that fluoride was harmful or that fluoride wasn’t necessary until three years of age. One provider even noted that they have seen an increase in the number of parents who decline fluoride application. Alarmingly, one provider noted that some of the misinformation that parents received (e.g. children not needing fluoride until age three) came from a local dentist. The system of reporting program data was an additional challenge noted. One provider stated that their practice had to revise the program reporting form to work within their electronic medical records system. Another provider indicated that the duplication of information on the forms was a challenge. Getting staff buy-in and implementing a system-wide change was an additional challenge mentioned by some providers.

Conclusions

Within the study timeframe, at least 3,199 children throughout the state of Michigan received oral health care through the collaborative work of the MDHHS Oral Health Program and Babies Too! providers. The findings from this evaluation indicate that the majority of providers believed that they were adequately trained, were confident in performing the oral health services, and were satisfied with nearly all aspects of the program. Most providers implemented the program according to program guidelines, however, they did note a multitude of factors that influenced the frequency of services provided to clients. Many providers cited some of these factors as challenges to implementing the program within their practice. The most frequently encountered challenge to offering the Babies Too! program was lack of time, followed by obtaining parental consent, reporting program data, and getting staff buy-in to incorporate these services into well-child visits. Despite these challenges, a vast majority of providers stated that that they saw value in the program and that it increased access to dental services that their clients would not normally have received.

Recommendations

Based on the evaluation findings, future versions of the Babies Too! program could benefit from:

Wide-spread education on the benefits of fluoride in Michigan

Many providers noted that in many cases in order to gain consent, they had to educate parents on the benefits of fluoride and dispel myths that fluoride was harmful. They also reported that they were seeing an increase in the number of parents who declined having fluoride varnish applied to their children's teeth. In addition, providers reported that some of the misinformation was coming from local dentists, indicating a need to educate dental professionals as well.

Easily accessible program information

The Varnish! Michigan Babies Too! program would be strengthened by having a website that would serve as a resource for Babies Too! providers. The website should house program-specific information (e.g. provider eligibility, billing instructions, risk assessment tools, program forms) as well as information on children's oral health with links to additional oral health resources, webinars, and continuing education opportunities for providers.

Expand Babies Too! training opportunities

Most providers indicated that they believed to be adequately trained, however, some providers stated that they would like more hands-on-experience, specifically with applying the fluoride varnish. New providers or existing providers desiring a follow-up training could request an in-person training, at no cost, as an additional resource for information or for a clinical fluoride varnish demonstration. Fostering interprofessional relationships between local dental professionals and Babies Too! providers may be a potential avenue to explore for creating hands-on-training opportunities. An additional benefit of these relationships is that they would increase the likelihood that Babies Too! providers have a dentist to refer children to. In addition, providing supplementary information on billing and reimbursement procedures may also strengthen the training for the Babies Too! program.

Designate a program champion

Some of the challenges to program implementation could be addressed by designating at least one person, or possibly two, as a program champion within each agency. The champion should have a clear understanding of the oral health procedures and act as an aid in the maintenance of the program (e.g. developing workflow procedures, adjusting billing procedures, ordering fluoride varnish) but also answer questions and motivate staff to incorporate this service as a standard of practice for the office.

A simplified reporting system

Thirty-five percent of providers did not submit program screening data. Clarifying reporting procedures and developing a reminder system is one strategy to increase provider knowledge of the process and the likelihood of providers submitting screening data back to the MDHHS. Even though each office has varying methods, supporting

the development of workflows and tools for documentation and coding and developing a means for the incorporation of program data into offices' electronic medical record system may ease the workload and increase data submission and satisfaction with the program.

Appendix A. Logic Model for the Varnish! Michigan Babies Too! Program

Problem Statement: Tooth decay is the most common chronic disease of childhood, yet the pain, suffering, and costs of treating primary teeth for dental decay are preventable.

Goal: The goal of the Varnish! Michigan Babies Too! Program is to prevent early childhood caries by training Medicaid medical providers in Michigan to incorporate oral screenings and fluoride varnish application into well child exam visits for patients 0-35 months.

Inputs	Activities	Outputs	Short Term Outcomes	Long Term Outcomes
MDHHS Oral Health Program staff (OHP) Medicaid medical providers Children age 0-35 months Parents Online or onsite training Materials (Varnish)	Medicaid medical providers complete Module 6 of the Smiles for Life Curriculum Medicaid medical providers submit Module 6 training completion certificate & contact form to OHP OHP submits monthly updates to Medicaid & monitors list of practices with completed certificates OHP provides Babies Too! program training to provider and eligible practice staff (onsite or online) OHP completes MOA with providers & providers agree to submit program screening data to OHP	Providers conduct oral health screenings and apply varnish (up to 4 times per year) during well child visits Providers educate parents on oral health during well child visits Providers collect screening data Providers submit quarterly reports to OHP OHP supplies fluoride varnish to providers Providers bill Medicaid for varnish applications	Providers have an increased knowledge on the importance of oral health Providers have an increased awareness on the importance of incorporating oral health into well child visits Providers have an increased awareness on the importance of a dental home by age 1 Parents have an increased knowledge of oral health	Reduction of disparities in access to oral health care for children 0-35 months in Michigan Decreased number of children with tooth decay Improved oral health among children and adolescents in Michigan