Integrating Fluoride Varnish into Well-Child Visits for Young Children

Background

Tooth decay is the most common chronic childhood disease in the U.S. To prevent tooth decay, the American Academy of Pediatrics (AAP) recommends several oral preventive care services, including fluoride varnish, as part of primary care.[1] A survey of New Hampshire pediatric and family practice clinicians conducted by the New Hampshire Pediatric Improvement Partnership (NHPIP) in 2015 indicates that recommended oral preventive service delivery is sub-optimal; 70% reported never applying fluoride varnish. In response to those findings, NHPIP conducted a six-month learning collaborative to support pediatric practices in integrating the AAP oral preventive service guidelines, with a particular focus on fluoride varnish application, into well-child visits for children under 6 years.

The NHPIP used the following metrics to measure the impact of the learning collaborative:

1. Percentage of participating clinics implementing fluoride varnish application into well-child visits for children under 6 years. (Structural measure, Target: 100%)
2. Percentage of children under 6 years with a well-child visit in the past month and have teeth that received a fluoride varnish application. (Outcome measure, Target: 60%)

Learning Collaborative Methodology

Pre-learning collaborative activities consisted of a one-hour project orientation for all clinic teams. In addition, a dental hygienist from the North Country Health Consortium provided a 1.5-hour on-site training entitled "From the First Tooth" (FTFT). FTFT is an evidence-based, hands-on training covering the clinical and operational aspects of pediatric oral preventive service delivery, including fluoride varnish application.

The learning collaborative "action phase" occurred from December 2017-May 2018. Clinic teams participated in a one-hour training on using rapid cycle change concepts (plan-do-study-act cycles) to incorporate fluoride varnish application into the well-child visit process. A quality improvement coach met with each clinic team two times during the action phase to assist with application of rapid cycle change methods. A shared learning webinar was held to continue to build knowledge about rapid cycle improvement and provide clinics a venue to share experience.

Clinics collected performance data via chart reviews at the beginning, middle, and end of the learning collaborative. Twenty chart reviews per clinician were completed at the beginning and end, while 10 were conducted mid-project. See Appendix 1 for the chart review tool. Chart review data was also used by six providers to receive American Board of Pediatrics (ABP) Maintenance of Certification (MOC) Part Four[2] credits.

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[1] American Academy of Pediatrics. (2014) Policy Statement on Maintaining and Improving the Oral Health of Young Children. *Pediatrics*, *134*(6), 1224 -1229.

[2] Maintenance of Certification is a board-licensing requirement for physicians. MOC Part 4 requires conducting a practice improvement project using quality improvement methods and performance reporting.

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A post-action phase satisfaction survey with the learning collaborative was implemented in June 2018. (See Appendix 2 for the satisfaction survey). The survey was web-based and responses were anonymous. A final shared learning webinar to discuss the performance data, satisfaction survey results, and sustainability strategies was also conducted.

Results

Three practices participated in the learning collaborative; two others received the FTFT training and quality improvement support, but were unable to participate in the full learning collaborative due to time constraints. Approximately 50 clinicians and staff participated in the FTFT trainings. All five practices that participated in the FTFT training integrated oral health preventive services into their well-child visits, thus achieving the target of 100%.

Of the three practices participating in the learning collaborative, two submitted data about the number of children under 6 years with a well-child visit in the past month that received a fluoride varnish application. (One practice, which was a newly opened clinic, did not have sufficient pediatric patient volume at the time to support performance monitoring. A QI coach worked with them to develop a workflow to use as pediatric patient volume increases in the future.) By the end of the learning collaborative, one practice exceeded the benchmark of 60% of eligible children receiving fluoride varnish while the other practice did not. (See Figure 1.) Two significant factors affected the latter practice from not reaching the 60% threshold. Parents for 31% of children eligible for varnish declined application as the child had received or were soon to be receiving fluoride varnish at a dental visit; Women, Infants, and Children (WIC) visit; or at school. Second, this practice took an incremental approach to integrating varnish application, piloting this work with one clinician and then rolling out to others one at a time. As such, all clinicians were not applying varnish throughout the learning collaborative. Of note, this practice has now expanded to all clinicians applying varnish at well-child visits under 6 years. Chart review documentation revealed only three instances of varnish application denial due to parent distrust of fluoride varnish.

After investigating the data, the major factor was a staggered approach so not every

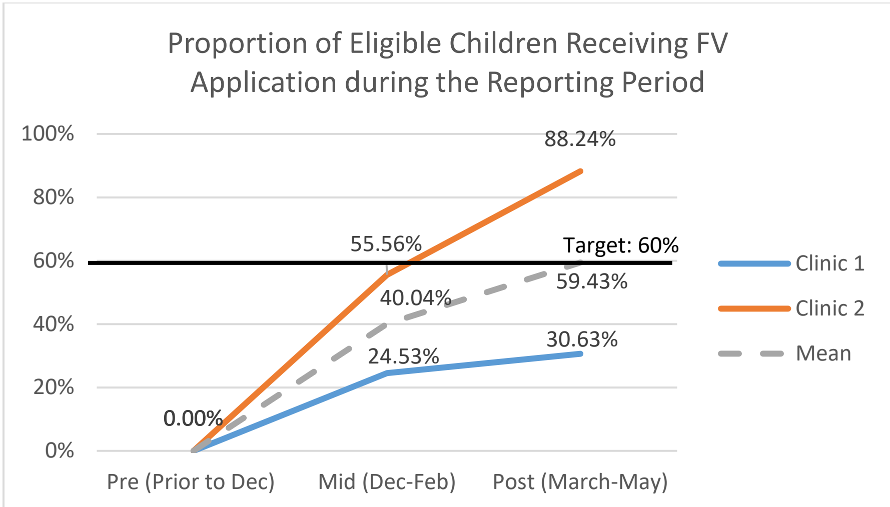

Figure 1. Chart review data from two of the practices participating in the learning collaborative

A total of six clinicians completed the post-collaborative satisfaction survey. All respondents indicated they were "very satisfied" with the learning collaborative and that the length of it was "just right". All respondents

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agreed that the learning collaborative helped their clinic meet the AAP oral preventive services guideline, employ rapid change cycles to improve care, use team-building principles to facilitate practice change, and identify strategies to sustain fluoride varnish application efforts after project end. Of all the learning collaborative supports, clinicians identified coaching visits with a QI facilitator as most helpful. Survey respondents were queried if the length of the well-child visit had increased, stayed the same, or decreased since incorporating oral health preventive services; 50% reported the visit length increased, while 50% indicated it stayed the same. Clinicians identified the biggest benefits of participating in the collaborative were improved oral health care for patients and providing the structure/accountability factor to implement fluoride varnish. Survey respondents were asked if their clinic experienced any unintended consequences from their participation in the project; none were voiced. Survey respondents were also asked to share thoughts on collaborative design and/or content. One respondent noted that s/he liked not having monthly conference calls and meetings, while another requested more frequent communication. All respondents seeking MOC Part 4 credit indicated that getting these credits was a value-add for their participation.

Lessons Learned

The oral health learning collaborative reinforced many of the known benefits and barriers of quality improvement initiatives in the clinical setting. One of the major barriers is that practices are under significant time constraints and, despite practices being very interested in a topic, they may not be able to participate in a learning collaborative due to other competing priorities. And while it may be possible for improvement in outcomes with topic-specific training alone, there was anecdotal evidence from the practices in this project that the topic-level training coupled with quality improvement work makes the implementation of work flows and data collection to support practice changes more robust, despite requiring more time.

Given these issues of time available for practices to commit to participating in these types of projects, recruitment can be difficult. In order to recruit the three practices that fully participated in the learning collaborative and the two that received FTFT training, NHPIP reached out to ten practices. Each reach-out often takes significant staff time. Leveraging existing relationships that IHPP has with clinics to “get in the door” was important.

When practices do join a learning collaborative, it is critical to have a clinician champion for the project. In one of the clinics, the clinician champion piloted the fluoride varnish and identified a process workflow that was spread to all clinicians. In another practice, the clinician was the only one ready to prioritize oral health and was able to develop a workflow and process that could be shared with other clinicians when they were ready.

While MOC credit can be an important incentive for provider participation, the process to offer and receive credit can be cumbersome. For past learning collaboratives, the NHPIP has typically applied to the American Board of Pediatrics to garner approval for providing MOC Part 4 credits for the project. This requires the NHPIP to track physician participation and attest to whether they have met the requirements, which can take a considerable amount of time. In addition, it requires physicians seeking MOC to participate in a number of learning collaborative activities. For some physicians, this requirement might inhibit them from receiving MOC credit if they are unable to attend activities due to scheduling conflicts or other factors out of their control. As part of the oral health learning collaborative, the practices applied for MOC Part 4 credits themselves with support from NHPIP project staff. When a practice applies for MOC Part 4, the reporting requirement is less burdensome. Participants shared anecdotally that applying for MOC Part 4 as individual practices (versus through the NHPIP) was simple and quick.

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Learning collaboratives can provide the support and accountability a clinic team needs to implement new care processes or refine existing ones. They also can function as valuable opportunities for clinicians to attain required MOC Part 4 credits. Clinician champions play a pivotal role in supporting change processes. As such, listening and integrating clinician feedback in future learning collaborative design is critical. Based on learning from this project, future learning collaborative design may be enhanced by 1) increased use of QI coaching and 2) organizing the provision of MOC Part 4 credits as individual practice projects.

Acknowledgement

We would like to thank the HNH Foundation for their generous support of this project.

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Appendix 1

NHPIP Chart Review Template

Fluoride varnish

Part 1: Description of Sampling

Number of charts:

Pre: 20 charts total
Mid-project:10 charts total
Post: 20 charts total

Reporting period:

Pre: Begin at Nov. 30, 2017 and work your way back until you get to 20 charts
Mid: Begin at Feb. 28, 2018 and work your way back until you get to 10 charts
Post: Begin at May 31, 2018 and work your way back until you get to 20 charts

Quality Control: 10% of the charts should be rechecked by a second staff member to verify that the results are the same.

Part 2: Description of Measures to be Derived from Medical Abstraction Tool Data

Eligible Population

Age	Children 5 years of age and younger before the start of your chart review with a well-child visit in the reporting period
Event/Diagnosis	Age-specific well-child visit: *The 6-month well-child visit to the 5-year well-child visit.*

Measure #1: Children under 6 years with a well-child visit in the past month and have teeth that received a fluoride varnish application.

Data Source: Medical Record

Numerator: Number of children between 6 months and 5 years of age with a well visit during the reporting period that received fluoride varnish at any well child visit.

Denominator: Number of children between 6 months and 5 years of age with teeth that had a well visit during the reporting period.

Part 3: Description of Medical Abstraction Tool

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The following page provides a description of variables that need to be collected for each chart in the sample. Please record this data in the provided Excel or Word template.

Medical Record Abstraction Form: PART ONE

General Abstraction and Child Visit Information

1.1 Abstraction Date _______/_______/_____________ (mm/dd/yyyy)

1.2 Abstractor Initial ________________

1.3 Date of well-child visit _______/_______/_____________ (mm/dd/yyyy)

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1.4 The child was in for his/her (check one)

☐ 6 month well child visit	☐ 24 month well child visit
☐ 9 month well child visit	☐ 30 month well child visit
☐ 12 month well child visit	☐ 3 year well child visit
☐ 15 month well child visit	☐ 4 year well child visit
☐ 18 month well child visit	☐ 5 year well child visit

1.5 Age of child at well-child visit __________months

1.6 Does the child have teeth? ☐ No ☐ Yes

Medical Record Abstraction Form: PART TWO

2.1 Is there documentation of the application of fluoride varnish?

☐No (If no, go to 2.2) ☐Yes (If yes, end chart review)

2.2 Is there documentation of parental refusal?

☐No (If no, end chart review) ☐Yes (If yes, go to 2.3)

2.3 What was the explanation for parental refusal?

____

____

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Appendix 2

NHPIP Oral Health Learning Collaborative Satisfaction Survey

CONSENT FORM FOR PARTICIPATION IN A RESEARCH STUDY

RESEARCHER AND TITLE OF STUDY

My name is Molly O'Neil
This study is the satisfaction survey for the oral health preventive services learning collaborative.

WHAT IS THE PURPOSE OF THIS FORM?

This consent form describes the research study and helps you to decide if you want to participate. It provides important information about what you will be asked to do in the study, about the risks and benefits of participating in the study, and about your rights as a research participant. You should:

- Read the information in this document carefully.
- Ask the research personnel any questions, particularly if you do not understand something.
- Not agree to participate until all your questions have been answered, or until you are sure that you want to.
- Understand that your participation in this study involves you completing a satisfaction survey that will last about *5-10 minutes.*

WHAT IS THE PURPOSE OF THIS STUDY?

The purpose of the satisfaction survey is to get participant feedback about the learning collaborative.

There will be approximately 25 staff from up to 5 pediatric and/or family medicine clinics participating in the satisfaction survey.

WHAT DOES YOUR PARTICIPATION IN THIS STUDY INVOLVE?

Participation in the satisfaction survey involves the participants responding to questions about the learning collaborative activities and supports. Participants will be asked to give their feedback about what went well and what could be improved for the learning collaborative. This survey should take between 5-10 minutes to complete.

WHAT ARE THE POSSIBLE RISKS OF PARTICIPATING IN THIS STUDY?

Participation in this study is expected to present minimal risk to you.

WHAT ARE THE POSSIBLE BENEFITS OF PARTICIPATING IN THIS STUDY?

The benefit of participating in the study will be to have an opportunity to provide feedback to project staff about the learning collaborative that will be used in planning future collaboratives.

WILL YOU RECEIVE ANY COMPENSATION FOR PARTICIPATING IN THIS STUDY?

Compensation will not be provided for completion of the survey.

DO YOU HAVE TO TAKE PART IN THIS STUDY?

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Taking part in this study is completely voluntary. You may choose not to take part at all. If you agree to participate, you may refuse to answer any question. If you decide not to participate, you will not be penalized or lose any benefits for which you would otherwise qualify.

CAN YOU WITHDRAW FROM THIS STUDY?
If you agree to participate in this study and you then change your mind, you may stop participating at any time. Any data collected as part of your participation will remain part of the study records. If you decide to stop participating at any time, you will not be penalized or lose any benefits for which you would otherwise qualify.

HOW WILL THE CONFIDENTIALITY OF YOUR RECORDS BE PROTECTED?
I plan to maintain the confidentiality of all data and records associated with your participation in this research.

Further, any communication via the internet poses minimal risk of a breach of confidentiality.

To help protect the confidentiality of your information, we will not ask for your name and will not be collecting your IP address. Only project staff (Molly O'Neil, Jo Porter, Holly Tutko) will have access to your individual responses. I will report the data in aggregate. The results will be used in a final report that will be shared with the all of the participating clinics, the funder, and other stakeholders.

WHOM TO CONTACT IF YOU HAVE QUESTIONS ABOUT THIS STUDY
If you have any questions pertaining to the research you can contact Molly O'Neil at molly.oneil@unh.edu or 603-513-5132 to discuss them.

If you have questions about your rights as a research subject you can contact Dr. Julie Simpson in UNH Research Integrity Services, 603/862-2003 or Julie.simpson@unh.edu to discuss them.

- o Click here if you consent to participate in the research study.
- o Click here if you decline to participate in the research study.

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The below table lists the goals of this oral health learning collaborative. Please indicate your level of agreement or disagreement with each statement. (1= strongly disagree and 5=strongly agree).

1. This learning collaborative helped our clinic team

Implement the AAP oral preventive services guidelines	1 2 3 4 5 Not sure
Use the Model for Improvement e.g. Plan-Do-Study-Act (PDSA) cycles to improve care	1 2 3 4 5 Not sure
Use team-building principles (setting common goal, defining roles, etc) to facilitate practice change	1 2 3 4 5 Not sure
Identify strategies to sustain fluoride varnish application efforts after the project	1 2 3 4 5 Not sure

2. Since incorporating oral health preventive services into well-child visits, the length of the these visits has:
    - Decreased
    - Stayed the same
    - Increased
    - Not sure

3. Did you participate in a monthly conference call?
    a. Yes, go to 25 a.
    b. No

To what extent did the monthly conference calls:

25a. Improve your team's understanding of Quality Improvement tools and methods	Very little, some, quite a bit, a lot
25b. Support your team's efforts to integrate oral preventive services into your practice	Very little, some, quite a bit, a lot
25c. Facilitate shared learning amongst clinics	Very little, some, quite a bit, a lot

4. Have you participated in a site visit at your practice?
    a. Yes , go to 26a
    b. No

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To what extent did the site visit(s):

26a. Increase your team's understanding about quality improvement tools and methods	Very little, some, quite a bit, a lot
26b Support your team's efforts to integrate oral preventive services into your practice	Very little, some, quite a bit, a lot
26c. Feel like a valuable use of your team's time	Very little, some, quite a bit, a lot

5. Please indicate below if the length of the 6-month learning collaborative was:
   a. Too long
   b. Just right
   c. Too short

6. Please indicate your <u>overall satisfaction</u> with the oral health learning collaborative.
   a. Very dissatisfied
   b. Somewhat dissatisfied
   c. Somewhat satisfied
   d. Very satisfied
7. If you used this learning collaborative to apply for Maintenance of Certification credits, did you find it a value-add?

8. Is there additional support that your practice would have appreciated if the learning collaborative provided?

9. What do you see as the biggest benefit your practice has received from participating in the oral health learning collaborative?

10. Did your clinic experience any unintended consequences due to participating in this learning collaborative? If so, please describe below.

11. Please feel free to write below any comments or feedback about the learning collaborative (design, implementation, content)

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