
MADISON COUNTY DENTAL HEALTH ASSESSMENT 0-5 YEARS OLD

May 2024



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Introduction

Dental health continues to be a priority health issue in Madison County. Previous efforts by Madison County Public Health (MCPH) include working with municipalities to consider fluoridation of their public water system, assessing dental health literacy among residents, and encouraging pediatric providers to apply fluoride varnish to eligible patients. In 2023, MCPH identified new approaches to addressing this issue through the Strategic Planning process. The first step was to collect local data on current dental health practices in order to inform a health education action plan and future public health initiatives.

Data collection was performed by a student from Colgate University through the Upstate Institute Fellowship program in summer of 2023. The purpose was to collect information on dental health practices of families of Madison County with children 0–5 years of age to develop recommendations for childcare center-based practices, at-home practices, and community-based practices. There were four community partners and eight childcare centers identified in the assessment process. Information was collected from caregivers and childcare centers through two unique survey tools. Additional community partners provided input through a key informant interview conducted by phone.

Methods

In the summer of 2023, MCPH collected local data on current dental health practices among families in addition to current initiatives among organizations that serve families.

Caregiver Survey Development and Distribution

A 10-question survey was developed for Madison County families with children 5 years old and younger to better understand the oral health needs of families. The caregiver survey was based on Sullivan County's Oral Health Needs Assessment, who developed their questionnaire with the help of a third party consultant (Health Promotion Strategies LLC). Current recommendations for dental health practices among young children were also used to develop the survey tool. This provided information on survey questions, development of graphs, and additional tips for the project. Recommendations from credible sources were collected and summarized to frame the questions of the survey. Feedback was collected externally from our community partners and internally from staff within our target audience at Madison County Public Health to determine what questions were most important to ask and how to best phrase them.

The caregiver survey included ten questions on the dental health of children 0–5 years of age (see Appendix A). The goal was to receive 100 responses from caregivers. Three methods were available to complete the survey: online via QR code or link, paper survey for participant completion, and the Colgate University Fellow reading questions and recording responses of the participant. The survey was promoted online through the Madison County Public Health mobile phone app, Madison County social media accounts (e.g. Facebook, Nextdoor), e-mail blasts to stakeholders, and five in-person tabling events. Tabling events occurred at Dollar Tree (Cazenovia and Hamilton locations), Price Chopper, Walmart, and ZEMs Ice Cream and Mini Golf.

Qualtrics^{XM}, a survey platform, was used to create the online version of the survey tool. Qualtrics^{XM} allows for display and skip logic, which narrows the survey population in addition to decreasing the chance of survey abandonment and improving question relevance. Display and skip logic was not available for paper copies of the survey, only online respondents. As the features were only available for online respondents, this changed the questions that respondent may see based upon their answer selection.

Childcare Center Survey Development and Distribution

MCPH developed three questions for the childcare center survey to determine how dental health was promoted and the dental needs of children served among the licensed childcare centers in Madison County. Eight childcare centers were invited to participate in the assessment through email along with follow-up phone calls to centers who did not respond to the online survey. The Google Forms tool was used for the online survey. The childcare centers include Cazenovia Children's House, Celebration Children's Center, Chenango Nursery Center, Chittenango Child Care Center Incorporated, Morrisville Children's Center, Oneida Area Day Care Center, Oneida Indian Nation Early Learning Center, and Rippleton Center. Six childcare centers provided responses.

Childcare Centers were asked: do you have the kids at your center participate in table brushing, does your center hand out any dental supplies to families and kids at your center, and does your center promote anything related to dental health or recognize National Dental Health Month? For each question, participants were asked to elaborate based on their "yes" or "no" response. These questions were designed to collect information on current practices and identify areas to expand programming.

Key Informant Interview with Community Partners

A phone interview was used to ask five questions of program staff from community partner programs that serve Madison County families with children age 5 years or younger. Community Partners included in the assessment were Early Head Start, Healthy Families, Head Start, and Woman Infants and Children (WIC). All community partners included in the assessment provided responses.

Community partners were asked: what age groups of children do you serve, does your program have a dental health curriculum, does your program include a dental health screening, does your program currently hand out dental supplies, and what are the needs amongst the children you serve. For each question, participants were asked to elaborate based on their "yes" or "no" response. The interview questions were selected to better understand current and future opportunities for programming as well as identify oral health needs of the children they serve.

Results

Caregiver Survey Results

The survey collected 90 responses, 72 of which were valid. Survey responses came from 17 zip codes in Madison County, with the majority from heavily populated areas of the county, including 13421 (30.6%), 13032 (18.1%), and 13037 (11.1%).

Among caregivers who submitted a survey, 53.4% had one child, 28.4% had two children, and 9% had more than three under the age of six. When asked about the age of their eldest child under five, 27.8% of caregivers reported having a four-year-old, 23.6% have a five-year old, 23.6% have a two-year old, 16.7% have a three-year old, and 8.3% have a child zero-to-one-years of age. All caregivers with the eldest child between zero and one years of age reported washing their child's gums, indicating an awareness of starting children off on the right track for proper dental health. Additionally, 97% of caregivers reported owning a toothbrush.

Caregivers' Personal Dental Health Practice

Parents and caregivers are role models for their children. For this reason, the survey asked caregivers about their personal dental practices. Among caregivers in the survey, 63.9% brushed their teeth twice a day, 23.6% brushed their teeth once a day, 8.3% brushed less than once a day, and 4.2% brushed more than twice a day. Most children in the survey were reported to have their teeth brushed twice a day (61.1%) compared to once a day (33.3%) and less than once a day (5.6%) (Fig 1). Behavioral practices were similar between caregivers and children in Madison County. Specifically among caregivers that brush their teeth twice daily, 80.4% of children also brushed their teeth twice a day.

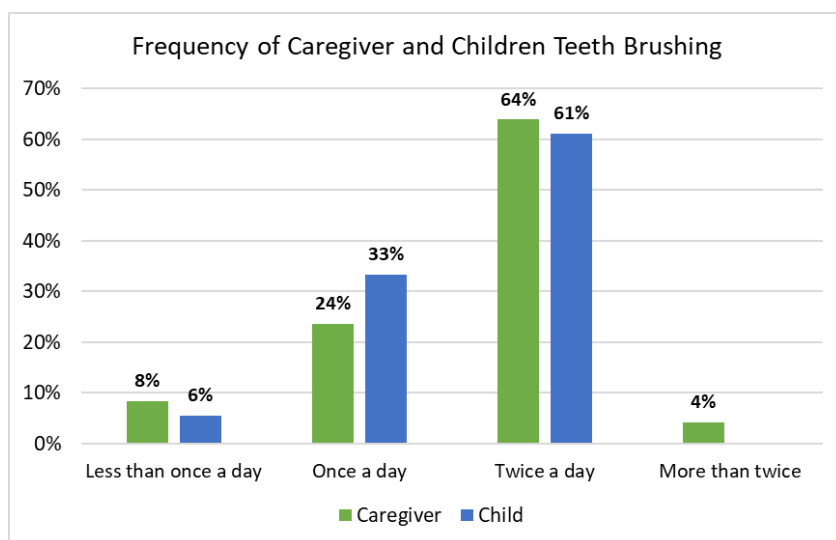


Figure 1. The Daily Frequency of Caregiver and Children Brushing their Teeth.

The current recommendation from the National Maternal and Child Oral Health Resource Center (OHRC) is for adults to provide children with assistance brushing their teeth up to the age of seven.¹ Caregivers in Madison County reported that about 42% brush their child's teeth, 37% work together with their child to brush teeth, and 19% of responses indicated that children brush independently. Among children who brush their teeth by themselves, the majority are between 3 and 5 years old (64%) (Table 1).

Table 1. Caregiver Assistance with Teeth Brushing

Age	Parent/caregiver	Parent/caregiver and child	My Child	My child and other	Other
0-1 years old	83.3%	0.0%	16.7%	0.0%	0.0%
2 years old	41.2%	47.1%	11.8%	0.0%	0.0%
3 years old	41.7%	25.0%	25.0%	0.0%	8.3%
4 years old	30.0%	55.0%	10.0%	0.0%	5.0%
5 years old	11.8%	58.8%	29.4%	0.0%	0.0%
Overall	41.6%	37.2%	18.6%	0.0%	2.7%

Children's Sweetened Drink Consumption

Current dental health recommendations suggest limiting the consumption of sweetened drinks due to the effect of acid on their teeth. Sugar can build up in the mouth, causing the healthy bacteria in the mouth to turn into acid and ultimately, lead to the breakdown of tooth enamel.² About 68% of survey respondents stated that their child drinks sweetened drinks. Among those, 71% of children drink sweetened drinks less than once a day or once a day and 29% drink them twice a day or more than twice a day.

Fluoridated Water and/or Tablet Consumption

Water fluoridation is limited in Madison County, with 22.4% of caregivers reporting to have access to fluoridated water. As such, caregivers were asked whether their child consumed fluoridated water, drops or tablets. Among families in zip codes without fluoridation, only 33.1% reported their child taking supplemental fluoride (Table 3). Among the caregivers of children in zip codes with non-fluoridated public water that are not taking supplemental fluoride, 52.2% reported the reasoning due to their children's doctor not prescribing fluoride drops or tablets, 26.1% reported to need more information about fluoride drops or tablets and their benefits, 13% reported to not feel comfortable with their child taking fluoride drops or tablets, and 21.7% reported other.

Table 3. Use of Supplemental Fluoride in Non-Fluoridated Zip Codes

Zip Codes without Fluoridated Public Water	Child Using Fluoride Drops/Tablets
13421	38.5%
13035	30.8%
13409	7.7%
13402	15.4%
13310	0.0%
13334	0.0%
13332	7.7%
13425	0.0%
Overall	31.7%

Caregiver Dental Health Concerns

Nearly one-third of respondents stated that they had no dental health concerns for their child. Caregivers reported concerns, such as not finding a dentist that accepts their child's insurance or their child not having dental insurance (54.3%), their child not liking to brush their teeth (39%), not having fluoridated water (30.4%), and their child having a tongue or lip tie and/or pain in their mouth (23.9%). Caregivers were also given the opportunity to provide additional comments. Most commonly, respondents noted issues with the cost of dental care, finding a dentist that accepts their dental insurance, and distance to dentists who are accepting patients.

Childcare Center Results

MCPH received responses from 75% (6) of the childcare centers through an online survey or phone interviews. Among childcare centers in Madison County, dental health education and promotion occurred in 50% of centers. Additionally, 66% of centers reported that children brushed their teeth at the childcare center. Some childcare centers handed out dental supplies (33%). However, supplies were need-based or childcare centers were limited in their ability to provide to children. All childcare centers were interested in a partnership with MCPH to provide dental health education and promotion. One childcare center was found to not promote dental health, hand out dental health supplies, or have children brush their teeth at the center (Fig 2).

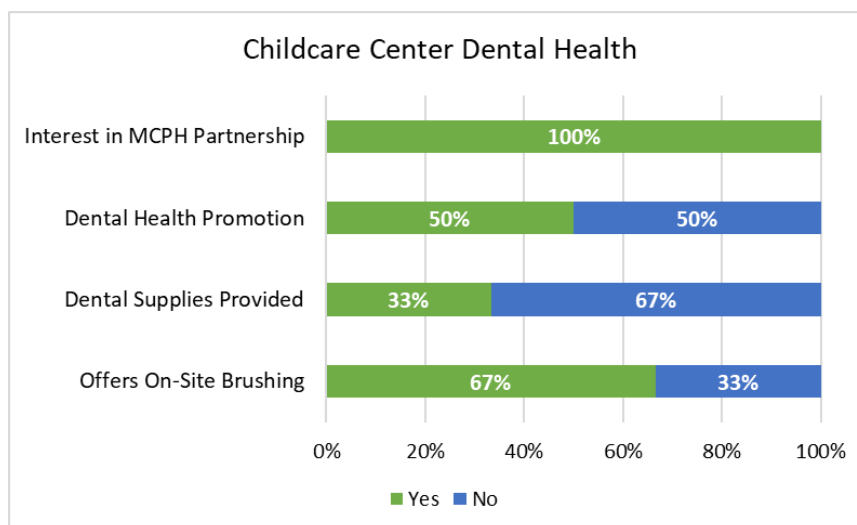


Figure 2. Dental Health among Childcare Centers in Madison County.

Community Partner Results

MCPH received responses from all 4 of the community partners invited to take part in the assessment through phone interviews. Among community partners, 2 of 4 were found to offer a dental health screening to children. Additionally, 3 of 4 partners used a dental health curriculum such as "Growing Great Kids" or "Cavity Free Kids", and 3 of 4 partners educated and/or promoted dental health to children. All community partners were found to currently hand out dental supplies to children in their program (Fig 3).

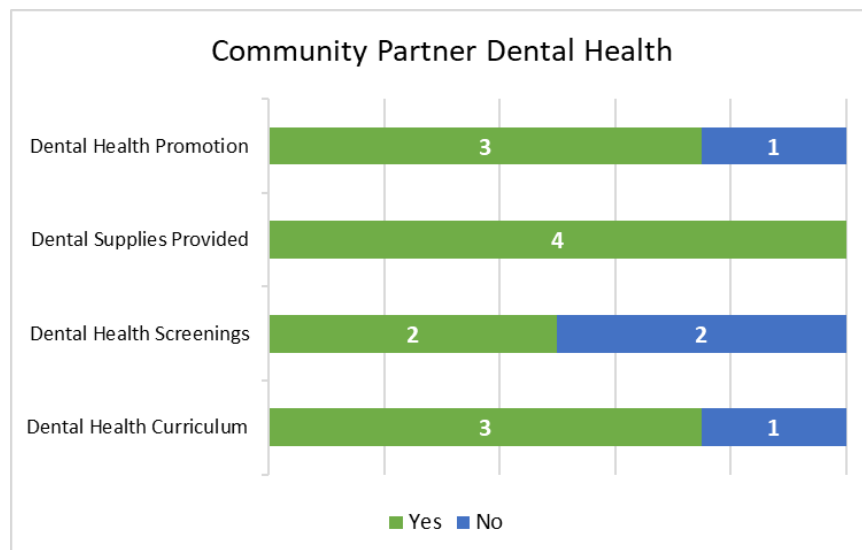


Figure 3. Dental Health among Community Partners in Madison County.

Conclusion

Information collected from childcare centers, community partners, and caregivers provided important local data for MCPH to inform a health education action plan and future public health initiatives. Community partners were found to perform dental health activities such as handing out dental health supplies. Childcare centers varied in the dental health activities performed to promote and educate children, with one childcare center not providing anything to the children. However, all were interested in a partnership with MCPH to provide dental health education and promotion. To further educate and promote dental health in the community, a county-wide dental health promotion during National Children's Dental Health Month is recommended.

Responses indicate that increased education is needed on fluoride, the importance of brushing children's teeth twice a day with caregiver's help, and the lowering of sugar consumption. Information from childcare centers, community partners and caregivers indicate a need for alternative resources to combat dental insurance, the cost of dental care, and access to dentists in Madison County.

Recommendations:

- Increase parent education on good dental health practices.
 - Oral Health Resources for Families
<https://www.aap.org/en/patient-care/oral-health/oral-health-resources-for-families/>
- Partner with childcare centers to increase dental health education and supplies given to children.
 - Checklist for Child Care Staff: Best Practices for Good Oral Health
<https://eclkc.ohs.acf.hhs.gov/sites/default/files/pdf/checklist-child-care-staff.pdf>
- Conduct public health detailing on fluoride varnish and supplemental fluoride with pediatric healthcare providers.
 - Children's Oral Health Kit,
<https://www.health.ny.gov/prevention/dental/publications.htm>
- Increase awareness through promotion of county-wide National Children's Dental Health Month.
 - American Dental Hygienists' Association, <https://www.adha.org/ncdhm/>

References

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3. Pediatrics, A. A. (2023, March). Oral Health Resources for Families. Retrieved from American Academy of Pediatrics: Patient Care: <https://www.aap.org/en/patient-care/oral-health/oral-health-resources-for-families/>
4. Holt, K. Lowe, B. *Checklist for Child Care Staff: Best Practices for Good Oral Health*. Itasca, IL: National Center for Early Childhood Health and Wellness, 2019.
5. Health, N. Y. (2023, August). Oral Health Publications: Children's Oral Health Kit. Retrieved from New York State Department of Health: <https://www.health.ny.gov/prevention/dental/publications.htm>
6. Association, A. D. (2023). National Children's Dental Health Month. Retrieved from ADHA: <https://www.adha.org/ncdhm/>

Appendix A. Paper Survey

Madison County Dental Health Survey

Madison County Public Health is collecting information on dental health practices of families with children 5 years old or younger. The information will help us to better understand the dental health needs of families and create a plan to address them. This survey will take less than 5 minutes to complete. Your responses are anonymous. We appreciate your input!



Don't want to take a paper survey? Scan the QR code to take the online survey.

1. What is your zip code? _____
2. How many children do you have 5 years old or younger?
 - ☐ 1
 - ☐ 2
 - ☐ 3 or more
3. Thinking of your oldest child 5 years old or younger, what is their age?
 - ☐ 0 -1 year old
 - ☐ 2 years old
 - ☐ 3 years old
 - ☐ 4 years old
 - ☐ 5 years old

If you selected "0-1 year old", please also answer the next question 3a.

- 3a. Do you regularly wash this child's gums?
 - ☐ Yes
 - ☐ No
 - ☐ Sometimes
4. What are your top dental health concerns for your child? (Please select up to 3)
 - ☐ My child does not like brushing their teeth
 - ☐ My child has/had a lip or tongue tie
 - ☐ My child has pain in their mouth
 - ☐ My child does not have dental insurance
 - ☐ I cannot find a dentist that accepts my child's dental insurance
 - ☐ We do not have fluoridated water
 - ☐ My child needs/needed dental surgery
 - ☐ I do not have any dental health concerns
 - ☐ Other: _____
5. How often do you brush your teeth?
 - ☐ Less than once a day
 - ☐ Once a day
 - ☐ Twice a day
 - ☐ More than twice a day

6. How often are your child's teeth brushed?
- ☐ Less than once a day
 - ☐ Once a day
 - ☐ Twice a day
 - ☐ More than twice a day
7. Who brushes your child's teeth? (Please check all that apply.)
- ☐ My child
 - ☐ A parent/caregiver
 - ☐ Other: _____
8. Does everyone in your household have their own toothbrush?
- ☐ Yes
 - ☐ No
9. Does your child drink sweetened drinks such as juice, soda, or sports drinks?
- ☐ Yes
 - ☐ No

If you selected “Yes”, please also answer the next question 9a.

- 9a. How often does your child drink sweetened drinks?
- ☐ Less than once a day
 - ☐ Once a day
 - ☐ Twice a day
 - ☐ More than twice a day
10. Does your child take fluoride drops or tablets?
- ☐ Yes
 - ☐ No

If you selected “No”, please also answer the next question 10a.

- 10a. Please tell us why your child does not take fluoride drops or tablets. (Please check all that apply.)
- ☐ My child's doctor has not prescribed fluoride drops or tablets
 - ☐ My child is not old enough
 - ☐ We have fluoridated water
 - ☐ I am not comfortable with my child taking fluoride drops or tablets
 - ☐ I need more information about fluoride drops or tablets and their benefits
 - ☐ Other

Please write any additional comments you have about your child’s dental health:

Thank you!

Please return to Madison County Public Health at health@madisoncounty.ny.gov by July 20, 2023