MDHHS
Michigan Department of Health & Human Services

MI Head Start Smiles 2017-2018

The Oral Health of Michigan's Head Start Children

July 2018

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Executive Summary

With the 2018 *MI Head Start Smiles*, the Michigan Department of Health and Human Services (MDHHS) Oral Health Program takes its first in-depth look at the oral health status of a representative sample of Head Start children throughout the state. During the 2017-2018 school year, a total of 2,009 Head Start children ages 3-5 years received a dental screening at 50 Head Start centers. Head Start children were screened because Head Start is the target preschool population for the National Oral Health Surveillance System. To share what was learned, the information collected through *MI Head Start Smiles* was organized into five key findings. These findings will help support development of state policies and programs to reach the goal of ensuring that Michigan's children receive the preventive and restorative oral health services they need.

Key Findings:

1. Tooth decay is a significant public health problem in Michigan. More than 1 in 3 Michigan Head Start children (35%) has already experienced tooth decay at an early age.
2. Almost 1 out of 4 Head Start children (22%) in Michigan have untreated tooth decay demonstrating that many children are not getting the dental care they need.
3. About 5 percent of Michigan's Head Start children are in need of urgent dental care because of pain or infection. If applied to the number of low-income 3-5 year olds in Michigan, more than 9,500 young children aged 3-5 years may be experiencing pain or infection due to dental disease on any given day.
4. Only 2 percent of Michigan's Head Start children have protective dental sealants, a safe, simple, cost-effective clinical intervention to prevent tooth decay in molar teeth.
5. Compared to all U.S. children aged 3-5 years, Michigan's low-income Head Start children have a significantly higher prevalence of untreated decay and a significantly lower prevalence of protective dental sealants.

General Recommendations:

1. Improve access to evidence-based, community-based primary prevention programs for pregnant women, infants, toddlers, and their families.
2. Develop and implement programs to assure that all children have access to dental care by promoting the utilization of Michigan's Healthy Kids Dental (HKD).
3. Expand community-based screening and referral programs that include a case management component so that children in need have better access to dental care.
4. Increase access to preventive dental sealants by providing education on the importance of primary molars sealants and encouraging the development of community-based sealant programs.
5. Expand integrated community-based prevention programs, screening and referral services, and restorative dental care programs that target low-income populations.

Key Strategies:

The results of *MI Head Start Smiles* highlight the need for improvements in the oral health of preschool children living in Michigan. Access to culturally and age appropriate evidence-based and community-based prevention programs and dental care must be improved. Several strategies that could improve the oral health of preschool children have been identified. Because teeth develop before birth and start to appear in the mouth when a child is about six months of age, efforts to prevent tooth decay must start during pregnancy and continue throughout childhood.

Evidence-Based and Community-Based Prevention Programs

- Expand efforts to incorporate oral health promotion and preventive services such as caregiver education and fluoride varnish into programs geared to children 0-5 years of age such as primary care well-child visits; Women, Infants, Children (WIC) programs; Head Start and other early childhood programs.
- Expand oral health prevention programs at preschools with children at high risk for dental disease to include, at a minimum, daily tooth brushing with a fluoride containing toothpaste, application of topical fluorides such as fluoride varnish, silver diamine fluoride, and oral health education.
- Conduct ongoing educational campaigns to encourage the first dental visit by age one, increase oral health literacy and awareness in preschools, promote the importance of oral health as part of general health and well-being, and promote the benefits of water fluoridation and additional topical fluoride applications for the prevention of dental disease.

Screening and Referral Services

- Offer oral health screenings and referral to local dental care settings in early childhood programs that serve children at greatest risk.
- Develop case management systems that help caregivers navigate the complex dental care delivery and payment systems to assure that children needing dental care obtain it.

Dental Care

- Increase the number of preschool children ages 3-5 who use the annual dental exam and other dental benefits offered through their insurance coverage.
- Advocate for the expansion of dental services for high-risk populations.
- Educate dental providers about the benefits of dental sealants in primary teeth in high-risk children and minimally invasive dentistry including silver diamine fluoride and interim therapeutic restorations.
- Assess and address issues regarding Medicaid participation among dentists.
- Expand trainings to safety-net dental providers on appropriate techniques for treating preschool children with behavior management issues.
- Provide professional development opportunities for medical and dental providers regarding the safety and importance of dental services for pregnant women and young children.

Collaborative Partnerships

- Encourage investment in early childhood programs in Michigan including Early Head Start, Head Start and the Great Start Readiness Program

- Work closely with early childhood programs to engage families in oral health conversations and assist them with oral health goal setting. Recognize opportunities to integrate oral health in curricula and trainings including training of home visitors.
- Develop systems that encourage healthcare providers to routinely screen for oral disease, apply fluoride varnish, provide anticipatory guidance and, when needed, refer for care.

No one group can address all these issues, there must be collective action on the part of policy makers, preschool program staff, dental professionals, health advocates, and families to make oral health a priority. Improved access to community-based preventive service and restorative dental care are the first steps in addressing the oral health of Michigan's Head Start population.

Quick Facts

- **Decay Experience:** Thirty-five percent (35%) of Michigan's Head Start children have experienced tooth decay.

- **Untreated Tooth Decay:** Twenty-two percent (22%) of Michigan's Head Start children have untreated tooth decay.

- **Need for Dental Care:** Twenty-four percent (24%) of Michigan's Start children need dental care including 5 percent needing urgent dental care because of pain or infection.

- **Dental Sealants:** Only 2 percent of Michigan's Head Start children have protective dental sealants on a primary molar tooth.

- **Oral Health Disparities:** Compared to all U.S. children aged 3-5 years, Michigan's low-income Head Start children have a significantly higher prevalence of untreated decay but a significantly lower prevalence of protective dental sealants. Children whose parents speak a language other than English or Spanish have a higher prevalence of untreated decay.

Introduction

Tooth decay is a disease affecting both children and adults. When exposed to sugars and other carbohydrates, some bacteria in the mouth produce acids that dissolve the minerals in the outer layer of the tooth that can advance to form a cavity.

Tooth decay can occur at any age after teeth erupt into the mouth. For most children, teeth begin to erupt at about six months of age; by three years of age, they will have a full set of 20 primary (baby) teeth. Particularly damaging forms of decay can begin in early childhood, when developing primary teeth are especially vulnerable. This type of decay is called early childhood caries (ECC). ECC is the most common chronic early childhood disease in the United States, five times more common than asthma in children younger than age six.[1] Cavities can develop quickly and, if untreated, can infect the tooth's pulp tissue that can lead to an abscess, destruction of supporting bone, and spread of infection via the bloodstream, resulting in a medical and dental emergency that could require hospitalization.[2] The longer ECC remains untreated, the worse the condition gets, making it more difficult to treat.[3] Severe ECC requires complicated dental procedures such as extractions and crowns, often performed using general anesthesia in a hospital setting. These complicated procedures are more expensive and must be performed by dentists with specialty training in treating children (pediatric dentists).

Oral health and general health are intertwined, so poor oral health can affect a child's overall health and well-being. Dental disease can result in pain, infection, the inability to chew foods well, and distraction from play and learning. Tooth decay in the primary teeth is of special importance because it increases the child's risk for future oral health problems. For example, abscessed primary teeth can potentially damage permanent teeth, and if baby teeth are lost early, the child's permanent teeth are more likely to erupt out of proper position, leaving them more susceptible to decay, gum disease and the need for braces.[3, 4]

Other short- and long-term impacts of advanced tooth decay on the overall health of young children include:

- Inability to chew, resulting in poor nutrition
- Increased vulnerability to infections in other parts of the body such as the ears, sinuses, and the brain[5,6,7]
- Failure to thrive, impaired speech development, and reduced self-esteem[1]
- Shyness, unhappiness, feelings of worthlessness and reduced friendliness[7]

The good news is that most tooth decay is preventable if children have access to evidence-based prevention strategies. In Michigan, Medicaid eligible children have access to Healthy Kids Dental (HKD) benefits. HKD is a partnership between MDHHS, Delta Dental, and Blue Cross/Blue Shield.

To prevent tooth decay, the American Academy of Pediatrics recommends several strategies for enhancing the oral health of young children. These include parent/family education on oral health (particularly eating nutritious foods, limiting sugars, and brushing teeth with a toothpaste containing fluoride); first preventive visit to a dentist within six months of the first tooth erupting and no later than age one, with preventive check-ups thereafter; a series of topical fluoride applications to children's teeth; and drinking fluoridated water.[8]

Key Finding #1

Tooth decay is a significant public health problem in Michigan. More than 1 in 3 Michigan Head Start children (35%) has already experienced tooth decay at an early age.

HEAD START CHILDREN IN MICHIGAN WITH DECAY EXPERIENCE

Decay "experience" means that a child has had tooth decay at some point, either in the past (indicated by fillings, crowns, or teeth that have been extracted) or currently (untreated tooth decay).

With early prevention efforts, tooth decay can be prevented. Medical, dental and public health professionals must focus dental disease prevention efforts on families with children younger than two years of age because ***two is too late.*** The American Dental Association, the American Academy of Pediatric Dentistry, and the American Academy of Pediatrics all recommend preventive dental care and parent education by age one.

Recommendation: Michigan must improve access to evidence-based, community-based primary prevention programs for pregnant women, infants, toddlers, and their families.

Key Finding #2

Almost 1 out of 4 Head Start children (22%) in Michigan have untreated tooth decay demonstrating that many children are not getting the dental care they need.

Having untreated decay means that a child has tooth decay or a cavity that has not received appropriate treatment. Tooth decay in children destroys more than just a smile. Untreated decay compromises the child's ability to eat well, sleep well, and function well at home and at school. In addition, the unpleasant appearance of untreated decay can compromise a child's self-esteem and social development. Untreated tooth decay in children can be painful and without appropriate treatment can lead to infection of the teeth and gums. Although rare, infections due to untreated tooth decay can lead to severe illness and even death.

The *MI Head Start Smiles* survey did not include complete diagnostic dental examinations. Instead, dental screenings were performed. This is a quick look inside the mouth with a dental mirror, without x-rays and the more advanced diagnostic tools. Because of this, some problems were likely missed. It is reasonable to assume that these findings actually underestimate the number of children needing dental care.

Dental care can be costly, and without dental insurance, many families cannot afford comprehensive dental care; MI has Healthy Kids Dental (HKD), which reimburses dentists at higher rates than FFS Medicaid, in every county of the state, but not all eligible families utilize their benefits.

Recommendation: Michigan must continue to develop and implement programs to assure that all children have access to dental care including expanding the network of HKD participating dentists and families that utilize the benefits.

Key Finding #3

About 5 percent of Michigan's Head Start children are in need of urgent dental care because of pain or infection. If applied to the number of low-income 3-5 year olds in Michigan, more than 9,500 young children aged 3-5 years may be experiencing pain or infection due to dental disease on any given day.

About 24 percent of Michigan's Head Start children need dental care – with 5 percent needing urgent dental care because of pain or infection and 19 percent needing early care. Head Start targets low-income children and most Head Start children are eligible for Medicaid. In 2016, there were 190,200 Medicaid beneficiaries in Michigan between 3-5 years of age. If 24 percent need dental care, this means that more than 45,600 low-income preschool children have a cavity and about 9,500 of them may have pain or an oral infection, both of which can affect their ability to concentrate and learn.

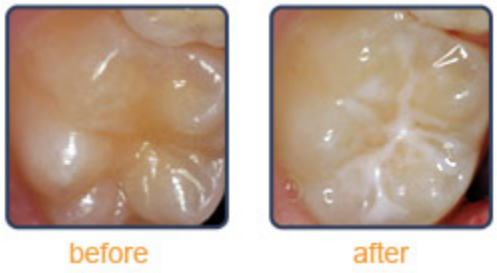
As previously mentioned, the *MI Head Start Smiles* survey did not include complete diagnostic dental examinations and it is reasonable to assume that these findings actually underestimate the number of children needing dental care.

Recommendation: Michigan must expand community-based screening and referral programs that include a case management component so that children in need have better access to dental care.

Key Finding #4

Only 2 percent of Michigan's Head Start children have protective dental sealants, a safe, simple, cost-effective clinical intervention to prevent tooth decay in molar teeth.

Molar Tooth Before and After Dental Sealants



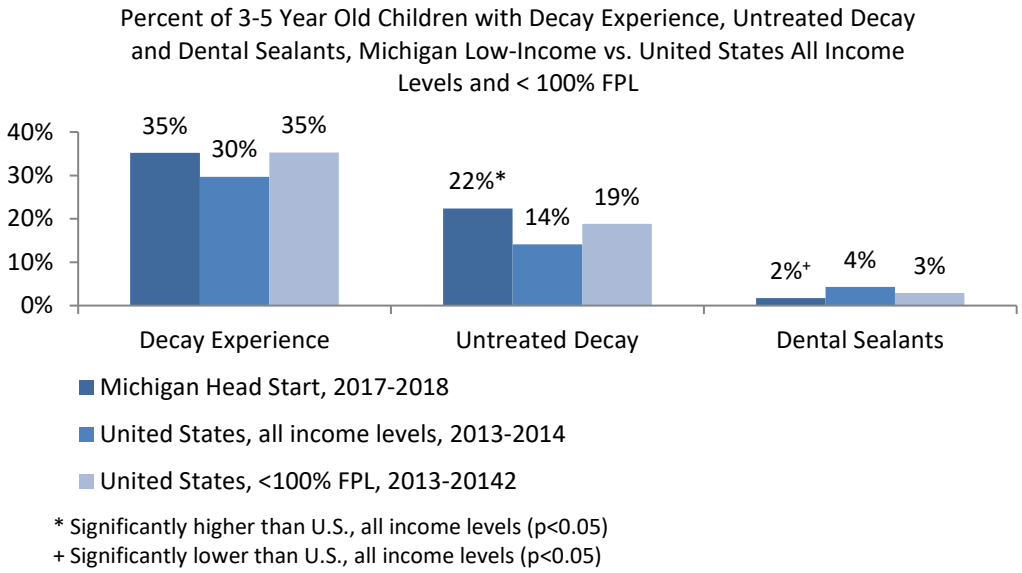
In preschool aged children, dental sealants are thin plastic coatings that are applied to the grooves on the chewing surfaces of the primary molar (back) teeth. The first primary molars usually appear when a child is about 13-19 months while the second primary molars appear between 2-3 years of age. Sealants protect the chewing surfaces from tooth decay by keeping germs and food particles out of these grooves. They are a safe, effective way to prevent tooth decay among children. According to a recent simulation based on Iowa Medicaid claims data, sealing primary molars prevents future restorations and extractions.[9]

Sealants can be applied in a dentist's office or through community-based sealant programs. Community-based sealant programs are especially important for reaching children from low-income families who are less likely to receive private dental care.

Recommendation: Increase access to preventive dental sealants by providing education on the importance of primary molars sealants and encouraging the development of community-based sealant programs for preschoolers.

Key Finding #5

Compared to all U.S. children aged 3-5 years, Michigan's low-income Head Start children have a significantly higher prevalence of untreated decay and a significantly lower prevalence of protective dental sealants.



The most influential socio-demographic indicator for oral health disparities in the United States is income with lower income children having significantly more decay than higher income children. Given that the family income for most Head Start children is below the federal poverty level it is not surprising that Michigan's Head Start children have a higher prevalence of untreated decay and a lower prevalence of protective dental sealants than the general U.S. population aged 3-5 years.

Among U.S. children aged 3-5 years that live in households with incomes below the federal poverty level, 35% have decay experience, 19 percent have untreated decay and 3 percent have dental sealants; similar to the prevalence among Michigan's Head Start population (35%, 22% and 2% respectively).

Recommendation: Expand integrated community-based prevention programs, screening and referral services, and restorative dental care programs that target low-income populations.

Oral health of Michigan's low-income Head Start children compared to national averages[10]			
Oral Health Variable	**Michigan Head Start 2017-2018, 3-5 year olds**	**U.S., All Income Levels 2013-2014, 3-5 year olds**	**U.S., < 100% FPL 2013-2014, 3-5 year olds**
Decay Experience	35.2 (32.0 – 38.4)	29.7 (24.2 – 35.8)	35.3 (28.3 – 42.9)
Untreated Decay	22.4 (19.5 – 25.2)	14.1 (10.7 – 18.2)	18.8 (11.7 – 28.8)
Dental Sealants	1.7 (0.8 – 2.6)	4.3 (2.8 – 6.6)	2.9 (1.6 – 5.4)

Methods

The 2018 *MI Head Start Smiles* sampled children enrolled in Head Start, the target preschool population for the National Oral Health Surveillance System. All Head Start centers in Michigan with a funded enrollment of 10 or more children were included in the sampling frame. The sampling frame was stratified by geographic region and a systematic probability proportional to size cluster sampling scheme was used to select 50 Head Start centers.

Two of the Head Start centers closed prior to the survey and seven refused to participate. These nine centers were replaced with centers randomly selected from the same sampling interval as the refusing center. Data are available for all 50 sampling intervals.

Screenings were completed during the 2017-2018 school year. The MDHHS Oral Health Program received Institutional Review Board (IRB) approval to use passive parental consent for the survey. Letters were sent home to parents explaining the goals of the survey and parents were requested to send back a signed form only if they did not wish their child to participate.

Of the 2,488 children invited to participate, 2,009 were screened for a response rate of 81 percent. Trained dental hygienists completed the screenings using gloves, penlights, and disposable mouth mirrors. The diagnostic criteria outlined in the Association of State and Territorial Dental Directors' publication, *Basic Screening Surveys: An Approach to Monitoring Community Oral Health,* were used.[11] Parent reported race, ethnicity and primary language spoken at home was obtained from the Head Start center staff.

Data were collected using scan forms. All statistical analyses were performed using the SAS software complex survey procedures (Version 9.4; SAS Institute Inc., Cary, NC). Sample weights were used to produce population estimates based on selection probabilities and indicating the number of children in the sampling interval each screened child represented.

Data Tables

Table 1: Demographic and geographic characteristics of children participating in the Michigan Head Start Oral Health Survey (missing/unknown included), 2017-2018 (n=2,009)

Demographic Characteristic	# of children	Weighted percent	Lower 95% confidence limit	Upper 95% confidence limit
Age				
3 years	435	19.6	15.8	23.4
4 years	1,056	54.4	50.4	58.3
5 years	506	25.2	20.1	30.4
Missing/Unknown	12	0.8	0.1	1.5
Gender				
Male	975	48.2	45.4	50.9
Female	1,028	51.5	48.7	54.3
Missing/Unknown	6	0.3	0.0	0.6
Ethnicity				
Not Hispanic	1,777	89.1	85.0	93.2
Hispanic	204	9.4	5.5	13.2
Missing/Unknown	28	1.6	0.5	2.6
Race				
White	818	46.8	39.9	53.7
Black/African American	891	38.5	30.8	46.2
American Indian/Alaska Native	5	0.3	0.0	0.7
Asian	44	2.2	0.1	4.3
Native Hawaiian/Pacific Islander	1	0.1	0.0	0.2
Multi-racial	167	8.1	6.0	10.1
Other	57	2.8	1.2	4.4
Missing/Unknown	26	1.2	0.0	2.6
Race/Ethnicity				
Non-Hispanic White	696	40.8	33.6	48.0
Non-Hispanic Black	869	37.4	29.9	45.0
Hispanic	204	9.4	5.5	13.2
Other	206	10.5	6.8	14.1
Missing/Unknown	34	1.9	0.6	3.2
Language Spoken at Home				
English	1,867	92.9	88.2	97.6
Spanish	61	3.0	1.0	5.0
Middle Eastern/South Asian	57	3.0	0.0	7.2
East Asian	7	0.3	0.0	0.7
Other	3	0.2	0.0	0.4
Missing/Unknown	14	0.6	0.1	1.1
Geographic Location				
Detroit Metro Area	796	38.0	24.1	51.9
Upper Peninsula	86	4.0	0.0	9.6
Lower Lower Peninsula	1,043	50.0	35.6	64.4
Upper Lower Peninsula	84	8.0	0.2	15.8

Table 2: Percent of Michigan Head Start children with ***decay experience*** (treated, untreated and/or arrested decay) by selected characteristics, 2017-2018 (n=2,008)

Characteristic	Percent with decay experience	Lower 95% confidence limit	Upper 95% confidence limit
ALL CHILDREN	35.2	32.0	38.4
Age			
3 years	30.2	25.5	34.8
4 years	31.7	28.3	35.2
5 years	46.8	40.5	53.0
Gender			
Male	36.2	32.0	40.5
Female	34.1	30.5	37.8
Race/Ethnicity			
Non-Hispanic White	35.1	29.8	40.3
Non-Hispanic Black	33.0	28.8	37.2
Hispanic	36.5	26.9	46.1
Other	39.2	29.3	49.2
Language Spoken at Home			
English	35.1	31.8	38.3
Spanish	33.1	13.4	52.8
Other	39.5	16.6	62.4
Geographic Location			
Detroit Metro Area	31.7	27.9	35.6
Upper Peninsula	34.4	26.0	42.8
Lower Lower Peninsula	38.9	33.9	43.8
Upper Lower Peninsula	28.8	15.8	41.9

NOTE: Information on decay experience was missing for 1 child

Decay experience: Refers to having untreated decay, arrested decay or a dental filling, crown, or other type of restorative dental material. Also includes teeth that were extracted because of tooth decay.

Related Healthy People 2020 Objective

OH-1.2: Reduce the proportion of children aged 3-5 years who have dental caries experience

- Baseline: 33.3 percent of children aged 3-5 years had dental caries experience in 1999-2004
- Target: 30 percent

Current National Estimate (NHANES, 2013-2014)[10]

- 29.7 percent of children aged 3-5 years had decay experience in 2013-2014
    - 35.3 percent of 3-5 year old children ***below federal poverty level*** had decay experience in 2013-2014

Table 3: Percent of Michigan Head Start children with ***untreated decay*** (including arrested decay) by selected characteristics, 2017-2018 (n=2,006)

Characteristic	Percent with untreated/arrested decay	Lower 95% confidence limit	Upper 95% confidence limit
ALL CHILDREN	22.4	19.5	25.2
Age			
3 years	19.4	14.8	24.0
4 years	20.9	17.5	24.4
5 years	28.0	23.4	32.6
Gender			
Male	23.2	19.6	26.8
Female	21.4	18.0	24.9
Race/Ethnicity			
Non-Hispanic White	20.3	15.4	25.2
Non-Hispanic Black	23.5	19.5	27.5
Hispanic	22.0	15.3	28.8
Other	27.5	16.6	38.3
Language Spoken at Home			
English	22.3	19.5	25.1
Spanish	13.6	6.4	20.8
Other	31.5	14.0	49.1
Geographic Location			
Detroit Metro Area	24.0	20.2	27.8
Upper Peninsula	19.5	1.7	37.3
Lower Lower Peninsula	22.8	18.7	27.0
Upper Lower Peninsula	12.8	6.4	19.2

NOTE: Information on untreated/arrested decay was missing for 3 children

Untreated/arrested decay: Dental cavities or tooth decay that have not received restorative treatment.

Related Healthy People 2020 Objective

OH-2.2: Reduce the proportion of children aged 3-5 years with untreated/arrested dental decay

- Baseline: 23.8 percent of children aged 3-5 years had untreated/arrested dental decay in 1999-2004
- Target: 21.4 percent

Current National Estimates (NHANES, 2013-2014)[10]

- 14.1 percent of children ***aged 3-5 years*** had untreated/arrested decay in ***2013-2014***
    - 18.8 percent of 3-5 year old children ***below 100 percent FPL*** had untreated/arrested decay in 2013-2014

Table 4: Percent of Michigan Head Start children with ***arrested decay*** by selected characteristics, 2017-2018 (n=2,003)

Characteristic	Percent with arrested decay	Lower 95% confidence limit	Upper 95% confidence limit
ALL CHILDREN	0.4	0.1	0.8
Age			
3 years	0.2	0.0	0.5
4 years	0.7	0.1	1.3
5 years	0.1	0.0	0.4
Gender			
Male	0.1	0.0	0.3
Female	0.8	0.1	1.4
Race/Ethnicity			
Non-Hispanic White	0.3	0.0	0.8
Non-Hispanic Black	0.5	0.1	0.9
Hispanic	1.6	0.0	4.3
Other	0.0	.	.
Language Spoken at Home			
English	0.5	0.1	0.9
Spanish	0.0	.	.
Other	0.0	.	.
Geographic Location			
Detroit Metro Area	0.3	0.0	0.6
Upper Peninsula	0.0	.	.
Lower Lower Peninsula	0.5	0.0	1.0
Upper Lower Peninsula	1.4	0.0	3.8

NOTE: Information on arrested decay was missing for 6 children

Arrested decay: Dental cavities or tooth decay that have stopped progressing, generally associated with treatment using silver diamine fluoride.

Related Healthy People 2020 Objective

- None

Current National Estimates

- None

Table 5: Percent of Michigan Head Start children with ***demineralization*** (white spot lesions) by selected characteristics, 2017-2018 (n=2,002)

Characteristic	Percent with demineralization	Lower 95% confidence limit	Upper 95% confidence limit
ALL CHILDREN	22.5	16.4	28.6
Age			
3 years	24.0	15.8	32.2
4 years	21.5	15.9	27.2
5 years	22.9	12.4	33.4
Gender			
Male	26.0	19.2	32.8
Female	19.1	13.0	25.2
Race/Ethnicity			
Non-Hispanic White	17.9	10.4	25.3
Non-Hispanic Black	26.5	17.0	36.0
Hispanic	21.5	12.7	30.3
Other	28.4	18.1	38.6
Language Spoken at Home			
English	22.9	16.7	29.1
Spanish	14.6	3.8	25.4
Other	17.7	0.8	34.7
Geographic Location			
Detroit Metro Area	21.6	10.5	32.8
Upper Peninsula	7.1	0.0	17.4
Lower Lower Peninsula	27.4	18.9	35.8
Upper Lower Peninsula	4.0	0.0	11.0

NOTE: Information on demineralization was missing for 7 children

Demineralization: Child has teeth with the first stages of tooth decay that could be arrested or reversed with low-cost preventive services such as fluoride varnish and silver diamine fluoride.

Related Healthy People 2020 Objective

- None

Current National Estimates

- Not available

Table 6: Percent of Michigan Head Start children with ***incipient and/or overt tooth decay*** by selected characteristics, 2017-2018 (n=2,008)

Characteristic	Percent with incipient/overt decay	Lower 95% confidence limit	Upper 95% confidence limit
ALL CHILDREN	44.8	40.0	49.6
Age			
3 years	41.1	34.2	48.0
4 years	40.8	36.1	45.6
5 years	56.3	48.7	63.9
Gender			
Male	47.7	42.1	53.4
Female	41.8	36.8	46.7
Race/Ethnicity			
Non-Hispanic White	42.2	35.8	48.7
Non-Hispanic Black	45.0	37.8	52.2
Hispanic	47.0	38.4	55.7
Other	49.9	41.4	58.4
Language Spoken at Home			
English	44.8	39.9	49.7
Spanish	42.9	29.0	56.7
Other	44.7	21.0	68.5
Geographic Location			
Detroit Metro Area	41.7	33.5	50.0
Upper Peninsula	38.0	34.7	41.3
Lower Lower Peninsula	49.8	43.2	56.5
Upper Lower Peninsula	30.8	17.4	44.2

NOTE: Information on incipient/overt decay was missing for 1 child

Incipient and/or overt decay: Child has teeth with the first stages of tooth decay (incipient or non-cavitated decay) and/or has overt (cavitated) tooth decay that is treated, untreated or arrested.

Related Healthy People 2020 Objective

- None

Current National Estimates

- Not available

Table 7: Percent of Michigan Head Start children with at least one ***dental sealant*** by selected characteristics, 2017-2018 (n=2,003)

Characteristic	Percent with dental sealants	Lower 95% confidence limit	Upper 95% confidence limit
ALL CHILDREN	1.7	0.8	2.6
Age			
3 years	0.9	0.0	1.9
4 years	1.8	0.6	3.1
5 years	2.1	0.5	3.6
Gender			
Male	1.0	0.2	1.9
Female	2.3	1.0	3.6
Race/Ethnicity			
Non-Hispanic White	2.1	0.2	4.0
Non-Hispanic Black	1.2	0.3	2.2
Hispanic	0.9	0.0	2.2
Other	2.0	0.0	4.8
Language Spoken at Home			
English	1.7	0.8	2.6
Spanish	0.0	.	.
Other	3.0	0.0	6.3
Geographic Location			
Detroit Metro Area	2.2	1.0	3.3
Upper Peninsula	7.1	0.0	17.4
Lower Lower Peninsula	1.2	0.2	2.1
Upper Lower Peninsula	0.0	.	.

NOTE: Information on dental sealants was missing for 6 children

Dental sealant: A thin coating applied to the chewing surface of the back teeth to prevent decay.

Related Healthy People 2020 Objective

OH-2.2: Increase the proportion of children aged 3-5 years with dental sealants

- Baseline: 1.4 percent of children aged 3-5 years had dental sealants in 1999-2004
- Target: 1.5 percent

Current National Estimates (NHANES, 2011-2012)[10]

- 4.3 percent of children ***aged 3-5 years*** had a dental sealant in ***2011-2012***
    - 2.9 percent of 3-5 year old children ***below federal poverty level*** had dental sealants in 2011-2012

Table 8: Percent of Michigan Head Start children needing dental care by selected characteristics, 2017-2018 (n=1,976)

Characteristic	No need for dental care			Early need for dental care			Urgent need for dental care		
	Percent	Lower 95% CL	Upper 95% CL	Percent	Lower 95% CL	Upper 95% CL	Percent	Lower 95% CL	Upper 95% CL
ALL CHILDREN	76.2	73.1	79.4	19.1	16.1	22.1	4.7	3.3	6.1
Age									
3 years	77.0	71.7	82.2	19.5	14.3	24.6	3.6	1.2	5.9
4 years	78.0	74.5	81.5	17.8	14.6	21.0	4.2	2.4	6.0
5 years	71.6	66.8	76.4	21.7	17.5	25.9	6.7	4.2	9.2
Gender									
Male	74.4	70.3	78.5	21.3	17.2	25.4	4.3	2.5	6.1
Female	78.1	74.5	81.6	17.1	13.9	20.2	4.9	3.2	6.5
Race/Ethnicity									
Non-Hispanic White	79.1	74.4	83.8	16.8	12.1	21.4	4.1	2.0	6.3
Non-Hispanic Black	74.8	71.0	78.6	20.9	16.9	24.9	4.3	2.8	5.8
Hispanic	77.6	71.9	83.4	16.7	11.3	22.0	5.7	2.1	9.3
Other	68.8	57.2	80.4	24.1	14.0	34.3	7.1	1.7	12.5
Language Spoken at Home									
English	76.4	73.3	79.5	19.2	16.1	22.2	4.4	3.2	5.6
Spanish	84.7	78.2	91.2	11.7	5.6	17.9	3.6	0.0	7.4
Other	62.5	45.1	79.9	25.9	16.6	35.3	11.6	0.0	28.6
Geographic Location									
Detroit Metro Area	74.2	68.9	79.4	20.9	15.7	26.2	4.9	2.6	7.2
Upper Peninsula	80.5	62.7	98.3	18.2	2.3	34.0	1.4	0.0	3.4
Lower Lower Peninsula	75.5	71.5	79.5	19.8	15.9	23.7	4.7	2.8	6.5
Upper Lower Peninsula	88.9	80.1	97.6	5.8	2.1	9.4	5.4	0.0	11.0

CL: Confidence limit

Table 9: Percent of Michigan Head Start children needing ***urgent dental care*** by selected characteristics, 2017-2018 (n=1,976)

Characteristic	Percent needing urgent dental care	Lower 95% confidence limit	Upper 95% confidence limit
ALL CHILDREN	4.7	3.3	6.1
Age			
3 years	3.6	1.2	5.9
4 years	4.2	2.4	6.0
5 years	6.7	4.2	9.2
Gender			
Male	4.3	2.5	6.1
Female	4.9	3.2	6.5
Race/Ethnicity			
Non-Hispanic White	4.1	2.0	6.3
Non-Hispanic Black	4.3	2.8	5.8
Hispanic	5.7	2.1	9.3
Other	7.1	1.7	12.5
Language Spoken at Home			
English	4.4	3.2	5.6
Spanish	3.6	0.0	7.4
Other	11.6	0.0	28.6
Geographic Location			
Detroit Metro Area	4.9	2.6	7.2
Upper Peninsula	1.4	0.0	3.4
Lower Lower Peninsula	4.7	2.8	6.5
Upper Lower Peninsula	5.4	0.0	11.0

NOTE: Information on treatment urgency was missing for 33 children

Urgent dental care: Child needs dental care within 24-48 hours because of pain or infection.

Related Healthy People 2020 Objective

- None

Current National Estimates

- Not available

Table 10: Percent of Michigan Head Start children with ***treated decay*** by selected characteristics, 2017-2018 (n=2,007)

Characteristic	Percent with treated decay	Lower 95% confidence limit	Upper 95% confidence limit
ALL CHILDREN	17.0	14.1	19.9
Age			
3 years	13.4	9.3	17.5
4 years	13.9	11.3	16.6
5 years	26.7	19.8	33.6
Gender			
Male	17.6	14.2	20.9
Female	16.6	12.6	20.7
Race/Ethnicity			
Non-Hispanic White	18.2	13.5	22.8
Non-Hispanic Black	13.6	10.2	17.0
Hispanic	21.7	11.6	31.9
Other	17.2	10.7	23.7
Language Spoken at Home			
English	16.9	13.9	19.9
Spanish	24.2	1.5	46.9
Other	13.1	3.2	22.9
Geographic Location			
Detroit Metro Area	10.9	7.7	14.0
Upper Peninsula	15.6	7.2	24.0
Lower Lower Peninsula	21.6	16.8	26.4
Upper Lower Peninsula	18.3	8.3	28.3

NOTE: Information on treated decay was missing for 2 children

Treated decay: Child has had a dental filling, crown or a tooth extracted because of decay.

Related Healthy People 2020 Objective

- None

Current National Estimates

- Not available

Table 11: Percent of Michigan Head Start children with and without ***treated and/or untreated decay***, 2017-2018 (n=2,006)

Has Untreated Decay	Has Treated Decay		
	No	Yes	Total
No	65.2	12.9	78.1
Yes	17.9	4.1	21.9
Total	83.1	16.9	100.0

NOTE: Information on untreated and treated decay was missing for 3 children

Interpretation of Table 11:

- 65.2 percent of Michigan's Head Start children are caries free (no treated or untreated decay)
- 17.9 percent of Michigan's Head Start children have untreated decay and have never had dental treatment
- 4.1 percent of Michigan's Head Start children have received dental treatment but still have untreated decay

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