

BUILDING BRIDGES FOR HEALTHY SCHOOLS AND COMMUNITIES



**31ST ANNUAL
MISSOURI COORDINATED SCHOOL
HEALTH CONFERENCE**

February 21-23, 2024



MISSOURI DEPARTMENT OF
**HEALTH &
SENIOR SERVICES**

Office of Dental Health


State of Our Children's Oral Health in Missouri

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Objectives

Describe the current state of children's oral health in Missouri, examine prevalent issues, contributing factors and potential solutions.

To raise awareness about the state of children's oral health in Missouri, highlighting key issues and barriers to access.



**Tooth decay is
the most frequent
childhood
disease, but it's
also the most
preventable.**



Dental Caries Statistics

Prevalence of Dental Caries

Most common chronic disease in children

5 times more common than asthma

7 times more common than hay fever

Rate of Dental Caries

Age 2 – 5 years: 28%

Age 6 – 8 years: 52%

Age 12 – 17 years: 59%

80% of decay is found in 20-25% of children

CDCs Oral Health Surveillance Report, 2019 available at
<https://www.cdc.gov/oralhealth/publications/OHSR-2019-index.html>

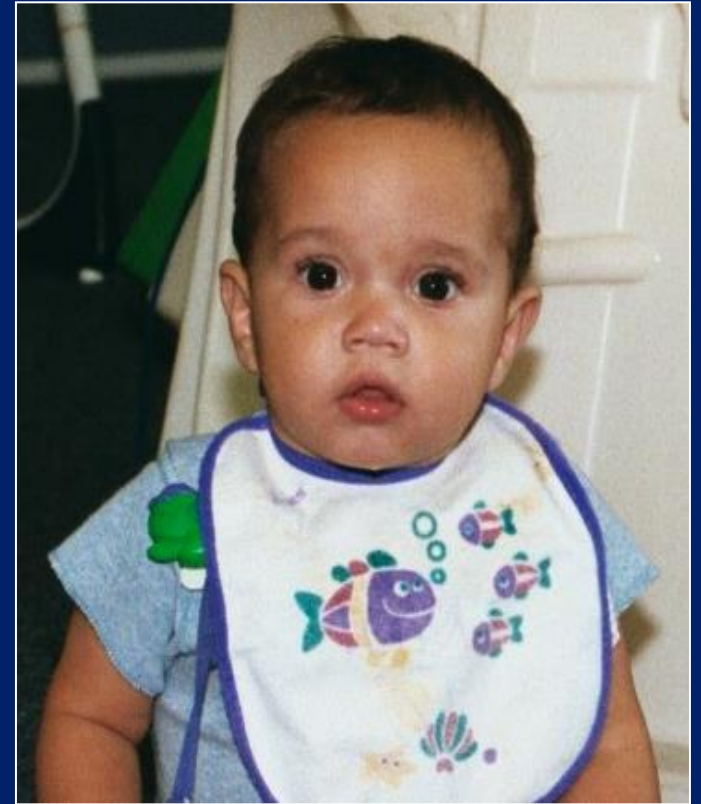
Early Childhood Caries Can Lead to...

- Extreme Pain
- Spread of infection
- Difficulty chewing, poor weight gain
- Falling off the growth curve
- Extensive and costly dental treatment
- Risk of dental decay in adult teeth
- Crooked bite (malocclusion)

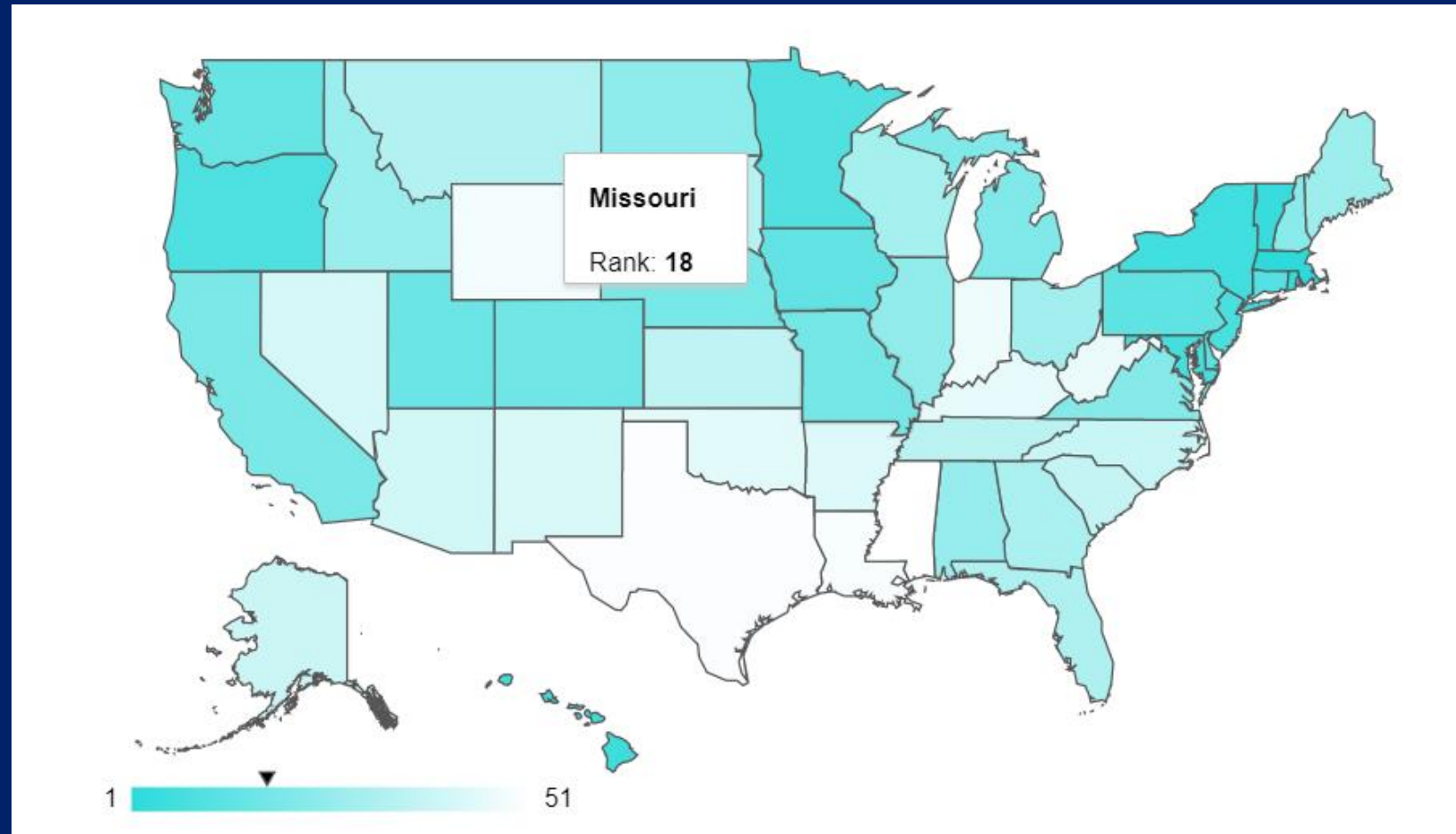


Consequences of Dental Caries

- Missed school days
- Impaired language development
- Inability to concentrate in school
- Reduced self esteem
- Possible facial cellulitis requiring hospitalization
- Possible systemic illness for children with special health care needs



2023's Best and Worst States for Children's Health Care



Snapshot of Missouri Oral Health

- 29% of 3rd graders have untreated tooth decay.
- Only 27.9% of Medicaid eligible children and teens aged 1-20 received preventive dental services.
- 6.7% of Medicaid eligible children aged 1-2 years received preventive dental services

Missouri Oral Health State Snapshot

Missouri

Overall State Totals 2021

1

29%



of 3rd grade children have untreated tooth decay

2



43,255

assessments or dental screenings were completed through the state dental program

3

6.7%



of Medicaid eligible children aged 1-2 years received preventive dental services

4



27.9%

of Medicaid eligible children and teens aged 1-20 years received preventive dental services

5



5,553

Medicaid eligible children and teens aged 1-20 years received oral health services provided by a non-dental provider

6



39.0%

of intellectually or developmentally disabled persons aged 0 and older have untreated tooth decay

7

43.4%



of Medicaid eligible pregnant women received preventive dental services

8



26.4%

of adults aged 18+ years have had at least one permanent tooth extracted

9

19.9%



of adults aged 65+ have had all of their permanent teeth extracted due to decay or disease

10



76.2%

of the population served by public water systems receive fluoridated

11



20.6%

of adults currently smoke cigarettes

12

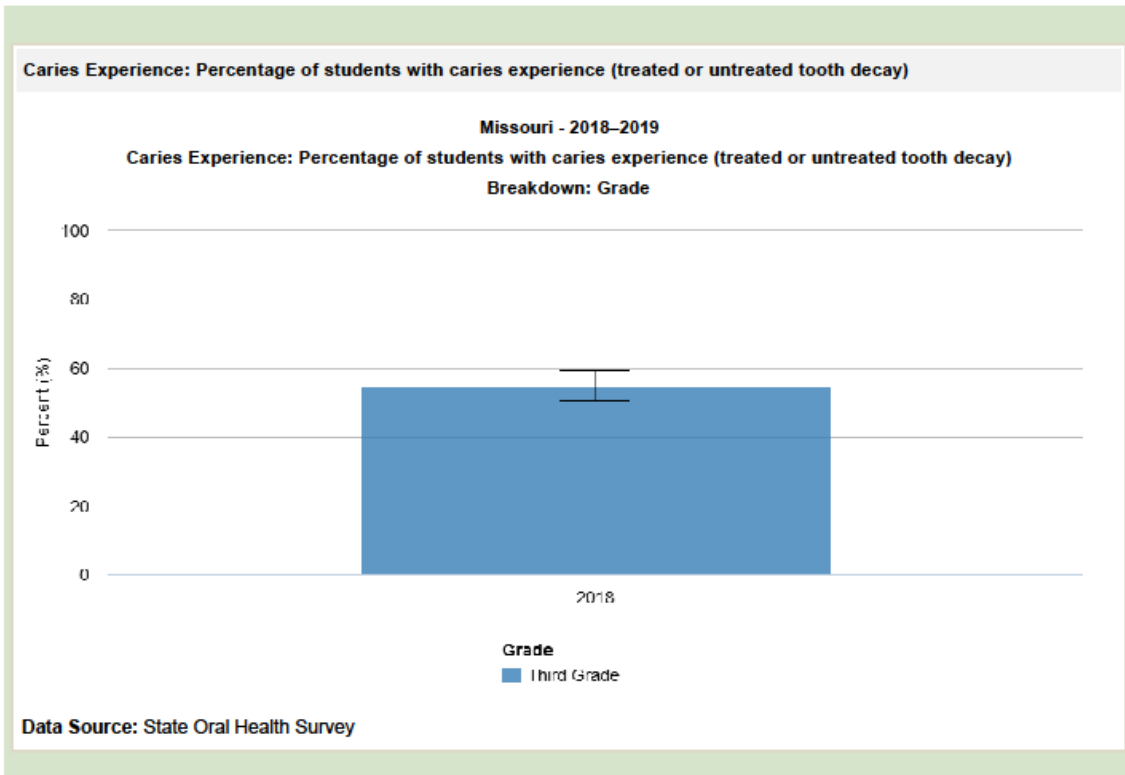


7.0%

of adults aged 18+ years currently use e-cigarettes

Caries Experience: Percentage of students with caries experience (treated or untreated tooth decay)

Missouri
Topic: Child



54.8% of third graders experienced tooth decay in Missouri (2018-2019)

CHILDREN WHO HAVE RECEIVED PREVENTIVE DENTAL CARE IN THE PAST YEAR IN MISSOURI

Location	Data Type	2016 - 2017	2017 - 2018	2018 - 2019	2019 - 2020	2020 - 2021
Missouri	Number	917,922	923,366	955,152	928,942	905,262
	Percent	71%	71%	74%	73%	70%

WHAT DO WE KNOW ABOUT ORAL HEALTH IN RURAL MISSOURI?

- Overall dental decay rates of school children are higher among children from rural counties.
- Need for urgent dental care is slightly higher in children from rural counties 1.83% verses urban 1.50%.
- Dental sealant rates are 3.07% lower in rural counties verses urban.
- 29 counties in Missouri don't have any fluoridated water systems. All of them are rural.
- Children from non-fluoridated areas have a 4% higher cavity rate.
- 11 Missouri counties don't have a dentist licensed registered in the county.
- 54% of Missouri Medicaid participants reside in rural counties.

Challenges in serving rural communities



Limited Access to dental care providers



Geographic barriers



Economic challenges



Lack of dental insurance coverage



Workforce recruitment and retention



Limited specialty care services

Challenges in serving rural communities



Infrastructure and technology gaps



Health literacy and awareness



Cultural and language barriers



Preventive services and education



Emergency care challenges

School-Based Caries Prevention, Tooth Decay, and the Community Environment

JDR Clinical & Translational Research

ORIGINAL REPORT: EPIDEMIOLOGIC RESEARCH

School-Based Caries Prevention, Tooth Decay, and the Community Environment

R.R. Ruff^{1,2} and R. Niederman¹

Living in a dental-shortage area and the proportion of children receiving free or reduced lunch were significantly related to an increased risk of dental caries.

Preventive Services Program (PSP)



Oral Health Education

Oral Health Screening
(0-18 years of age)

Fluoride Varnish
Application (2)

Referrals



Community Based

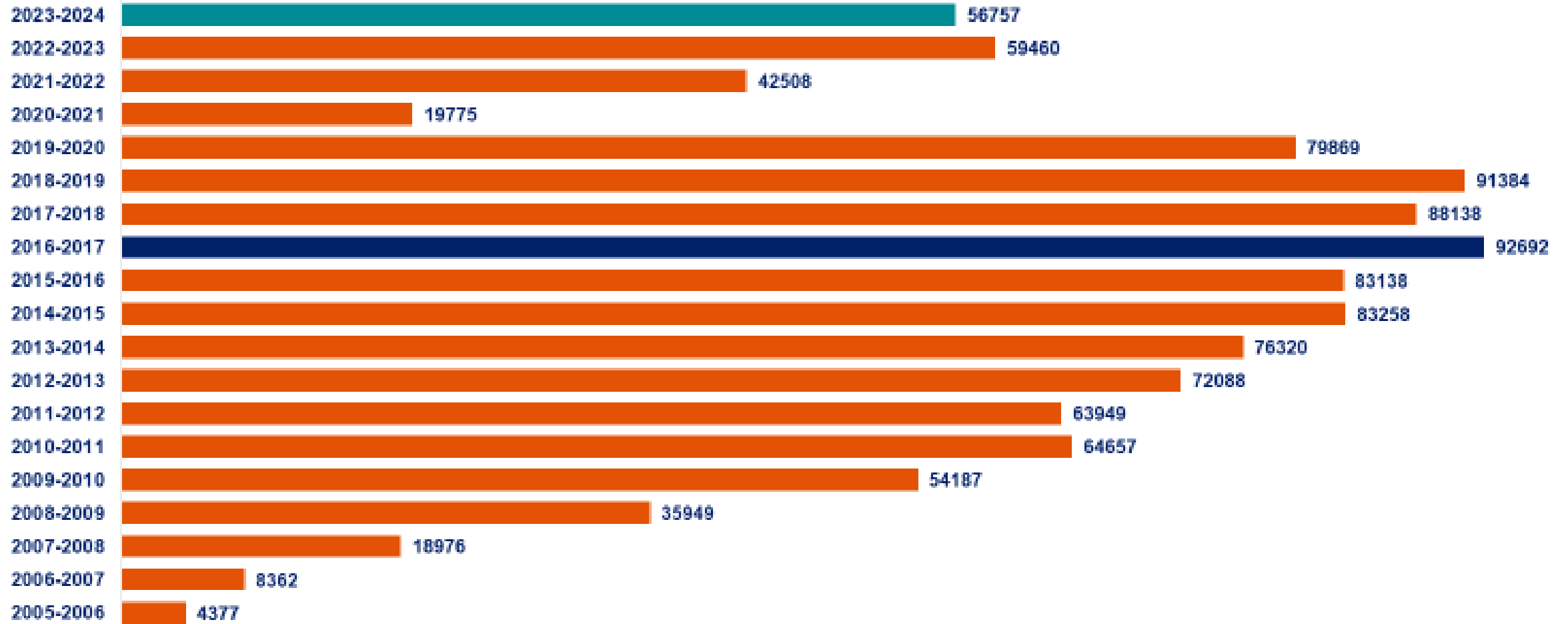


Fluoride Varnish

- Safe if swallowed—no nausea.
- Easy to learn to apply.
- Easy to perform application.
- Quickly completed.
- Sets on contact with moisture (saliva).
- Not rendered inactive by plaque.
- Taste is tolerable and well accepted.
- Can reverse early decay and can arrest active decay lesions.



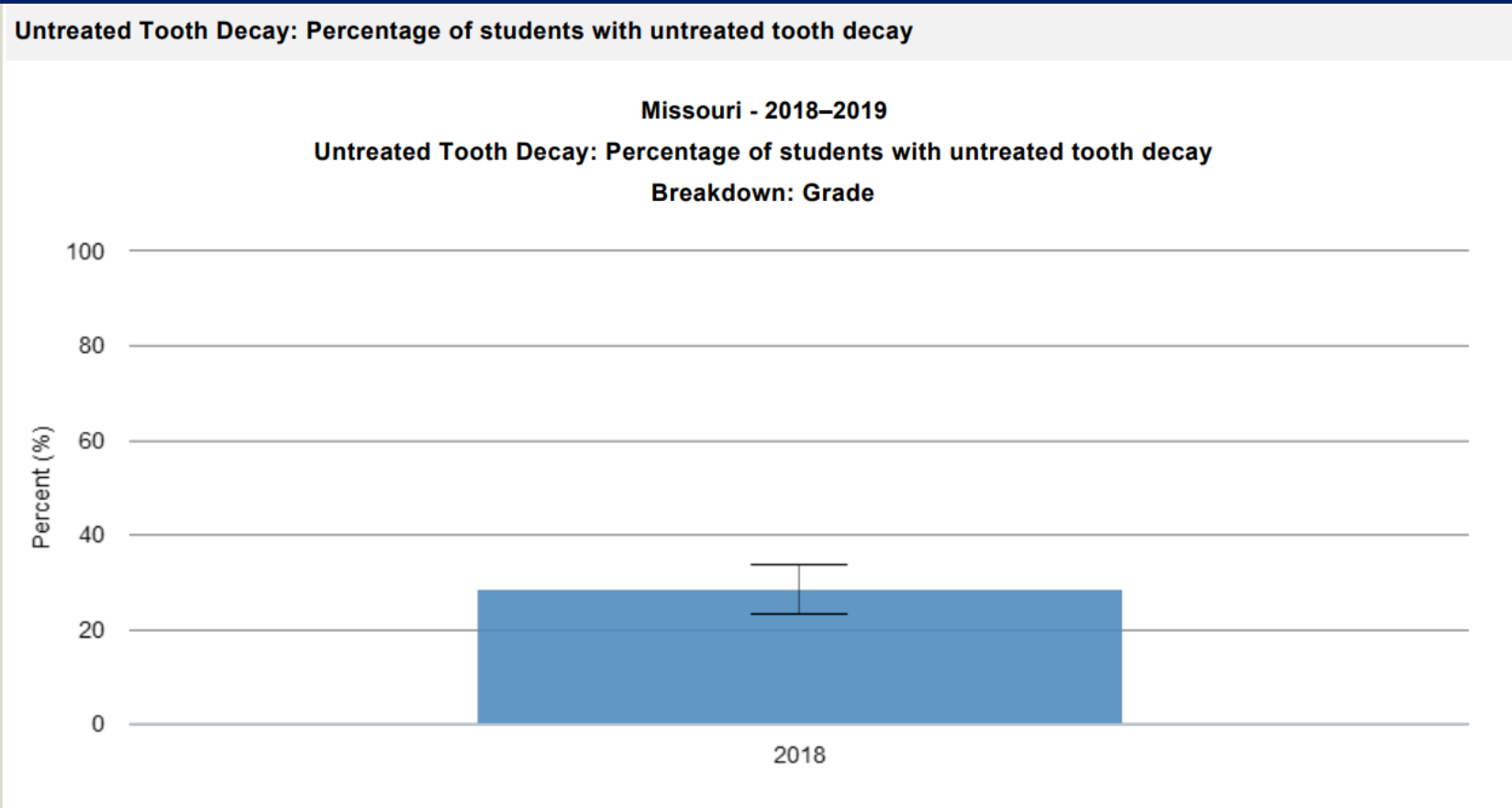
of PSP Participants




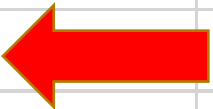
Impact of PSP Program - Fluoride Varnish Program (based on 2022 data)

- Estimated reduction of dental decay of Medicaid patients is about 7%. Overall reduction of 4%.
- Identification of schools and areas that are having problems accessing dental care by the Untreated Decay rate.
- JADA: Topical Fluoride Impact in Future Restorative Dental Procedures. The application of fluoride varnishes and gels increased the time to future restorative and extraction dental claims and **decreased the number of future restorative and extraction dental claims.**

Untreated Tooth Decay



28.5 % of our Missouri third graders have untreated tooth decay (2018-2019)

MO 2022-2023 PSP	Number of	Percent of Students			
Oral Hygiene Satisfactory	45369	76.30%			
Oral Hygiene Not Satisfactory	13902	23.38%			
History of Rampant Yes	6979	11.74%			
History of Rampant No	52289	87.94%			
Untreated Decay Yes	14679	24.69%			
Untreated Decay No	44718	75.20%			
Treated Decay Yes	19372	32.58%			
Treated Decay No	40019	67.30%			
Urgent Care Needed	2609	4.39%			
Sealants Yes*	9220	26.07%			
Sealants No*	26004	73.52%			
Total Number of Students Screened	59463				
*data reported on grades 3rd-12th only	35370				
*Note: 'Total Number of Students Screened' does not include all 59465 PSP participants					

All schools listed are in counties with a shortage of dentists.

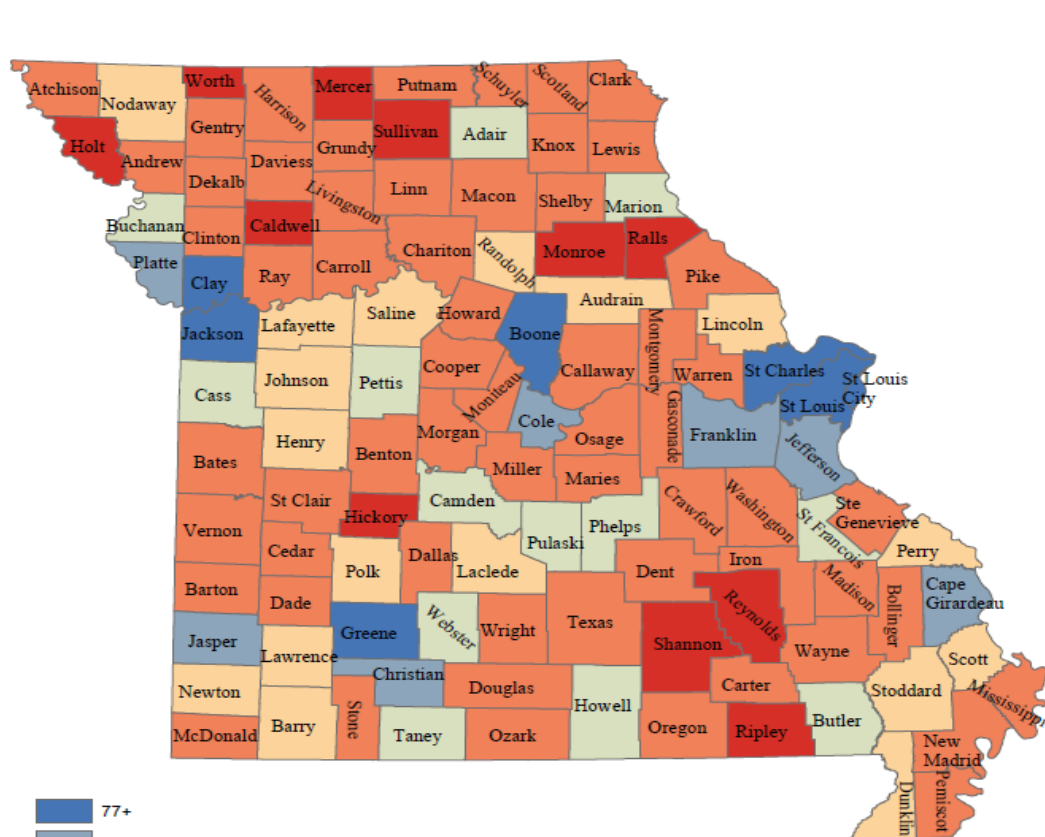
TOP 10 SCHOOLS WITH CHILDREN HAVING HIGHEST UNTREATED DECAY 2021-22

School, School District	City, County	# with Untreated Decay
Butler Elementary School, Butler R-V	Butler, Bates	191
Southern Boone Primary & Elementary, Southern Boone Co. R-I	Ashland, Boone	154
South Elementary, Kennett #39	Kennett, Dunklin	130
Gladden Elementary, Belton 124	Belton, Cass	119
Palmyra Elementary, Palmyra R-I	Palmyra, Marion	117
Henry Elementary, Clinton	Clinton, Henry	112
Orchard Drive Elementary, Jackson R-II	Jackson, Cape Girardeau	108
Sherwood Elementary, Sherwood-Cass R-VIII	Creighton, Cass	99
Willard Intermediate North, Willard R-II	Willard, Greene	92
South Harrison Elementary, South Harrison Co. R-II	Bethany, Harrison	89

All schools are in counties with at least 1 dentist.

The PSP program is able to identify these children that need dental care and help them find a dental home.

Dentist per County

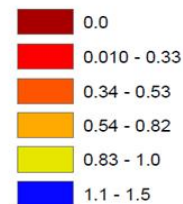
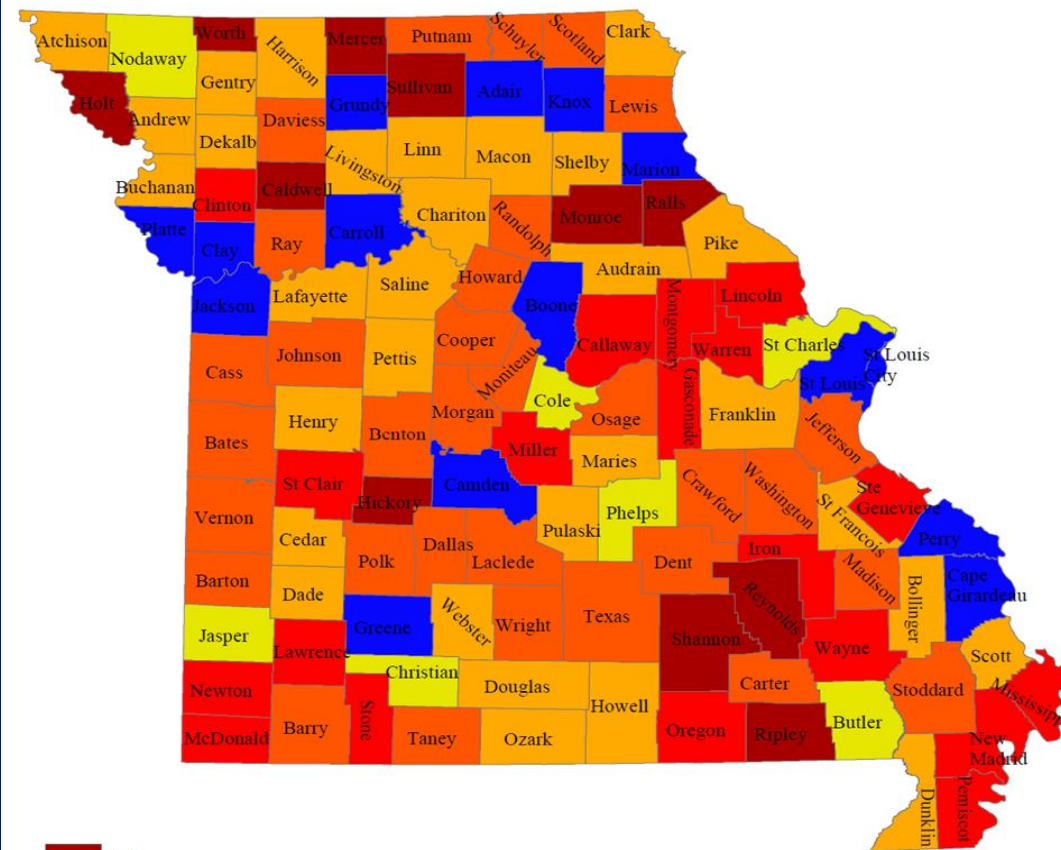


Dentist <https://pr.mo.gov/listings-den.asp>

Date: 7/13/2022

HRSA Dentists Shortage Areas

All counties NOT colored Blue



Ratio Dentist Per 2100 Individuals
By County
Population data 2020 MICA
Dentist <https://pr.mo.gov/listings-den.asp>
Dentist per 2100 population based on: <https://pubmed.ncbi.nlm.nih.gov/28765446/>

Date: 7/13/2022



St. Louis Public School District Partnering with Colgate



LEVEL UP KIDS

Rural Parish Clinic- Dental

314-225-4034



PROVIDING FREE DENTAL CARE FOR
UNDERSERVED CHILDREN IN THE ST. LOUIS,
MO REGION



More than \$850,000 in Free Care
Provided to more than 850 patients
By approximately 700 volunteers

1,088 DIAGNOSTIC X-RAYS
606 CLEANINGS
615 FILLINGS
1,162 EXTRACTIONS
114 ROOT CANALS

Thank You Everyone!



**We offer extremely
affordable, quality
dental care!**

**Only a \$20 per
registration!**

**Oral Health Network
of Missouri**

Missouri Primary Care
Association's oral health
program, the Oral Health
Network of Missouri,
provides services to
member dental clinics in
support of their mission to
provide comprehensive
dental care to their patients.



UNIVERSITY OF MISSOURI-KANSAS CITY

SCHOOL OF
DENTISTRY

ATSU | Missouri School of
Dentistry & Oral Health



SCHOOOL BASED SEALANT PROGRAM

Dental sealants can prevent cavities when applied to molar teeth.



School-based programs are one way to reach millions of children with sealants to prevent cavities.

SCHOOL-BASED ORAL HEALTH PROGRAMS: **DENTAL SEALANTS** BY THE NUMBERS



DENTAL SEALANTS

Dental sealants act as a shield for your teeth. They are thin, protective coatings that are applied to the back teeth, because the chewing surfaces are hard to keep clean. Teeth with sealants are less likely to be affected by germs and food, making it easier to avoid tooth decay. School-based sealant programs are an effective way to deliver preventive services to children who otherwise may not receive them. These services also help families save time and money!

THE NUMBERS

30

Preschools and schools with an oral health program during the 2022-2023 school year.

1,741

Children served by a school-based oral health program during the 2022-2023 school year.

4,505

Teeth that received a dental sealant during the 2022-2023 school year.

WHO WE HELP

PK-12th grade children served during the 2022-2023 school year.

43% of children served were eligible for Medicaid during the 2022-2023 school year.

48% of children served did not have dental health insurance during the 2022-2023 school year.

OUR PROGRAMS

The Missouri Department of Health and Senior Services funds school-based oral health programs that offer a variety of dental services in preschools and schools with a high number of children from low-income households. All programs provide services to help prevent cavities, such as fluoride varnish treatments, while some programs provide restorative services such as fillings.



Dental sealants



Low-cost dental care



Office of Dental Health



(573)751-5874



Oralhealth@health.mo.gov

ORALHEALTH.MO.GOV

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1,741 Children served by a school-based oral health program during the 2022-2023 school year.

4,505 Teeth that received a dental sealant during the 2022-2023 school year.

CDC Sealant Program 10,500 Sealants Placed

- CDC Funding of \$354,000 per year for five years, we hope to renew the grant in August 2024.
- Goal to provide sealants to students in high risk schools.
- Schools that had more than 50% of children on Free or Reduced Lunch Program (FRLP) participants.
- During the school year 2022-2023, 995 students received 4505 sealants
- Five Contractors, UMKC, Jefferson County HD, Lincoln County HD, Missouri Southern State University, and recently added St. Louis Community College.



Photo of sealed tooth curtesy of
Ohio Department of Health

Elks Dental Van

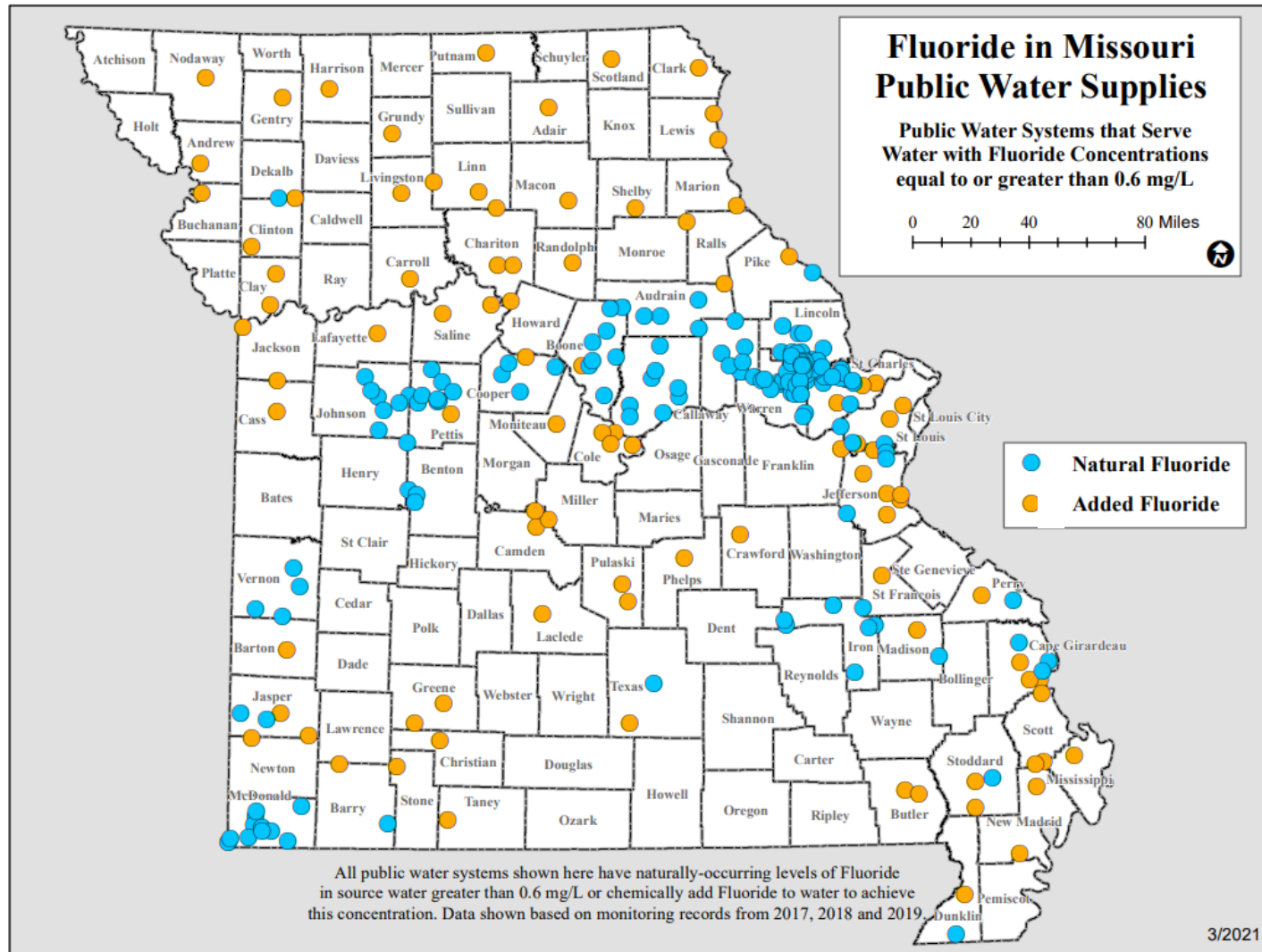
Year	Patient Visits	Procedures	Estimated Value	Number of Counties Served	Notes
Totals for SFY19	546	4945	\$ 234,013.00	60	Start of COVID
Totals for SFY20	441	3900	\$ 182,756.00	58	
Totals for SFY21	429	3716	\$ 183,799.00	80	
Totals for SFY22	430	3599	\$ 191,870.00	71	RDH & DDS retired

- Delivering care to children and adults with developmental or intellectual disabilities
- Two mobile units one on east side of the state and one on the west
- UMKC dental students working one week a month on KC side.
- Part time dentist works one week a month on STL side.



CWF achieves
25% decay
reduction in all
citizens
regardless of
income or other
socio-economic
factors.

COMMUNITY WATER FLUORIDATION (CWF)



- 76.2% of the Missouri population is served by public water systems which receive fluoride.
- CWF has a very low cost of \$.05 per day per person.
- One dollar in CWF returns in \$25 in averted dental care.

Human Papilloma Virus (HPV)

- HPV is responsible for the recent surge in head and neck cancers.
- The American Dental Association, American Academy of Pediatrics, CDC and many other agencies and organizations recommend HPV vaccine for prevention of HPV infection.
- ODH is partnering with the Bureau of Immunizations to promote HPV vaccinations.

Dental Screening Laws

STATES WITH DENTAL SCREENING LAWS

- » California
- » District of Columbia
- » Georgia
- » Illinois
- » Iowa
- » Kansas
- » Kentucky
- » Nebraska
- » New York
- » Oregon
- » Pennsylvania
- » Rhode Island
- » South Carolina
- » Utah
- » West Virginia

A New K-12 Oral Health Curriculum!

Cairn Guidance, Curriculum, Instruction & Assessment, Partnerships

The 2021 Oregon Legislative Assembly, passed a House Bill that included the expectation each public school in the state must provide age-appropriate instruction in oral health to be included within the health education curriculum.

Oral Health Curriculum

<https://healthyteethoregon.org/resources>

This curriculum is free and accessible to all educators and nurses.

English Curriculum

[Teacher Guide](#)

Kindergarten

- [Lessons & Materials](#)
- [Presentations](#)

Grade 1

- [Lessons & Materials](#)
- [Presentations](#)

Grade 2

- [Lessons & Materials](#)
- [Presentations](#)

Grade 3

Spanish Curriculum

[Teacher Guide](#)

Kindergarten

- [Lessons & Materials](#)
- [Presentations](#)

Grade 1

- [Lessons & Materials](#)
- [Presentations](#)

Grade 2

- [Lessons & Materials](#)
- [Presentations](#)

Grade 3

How can we collaborate and create partnerships?

- Increase our reach with the PSP programs, ask if your school nurses participate
- Offer to volunteer and participate in a PSP event
- Educate your students on oral health and prevention of cavities
- If your city is not naturally fluoridated at the optimal level, consider asking the city council about possible implementation
- Support legislation that increases access to care, supports community water fluoridation, Medicaid coverage increases, school based oral health reviews and increased HPV vaccination rates



**Thank you for all you do
for our students!!**

QUESTIONS?



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Ruff, R. R., & Niederman, R. (2018). School-Based Caries Prevention, Tooth Decay, and the Community Environment. *JDR clinical and translational research*, 3(2), 180–187.
<https://doi.org/10.1177/2380084417750612>