Oral Health Surveillance Plan

2013 to 2018

The Michigan Oral Health Program

Building a Stronger, Healthier Michigan

Now that's something to SMILE about!

Michigan Department of Community Health

MDCH

Rick Snyder, Governor

James K. Haveman, Director

Table of Contents

Appendices

Acknowledgments

CDC Division of Oral Health

Introduction:

Oral health is intimately related to the health of the rest of the body. Mounting evidence suggests that infections in the mouth such as periodontal (gum) diseases can increase the risk for heart disease, put pregnant women at greater risk for premature delivery, and complicate control of blood sugar for people living with diabetes. Conversely, changes in the mouth often are the first signs of problems elsewhere in the body such as infectious diseases, immune disorders, nutritional deficiencies, stroke, and cancer. Reliable and relative information concerning the burden of diseases and risk factors that cause them is a vital contribution to health management and development process.

Dental caries is the most common chronic disease in children, five times more common than asthma.[1] Nationally, 51 million school hours[2] and 164 million work hours are lost due to oral disease.[1] Dental disease has been associated with such chronic diseases as diabetes, stroke and heart disease, and recent reports correlate increased risk for poor birth and pregnancy outcomes such as preterm, low birth weight and gestational diabetes. Further, many adults lose their dental coverage following retirement, increasing their vulnerability to oral disease and these associated conditions. As with other body systems, malignancies of the oral cavity are highly fatal when detected late.

The Michigan Department of Community Health (MDCH), in concert with oral health professionals around the state, has taken the lead in developing the needed oral health surveillance system. The first Oral Health Surveillance Plan was created in 2009. The creation of the Michigan oral health surveillance system fulfilled the Healthy People 2010 objective 21-16 which called for every state to have an oral and craniofacial health surveillance system. The oral health surveillance system has enabled measurements of several health outcomes described in CDC's State Oral Health Program Logic Model (See Appendix A), the National Oral Health Surveillance System (NOHSS), Health People 2010 (HP2010), and HP2020 oral health objectives (see Appendix B for a complete list of HP2020 objectives). These include:

1. Reduction in dental caries prevalence among children,
2. Reduction in untreated dental decay prevalence among children and adults,
3. Increased access to fluoridated water,
4. Increased use of dental sealants,
5. Increased use of the oral health care system by adults and children, and
6. Increased early detection of oral cancer.

Purpose and Objectives:

The purpose of the oral health surveillance system is to provide a consistent source of updated reliable and valid information for use in developing, implementing, and evaluating programs to improve the oral health of Michigan citizens. The objectives of the oral health surveillance system are to:

1. Estimate the magnitude of oral disease in Michigan,
2. Monitor trends in oral health indicators,
3. Evaluate the effectiveness of implemented programs and policy changes,
4. Identify vulnerable population groups, and
5. Communicate and provide information for decision-making.

The 2009 Surveillance Plan established a statewide baseline of oral health data. The 2013-2018 Surveillance Plan will update the previous surveillance plan with new national objectives and targets, statewide and national oral health surveillance sources, and Michigan's plan for the next six years for continuing their surveillance efforts and filling gaps that have been identified.

Data compiled and maintained by the state will be shared with stakeholders to enable evidence-based practice and implementation of Michigan's State Oral Health Plan. This statewide data system will monitor oral health indicators and evaluate the impact of prevention initiatives. Ultimately, the system may provide opportunities to link with other data systems and yield additional oral health outcomes.

The vital information from surveillance will aid the development and implementation of new programs as well as the evaluation and improvement of existing oral health programs. Data is vital to the implementation and evaluation of oral health programs. Specifically, MDCH, the Medicaid program, and their service populations will benefit through improved identification and targeting of vulnerable populations. Additionally, residents who maintain good oral health behaviors may reduce the burden on dental insurance companies thus enabling expansion of affordable dental insurance. Overall, there are many stakeholders that can benefit from a quality oral health infrastructure that includes surveillance.

Oral Health Indicators:

The Oral Health Program in Michigan follows national guidelines and standards that come from two main sources:

1. The National Oral Health Surveillance System (NOHSS): Developed in collaboration with the Centers for Disease Control and Prevention (CDC) and the Association of State and Territorial Dental Directors (ASTDD).
2. Healthy People: Provides science-based, 10-year national objectives for improving the health of all Americans.

Other national standards are also reviewed and utilized, including recommendations from the chronic disease indicators established by the Council of State and Territorial Epidemiologists (CSTE) and the American Cancer Society. Indicators that are being monitored in Michigan are listed in the table below and includes the surveillance indicator, who set the standard, and the data source Michigan is using to monitor the standard, Table 1. Indicators can also be seen broken out by population in Appendix C.

Table 1. Oral Health Indicators Monitored by Michigan

Surveillance Indicator	Michigan Data Source	National Standard
Dental Visits		
Adults aged 18+ who have visited a dentist or dental clinic in the past year.	BRFSS	NOHSS CSTE
Teeth Cleaning		
Adults aged 18+ who have had their teeth cleaned in the past year (among adults with natural teeth who have ever visited a dentist or dental clinic).	BRFSS	NOHSS CSTE
Complete Tooth Loss		
Adults aged 65+ who have lost all of their natural teeth due to tooth decay or gum disease.	BRFSS BSS-elderly	NOHSS CSTE
Lost 6 or More Teeth		
Adults aged 65+ who have lost six or more teeth due to tooth decay or gum disease.	BRFSS	NOHSS
Fluoridation Status		
Percentage of people served by public water systems who receive fluoridated water.	WFRS	NOHSS HP2020

Caries Experience		
Percentage of 3rd grade students with caries experience, including treated and untreated tooth decay.	CYS-BSS	NOHSS
Reduce the proportion of children and adolescents who have dental caries experience in their primary or permanent teeth.	NHANES	HP2020
Reduce the proportion of adults who have ever had a permanent tooth extracted because of dental caries or periodontal disease.	NHANES	HP2020
Untreated Tooth Decay		
Percentage of 3rd grade students with untreated tooth decay.	CYS-BSS	NOHSS
Reduce the proportion of children and adolescents with untreated dental decay.	NHANES	HP2020
Reduce the proportion of adults with untreated dental decay.	NHANES	HP2020
Reduce the proportion of adults aged 45-74 with moderate or severe periodontitis.	NHANES	HP2020
Dental Sealants		
Percentage of 3rd grade students with dental sealants on at least one permanent molar tooth.	CYS-BSS	NOHSS
Increase the proportion of children and adolescents who have received dental sealants on their molar teeth.	NHANES	HP2020
Cancer of the Oral Cavity and Pharynx		
Increase the proportion of oral and pharyngeal cancers detected at the earliest stage.	MCSP	HP2020
Mortality from cancer of the oral cavity and pharynx.	MCSP	CSTE/Chronic Disease Indicators
Incidence of invasive cancer of the oral cavity or pharynx.	MCSP	CSTE/Chronic Disease Indicators
Health Care System		
Increase the proportion of children, adolescents, and adults who used the oral health care system in the past year.	MEPS	HP2020
Increase the proportion of low-income children and adolescents who received any preventive dental service during the past year.	MEPS	HP2020
Increase the proportion of school-based health centers with an oral health component.	SBHCC	HP2020
Increase the proportion of local health departments and Federally Qualified Health Centers (FQHCs) that have an oral health program.		HP2020
Increase the proportion of adults who receive preventive interventions in dental offices.	NHANES BRFSS	HP2020 Developmental

Data Collection Schedule:

In the next six years, the Michigan Oral Health Program is planning to continue and expand the surveillance of the Michigan population using several different data sources and methods. The projected collection timeline can be seen in Table 2 and more information on each data source can be seen in the next section.

Table 2: Years in which oral health data sources are expected to provide data

Data Source/Year	2013	2014	2015	2016	2017	2018
WFRS	X	X	X	X	X	X
SEAL! Michigan	X	X	X	X	X	X
BRFSS		X		X		X
BSS- 3rd grade		X	X			
BSS- elderly	X	X	X	X	X	X
Medicaid/HKD	X	X	X	X	X	X
Cancer Registry	X	X	X	X	X	X
Birth Defects	X	X	X	X	X	X
Inpatient Hospital Database	X	X	X	X	X	X
Mortality	X	X	X	X	X	X
PRAMS	X	X	X			
Youth Tobacco Survey	X		X		X	
HPV Vaccination Rates	X	X	X	X	X	X
Workforce Licensing Survey	X	X	X	X	X	X

Data Sources:

Name: Water Fluoridation Reporting System
Acronym: WFRS
Purpose and History: WFRS is a tool that helps states to manage the quality of their water fluoridation programs. WFRS was modeled after the U.S. Environmental Protection Agency's Safe Drinking Water Information System to support exchange of data and updates on utility system configurations. Data has been collected since 1998.
Data Collection Process: WFRS is a web-based database where each state enters and maintains data.
Population Included: Each record is a water system in Michigan.
Oral Health Topics: Data elements include water system type, water source, inspection dates, fluoride levels, and number of populations served.
Additional Information: For more information about WFRS and national data for comparison, visit http://www.cdc.gov/fluoridation/fact_sheets/engineering/wfrs_factsheet.htm. For more information on fluoridation in Michigan visit http://www.michigan.gov/mdch/0,4612,7-132-2942_4911_4912_6226-267604--,00.html.

Name: SEAL! Michigan
Purpose and History: SEAL! Michigan is a dental sealant school-based program designed to provide eligible students with dental sealants on their first and second permanent molars to prevent tooth decay. The SEAL! Michigan program has been in Michigan since 2007.
Data Collection Process: Each year select Michigan schools are visited by PA 161 hygienists to examine the condition of teeth in students. The hygienist completes a paper-based screening form for each student seen. Paper-based forms are also completed for each school they visit. The paper form is later entered into an electronic database.

Population Included: Students participating in the Free and Reduced Lunch Program in first, second, sixth, and seventh grades (all grades in Wayne County) with a positive parental permission slip.
Oral Health Topics: Current condition of teeth (i.e. decay, missing, sealant present), preventive services applied to teeth (i.e. sealants placed), and retention/follow-up checks of sealed teeth.
Additional Information: For more information from Michigan's SEAL! Michigan program, visit http://michigan.gov/mdch/0,4612,7-132-2942_4911_4912_6226-279800--,00.html.

Name: Michigan Behavioral Risk Factor Surveillance System
Acronym: MiBRFSS
Purpose and History: The MiBRFSS is a source of estimates of the prevalence of certain health behaviors, conditions, and practices that are associated with the leading causes of death. Michigan has conducted the BRFSS survey since 1987.
Data Collection Process: Annual estimates are based on data collected by telephone (landline and cell phone) from a sample of Michigan adults selected using random-digit dial methods. It is a population-based representative sample of non-institutionalized Michigan residents 18 years of age and older. The data are weighted to represent the general adult population in Michigan. MiBRFSS interviewers use a Computer Assisted Telephone Interviewing (CATI) system, which provides the interviewer with prompts. The interviewer types the respondent's responses directly onto the computer screen or selects the appropriate response from a list in the computer screen, providing quality control and minimizing interviewer error.
Population Included: A record is a completed telephone interview. The selected respondent must be a Michigan resident, 18 years of age or older, living in a private residence or college housing, and owns a telephone. One randomly selected adult from a household is interviewed.
Oral Health Topics: Core oral health questions are included on the national and Michigan BRFSS survey every two years. Topics include frequency of dental visits, tooth loss, and access to oral health care. In 2014 two new oral questions will be added on the topic of oral health insurance and oral cancer screening.
Additional Information: For more information about the BRFSS and national data for comparison, visit http://cdc.gov/brfss/index.htm. For a complete report of the Michigan BRFSS survey, visit http://michigan.gov/brfs.

Name: Count Your Smiles Basic Screening Survey-3rd Grade
Acronym: BSS-3rd Grade
Purpose and History: The BSS is a standardized set of surveys designed to collect information on the observed oral health of participants. Michigan first administered the survey in 2005 and conducts the survey every five years.
Data Collection Process: Michigan elementary schools are randomly selected and students are sampled within each school. Parents of the selected student complete a paper-based survey and a dental hygienist performs an oral screening of the selected student.
Population Included: Third grade students from a public school in Michigan.
Oral Health Topics: Cavitated lesions, caries experience, untreated decay, sealants, treatment urgency, fluorosis, history of toothache, time since last dental visit, reason for last dental visit, problems in obtaining dental care, and dental insurance.
Additional Information: For more information about the BSS, visit http://www.astdd.org/basic-screening-survey-tool/. For a complete report of the Michigan BSS or Count Your Smiles survey, visit http://www.michigan.gov/documents/mdch/2010_CYS_Final_Report_Booklet_372949_7.pdf.

Name: Basic Screening Survey-Elderly
Acronym: BSS-Elderly
Purpose and History: The BSS is standardized set of surveys designed to collect information on the observed oral health of participants. Michigan currently administers this survey on a regional basis with the goal to survey every region within a few years.

Data Collection Process: Regions of the Area Agencies of Aging (AAA) congregate meal sites and senior centers are selected to provide a convenience sample. Seniors attending the senior centers are recruited at each site. The seniors complete a survey and the dental hygienist performs an oral screening of the selected senior.
Population Included: Seniors attending AAA senior centers, congregate meal sites and health fairs.
Oral Health Topics: Cavitated lesions, caries experience, untreated decay, treatment urgency, history of toothache, periodontal disease, tooth loss, dry mouth, time since last dental visit, reason for last dental visit, problems in obtaining dental care, and dental insurance.
Additional Information:

Name: Healthy Kids Dental and Medicaid Utilization Information
Acronym: HKD-MA
Purpose and History: The HKD and Medicaid claims data provides utilization data on beneficiaries and dental providers that include services rendered and cost of care.
Data Collection Process: Claims and eligibility data are submitted to the MDCH Data Warehouse on a regular basis. Queries on total utilization of services, the number of beneficiaries seen, the number of dentists providing services, the types of services rendered, and the amount paid for dental services are run on an annual basis to report the information.
Population Included: Medicaid beneficiaries, MIChild enrollees
Oral Health Topics: Beneficiaries, enrollees, procedure codes, services rendered, amount paid, providers, and date of service.
Additional Information: For more information on CMS dental care, visit: http://www.medicaid.gov/Medicaid-CHIP-Program-Information/By-Topics/Benefits/Dental-Care.html. For more information on EPSDT data and the Form CMS-416 that is used to collect basic information on state Medicaid and CHIP Programs to assess the effectiveness of EPSDT, visit: http://www.medicaid.gov/Medicaid-CHIP-Program-Information/By-Topics/Benefits/Early-and-Periodic-Screening-Diagnostic-and-Treatment.html

Name: Michigan Cancer Surveillance Program
Acronym: MCSP
Purpose and History: MDCH is mandated by Act 82 of 1984 to establish a cancer registry for the state of Michigan. This statute states the department shall establish a registry to record cases of cancer and other specified tumorous and precancerous diseases that occur in the state, and to record information concerning these cases as the department considers necessary and appropriate in order to conduct epidemiologic surveys of cancer and cancer-related diseases in the state.
Data Collection Process: Facilities in Michigan report cancer cases to the state central cancer registry either manually on paper or automated with computer data files. State cancer data is compiled and analyzed every year.
Population Included: Michigan residents diagnosed with cancer.
Oral Health Topics: Oral related cancers including lip, tongue, cheek, palate, pharynx, and palate.
Additional Information: http://michigan.gov/mdch/0,4612,7-132-2944_5323---,00.html

Name: Michigan Birth Defects Registry
Acronym: MBDR
Purpose and History: In 1987, the public health code was amended by Act 48 (Public Act 368) to require establishment of a birth defects registry. The Michigan Birth Defects Registry was established as a statewide reporting system in 1992 and continues today as a passive system that relies on reporting from hospitals and laboratories for case ascertainment. Data is collected and analyzed to conduct birth defect surveillance, conduct studies of birth defect causes and prevention, and to insure the families of children with birth defects receive appropriate support services. Data from the MBDR is used to effectively plan and implement prevention activities including multivitamin distribution.
Data Collection Process: Cases are reported to the MBDR either electronically or by completion of a report form. Cases are reported as soon as possible after the diagnosis has been recorded in the patient's medical

record.
Population Included: Michigan residents diagnosed with a reportable defect from birth to two years of age.
Oral Health Topics: Many oral defects are reported in MBDR including cleft palate and cleft lip.
Additional Information: http://www.michigan.gov/mdch/0,4612,7-132-2944_4670---,00.html

Name: Michigan Inpatient Database
Acronym: MIDB
Purpose and History: These data help support the State of Michigan health planning activities and are used by facilities themselves for internal evaluation. MDCH has purchased data from the Michigan Health and Hospital Association since 1982.
Data Collection Process: Data are collected throughout a patient hospital stay by clinical and administrative staff and filed within a medical record. Hospital medical record personnel ascertain and keypunch information from these records. Some small hospitals complete data collection forms and send these directly to MHA for processing. Depending on the facility, data are submitted on a voluntary basis monthly, quarterly, or annually to MHA. Because data formats often differ by hospital, all coding is converted into standard formats at MHA. The public use file provided to MDCH is stripped of all patient, provider, and hospital identifiers.
Population Included: Records include all hospital discharges from any of Michigan's reporting acute care hospitals or Michigan residents discharged from acute care hospitals in contiguous states. It includes virtually all hospitalizations in Michigan and for Michigan residents.
Oral Health Topics: All dental-related hospitalization diagnoses including preventable conditions (i.e. disorders of tooth development and eruption, ect) and unpreventable conditions (i.e. diseases of the jaw and salivary glands ect).
Additional Information: http://www.michigan.gov/mdch/0,4612,7-132-2944_5324_43671---,00.html

Name: Michigan Resident Death Files
Acronym: MRDF
Purpose and History: The death certificate database is a high quality computerized data set containing demographic and cause of death information for all Michigan residents (out of state deaths included) and non-Michigan residents dying in Michigan. Death certificates have been collected in Michigan since 1897.
Data Collection Process: A funeral director, or another individual responsible for disposing of the body, completes the demographic and disposition components of the death certificate. When applicable, an attending physician or other hospital medical staff completes the portion of the death certificate describing the death (time, date, place, and immediate/underlying cause). A county medical examiner completes this section in all unexpected deaths including fatal injuries. The death certificate is then sent to the local registrar who verifies that the document has been properly filled out. If not, it is returned to the appropriate person for revision. Certificates for Michigan residents dying out-of-state are provided by those states. Instructional materials to complete the death certificate are available at the state and local level for doctors, hospitals, medical examiners, and funeral directors.
Population Included: All instate occurrences regardless of the state of residence and all Michigan residents regardless of location of death are included.
Oral Health Topics: All oral cancer-related deaths including oral cancer.
Additional Information: http://www.mdch.state.mi.us/pha/osr/Index.asp?Id=4

Name: Pregnancy Risk Assessment Monitoring System
Acronym: PRAMS
Purpose and History: PRAMS is a surveillance project through CDC and state health departments. It is part of a national effort to reduce infant mortality and adverse birth outcomes by providing information useful for developing and implementing intervention programs and for evaluating existing programs. This data is used to monitor progress toward national and state pregnancy-related health objectives, including the increase of positive birth outcomes. PRAMS is also used to identify and monitor selected self-reported maternal behaviors and experiences that occur before, during, and after pregnancy among women who deliver live-born infants.

The PRAMS survey was developed in 1987 through the cooperative effort of the CDC, the District of Columbia and the states of Indiana, Maine, Michigan, Oklahoma, and West Virginia.
Data Collection Process: A stratified, random sample of women with a recent live birth is drawn from the state's birth certificate file. Selected women are first contacted by mail and a paper survey. Up to three mailings are performed to attempt contact. If no response by mail they will be contacted and interviewed by phone.
Population Included: Resident women with a recent live-birth in the state of Michigan.
Oral Health Topics: Teeth cleaning prior to getting pregnant, teeth cleaning during pregnancy, dental insurance during pregnancy, dental problem and visit to a dentist or dental clinic during pregnancy.
Additional Information: www.michigan.gov\prams or http://www.cdc.gov/prams/

Name: Youth Tobacco Survey
Acronym: YTS
Purpose and History: The YTS was created to support the design, implementation, and evaluation of state level tobacco control programs. The core questions ask about a variety of tobacco issues, including tobacco use, secondhand smoke exposure, ability to purchase tobacco products, and attitudes about tobacco. Michigan first administered the YTS in 2001.
Data Collection Process: A two-stage sampling scheme is implemented, where public middle and high schools are first selected, followed by classes within the selected classes. The survey is conducted every two years.
Population Included: Public school students in grades 6 through 12 are eligible to participate.
Oral Health Topics: Time since last dental visit, prevalence of cavities, prevalence of tooth pain, number of fillings, frequency of tooth brushing and oral piercings.
Additional Information: http://www.cdc.gov/TOBACCO/data_statistics/surveys/yts/index.htm

Name: Michigan Care Improvement Registry
Acronym: MCIR
Purpose and History: MCIR was created in 1998 to collect reliable immunization information and make it accessible to authorized users online. In 2006, MCIR was expanded to include adults. MCIR benefits health care organizations, schools, licensed childcare programs, and Michigan's citizens by consolidating immunization information from multiple providers. This reduces vaccine-preventable diseases, over-vaccination, and allows providers to see up-to-date patient immunization history.
Data Collection Process: Providers are required to report all immunizations administered to every child within 72 hours of administration. Data elements are recorded in various ways including; directly into an electronic system via a web interface, transfer from electronic medical records, transfer from billing systems, and paper scan forms.
Population Included: All Michigan residents with an immunization.
Oral Health Topics: Immunization records for the HPV vaccine.
Additional Information: http://www.mcir.org/

Name: Workforce Licensing Survey
Purpose and History: The Bureau of Health Professions purpose is to license the dentists and dental hygienists in Michigan.
Data Collection Process: On an annual basis the count by county data request is submitted to the Bureau of Health Professions Data Center to collect county level information on the number of active dentists and dental hygienists by county, out of state and foreign licenses.
Population Included: Dentists and Dental Hygienists Licensees
Oral Health Topics: Dentists, Dental Hygienists, License, County, Board of Dentistry
Additional Information: For more information on the Michigan Board of Dentistry, visit http://www.michigan.gov/lara/0,4601,7-154-35299_63294_27529_27533---,00.html
To verify a license, visit http://w3.lara.state.mi.us/free/

The state oral health epidemiologist will organize the data collection, coordination, and analysis of these different systems. Surveillance data will be kept with and maintained by the state oral health epidemiologist at MDCH.

Dissemination:

Surveillance results will be disseminated to interested programs and policy-makers through presentations, and published reports and briefs. Many reports are planned for distribution in the next 5 years including:

- Annual educational and statistical factsheets in collaboration with different chronic health programs, the first focusing on oral cancer followed by oral health and cardiovascular disease
- BRFS surveillance briefs utilizing core and state-added questions regarding oral health and oral cancer screenings
- Annual SEAL! Michigan program specific reports and a state-wide report
- Count Your Smiles report that summarizes the results of the 3rd grade basic screening survey

Reports will contain current oral health data and any trends available. Reports will be distributed electronically to our partners across the state. They will be shared with other state oral health departments across the nation. All reports will be available electronically on the state website and as funds will allow a limited number will be printed for distribution at meetings.

Venues for oral dissemination of surveillance results include but are not limited to the Michigan Oral Health Conference, the National Oral Health Conference, and The Michigan Public Health Association Epidemiology Conference.

Privacy and Confidentiality:

The Oral Health Surveillance System follows HIPAA standards for patient privacy and protected health information. The system limits identifiers collected to only essential data elements, and the data is stored on a secure, private, electronic server. Identifiers can only be seen by oral health staff that has been trained on HIPAA, data security, and confidentiality. The identifiers will never be released to external partners and aggregate data is never reported for counts less than five. All surveillance projects are reviewed by the MDCH Institutional Review Board prior to initiation.

Evaluation:

Evaluation is important in that it promotes the best use of limited public health resources. Evaluation helps identify indicators that may no longer be of public health importance but may also identify much needed new indicators. Evaluation improves efficiency, helps eliminate duplication of data collection, and identify whether surveillance meets its objectives and the needs of public health programs. Continued evaluation will enhance surveillance activities not just for the data itself but for all the stakeholders who benefit from the surveillance system.

Michigan will be using the *Updated Guidelines for Evaluating Public Health Surveillance Systems* to evaluate the Michigan Surveillance Plan as a whole and the steps that encompass the plan (German 2001). The Michigan Oral Health Surveillance System will be evaluated in 2017. Four major evaluation activities will occur:

1. Examine and decide which oral health conditions should be under the surveillance system,
2. Determine the value of oral health data sources in the surveillance system,
3. Measure the effectiveness through measures such as cost, flexibility, data quality and timeliness, and
4. Assess the usefulness of the data for dissemination, prevention, and policy development. (German 2011 and Phipps 2013)

A summary report of the findings will be written and distributed to Michigan's oral health partners. Findings will be used to adopt new methods that will enhance the current surveillance system and will be incorporated into the next surveillance plan.

References

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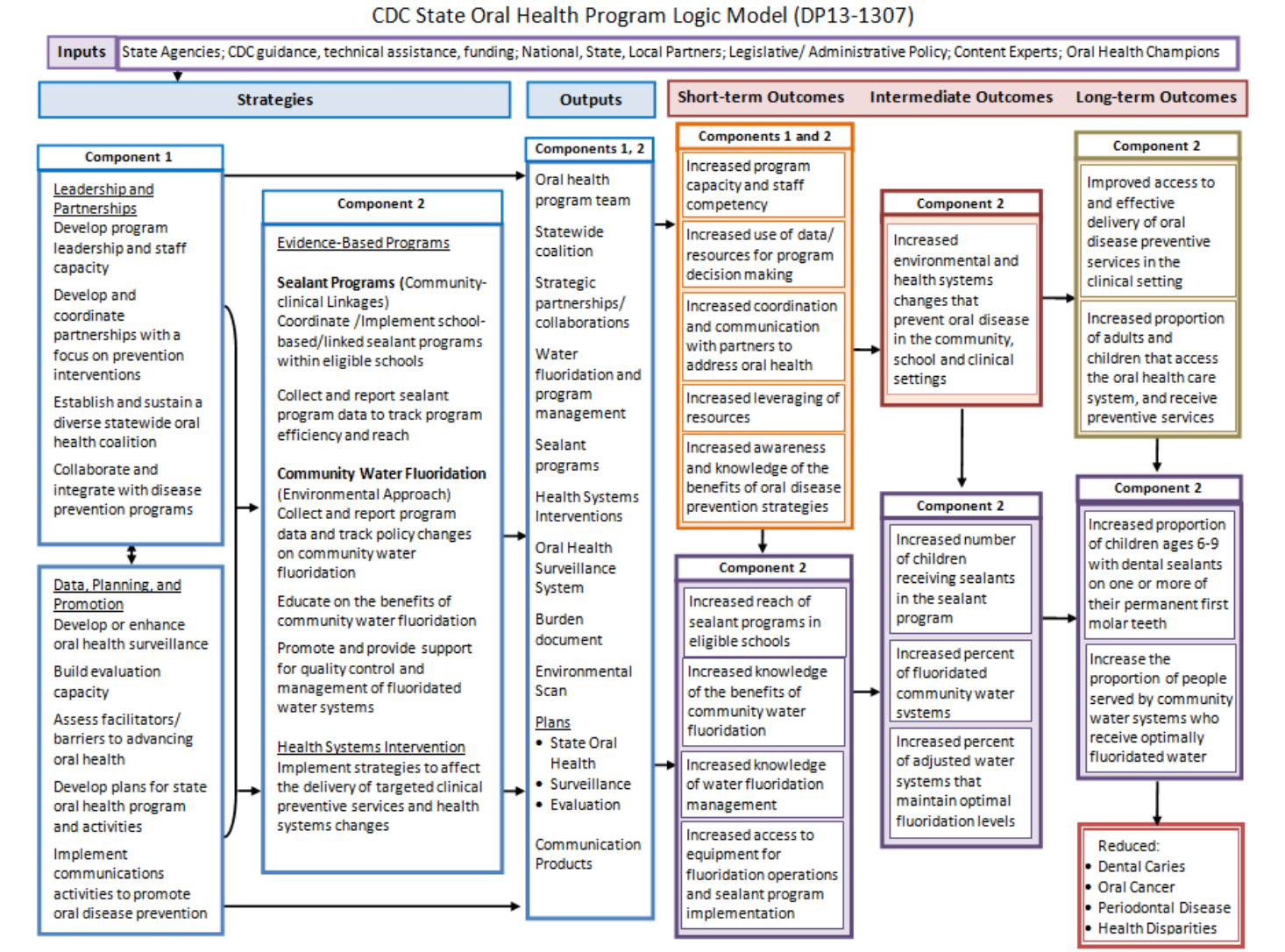
[8]Phipps K, Kuthy R, Marianos D, Isman B; Association of State and Territorial Dental Directors. State-Based Oral Health Surveillance Systems: Conceptual Framework and Operational Definition. October 2013. Available at http://c.ymcdn.com/sites/www.cste.org/resource/resmgr/Chronic/StateBasedOralHealthSurveill.pdf

List of Abbreviations

AAA: Area Agencies of Aging
ASTDD: Association of State and Territorial Dental Directors
BRFSS: Behavioral Risk Factor Surveillance System
BSS: Basic Screening Survey
CDC: Centers for Disease Control and Prevention
CHIP: Children's Health Insurance Program
CSTE: Council for State and Territorial Epidemiologists
CYS: Count Your Smiles
DNA: Data Not Available
FQHC: Federally Qualified Health Center
HIPAA: Health Insurance Portability and Accountability Act
HKD: Healthy Kids Dental
HPV: Human Papillomavirus
HP2010: Healthy People 2010
HP2020: Healthy People 2020
LHD: Local Health Department
MA: Medicaid
MBDR: Michigan Birth Defects Registry
MCIR: Michigan Care Improvement Registry
MCSP: Michigan Cancer Surveillance Program
MDCH: Michigan Department of Community Health
MHA: Michigan Health and Hospital Association
MiBRFSS: Michigan Behavioral Risk Factor Surveillance System
MIDB: Michigan Inpatient Database
MEPS: Medical Expenditure Panel Survey
MRDF: Michigan Resident Death Files
NHANES: National Health and Nutrition Examination Survey
NOHSS: National Oral Health Surveillance System
PRAMS: Pregnancy Risk Assessment Monitoring System
PHP: Public Health Professional
SBHCC: School-Based Healthy Center Capital
WFRS: Water Fluoridation Reporting System
YTS: Youth Tobacco Survey

Appendix A: CDC State Oral Health Program Logic Model

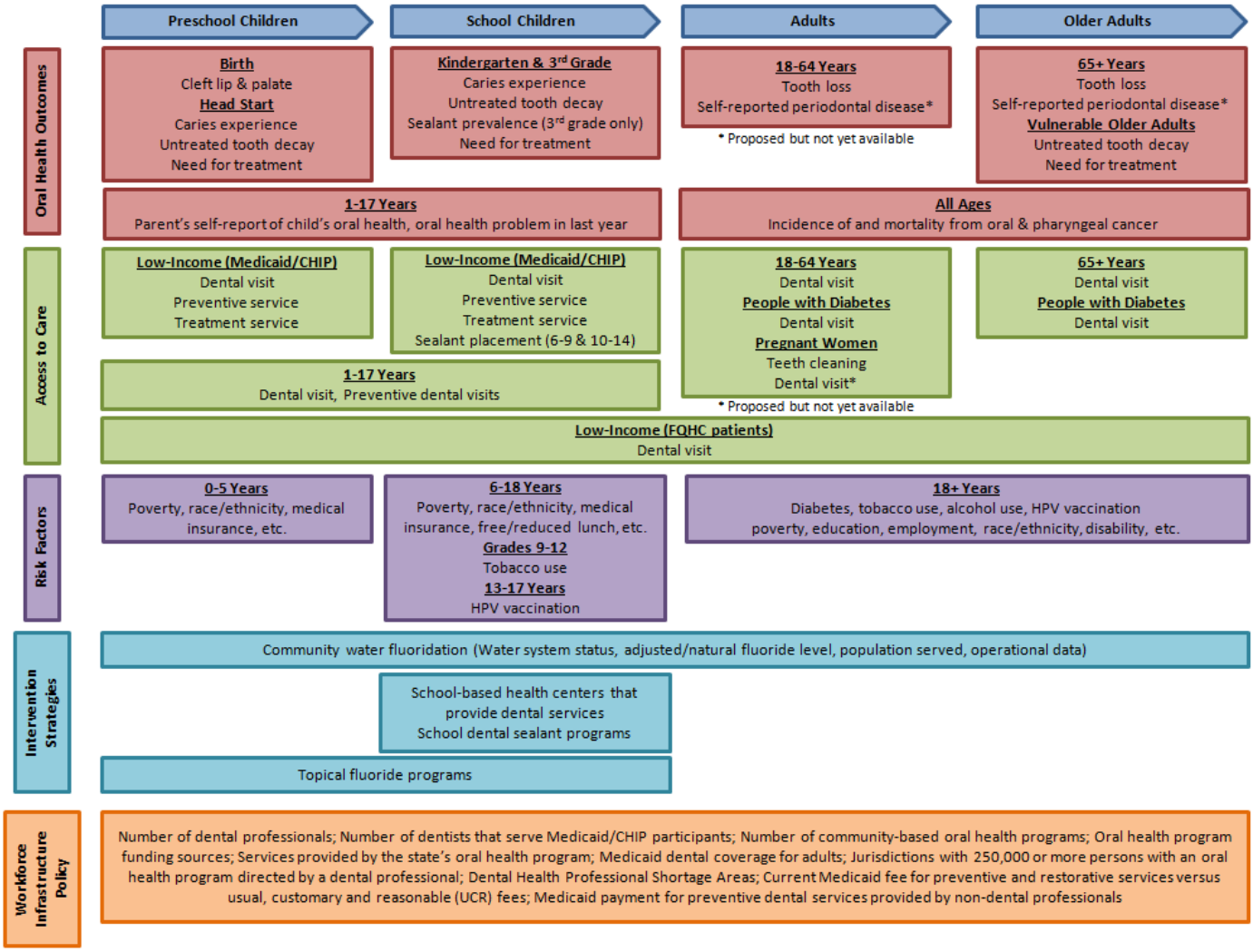


Appendix B: Healthy People 2020 Oral Health Indicators, Target Levels, and Current Status in the United States and Michigan

Healthy People 2020 Objective	Target	U.S. Status	MI Status (Yr)
OH-1 **Dental caries experience in primary teeth**			
Young children, ages 3-5	30%	33.3%	DNA
Children, ages 6-9	49%	54.4%	55.9% (2010)
Adolescents, age 13-15	48.3%	53.7%	DNA
OH-2 **Untreated dental decay**			
Young children, ages 3-5 (primary teeth)	21.4%	23.8%	DNA
Children, ages 6-9 (primary and permanent teeth)	25.9%	28.8%	27.1% (2010)
Adolescents, age 13-15 (permanent teeth)	15.3%	17%	DNA
OH-3 **Untreated dental decay**			
Adults, ages 35-44 (overall dental decay)	25%	27.8%	DNA
Adults ages 65-74 (coronal caries)	15.4%	17.1%	DNA
Older adults aged 75 and older (root surface)	34.1%	37.9%	DNA
OH-4 **Permanent tooth extracted because of caries or periodontal disease**			
Adults, ages 45-64	68.8%	76.4%	DNA
Older adults, ages 65-74 (lost all natural teeth)	21.6%	16.9%	13.1% (2010)
OH-5 **Moderate to severe periodontitis, adults ages 45-74**	11.4%	12.7%	DNA
OH-6 **Oral and pharyngeal cancers detected at earliest stage**	35.8%	32.2%	33.2% (2007)
OH-7 **Oral health care system use in the past year by children, adolescents and adults**	49.0%	44.5%	DNA
OH-8 **Low-income children and adolescents who received any preventive dental service during past year**	29.4%	26.7%	32.5% (2008)
OH-9 **School-based health centers (SBHC) with an oral health component**			
Includes dental sealants	26.5%	24.1%	DNA
Oral health component that includes dental care	11.1%	10.1%	DNA
Includes topical fluoride	32.1%	29.2%	DNA
OH-10 **Local Health Departments (LHDs) and Federally Qualified Health Centers (FQHCs) that have an oral health component**			
FQHCs with an oral health component	83%	75%	82.8% (2011)
LHDs with oral health prevention or care programs	28.4%	25.8%	40% (2011)
OH-11 **Patients who receive oral health services at FQHCs each year**	33.3%	17.5%	28.8% (2009)
OH-12 **Dental sealants**			
Children, age 3-5 (primary molars)	1.5%	1.4%	DNA
Children, ages 6-9 (permanent 1st molars)	28.1%	25.5%	26.4 (2010)
Adolescents, ages 13-15 (permanent molars)	21.9%	19.9%	DNA
OH-13 **Population served by optimally fluoridated water systems**	79.6%	72.4%	91% (2011)
OH-14 **Adults who receive preventive interventions in dental offices (*developmental*)**			
Tobacco and smoking cessation information in past year	N/A	N/A	DNA
Oral and pharyngeal cancer screening in past year	N/A	N/A	DNA
OH-15 **States with system for recording and referring infants with cleft lip and palate (*developmental*)**	N/A	N/A	No referral system
OH-16 **Oral and craniofacial health surveillance system**	100%	62.7%	100% (2012)
OH-17 **State and local dental programs directed by public health professionals (PHP)**	25.7%	23.4%	DNA
Indian Health Service and Tribal dental programs directed by PHP	12 Programs	11 Programs	DNA

DNA indicates data not available

Appendix C: Potential Indicators for a State Oral Health Surveillance Plan



Source: Phipps 2013