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Mackenzie Hunter

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Oral Health 2020: Recommendations to Help Ohio Meet Healthy People 2020 Goals Based on
States' Oral Health Plans

Mackenzie Hunter

Wright State University Boonshoft School of Medicine

Master of Public Health Program

Cristina Redko, Ph.D. – Committee Chair

Marietta Orłowski, Ph.D. – Committee Reader

Table of Contents

Abstract..... 3

Introduction..... 4

 Statement of Purpose 5

Literature Review 6

 Determinants of Current Oral Health Status8

 Medicaid-Medicare-CHIP Services Dental Association9

Methods 11

 Sample..... 11

 Data Analysis 13

Results..... 13

Discussion 22

 Oral Health Education..... 22

 Oral Health Services 23

 Clients’ Needs Addressed 24

 Recommendations for Ohio 24

References 29

Appendices 31

 Appendix A: Human Subjects Regulations Decision Charts..... 31

 Appendix B: List of Competencies Met in Integrative Learning Experience 33

Abstract

Dental caries remains one of the largest untreated diseases in children and is one of the leading causes of poor oral health in the United States. Many states have joined forces with the Centers for Disease Control and Prevention and Medicaid to formulate a state oral health action plan that targets the Healthy People 2020 Goals for Oral Health to improve the overall oral health of children in the state. Through this plan, in connection with state oral health plans many states are comprehensively addressing these Healthy People 2020 goals. Ohio, on the other hand, has not met a number of the Healthy People 2020 goals yet as it does not have a state oral health action plan. This analysis looked at three states, Michigan, Massachusetts, and Tennessee, that are similar in population and demographics to Ohio and have both a state oral health plan and a state oral health action plan in order to make recommendations for Ohio to better meet the Healthy People 2020 goals and improve oral health in the state.

Keywords: Medicaid, Oral Diseases, Dental Caries, Preventive Care, Patient/Provider Education

Oral Health 2020: Recommendations to Help Ohio Meet Healthy People 2020 Goals Based on
States' Oral Health Plans

Good oral health is more complex than just having a pretty smile. Good oral health is closely related to overall physical health and is a core part of a person's wellbeing (World Health Organization [WHO], n.d.). The WHO (n.d.) programs for the prevention of non-communicable diseases describes good oral health as being free from any oral disease, oral pain, disabilities, and cancers. In addition to absence of disease, the face and mouth have an impact on the day-to-day quality of life of a person; the mouth is used in many regulatory activities such as communication, affection, sensing the world. Diseases that affect the mouth and face can place severe limitations on a person's ability to interact with the physical world around them (WHO, n.d.). Diseases of the mouth not only affect the physical health of a person, as diseases can spread from the mouth to the rest of the body, but they also affect the psychosocial health of a person (WHO, n.d.). There are a number of diseases that are directly linked to poor oral health; those who have advanced periodontal (gum) disease are far more likely to be diagnosed with diabetes (WHO, n.d.). Individuals who are suffering from oral diseases often have a lower quality of life related to their lower sense of self as a result of these conditions. The WHO has found that the link between chronic diseases and oral diseases stems from the impacts that these non-communicable diseases have on oral health and increased risk of developing oral disease. The leading causes of poor oral health still persist as dental caries and periodontal disease. Both of these oral diseases are easily preventable, presenting an urgent call to action for a structural change in oral health care.

Improving oral health at the population level requires a shift to population-based oral health interventions that are backed by data. Surveillance data collected at the local, state, and national level looks at various aspects of oral health that help identify patterns of oral diseases.

Over three billion people are affected by oral conditions around the world in a year according to a global burden of disease study done in 2010 (Marcenes et al., 2013). The global burden of disease study in 2010 used a measurement called DALYs; this is the disability adjusted life years. This calculates the years of life are potentially lost to a disease per one hundred thousand people. Oral diseases accounted for 15 million DALYs around the world; this converts to 224 years per one hundred thousand people of health loss (Marcenes et al., 2013). There has been an increase in the impact of oral health diseases on the global population between 1990 and 2010 by about 20%, introducing new challenges to policy makers and health care providers (Marcenes et al., 2013). Overall oral conditions are improving slowing since 1990 according to the GBD, and this increase in DALYs between 1990 and 2010 is mainly attributed to an increasing population size. Growing population sizes present new problems related to the social determinants of oral health such as gaining access to care. According to the 2010 GBD data set, oral conditions rank in the top one hundred causes of DALYs around the world.

Statement of Purpose

The purpose of the is project was to compare strategies, interventions, and barriers in three states with oral health action plans in order to make recommendations for a state oral health action plan (SOHAP) for the State of Ohio in order to assess and improve the oral health in the state. Many states have a SOHAP in place that addresses oral health needs and interventions to improve oral health. Based on the oral health plans of Massachusetts, Michigan, and Tennessee, I wanted to make recommendations for a SOHAP for Ohio that focuses on barriers that prevent

individuals from receiving dental care. The findings from these states were used to formulate recommendations for Ohio on how to improve access to dental care, services provided to patients, and patient/provider education.

Literature Review

Inequalities in oral health present challenges for providers and policy makers of oral health. Several inequalities in oral health mirror those that are seen affecting the general health of the population (Watt, 2007). One inequality that contributes to poor oral health is low levels of education. Another inequality that can negatively impact oral health is income status of an individual; those who are of a lower socioeconomic status are more likely to have poor oral health outcomes. With all these inequalities playing against good oral health around the country, researchers are calling for a shift in the approach to oral health from a downstream focus to a more upstream focus to address the social determinants that are impacting overall oral health (Marcenes et al., 2013). Dental caries is often left untreated due to the high cost of treatment; this is seen in both high and low-income countries (Watt, Heilmann, & Listl, 2016). Around the world, over three billion people suffer from untreated oral diseases, mainly dental caries (Watt et al., 2016). There are large disparities around the world in oral health status, and many of these are related to social inequalities in society (Watt et al., 2016). To no surprise, research shows that individuals that are more socially disadvantaged are more likely to suffer from oral diseases. A case study of Chilean high school students linked periodontal disease and social status; those were of a lower socioeconomic status were more likely to develop gum disease at some point in their life than those who were in a higher socioeconomic status (Watt, 2007). Social inequalities are also a huge problem for oral health policy makers. Although there has been an overall improvement to oral health in the developed world, the problem of inequalities still remains even

in areas that have well-developed dental plans in place (Watt, 2007). In order to achieve sustainable oral health improvements there needs to be a change to focus more on the prevention of oral health diseases (Watt, 2007).

Many of the inequalities in oral health are driven by social determinants that also impact other areas of health. Daily behaviors that impact overall oral health, such as brushing, flossing, sugar consumption, and smoking, are reflective of personal living conditions (Watt et al., 2016). The resources that are available to individuals based on socioeconomic status also contribute to the overall oral health status of a person because these resources impact their ability to access care and finance it. It is important for oral health care providers and stakeholders in policies to acknowledge that there are disparities and inequalities in oral health. These inequalities are preventable and should be seen as unjust and unfair to patients (Watt et al., 2016).

Moving forward, dental services need to be altered to focus on addressing the inequalities in dental care and adjust to promote oral health and preventative care rather than treatment of oral diseases. There is a call for international professionals in the oral health care field to work together to ensure that oral health inequality research is funded so that providers and other related professionals can understand these inequalities and their long lasting effects on oral health (Watt et al., 2016). Researchers are encouraging educational institutions to introduce inequalities in oral health as an area of study in order to raise awareness and understanding on this health issue. In order to tackle inequalities in oral health then policymakers and researchers must focus on the deep underlying causes of the problem. There is a substantial amount of evidence that links economic, psychosocial, environmental, and political factors to a number of health inequalities, including oral health (Watt, 2007). Researchers in Australia found that dental behaviors of adults accounted for little, if any, of the socioeconomic gradient in oral health.

Instead they found that in order to reduce inequalities in oral health then the focus needs to be more on the social environment and less on individual behavior.

Determinants of Current Oral Health Status

Diseases in oral health are widespread around the world and have a negative impact on quality of life across the world (Watt et al., 2016). Currently much of the oral health prevention model is focused on the biomedical nature of dentistry and clinical oral epidemiology; but research has shown that this model alone is not enough for sustainable improvements to oral health or in reducing the gap in oral health equity (Watt, 2007). In order to improve oral health of a population, promoters need to understand what social determinants play a role in oral health outcomes and what public health actions need to be taken to improve oral health.

Dr. Lee Jong-wook, the former director general of the WHO, called for a change in focus in public health concerning oral health. Dr. Jong-wook stated that to improve oral health and decrease the amount of oral diseases that are seen then the interventions must take into account the social determinants of oral health (Watt, 2007). Following the call to action of Dr. Jong-wook policy makers have determined that if the key determinants of oral health are social then the remedies to these must also be social (Watt, 2007). There are five key policy areas that focus on the social determinants of oral health; participation in society, economic and social security, conditions in childhood, healthier working life, and environmental change. These key areas have major implications for dental public health policy (Watt, 2007).

The current oral disease prevention model focuses on the high-risk individuals for oral diseases based on a screening process; but, this screening process is not always the most practical option for public health workers (Watt, 2007). High-risk screening is more successful when focused on an individual rather than a population, which is the primary goal of a public health

worker. The format of oral disease prevention needs to change in order to better address population level oral health concerns. Research does show that the best predictive of future caries in an individual is the presence of past caries, but this model is limited in its applicability to a larger population. Oral health epidemiologists suggest an approach that examines high-risk communities or populations rather than focusing on individuals as a way to improve oral health. This approach does not use a screening process as mentioned in the previous high-risk model but rather focuses on the social determinants in that population of people that might be contributing to the higher risk of dental diseases (Watt, 2007). At the international level, a mix of both high-risk screening and population-based analysis is thought to be a highly effective model for reducing oral diseases.

Medicaid-Medicare-CHIP Services Dental Association

The Medicaid-Medicare-CHIP Services Dental Association (MSDA) created state profiles in 2012 to examine the oral health programs in each state (Centers for Medicare and Medicaid [CMS], 2015). Since 2012, information about the oral health programs from all 50 states has been collected annually from a uniform survey (Dellapenna, 2017). The MSDA has conducted a cross sectional study each year to capture where each state is with their oral health programs. The goal of the MSDA is to provide reliable information about state Medicaid and CHIP programs that is available to the public and to be able to identify trends that are happening at the state and national level (Dellapenna, 2017). State oral health trends are helpful in improving healthcare delivery systems for oral health in these low-income populations.

As part of the initiative to improve oral health, the MSDA as a joint effort with the Centers for Medicare and Medicaid Services (CMS) invited states to develop a state oral health action plan (SOHAP). At the 2017 oral health symposium Martha Dellapenna, a representative

from the MSDA, shared a plan that was intended to be a map in order to help states achieve their oral health improvement goals by identifying limitations in the current oral health programs.

The MSDA and CMS provided states with a user-friendly guide to develop a state oral health plan in order to encourage more states to take part in the effort to improve oral health. Despite the efforts of the MSDA and CMS to encourage states to develop a SOHAP many states have still not taken the initiative. Twenty-one states have successfully developed a state oral health action plan, and the remaining twenty-nine states have been encouraged to participate.

The SOHAP provides a template for states to provide information about current Medicaid plans and enrollment in their state as an opportunity to identify areas for improvement (CMS, 2015). In addition, this template helps states to identify the amount of oral healthcare providers are available in their states for those enrolled in Medicaid or CHIP. This could help states identify if there is a lack of access problem in their states and how make changes so these individuals are able to access dental care. States can also freely express challenges that the state is facing in terms of oral health such as areas that are under served or citizen concerns. Finally, this template allows states to track their outreach to improve oral health. This form asks states to indicate whether or not they are engaging in the community to close the gap in inequality of oral healthcare. This is an opportunity for states to identify which areas they could improve on. This template offers states the opportunity to take a hard look at the oral health program currently in place and adjust it to improve oral health in their state. Completed SOHAPs are available to the public and also serve as a tool for states trying to develop their own plan to be able to see what is and is not working for other states with similar challenges (CMS, 2015). This plan was developed in an effort to improve national oral health and the MSDA and CMS are providing various tools to promote a collective effort between states to improve oral health (CMS, 2015).

The State of Ohio does not currently have a SOHAP developed. The dental association for Ohio is currently working on developing a plan for the state. According to the Ohio Dental Association (n.d.), there has not been a plan yet in Ohio because it has been a long process to collect oral health data in the state. Without oral health data for the state it would be hard to develop a plan to change the oral health practices. Ohio is working on collecting the data about current oral health delivery in the state in order to determine which areas need improvement. Ohio could adapt plans from other states to meet their needs with the data that is available to the public by Medicaid.

Methods

This research that was conducted in this study is exempt from institutional review board approval because it is strictly using data that was previously collected and publically available; therefore, this study was not covered by 45 CFR part 46 (see Appendix A). Data that is used in this study is credited to the Centers for Disease Control and Prevention (CDC) and CMS.

Sample

The CDC has publically accessible oral health data on from each state in the United States. Oral Health data is acquired from the Behavioral Risk Factor Surveillance System (BRFSS) survey that is conducted nationally every year. The BRFSS survey examines different aspects of health to determine current issues in the health around the nation. This survey is voluntary for any individual to participate in. This survey asks eight questions that pertain to oral health conditions. The first question about oral health asks about the number of times a person has visited the dentist or dental clinic in the last year. The next question that addresses oral health asks if children under the age of 18 have attended that dentist in the last year. This survey also focuses on preventive health care; it asks two questions about accessing preventive

oral health care both for children under 18 and pregnant women. Children and pregnant women are at a higher rate of dental caries and should therefore visit the dentist on a regular basis to maintain good oral health. There is an issue of access to care for many individuals that are on state insurance due to the high cost of dental care and often time inability to obtain health insurance. The BRFSS survey also pays special attention to this demographic of the population and inquiries about what percentage of the population received their dental care at federally qualified health centers. Federally qualified health centers make it easy and more affordable to lower income individuals to access many aspects of healthcare, including dental. Another major concern for oral health is the loss of teeth. The loss of teeth has lasting health consequences for individuals. The survey asks three questions to individuals concerning the number of teeth that have been lost. First, the survey asks if adults under the age of 65 have lost all of their teeth. Second, the survey asks if six or more teeth have been lost before the age of 65. Finally, the survey asks if adults between the age of 18 and 65 have lost none of their teeth. Once the CDC collected this data from the BRFSS survey from every state, they then compiled a series of graphs that analyze the status of oral health in the state based on these indicators.

For the purposes of this analysis, three states were examined using the survey questions obtained for the BRFSS. The state of interest for this study was Ohio, and three other states were chosen as comparison states to determine how well Ohio is performing in terms of oral health. These other three states were chosen based on the criteria that they had a state oral health action plan in place. The reason for picking states with oral health action plans was to determine if the existence of this plan is contributing to better oral health in the state. The three states that were chosen to be compared to Ohio were Michigan, Tennessee, and Massachusetts. These states were chosen based on the similar population size of Ohio and based on the fact that each states

had both a state oral health action plan and a state oral health plan. The survey questions from each of these states was examined and compared to see if the three comparison states were performing better in oral health than the State of Ohio. The results from each state on each of the eight questions was compared to determine which areas these states were excelling in, and to determine if it could be due to the implementation of the state oral health action plan.

Data Analysis

Oral health plans for Michigan, Massachusetts, and Tennessee were analyzed in connection with BRFSS oral health questions. Each of these states has a state oral health plan, which addresses the oral health status of the entire state, and each state also had a Medicaid state oral health action plan addressing the oral health of children in the state covered under a form of Medicaid. Healthy People 2020 Oral Health goals have used a framework to analyze how each state health plan is moving towards oral health goals. For the purpose of this study certain oral health goals that pertained to oral cancer were omitted as this study primarily focused on dental caries and periodontal disease primarily.

Results

Table 1 compares state demographic information to justify the comparison of these three states based on population size, annual household income in the state, and number of general dentists that are practicing in the state according to United States Dental Demographics.

Table 1

Comparison of State Demographic Information for Three States being Compared and Ohio

State	Population	Median Income	Number General Dentists
Ohio	11.6 Million	\$52,000	4,988
Michigan	9.9 Million	\$55,000	5,111
Massachusetts	6.7 Million	\$75,000	4,106
Tennessee	6.5 Million	\$50,000	2,627

Table 2 shows the most recent oral health analysis from the BRFSS from Michigan, Massachusetts, and Tennessee. Table 2 shows both adult and childhood indicators for oral health that are collected from the BRFSS survey and regulated by the CDC. Tennessee has not conducted a state oral health survey that monitors the oral health status of children; therefore there is no oral health data available from Tennessee.

Table 2

BRFSS Oral Health Indicators for Adults and Children for Michigan, Massachusetts, and Tennessee

Oral Health Indicator	Michigan	Massachusetts	Tennessee
Adults, 18 years and older, who have visited a dentist or dental clinic in the past year	68.6% (2014)	74.7% (2014)	58.3% (2014)

Table 2. *BRFFS Oral Health Indicators for Adults and Children for Michigan, Massachusetts, and Tennessee* (Continued)

Oral Health Indicator	Michigan	Massachusetts	Tennessee
Adults, aged 65 and older, who have lost all of their natural teeth due to tooth decay or gum disease	12.9% (2014)	14.4% (2014)	22.4% (2014)
Adults, aged 65 or older, who have lost 6 or more teeth due to tooth decay or gum disease	35.7% (2014)	39.9% (2014)	48.1% (2014)
Percentage of students in third grade with caries experience (treated or untreated tooth decay)	54.9% (2015)	40.7% (2006)	No data available
Percentage of students in third grade with dental sealants on at least one permanent molar tooth	38.2% (2015)	45.5% (2006)	No data available
Percentage of third grade students with untreated tooth decay	24.9% (2015)	17.3% (2006)	No data available

Table 3 lists the Healthy People 2020 oral health goals that pertained to the study being conducted, and how each state is addressing that goal. This table includes initiatives from both Medicaid state oral health action plans and state oral health plans from each state. The Medicaid state oral health action plans focus on the oral health of children, while the state oral health plans look at the overall oral health of the whole state population.

Table 3

State Oral Health Plan and Medicaid State Oral Health Action Plan Strategies by Healthy People 2020 Oral Health Goals

Healthy People 2020 Goals	
OH-1 Reduce the proportion of children and adolescents who have dental caries experience in their primary or permanent teeth	
Michigan	<ul style="list-style-type: none"> • Increase preventive dental services for children • Design a referral program for medical providers • Expanding of Grants to reduce the burden of childhood dental disease • Train medical professional and community health workers to apply fluoride
Massachusetts	<ul style="list-style-type: none"> • Educate the public about dental sealants in children
Tennessee	<ul style="list-style-type: none"> • Educate parents about the importance of oral health
OH-2 Reduce the proportion of children and adolescents with untreated dental decay	
Michigan	<ul style="list-style-type: none"> • Expand the healthy kids dental program • Engage dental groups and stakeholders to expand health kids program • Design a referral program for medical providers
Massachusetts	
Tennessee	<ul style="list-style-type: none"> • Perform a caries risk assessment on patients • Increase education about diet and oral health relationship
OH-3 Reduce the proportion of adults with untreated dental decay	
Michigan	<ul style="list-style-type: none"> • Increase community oral health education • Increase dental providers that accept state insurance
Massachusetts	<ul style="list-style-type: none"> • Increase Dental Safety Net programs • Increase the number of Mass Health beneficiaries that get dental care • Increase adult PCP providers that perform dental screenings
Tennessee	<ul style="list-style-type: none"> • Perform a caries risk assessment on all patients • Increase education about diet and oral health relationship
OH-4 Reduce the proportion of adults who have ever had permanent tooth extracted because of dental caries or periodontal disease	
Michigan	<ul style="list-style-type: none"> • Tobacco education to prevent periodontal disease and tooth loss • Increase adult education about tooth loss and health effects
Massachusetts	
Tennessee	<ul style="list-style-type: none"> • Tobacco prevention program to prevent periodontal disease and tooth loss • Community water fluoridation program • Educate adults about tooth loss and health effects
OH-7 increase the proportion of children, adolescents, and adults who used the oral health care system in the past year	
Michigan	<ul style="list-style-type: none"> • Increase the use of mobile dental clinics • Increase the number of dental providers that accept state insurance
Massachusetts	<ul style="list-style-type: none"> • Collaborate with dental schools in the state to expand Mass oral health program • Increase the number of dental providers participating in Mass Health
Tennessee	<ul style="list-style-type: none"> • Collaborate with dental schools to get children dental care

Table 3. *State Oral Health Plan and Medicaid State Oral Health Action Plan Strategies by Healthy People 2020 Oral Health Goals (Continued)*

Healthy People 2020 Goals	
OH-8 Increase the proportion of low-income children and adolescents who received any preventive dental service during the past year	
Michigan	<ul style="list-style-type: none"> • Set up an outreach program for those currently not using the healthy kids program • Educate policy makers on the necessity of oral health in children •
Massachusetts	<ul style="list-style-type: none"> • Collaborate with dental schools in the state to expand Mass oral health program • Offer incentives for dentists to enroll in Mass health program • Increase the reimbursements rates for dentists that are enrolled in Mass Health.
Tennessee	<ul style="list-style-type: none"> • Collaborate with dental school to get children dental care • Increase reimbursement rates for dentists enrolled in state oral health program • Incentives for dentists that accept state oral health program
OH-9 Increase the proportion of school-based health centers with an oral health component	
Michigan	<ul style="list-style-type: none"> • Provide incentives to the mobile dental clinics to visit schools and head start programs • Start school based dental screenings for caries and dental diseases • RDH supervision revised so that preventive care can be administered without dentist on site in school and FQHC settings
Massachusetts	<ul style="list-style-type: none"> • Implement school-based sealant program in low income areas
Tennessee	<ul style="list-style-type: none"> • Low-income school systems provide dental screenings • School-systems are providing fluoride • Health Department partnered with schools to establish school-based oral health disease prevention
OH-10 Increase the proportion of local health departments and FQHCs that have an oral health program	
Michigan	<ul style="list-style-type: none"> • Have PCP conduct dental screenings • Establishment of Healthy Kids Oral Health program
Massachusetts	<ul style="list-style-type: none"> • Establishment of Mass Health to help improve access to dental care
Tennessee	<ul style="list-style-type: none"> • Increase funding for public dental clinics
OH-11 Increase the proportion of patients who receive oral health services at FQHCs each year	
Michigan	<ul style="list-style-type: none"> • Increase the use of mobile dental clinics • Mobile dental public act will regulate mobile dental providers • RDH supervision revised so that preventive care can be administered without dentist on site in school and FQHC settings.
Massachusetts	<ul style="list-style-type: none"> • Collaborate with dental schools in the state to expand Mass oral health program
Tennessee	

Table 3. *State Oral Health Plan and Medicaid State Oral Health Action Plan Strategies by Healthy People 2020 Oral Health Goals (Continued)*

Healthy People 2020 Goals	
OH-12 Increase the proportion of children and adolescents who have received dental sealants on their molar teeth	
Michigan	<ul style="list-style-type: none"> • Expand health kids dental program to increase number of sealants • Engage with school nurses and social workers to promote school sealant program • Increase sealant programs in schools by mobile providers • Increase HRSA oral health workforce grant to expand SEAL program • Expand SEAL Michigan program • Educate school nurses on sealants • Regulate placement of mobile dental units to ensure state wide coverage • Get additional grant funding to support sealant program • Increase sealant placement by dental providers • Engagement of dental school and hygiene students to work with healthy kids program • Connect with dentists to with low sealant rate to encourage sealant placement • Remove barriers from kids getting sealants • Give community presentations to educate parents and providers about sealants • Use media to raise awareness and dental literacy • Do focus group to find out reason for lack of dental sealant placement • Inform dentists with low sealant rates that they are below average and provide incentive
Massachusetts	<ul style="list-style-type: none"> • Increase the payments rates for dentists that are providing dental sealants to Mass Health patients • Bi-yearly reports to the state about sealants that are being placed • Educate dentists about the efficacy of sealants • Portable dental equipment that can travel to provide sealants • Make dental sealants available to all children no matter their insurance • Direct reimbursement for sealants from Mass Health
Tennessee	<ul style="list-style-type: none"> • Contract with PCP, nurses, and other health care professionals to provide sealants • Educate health care providers about importance of sealants • Educate parents about importance of sealants • Mobile equipment for dental sealants to be placed outside of dental office
OH-14 Increase the proportion of adults who received preventive interventions in dental offices	
Michigan	<ul style="list-style-type: none"> • Increase the number of dental providers that accept state insurance plans • MI Door program holds event to allow low-income adults to get dental care • PA 161 program allows hygienists to provide preventive services under relaxed supervision
Massachusetts	<ul style="list-style-type: none"> • Educate dentists and medical professionals about Mass Health Program for low income patients
Tennessee	




Table 3. *State Oral Health Plan and Medicaid State Oral Health Action Plan Strategies by Healthy People 2020 Oral Health Goals (Continued)*

Healthy People 2020 Goals	
OH-16 Increase the number of states and the District of Columbia that have an oral and craniofacial health surveillance system	
Michigan	<ul style="list-style-type: none"> • Oral Health Coalition in the state
Massachusetts	<ul style="list-style-type: none"> • Better Oral Health For Massachusetts coalition • Oral health task force comprised of public health, academic, and other organizations
Tennessee	<ul style="list-style-type: none"> • Develop oral health surveillance system
OH-17 Increase health agencies that have a dental public health program directed by a dental professional with public health training	
Michigan	<ul style="list-style-type: none"> • Michigan Governor is supportive of oral health programs in the state • Redesign Oral health care system to focus on preventive care rather than treatment • Michigan Department of Community Health Oral Health Program
Massachusetts	<ul style="list-style-type: none"> • Obtains oral health representation on government boards • Oral Health task force • Oral health coalition
Tennessee	<ul style="list-style-type: none"> • Establish a dental advisory board for the state

After the analysis of each state health plan was complete a ranking system was developed to describe how states were performing the best at reaching all of the Healthy People 2020 Oral Health Goals. A four star ranking system was developed based on how well the states addressed the Healthy People 2020 goals. A four star ranking indicated that the state addressed 100% of the Healthy People 2020 Oral Health Goals that pertained to the study. A three star ranking indicated that the state addressed between 75% and 99% of the Healthy People 2020 Oral Health Goals. A two star ranking indicated that the state addressed between 50% and 74% of the Healthy People 2020 Oral Health Goals. A one star ranking indicated that the state met less than 50% of the Healthy People 2020 Oral Health Goals. Table 4 shows how each state is ranked according to the four-star ranking system.

Table 4

Ranking and Explanation for each State based on Healthy People 2020 Oral Health Goals

State Ranking	Explanation for Ranking
Michigan 	Michigan has a state oral health plan and a Medicaid state oral health action plan. Between these two plans 100% of the relevant Healthy People 2020 goals were addressed, giving this state a 4-star ranking for oral health plans.
Massachusetts 	Massachusetts has a state oral health plan and a Medicaid state oral health action plan. Between these two plans 76% of the relevant Healthy People 2020 goals were addressed, giving this state a 3-star ranking for oral health plans.
Tennessee 	Tennessee has a state oral health plan and a Medicaid state oral health action plan. Between these two plans 85% of the relevant Healthy People 2020 goals were addressed, giving this state a 3-star ranking for oral health plans.

Note: Rankings are based on four star ranking system detailed in results.

Finally, Table 5 is another comparison of how each state is meeting the Healthy People 2020 goals. This table shows more specifically how each state is targeting oral health care providers, oral health care services, and clients. This table specifies where states are focusing their time and money in order to meet the Healthy People 2020 goals; and how they are alike or differ. Data from Table 5 is used in a second ranking system of the states. This second ranking system focuses on how well rounded the state is at addressing oral health in the state. This ranking system was developed considering four questions that address the three categories of providers, services, and clients. These questions are: 1) How are the clients’ oral health needs and/or literacy being addressed? 2) How is the state increasing oral health services? 3) How is the state increasing non-oral health provider education/involvement in oral health needs? 4) How does the state plan to increase the number of providers that are enrolled in the state health programs

Table 5

Comparison on how Each State is Targeting Oral Health Care Providers, Oral Health Services, and Clients in Order to Meet Healthy People 2020 Oral Health Goals

Michigan	Massachusetts	Tennessee
<p>engage dental groups and stakeholders to expand health kids program</p> <p>set up an outreach program for those currently not using the healthy kids program</p> <p>have PCP conduct dental screenings</p> <p>design a referral program for medical providers</p> <p>provide incentives to the mobil dental clinics to visit schools and head start programs</p> <p>engage with school nurses and social workers to promote school sealant program</p> <p>educate school nurses on sealants</p> <p>get additional grant funding to support sealant program</p> <p>engagement of dental school and hygiene students to work with healthy kids program</p> <p>connect with dentists to with low sealant rate to encourage sealant placement</p> <p>do focus group to find out reason for lack of dental sealant placement</p> <p>inform dentists with low sealant rates that they are below average and provide incentive</p> <p>RDH must be supervised by a dentist in the state of michigan</p> <p>plan to train medical professional and community health workers to apply flouride</p>	<p>colaborate with dental schools to expand Mass Health program</p> <p>educate dentists and medical professionals about MassHealth program</p> <p>offer incentives for dentists to enroll in MassHealth program</p> <p>increase the reimbursement rates for dentists that are enrolled in MassHealth</p> <p>increase the payment rates that dentists are getting from dental sealants</p> <p>education for dentists on the efficacy of sealants</p> <p>dentists will get reimbursement for sealants directly from MassHealth program</p> <p>change to pre-auth requirements for dental services to ease utilization of dental services</p> <p><i>increase the number of patients that are getting sealants under the age of 21</i></p> <p><i>bi-yearly reports of sealant use and patients who need sealants but don't have them</i></p> <p><i>offer sealants in public schools as a school based health program</i></p> <p><i>school sealant program targets school that are in low income areas</i></p> <p><i>portable dental equipment so that dentists can travel to apply sealants</i></p> <p><i>dental sealants available to all children no matter what insurance they have</i></p> <p><i>establishment of MassDental group that helps improve access to dental care</i></p> <p><i>application of flouride by non-dental health providers</i></p> <p>Educate the public on the need for dental sealants</p> <p>MassHealth website offers education on oral health</p>	<p>collaborating with dental school to get kids dental care</p> <p>outreach and education to health care providers about dental care</p> <p>simplifying administration of dental coverage</p> <p>increasing payments for dental services</p> <p>incentive and score for dentists enrolled in state health program</p> <p>adjustment in dental reimbursement rates</p> <p>Contract with PCP, nurses, and other health care to provide sealants</p> <p>educate other health care professionals about sealant importance</p> <p><i>establish a state dental advisory committee</i></p> <p><i>equipment that allows dental sealants to be placed outside of dental office</i></p> <p><i>low income elementary schools provide dental screenings</i></p> <p><i>school based oral disease prevention program through health depart.</i></p> <p>education to parents about oral health care importance in kids</p> <p>educate parents about why they should seal their kid's teeth</p> <p>yearly community outreach plan</p> <p>outreach and educational incentives</p>
<p><i>expand the healthy kids dental program</i></p> <p><i>educate policy makers on the necessity of oral health in children</i></p> <p><i>increase preventive dental services</i></p> <p><i>start school based dental screenings</i></p> <p><i>increase the use of mobil dental clinics</i></p> <p><i>expand health kids dental program to increase number of sealants</i></p> <p><i>increase sealant programs in schools by mobil providers</i></p> <p><i>increase HRSA oral health workforce grant to expand SEAL program</i></p> <p><i>expand SEAL michigan program</i></p> <p><i>regulate placement of mobile dental units to ensure state wide coverage</i></p> <p><i>increase sealant placement by dental providers</i></p> <p><i>lack of access to dental care in the remote areas</i></p> <p><i>expansion of healthy kids program and expand funding</i></p> <p><i>10 step plan to gear dental care towards preventice care</i></p> <p>remove barriers from kids getting sealants</p> <p>give community presentations to educate parents and providers about sealants</p> <p>use media to raise awareness and dental literacy</p> <p>Grant funding to reduce childhood burden of oral diseases</p>		

- Target providers
- Target services
- Target education

Discussion

Michigan, Massachusetts, and Tennessee all have state oral health plans that address the Healthy People 2020 Oral Health Goals, but the approach from each of these states differ in many ways. States such as Michigan were already implementing practices that were targeting those Healthy People goals, while Tennessee still has some areas that need more attention. Each state is different in which aspect of oral health care those chose to target predominately; Michigan and Massachusetts focused more on providers and services; while Tennessee chose to pay a lot of attention to patient education. The comparison of these three states lends itself well to develop a well-rounded set of recommendations for Ohio to address the Healthy People 2020 Oral Health Goals.

Oral Health Education

First, Michigan addressed provider education and involvement by designing a referral program and having primary care physicians conduct dental screenings. In addition, the state has started educating school nurses on the importance of oral health and dental sealants for children. Michigan has increased the number of dental providers enrolled in state health program by increasing sealant reimbursement and offering incentives for mobile dental clinics. Michigan goes above and beyond by implementing a program that tracks the number of sealants that are placed through the state health program as a way to hold dental providers accountable if the number of sealants provided is low. Following Michigan in second place for addressing providers is Tennessee. Tennessee offers incentives for dental providers to enroll in their state health program. Tennessee also increased reimbursement rates for dental services. The state has developed plans to non-dental professional on the importance of dental sealants in order to increase placements. Tennessee plans to educate health care providers about importance of oral

health and establish collaborative care. Tennessee addressed both ranking questions pertaining to providers but did not go above and beyond. Lastly, in third place for targeting provider involvement and education is Massachusetts. Massachusetts offers incentives for dental providers to enroll in their state program, MassHealth. Massachusetts also increased reimbursement rates for dentists enrolled in MassHealth. The state has developed plans to educate dentists on the importance of dental sealants in order to increase placements. Massachusetts does not address non-oral health provider education regarding sealants or preventive care.

Oral Health Services

Next, each state was analyzed for how it addresses services that available to the public. Again, Michigan came in first in this category. Michigan is increasing the number of preventive services that are available to people regardless of insurance status. Michigan is also implementing school based dental programs to give children access to preventive care. They plan to expand sealant programs by offering them in mobile dental clinics and in other health care settings. Michigan plans to expand the Healthy Kids program and increase funding in order to increase dental services that are available to children. Following in second place for services is Massachusetts. Massachusetts increase the number of children who are getting sealants under the age of 21, and reduce the number of children who need sealants and are not getting them. Offer school based programs to get more dental services to children. Establish mobile health clinics to allow dentist to travel to provide services not in a dental office. Allow for fluoride application by non-dental providers. Tennessee fell into third place for the expansion of services offered to the public. Tennessee wants to establish a dental advisory committee to increase preventive services that are offered. The state wants to allow dental sealants to be placed outside

the dental office. Also, they want to provide low-income areas with school based dental programs.

Clients' Needs Addressed

Lastly, the states were compared with how they addressed the clients' needs directly. Tennessee was superior in this category and was placed in first place. Tennessee plans to educate parents about the importance of both oral health in children and dental sealants in children. Tennessee has a yearly community outreach plan to address client's oral health care needs. Tennessee offers outreach and educational incentives to promote oral health care providers to educate their patients and offer guidance. Michigan and Massachusetts were more focused on the providers and services, leaving client education falling short. Michigan followed Tennessee in second place here. Michigan plans to give community presentation about the importance of dental sealants in children. They plan to use the media to raise dental literacy. Michigan has grant funding to reduce childhood burden of oral disease. Massachusetts has a lot of work that can be done to their client education. According to their state health plan the only resource for client education that is available to the public is an oral health education webpage on their MassHealth website.

Recommendations for Ohio

Ohio addresses a number of the Healthy People 2020 Oral Health Goals through their state oral health plan, but the state is still lacking a Medicaid state oral health action plan. This plan is important for the state because it focuses on the oral health status and needs of the children in the state. Oral health is important starting at a young age and it is important for children to be seen by a dentist on a regular basis. Dental caries remains a top untreated disease in children, setting them up for a lifetime of oral health and other health complications. Ohio

needs a Medicaid state oral health action plan that addresses the risk factors and barriers that are still preventing a great number of children from gaining access to oral health care. Michigan, Massachusetts, and Tennessee have implemented a lot of measures that address these barriers that could also be implemented in Ohio.

Michigan and Massachusetts really excel in addressing provider education and involvement and available services. Michigan is seeking to improve both the number of children that are getting dental care and the number of children that are getting preventive dental sealants. Michigan and Massachusetts implemented school programs that are addressing the needs of children that are unable to get to a dentist. These school programs would include dental screenings and application of fluoride and sealants by either school nurses or community health workers. These programs will help to increase both the number of children that are able to get access to dental care and the number of children that are able to prevent dental caries by the application of sealants. A large barrier that prevents both adults and children from going to the dentist is insurance status; by removing this barrier many more children will be able to gain access to preventive dental services. Ohio could easily implement a plan similar to this in which sealants are provided to all children regardless of insurance status. This program could take place in conjunction with local schools, and mobile dental clinics to further break down barriers about access to dental care. This program could be included in the Ohio Medicaid State Oral Health Action Plan to address the Healthy People 2020 Oral Health Goals that target children's oral diseases. If these programs were implemented in the State of Ohio, it would decrease the number of children that do not get dental care each year, in particular those who are in a low-income family. These states have expanded their state oral health plans and increased the reimbursement rates for the providers that are participating in the programs. These programs

provide incentives for more dentists to take part in the state oral health programs and in turn more low-income children and adults are able to get dental care each year. One of the largest barriers in Ohio is the lack of access to dental care for the low-income population; if more dentists are willing to participate in state oral health programs then it will be easier for individuals to have access to dental care. In order to get more children to see the dentist on a regular basis, Massachusetts has implemented programs that are designed to increase education to the public and dental providers about the importance preventive oral health care for children. These programs focus on the benefits of dental sealants and are targeted mainly towards parents of young children in low-income households. Another approach the State of Massachusetts is taking in terms of education is increasing the knowledge of other health care professionals about the importance of oral health. The state health program aimed to educate pediatric medical professionals about the importance of oral health, particularly in children, so that they were able to do quick dental screenings at yearly check-ups. In addition, this program aims for medical professionals to apply fluoride topically in the doctor's office, so that even if a child is not visiting a dentist on a regular basis they are still getting some preventive treatment. Ohio could follow in the footsteps of Massachusetts and implement an educational collaborative between dentists, public school systems, and medical doctors. This program could reinforce the need for bi-yearly dental screening and application of dental sealants in children. When the same information is coming from multiple sources that are trusted by parents then they are more likely to view it as a priority for good health.

Tennessee focused a lot of their initiatives on patient education. One way in which Tennessee is addressing the oral health needs of children in the state is having a yearly community outreach plan. This plan is designed to assess the needs of the community and the

barriers that are facing children and preventing them from getting dental care. Ohio would benefit greatly from an annual community outreach plan; this would be a great way for dental providers and policy makers to engage in the community and identify what barriers are presenting the biggest problems to children in the state. It is important for states to interact with the community on a regular basis, as the needs of the community change with time. Another way in which Tennessee is addressing patient education is improving parent education about the need for dental sealants in children. If parents understand the need and benefits of applying dental sealants in children then they are more likely to want them for their children. Educating parents is important because they are the gatekeepers to a child's oral health. Tennessee has a partnership between dentist and primary care providers to educate parents about oral health in children in order to present a united front to addressing oral health. Tennessee aims to cut down on the number of children that are living with untreated caries and a key way to do this is to make sure that parents are aware of the risks and prevention options to achieve the best oral health for kids. Ohio could establish a partnership similar to that in Tennessee in which primary care providers and dentists are providing education to parents with young children about the importance of oral health from a young age. This program would educate parents about the risks of dental caries and lifelong dental problems if children are not taking care of their teeth from an early age and stress the importance of preventing dental caries through the use of dental sealants. This program would fit well into the state oral health action plan for Ohio in addressing children's oral health. Educating parents is an easy intervention that can be taken by providers and can have a great impact on the oral health status of kids in the state.

Together Michigan, Massachusetts, and Tennessee offer a comprehensive oral health plan that addressed the Healthy People 2020 Oral Health Goals. Ohio can learn valuable

interventions from each of these state plans that can improve the overall oral health of the state. If Ohio adapts aspects of all three plans to meet the needs of the state population then it would have a comprehensive plan to address oral health. Ohio will be in-line to meet the Healthy People 2020 Oral Health Goals if they look at these other state plans and adjust them for the state.

Based on the plans from Michigan, Massachusetts, and Tennessee the following are recommended for the State of Ohio: 1) Develop school based dental programs for children to better gain access to preventive care, particularly in low-income school districts; 2) Engage with the community through outreach events to better educate patients about the importance of maintaining good oral health both for adults and children; 3) Offer incentives for Medical doctors and dentists to participate in state insurance programs to make preventive dental screenings for accessible for children and adults and reinforce the need for dental care; and 4) Increase the number of sealants that are placed in children in order to prevent dental caries from developing at an early age and promote good oral health throughout life.

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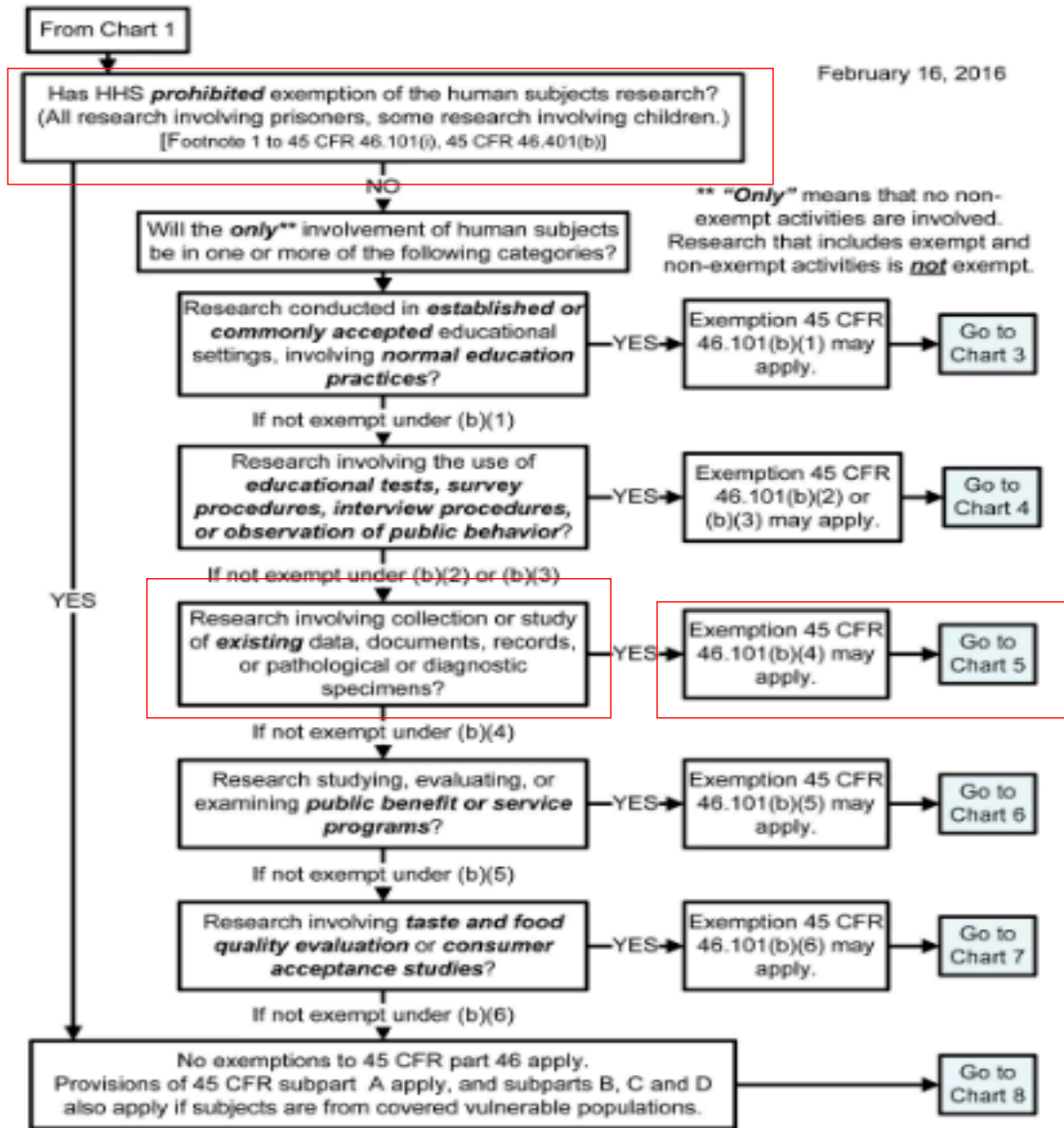
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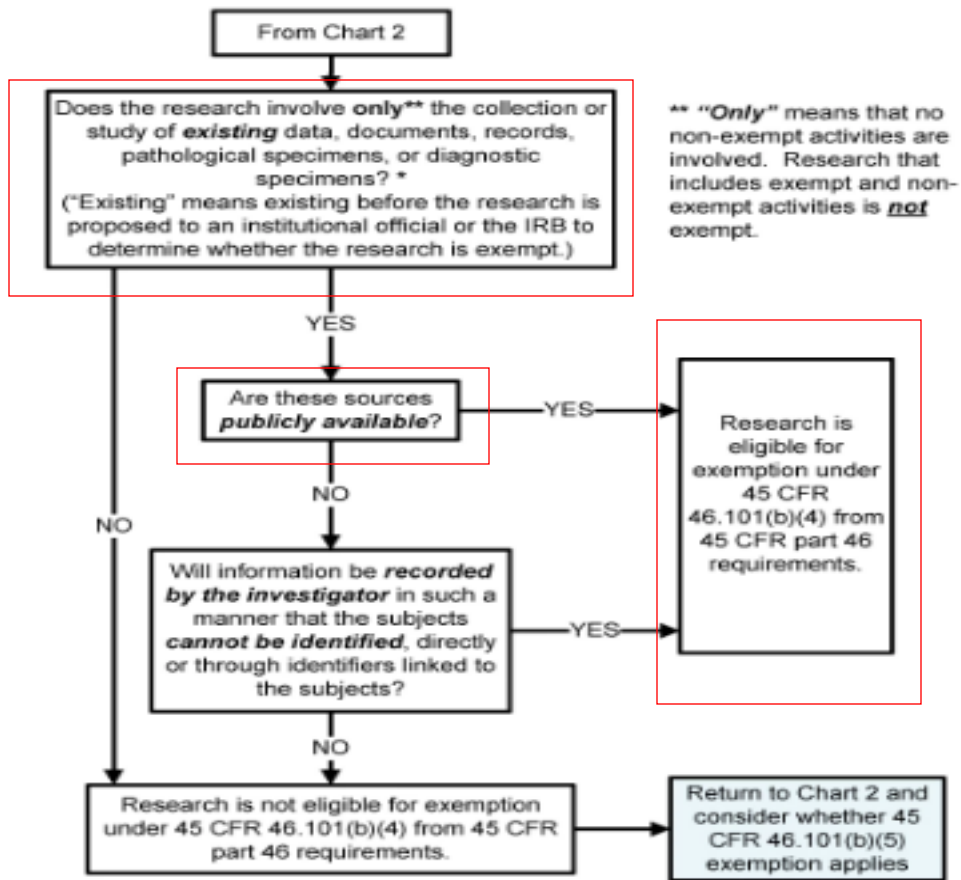
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Appendix A – Human Subjects Regulations Decision Charts





Appendix B – List of Competencies Met in Integrative Learning Experience

Wright State Program Public Health Competencies Checklist

Assess and utilize quantitative and qualitative data.
Apply analytical reasoning and methods in data analysis to describe the health of a community.
Describe how policies, systems, and environment affect the health of populations.
Explain public health as part of a larger inter-related system of organizations that influence the health of populations at local, national, and global levels.

Concentration Specific Competencies Checklist

Health Promotion and Education:	
Area 2: Plan Health Education Programs	
2.1	Use assessment results to inform the planning process
Area 4: Conduct Evaluation and Research Related to Health Education	
4.1	Create purpose statement
4.3	Assess the merits and limitations of qualitative and quantitative data collection for research
4.6	Develop data analysis plan for research
4.8	Evaluate feasibility of implementing recommendations from evaluation