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Wisconsin Public Health Programs

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Charles-Edward Amory Winslow, an American bacteriologist considered to be a leading figure in the field of public health, defined public health as "the science and art of preventing disease, prolonging life, and promoting health through the organized efforts and informed choices of society, organizations, public and private communities, and individuals."

Public health services and programs reduce the need for preventable medical care and treatment services. The U.S. Department of Health and Human Services (DHHS), Centers for Disease Control and Prevention (CDC) emphasize that public health services complement and, in some cases, overlap with curative health care services individuals receive from medical providers.

The National Academy of Medicine identifies the following three core functions of public health: (1) systematically collecting, analyzing and disseminating information on what makes a healthy community; (2) promoting the use of a scientific knowledge base in policy and decision making; and (3) ensuring that services are provided to those in need. Accordingly, public health agencies use a common approach to address all types of diseases and health conditions that affect populations. The approach includes identifying the problem (surveillance), identifying causes (risk factors), evaluating interventions to determine their effectiveness, and implementing programs to reduce risk factors.

Local, state, and federal government agencies, health care providers, and nongovernmental agencies work together to deliver public health services. In Wisconsin, there are 96 local and tribal public health departments (LTHDs), operated by counties, municipalities, partnerships between these units of local government, and Native American tribes and bands, with the primary responsibility for carrying out public health functions within their jurisdictions. The Appendix shows a map of these local public health departments.

The Wisconsin Department of Health Services (DHS), Division of Public Health (DPH) supports the services delivered by the LTHDs, administers some programs directly, and conducts related statewide functions. Several federal agencies, including the CDC and the Health Resources and Services Administration (HRSA) provide funding and guidance to the states and coordinate efforts nationwide.

This paper provides information on the structure and functions of DPH (Chapter 1), and LTHDs, federal agencies that administer funds that support the state and local public health programs, and other organizations (Chapter 2). Subsequent chapters describe some of the state's major public health hazards, and programs administered by DPH that are intended to address these hazards. Links to several of the sources referenced in this paper, and additional resources available on these and other public health topics, are listed at the conclusion of the paper.

CHAPTER 1

DHS Division of Public Health

The Department of Health Services (DHS) is the state's lead state agency for public health. Chapter 250 of the statutes assigns DHS responsibilities relating to public health, which include:

- Maintaining a public health system in cooperation with local and tribal health departments, community organizations, and county- and tribal-medical clinics;

- Assessing the health needs in the state based on statewide data collection;

- Advising the Legislature on the development of an adequate statutory base for health activities in the state;

- Establishing statewide health objectives and delegating power to local health departments to achieve objectives DHS considers appropriate;

- Supporting local public health service capacity building through grants, consultation and technical assistance;

- Developing policy and providing leadership in public health throughout the state that fosters local involvement and commitment, that emphasizes public health needs and that advocates for equitable distribution of public health resources and complementary private activities commensurate with public health needs;

- Distributing state and federal public health funds under its control in a manner that promotes the development and maintenance of an integrated, coordinated system of community health services;

- Advocating for the provision of reasonable and necessary public health services;

- Promoting cooperation and formal collaborative agreements among the state, local health departments, tribes, and the federal Indian Health Service with regard to public health planning, priority setting, information and data sharing, reporting, resource allocation, funding, service delivery, and jurisdiction;

- Performing or facilitating the performance of the following services and functions: (a) monitoring the health status of populations to identify and solve community health problems; (b) investigating and diagnosing community health problems and health hazards; (c) informing and educating individuals about health issues; (d) mobilizing the public and private sector collaboration and action to identify and solve health problems; (e) developing policies, plans, and programs that support individual and community health efforts; (f) enforcing statutes and rules that protect health and ensure safety; (g) linking individuals to needed personal health services; (h) assuring a competent public health workforce; (h) evaluating the effectiveness, accessibility, and quality of personal and population-based health services; and (i) providing research to develop insights into and innovative solutions for health problems.

In addition to these general statutory responsibilities, the Division of Public Health (DPH) administers state and federal funds that support programs that address (but are not limited to) maternal and child health, communicable diseases, services for individuals with certain conditions (such

Table 1.1: Budgeted Positions in DHS Division of Public Health in 2022-23

Unit Name	GPR	FED	PR	SEG	Total
Bureau of Communicable Disease	3.55	127.95	1.50	0.00	133.00
Bureau of Community Health Promotion	9.03	96.82	0.95	0.00	106.80
Bureau of Environmental and Occupational Health	5.45	21.70	31.95	1.50	60.60
Office of Health Informatics	4.13	35.40	44.57	0.00	84.10
Office of Preparedness and Emergency Health Care	6.31	38.15	0.54	0.00	45.00
Office of Policy and Practice Alignment	3.16	8.56	0.28	0.00	12.00
Bureau of Aging and Disability Resources	27.97	31.26	5.47	0.00	64.70
Bureau of Operations	3.37	20.46	6.17	0.00	30.00
Office of the Administrator	5.75	5.65	1.10	0.50	13.00
Regional Offices	3.00	16.00	0.00	0.00	19.00
Total	71.72	401.95	92.53	2.00	568.20

as congenital disorders and HIV/AIDS), aging, tobacco use, injury prevention, and environmental health. Further, DPH is responsible for licensing and regulating certain health-related occupations, such as lead and asbestos removal and emergency medical services personnel. In addition, DHS and local public health departments are authorized to respond to declarations of public health emergencies.

Table 1.1 identifies the budgeted staff positions in 2022-23 for each office and bureau within DPH, by fund source. These bureaus and offices are discussed in more detail in the sections below. Table 1.2 shows the state general purpose revenue (GPR) funding budgeted for general program operations in DPH in 2022-23, totaling $9.3 million. This funding includes all GPR staff costs for the Division, as well as operational funding not appropriated to specific programs. DPH is budgeted an additional $55.8 million GPR in 2022-23 under 35 appropriations for specific programs and projects, generally allocated to provide grants and aids to local and tribal health departments and service organizations or to contract for specific public health services. Many of these appropriations, as well as program-specific federal funds, are discussed in subsequent chapters.

Surveillance and Control of Communicable Diseases. The DPH Bureau of Communicable Diseases (BCD) is responsible for the prevention, surveillance, and control of communicable diseases and provides education, outreach and assistance to local and tribal health departments, health care providers, and the general public.

Table 1.2: Budgeted GPR Funding for DHS Division of Public Health, 2022-23

General Program Operations	
Permanent Position Salaries	$4,862,200
Limited-Term Position Salaries	1,500
Fringe Benefits	2,190,000
Supplies and Services	1,793,900
Data Processing	64,700
Rent	338,000
Subtotal	$9,310,300
Program-Specific Appropriations	
Supplies and Services	$29,100
Grants, Aids, and Local Assistance	55,523,900
One-Time Funding	250,000
Subtotal	$55,803,000
Total GPR Funding	**$65,113,300**

DHS is authorized to promulgate and enforce rules and issue orders to control the incidence and spread of communicable diseases in the state. The Department operates a surveillance system, the Wisconsin Electronic Disease Surveillance System (WEDSS), and requires certain health care providers and others to report cases or suspected cases of communicable diseases to a local health officer or state epidemiologist.

Local and tribal health departments have primary responsibility for responding to these reports, and are statutorily authorized to do what is reasonable and necessary for the prevention and suppression of disease, forbid public gatherings when deemed necessary to control outbreaks of epidemics, and promptly take all measures necessary to prevent, suppress and control communicable diseases.

BCD also coordinates the state's public health response to certain diseases of concern, such as human immunodeficiency virus (HIV), hepatitis C virus, and sexually transmitted infections. BCD provides surveillance and epidemiological investigations, testing, harm reduction, education, and other services.

Finally, BCD staff administer the state immunization program, which provides vaccines and technical assistance to health care providers, conducts surveillance and investigation of vaccine preventable diseases, operates the state's immunization registry, and conducts immunization education and outreach activities.

Of the 133 positions identified in Table 1.1 in BCD, 30.2 are epidemiologists and 26.8 are public health educators. Chapter 3 provides additional information on the programs administered by BCD.

Community Health Promotion. CDC defines "chronic diseases" as conditions that last one or more years and require ongoing medical attention, limit daily activities, or both. Chronic diseases such as heart disease, cancer, and diabetes are the leading cause of death and disability in the United States, and share common risk factors -- tobacco use, poor nutrition, physical inactivity, and excessive alcohol use. CDC estimates that six in ten adults in the United States live with chronic health conditions.

The Bureau of Community Health Promotion is primarily responsible for programs that promote health across the human lifespan, including health programs targeted at infants, youths, adults, and elderly individuals. These programs include chronic disease prevention and cancer control, family health, tobacco use prevention, and the women, infants, and children supplemental food program (WIC).

Environmental and Occupational Health. The Bureau of Environmental and Occupational Health (BEOH) monitors environmental and occupational illnesses through surveillance programs and promotes risk reduction by assessing, evaluating, and controlling environmental and occupational health hazards.

Within BEOH, one section has primary responsibility for monitoring environmental and occupational diseases and conditions, assessing hazardous waste sites, researching and providing information on health risks associated with sport fish consumption, and studying groundwater and ambient air quality standards.

Another section monitors the incidence of lead poisoning in Wisconsin, maintains a registry of lead-safe and lead-free properties, and certifies lead and asbestos workers. For more information on programs that address lead poisoning, see Chapter 10.

A third section inspects and licenses X-ray devices and mammography facilities, and conducts monitoring around Wisconsin's former nuclear energy facilities. This section also provides education and services related to radon, a naturally-occurring radioactive gas that can accumulate in some homes and businesses.

Health Informatics. The Office of Health Informatics (OHI) conducts three primary functions. First, the State Registrar/Vital Records staff is responsible for filing, registering, collecting, preserving and amending vital records. Vital records include birth, death, marriage, and divorce

records. Staff use the Statewide Vital Records Information System (SVRIS), a web-based software application that processes vital records from the point of initial entry and certification by county clerks, funeral directors, coroners, and physicians, to registration and assignment to the state.

Second, OHI staff analyze health data and maintains several health monitoring and reporting systems. The Wisconsin cancer reporting system (WCRS) provides direct access to information about cancer incidence and mortality in Wisconsin. The pregnancy risk assessment monitoring system (PRAMS) is a joint surveillance project of the CDC and state health departments that collect population-based data on maternal behaviors and experiences before, during and shortly after pregnancy, with the purpose of reducing infant morbidity and mortality. The Wisconsin violent death reporting system (WVDRS) maintains information on the manner and causes of violent deaths in Wisconsin. OHI maintains the Wisconsin interactive statistics on health (WISH) query system as well, which makes information from several databases publically available and can show data for multiple years and geographic areas.

Third, OHI manages the Wisconsin public health information network (WIPHIN), a secure, digital network used by public health agencies to contribute, retrieve, and analyze public health data, such as data in WEDSS.

Preparedness and Emergency Health Care. The Office of Preparedness and Emergency Health Care (OPEHC) works to prevent and mitigate public health threats and emergencies. OPEHC staff implement programs that are intended to strengthen trauma services and emergency medical services for children. In addition, OPEHC staff license and regulate emergency medical services. For more details on these programs, see Chapter 9.

Trauma Care. The statutes direct DHS to develop and implement a statewide trauma care system and establish regional trauma advisory councils as part of the system. The councils, comprised of health care organizations, first responders, and public health staff, collaborate to develop, implement, monitor and improve the regional trauma system.

One function of the OPEHC is to improve trauma care by establishing and maintaining a classification system for trauma centers (hospitals) that participate in the state trauma system. The classification system ranges from Level I centers, which demonstrate the capability to provide total care for every aspect of traumatic injury from prevention through rehabilitation and that have surgeons onsite 24 hours a day, to Level IV centers, which provide stabilization and advanced trauma life support prior to patient transferring patients to a higher level trauma center.

Emergency Preparedness. Wisconsin has seven regional healthcare emergency readiness coalitions (HERCs), comprised of hospitals, healthcare organizations, and public health agencies, that collaborate to help communities prepare for, respond to, and recover from adverse health effects of emergencies and disasters.

Policy and Practice Alignment. The Office of Policy and Practice Alignment (OPPA) is responsible for developing and recommending evidence-based community health and prevention policies through collaborations with LTHDs, health care providers, and others. OPPA staff in five regional offices (Green Bay, Rhinelander, Milwaukee, Madison, and Eau Claire) work with LTHDs in communicating state policy, assisting LTHDs in the development of local health plans, meeting voluntary national accreditation standards, and responding to local and regional health issues. OPPA staff are responsible for developing the state health assessment and the state health plan.

Aging and Disability Resources. The Bureau of Aging and Disability Resources (BADR) administers programs that serve people who are elderly, have physical disabilities, are in need of adult protective services, and who seek access to long-term care services through aging and disability resource centers (ADRCs). Within BADR, the Office on Aging has primary responsibility for the state administration of programs funded by the federal Older Americans Act and several state programs, including elder nutrition, the elder benefit specialist program, and caregiver support programs. The Office for the Promotion of Independent Living administers programs targeted at people who are blind, visually impaired, deaf, hard of hearing, or have physical disabilities. Staff in the Office for Resource Center Development work on policy development and fiscal and operational issues relating to ADRCs.

State Health Planning. Wisconsin's statutes direct DHS to engage in public health planning and to develop a public health agenda at least every ten years. *Healthiest Wisconsin 2020*, published in 2010, identifies priority objectives for improving health and quality of life in Wisconsin, with the primary goals of improving health by preventing disease and injury from an early age while also recognizing the importance of ongoing prevention and quality treatment for people with chronic diseases or disabilities, and eliminating health disparities and achieving health equity.

After the publication of *Healthiest Wisconsin 2020*, DPH staff continued to meet with state residents, community leaders, healthcare providers, experts and advocates to assess the state of Wisconsin's health, and to develop comprehensive state health improvement plans. This collaboration resulted in two publications: *Wisconsin State Health Improvement Plan 2019 Annual Report* and *Painting the Picture of Wisconsin's Health -- Wisconsin's 2020 Statewide Health Assessment.*

The *2019 Annual Report* provides health data and a review of current health trends, and evaluates the state's progress in meeting health objectives in five priority areas—alcohol, tobacco, suicide, nutrition and physical activity, and opioids. DHS published an update to the state health improvement plan in August, 2022. DHS intends to transition to a five-year health improvement planning cycle meeting accreditation standards, with the next plan to cover 2023 through 2027.

The *2020 Statewide Health Assessment* explains how various factors contribute to optimal health. These factors include social and community connections, infrastructure, healthy environmental surroundings, economic opportunity, high quality health care and public health services, and policies that support healthy communities.

Local and Tribal Health Departments

Public health departments operated by local governments and Native American tribes and bands implement many of the public health interventions described in this paper and are responsible for meeting the diverse public health needs of the people living in their jurisdictions. While they follow common program guidelines and work closely with DHS and the CDC, Wisconsin's public health system is fundamentally decentralized, and local and tribal health departments (LTHDs) rely heavily on local funding, have independence to implement programs in ways that meet their specific needs, and provide many services beyond those funded under state and federal programs.

Most LTHDs in Wisconsin are operated by counties. There are currently 96 LTHDs in Wisconsin, including 65 county health departments, two multi-county partnerships, 11 tribal health departments, 15 municipal health departments, two city-county partnerships, and one department operated by a partnership of municipalities. The Appendix provides a map of the LTHDs in Wisconsin.

State Regulation of Health Departments. Chapter 251 of the statutes relates to the establishment and organization of health departments by units of Wisconsin local government, their responsibilities, and the duties of local health officials. The chapter requires local health departments to enforce state public health statutes and rules and perform various functions, such as collecting, analyzing, and making available information on the health of the community, developing public health policies and procedures to address health problems, and submitting data to DHS' local public health data system.

The statutes authorize the creation of city-county and multiple-county health departments. The statutes also require that all municipal governments in Milwaukee County establish and operate health departments or contract with another municipality for public health services.

The chief executive officer of each county, city, and village appoints members of local boards of health, subject to confirmation by the locality's governing body. The statutes specify the composition of these boards and qualifications of board members. These boards govern their local health department. Local health departments may contract or subcontract with public or private entities to provide public health services.

Each local (non-tribal) health department is classified as either Level I, Level II, or Level III by meeting minimum service requirements established by rule (DHS 140). Departments are designated as Level I by meeting requirements relating to: (a) surveillance and investigation; (b) communicable disease control; (c) prevention of chronic diseases and injuries; (d) emergency preparedness and response; (e) assessments, planning, and policy development; (f) leadership and organizational competencies; (g) public health nursing services; and (h) annual reporting. Level II and Level III local health departments must meet all the requirements of Level I, and additional requirements specified by rule. DHS uses the level designations in determining funding allocations to each department under several programs the Division of Public Health administers.

In addition to providing the services listed in DHS 140, local health departments are charged with administering certain state and federal programs to address communicable diseases, environmental health hazards, maternal and child health, chronic diseases, and emergency medical services, as specified in Chapters 252 through 256 of the statutes. Finally, each department is required to act as an agent of DHS during a state public health emergency.

State Consolidated Contracts. DHS enters into contracts with local and tribal health departments to provide services supported by state and federal funds DPH administers. Rather than entering into a contract for each program, DHS enters into one "consolidated contract" with each LTHD. These contracts include funding allocations for several state- and federally-funded programs, including lead poisoning prevention and investigations, the well woman program, public health emergency preparedness and response, immunization, tobacco control, maternal and child health, and the women, infants and children (WIC) supplemental food program. In calendar year 2023, DHS plans to allocate $28.4 million in state and federal funds under the consolidated contracts. However, property tax revenue is the primary source of funding for local health departments.

The contracts identify funding allocations for each program, and, for each service, the percentage of total costs that are reimbursed by DPH. LTHDs use DHS's grants enrollment, application and reporting system (GEARS), formerly the community aids reporting system (CARS), to submit requests for reimbursement for eligible costs. GEARS calculates payments and generates reports for providers, counties and tribes under these contracts.

Community Health Improvement Plans. One of the primary functions of federal, state, and local public health agencies is to measure and assess health conditions, and prepare and implement plans to reduce risk factors.

The statutes require local health departments to regularly and systematically collect, assemble, analyze and make available information on the health of the community, including statistics on health status, community health needs and epidemiologic and other studies of health problems. The statutes also require local health departments to develop public health policies and procedures for the community, involve key policymakers and the general public in determining and developing a community health improvement plan, and submit data, as requested, to the local public health data system established by DHS.

Federal Agencies

The Centers for Disease Control and Prevention (CDC) is the primary public health agency of the federal government. The agency provides grant funding to state and local public health departments, develops policy, and performs several key functions at the federal level.

The CDC collects reports of infectious diseases from states to detect new outbreaks and monitor the spread of diseases, ranging from influenza to human immunodeficiency virus (HIV). Combined with advanced laboratory capabilities, this allows the CDC to quickly alert state and local health departments of needed interventions and coordinate efforts across jurisdictions.

The CDC similarly monitors and responds to non-infectious diseases and hazards impacting the public health, including birth defects, chronic diseases, environmental health hazards, and violence. Within the CDC, the National Institute for Occupational Safety and Health (NIOSH) conducts research and sets guidelines to protect workers' health. The CDC also supports a broad range of public health research and publishes the widely-read *Morbidity and Mortality Weekly Report*.

The CDC relies on state and local public health departments to implement most programs and interventions aimed at responding to health hazards, and provides grant funding to support this work. Many grants focus on particular hazards and specify the interventions and best practices grantees should use. The last column of Table 2.1 shows the total amount of these CDC grants over the past ten years. The large increase in funding beginning in 2019-20 is in response to the COVID-19 pandemic; these funds are discussed in Chapter 3.

Other CDC grants, shown in the first three columns of Table 2.1, provide broader support for public health functions.

Public Health Emergency Preparedness (PHEP) Cooperative Agreement. The CDC provides PHEP funding to support broad public health infrastructure and capabilities, with a focus on maintaining the capacity to respond to public health emergencies. This funding is generally consistent from year to year, intended to build and maintain a base of staff, facilities, skills, and systems from which public health agencies can mount a response to threats when they emerge, such as infectious disease pandemics or natural disasters.

DPH allocates approximately half of the PHEP funding to LTHDs each year, retaining the remainder to support state-level infrastructure and capacity. In 2022-23, allocations to LTHDs total $5,326,500.

Preventive Health and Health Services (PHHS) Block Grant. The PHHS block grant provides flexible funding for each state to meet their particular public health needs. In recent years, DPH has used these funds to support public health planning, modernize and improve public health systems and processes to meet national accreditation standards, and address a variety of other needs.

DPH also provides PHHS funds to LTHDs. These funds can meet a variety of needs, but each LTHD that applies must identify a specific public health need in their jurisdiction and propose an evidence-based intervention. DPH will allocate $745,000 in PHHS funding to LTHDs in 2022-23.

Public Health Emergency Response Cooperative Agreement. Although the public health system focuses on prevention and preparedness, federal funding is often made available after public health emergencies reach a large scale. In many cases, federal legislation provides these reactive funds as supplements to existing grants with specific purposes, such as for vaccine administration. Other supplemental funding has been provided

Table 2.1: Overview of General-Purpose and Program-Specific CDC Funding for DHS

Year	Public Health Emergency Preparedness (SFY)	Preventive Health and Health Services (FFY)	Public Health Emergency Response (FFY)	Program-Specific CDC Grants to DHS (FFY)
2013-14	$11,020,500	$3,021,100	$0	$36,077,300
2014-15	11,440,500	2,969,500	0	38,754,500
2015-16	11,509,800	3,031,200	0	41,649,900
2016-17	11,648,800*	3,048,600	0	40,416,600
2017-18	11,215,500	3,291,800	2,715,100**	37,109,100
2018-19	12,372,600	3,053,200	0	35,283,900
2019-20	11,181,100	3,090,000	10,700,200	192,932,500
2020-21	11,399,800	3,005,600	35,053,200	721,593,100
2021-22	11,605,900	3,021,300	0	70,183,500
2022-23	11,871,700	TBD***	TBD***	TBD***

* Includes supplements in response to the Zika virus public health emergency.
** Funding in response to the opioid public health emergency.
*** To be determined.

through the Public Health Emergency Response cooperative agreement, a mechanism to provide general funding in response to public health emergencies. This funding is intended to provide relief when crises threaten to overwhelm the existing capacity of the public health system. As shown in Table 2.1, funding has been provided in response to the opioid epidemic (in FFY 2017-18) and the COVID-19 pandemic (in FFYs 2019-20 and 2020-21).

Public Health Infrastructure Grant. Using funding made available under ARPA and other sources, the CDC has created a new grant program to support public health infrastructure and workforce, the Strengthening U.S. Public Health Infrastructure, Workforce, and Data Systems grant.

The CDC made the first awards under the program in November, 2022, including $44,948,300 to Wisconsin. This amount includes a large one-time component to support costs of recruiting, training, and retaining public health workers and the first-year amounts of two smaller, ongoing components supporting data modernization and foundational capabilities of the system. The ongoing components will be funded for at least five years, with planned awards totaling $180 million nationwide each year.

Other Federal Agencies. The CDC is an operating division within the U.S. Department of Health and Human Services (DHHS). However, several other divisions conduct work to promote public health or provide grant funding to state or local public health departments. In particular, the Food and Drug Administration (FDA) regulates food and pharmaceutical safety, including products such as vaccines that play a key role in public health interventions; the Health Resources and Services Administration (HRSA) works to provide access to health care for people with geographic or economic barriers to care; and the Indian Health Service (IHS) coordinates and provides health care to Native American nations, tribes, and bands.

DHHS also includes the Centers for Medicare and Medicaid Services (CMS), which, in addition to Medicare, administers Medicaid (MA). MA provides health coverage for people with medical need and low income, and is an important source of funding for many preventative health interventions, including vaccines and diagnostic services.

Federal Health Planning. DHHS has identified current national public health priorities to help individuals, organizations, and communities improve health and well-being in a ten-year plan, Healthy People 2030. The plan, based on recommendations of the DHHS Secretary's Advisory Committee on National Health Promotion and Disease Prevention, identifies 355 measurable ("core") objectives with ten-year targets, most of which can be achieved through evidence-based interventions. The core objectives are listed under five broad categories—addressing specific health conditions, promoting specific health behaviors, serving specific populations, improving settings and systems, and responding to social determinants of health (SDOH). CDC plans to report progress on meeting the core objectives periodically through 2030.

Non-Governmental Organizations

A number of non-governmental organizations contribute to the public health system, including nonprofit service organizations, private healthcare providers, educational institutions, and other public and private companies. Many of the interventions funded and implemented by federal, state, and local governments rely on contracts with non-governmental organizations, often with specialized knowledge of the health hazard and population being served, to deliver services. Charitable organizations provide additional services, supplementing government-funded programs and responding to unmet needs. Increasingly, the private healthcare system, including pharmacies,

insurers, and medical professionals, deliver preventative services to their customers, such as vaccines and screenings, that historically have been available only through public health departments.

Federally Qualified Health Centers (FQHCs). Health clinics generally focus on providing primary care, but also play an important role in providing preventative and public health services, especially in locations and communities with limited access to services. HRSA operates a grant program to support health clinics that provide comprehensive primary health care services to underserved areas and populations, including migrant agricultural workers and people experiencing homelessness. To qualify, clinics must serve individuals regardless of ability to pay, and charge patients based on sliding fee scales.

These ('federally qualified') health centers are eligible for a variety of other programs in addition to the HRSA grant funding, such as cost-based reimbursement under MA. DPH is budgeted $6,390,000 GPR annually in 2021-22 and 2022-23 to distribute as supplemental grants in proportion to the HRSA grant each FQHC receives. There are 17 FQHC organizations in the state, with 103 clinic facilities as well as mobile and school-based clinics.

In addition, DPH is budgeted $1,500,000 per year in 2021-22 and 2022-23 to provide grants to free and charitable clinics that provide similar services to FQHCs but do not qualify for HRSA grants.

Organizations that Serve Minority Communities. Some organizations in the state are uniquely able to provide public health services to communities that are marginalized, such as racial and ethnic minorities, because of their trusted relationships, existing programs, and cultural competency. DPH is budgeted $383,600 per year in 2021-22 and 2022-23 under the Minority Health Grant Program to award grants to organizations serving economically disadvantaged minority groups, to improve public health and reduce racial and ethnic health disparities.

211 Wisconsin. Awareness and communication barriers often prevent people from accessing public health services when they need them. 211 Wisconsin, operated by United Way of Wisconsin, provides multi-lingual information, referral, and advocacy services for a wide variety of human services, including public health. Services are available 24/7 by calling 2-1-1, by text or online chat, and through an online directory. DPH is budgeted $210,000 GPR per year in 2021-22 and 2022-23 to provide a grant to support this service.

Wisconsin Partnership Program and Advancing a Healthier Wisconsin Endowment. In 1999, Blue Cross & Blue Shield United of Wisconsin filed an application with the Office of the Commissioner of Insurance (OCI) to convert from a nonprofit service insurance corporation to a for-profit stock insurance corporation. OCI approved the conversion in March, 2000. The conversion plan included the creation of a charitable public health foundation, the Blue Cross and Blue Shield United for Health Foundation, Inc., organized for the purpose of promoting the general health, welfare and common good for Wisconsin residents.

As a result of the conversion, the state's two medical schools, the University of Wisconsin School of Medicine and Public Health and the Medical College of Wisconsin (MCW), each received approximately $300 million, to be expended according to agreements reached between the medical schools and the United for Health Foundation. Investment earnings on these funds support the grants provided by the two medical schools.

Under the OCI-approved conversion plan, 35% of all funds must be allocated to public health and expended for public health and public health community-based initiatives, with the remaining 65% for education and research initiatives. As defined in the Commissioner of Insurance's order

regarding the conversion, public health means "population health, rather than population medicine, focused on the broader determinants of health in communities, such as prevention efforts to promote healthy life styles for women, children and families; disease prevention and control; and control of environmental agents that negatively impact health." Funds may not be used to supplant funds or resources that would otherwise be available from other sources.

Wisconsin Partnership Program. The University of Wisconsin School of Medicine and Public Health's program, the Wisconsin Partnership Program (WPP), is governed by two committees -- an Oversight and Advisory Committee that directs and approves funds for public health initiatives, and a Partnership Education and Research Committee that allocates funds for medical education and research initiatives to improve population health. WPP awards several types of grants, including multi-year grants, addressing a broad range of health topics, including maternal, infant and child health, diabetes and obesity prevention, substance abuse, and projects that address social determinants of health and the public health workforce.

Through June 30, 2022, the Partnership Program had awarded 591 grants, totaling $281.4 million, including: (a) community grants ($93.2 million); (b) clinical and translational research grants ($82.4 million); (c) public health research grants ($49.8 million); (d) public health education and training grants ($39.6 million); and (e) basic science research grants ($16.4 million). As of June 30, 2022, the Partnership Program's net assets were $343.4 million.

Advancing a Healthier Wisconsin Endowment. The Medical College of Wisconsin's Advancing a Healthier Wisconsin Endowment (AHW) is governed by two committees. The first, the MCW Consortium on Public Community Health, oversees AHW's support of community and public health partnerships and projects and serves in an advisory capacity for research and education projects. The second, the Research and Education Advisory Committee, governs AHW's projects relating to MCW biomedical and population health research and programs to enhance education opportunities for the health care and public health workforce.

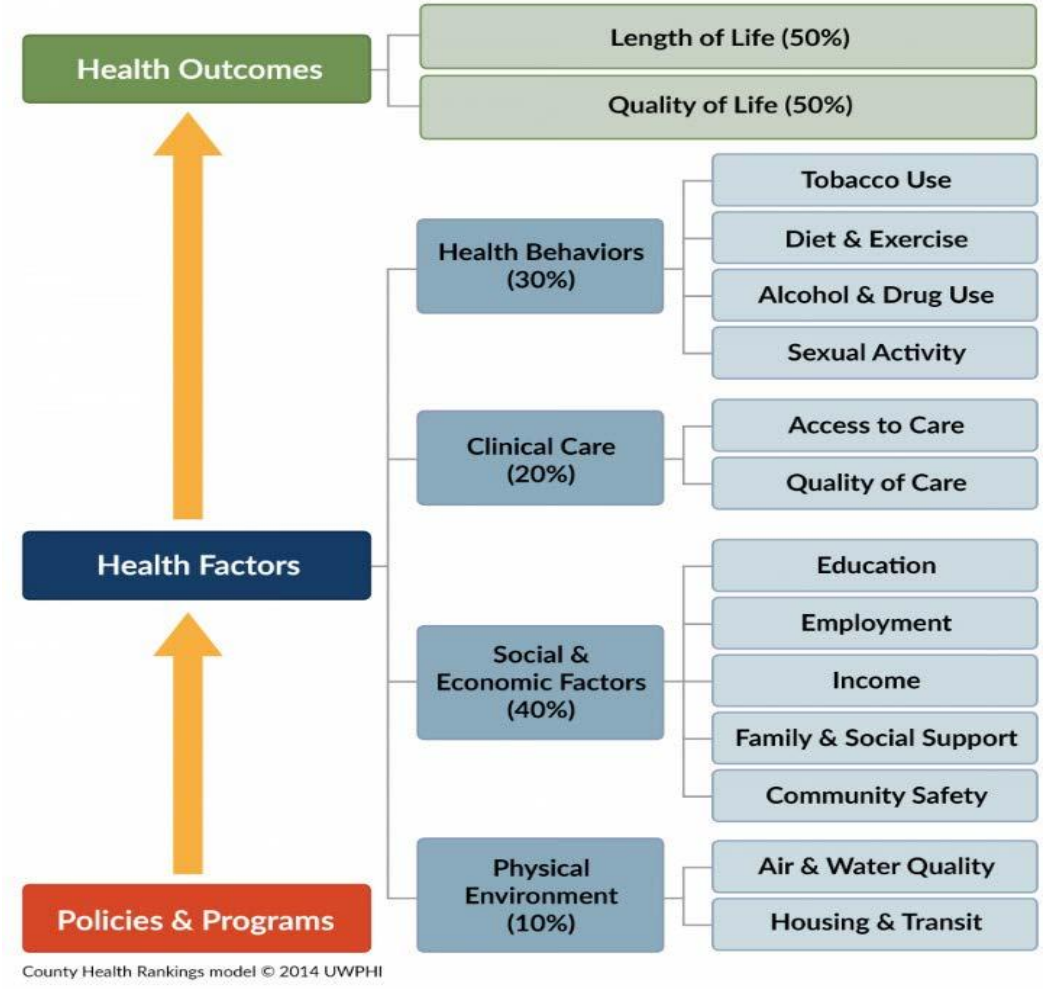
Through June 30, 2022, the AHW had funded over 560 projects and had authorized $369.8 million for projects, including $240.0 million for its Healthier Wisconsin Partnership Program, $101.2 million for research and education programs, and $28.7 million for program development. As of June 30, 2022, the endowment's net assets were $458.7 million.

Social Determinants of Health and Health Disparities

It is widely recognized that factors other than care rendered by health care providers affect the health status of individuals. Among these factors are social determinants of health (SDOH), which CDC defines as conditions in the places people live, learn, work, and play that affect a wide range of health risks and outcomes. Public health agencies recognize the importance of SDOH to the health of populations and individuals, and that resources that enhance quality of life can significantly affect health outcomes. Examples of these resources include safe and affordable housing, access to education, public safety, availability of healthy foods, local emergency and health services, and environments free of life-threatening toxins.

The University of Wisconsin Population Health Institute (PHI) uses a model in its County Health Rankings and Roadmaps program that identifies four health factors that affect an individual's health outcomes -- health behaviors, clinical

Figure 2.1: UW Population Health Institute County Health Rankings Measurement Model



care, social and economic factors, and physical environment. Based on several approaches, PHI derived estimates it considers to be reasonable approximations of how much these factors contribute to the health outcomes reported in the county rankings. The model is summarized in Figure 2.1, published by PHI.

SDOH also contribute to health disparities and inequities. Health disparities are preventable differences in the burden of disease, injury, violence, or in opportunities to achieve optimal health experienced by socially disadvantaged racial, ethnic, and other population groups and communities. These disparities are evident in many measures of the health of Wisconsin residents.

PHI periodically publishes a "report card" that measures the state's progress in improving health and eliminating health disparities. The most recent report, *2021 Wisconsin Population Health and Equity Report Card* provides examples, presented below, of health disparities among groups in Wisconsin, as measured by mortality rates and health status.

- While the statewide mortality rate is 720 deaths per 100,000, mortality ranges from 477 deaths per 100,000 for Hispanics to 1,016 deaths per 100,000 for Blacks.

- Among Wisconsin residents with a college education, the mortality rate is 568 deaths per 100,000, while the mortality rate for Wisconsin residents with less than high school education is 1,679 per 100,000.

- Among levels of urbanization in Wisconsin, the mortality rate ranges from 659 per 100,000 in suburban counties to 822 per 100,000 in Milwaukee County.

- Although 12.8% of Wisconsin residents report fair or poor health overall, 11.3% of Whites report fair or poor health, compared to 23.5% of Blacks.

- Self-reported fair or poor health is lowest among college educated Wisconsinites (5.3%) and highest among those with less than high school education (34.1%).

- Among Wisconsin counties, self-reported fair or poor health ranges from 12.7% for suburban counties to 19.7% for Milwaukee County.

Statewide average measures of health and risk factors, such as infant mortality rates and rates of tobacco use, often mask health disparities.

Major Public Health Hazards in Wisconsin

Table 2.2 provides an overview of certain major public health hazards. The table includes the leading causes of death in the state, as well as preventable conditions with particular public health impact.

The table shows the number of people affected by each hazard annually, such as the number of cigarette smokers or the number of people who have experienced a stroke (including survivors and fatalities). For ongoing conditions, this is the average population experiencing the hazard, not just the number of new diagnoses. For conditions limited to a specific age group (such as infant mortality), the table gives the rate of incidence within that age group.

The table generally gives average values for the past three years, where available. For some hazards, values are rounded to reflect the precision of information available. For cigarette smoking, for example, the number of smokers is based on survey data and the mortality shown reflects CDC models of the impact of cigarette smoking on mortality rates for primary causes of death such as lung cancer.

Table 2.2: Incidence and Mortality of Selected Public Health Hazards in Wisconsin

		Annual Diagnoses (New and Continuing)		
Hazard	Age Group	Number	Percent of Age Group	Annual Deaths
Infectious Diseases—Reportable, pre-COVID-19	All	10,340	0.2%	1,147
Child and Maternal—Infant Mortality	Under 1 yr.	382	0.6	382
Cancer—All	All	33,803	0.6	11,538
Tobacco and Vaping—Cigarette Smoking	Adults	238,000	5.0	7,000
Alcohol—Emergency Room Admissions	All	36,925	0.6	3,099
Injury—Fatal Accidents, Homicide, and Suicide	All	5,278	0.1	5,278
Lead Poisoning—Childhood	Under 6 yr.	2,618	0.7	0
Chronic Diseases—Diabetes	Adults	398,000	8.4	1,579
Chronic Diseases—Heart Disease	Over 64 yr.	39,100	4.1	12,304
Chronic Diseases—Stroke	Over 64 yr.	9,800	1.0	2,622

CHAPTER 3

Infectious Diseases

An infectious disease is any illness caused by a bacteria, virus, fungus, or other germ that enters the body and multiplies. Many infectious diseases are communicable (also referred to as contagious or transmissible), meaning that they can spread from one human to another, either directly or through a vector such as a mosquito. Because of the potential for outbreaks of communicable diseases to rapidly spread to a large number of people, the prevention, surveillance, and control of these diseases is a key function of the public health system.

Many programs and funding sources addressing this hazard use systems and strategies that respond to many or all infectious diseases together. Table 3.1 and the first two sections of this chapter provide an overview of these programs, divided between general disease control and surveillance programs and vaccines. Other interventions target specific diseases, such as inspections of restaurants to limit the spread of food-borne illnesses, education and testing to reduce the spread of sexually-transmitted infections, protocols to prevent the spread of tuberculosis, or training and modifications to interrupt the spread of antibiotic-resistant and other diseases in healthcare facilities. The final section in this chapter describes one of the largest such programs, responding to human immunodeficiency virus (HIV).

General Control and Surveillance

CDC Epidemiology and Laboratory Capacity Cooperative Agreement. As shown in Table 3.1, the CDC provides the largest single source of funding for the state's public health system to respond to communicable disease hazards-the Epidemiology and Laboratory Capacity for Prevention and Control of Emerging Infectious Diseases Cooperative Agreement (ELC). (Under a cooperative agreement, federal agency staff participate more directly in project activities than under a

Table 3.1: Major Funding Sources for Infectious Disease Programs

	FED				GPR (SFY)
	CDC Epidemiology and Laboratory Capacity (FFY)	CDC Vaccines for Children (FFY)	CDC Immunization Registry Supplements (FFY)	CDC STD Prevention and Control (CY)	Communicable Disease Control and Prevention
2013-14	$2,079,400	$4,776,100	$1,723,500	$1,012,000	$0
2014-15	1,827,900	4,653,900	920,900	1,315,100	0
2015-16	5,737,000	3,826,300	2,799,100	1,396,900	0
2016-17	5,480,000	6,005,700	413,400	1,424,000	0
2017-18	6,292,900	5,241,700	285,700	1,132,000	500,000
2018-19	7,432,500	5,929,900	0	1,287,400	500,000
2019-20	158,563,000	11,208,800	0	1,320,000	500,000
2020-21	539,915,900	120,311,000	0	4,328,900	500,000
2021-22	29,889,900	6,186,000	0	4,336,300	500,000
2022-23	TBD	TBD	0	TBD	500,000

Note: Additional state and federal funding for the Wisconsin Immunization Registry and for HIV programs is discussed separately.

federal grant program.) The purposes of the ELC are intentionally broad, supporting public health infrastructure and programs that increase general capacities and respond to many different diseases.

Surveillance, detection, and response activities, such as disease reporting and investigation, supporting laboratory infrastructure, enhancing workforce capacity, and improving information exchange systems, are among the activities supported by the ELC. The ELC also prioritizes prevention, including a variety of health promotion and other interventions. Communications and coordination form the final focus area of the ELC, including informing the public and healthcare providers about communicable disease outbreaks and prevention strategies, and coordinating between the state, local and tribal health departments, clinical laboratories, infection control staff in hospitals and other facilities, and other partners.

DHS uses the ELC funding to achieve these goals through the operations of the Bureau of Communicable Diseases (BCD) and other DPH programs. In 2022-23, federal funds supported 128 of the 133 staff positions in BCD, most of which were funded from the ELC. (Prior to the COVID-19 pandemic, federal funds supported 45 of the 48 positions in BCD.) These positions include many epidemiologists, disease intervention specialists, and public health educators.

As shown in Table 3.1, Wisconsin received large ELC funding increases during the COVID-19 pandemic. The Coronavirus Aid, Relief, and Economic Security (CARES) Act and Coronavirus Preparedness and Response Act, also signed in March of 2020, provided a total of $16,502,200 in ELC supplements to Wisconsin, including allocations targeted for diagnostic testing, data systems improvement, and wastewater surveillance capacity.

Subsequent federal legislation, the Paycheck Protection Program and Health Care Enhancement Act signed in April, 2020, authorized a larger supplement to the ELC. CDC awarded $137,077,900 to Wisconsin to provide testing and contact tracing over a 30-month period. DHS allocated most of this funding to local and tribal health departments to operate testing clinics and conduct contact tracing. The Consolidated Appropriations Act, enacted in December of 2020, provided another supplement for similar purposes, under which Wisconsin received $335,129,900 to fund costs incurred through July, 2023.

Finally, the American Rescue Plan Act of March, 2021, provided several ELC supplements totaling $214,571,900 in awards to Wisconsin. The act designated $175,368,900 of this funding for testing to support the re-opening of schools and made smaller allocations for testing in confinement facilities, testing for people experiencing homelessness, and genomic sequencing to identify and monitor variant strains of the virus.

Other COVID-19 Supplementary Funding. The CDC has provided several other short-term funding supplements for infectious disease programs in response to the COVID-19 pandemic. Authorized under the Consolidated Appropriations Act of 2021, the CDC awarded funds in June of 2021 to each state and several other jurisdictions to address COVID-19 health disparities among underserved populations and those at high risk, including racial and ethnic minority populations and rural communities. The CDC awarded DHS $27,184,800, of which at least $9,332,500 was reserved to serve rural communities. The CDC awarded an additional $6,639,500 to the City of Milwaukee Health Department directly. The funds provided under these grants will be available through May, 2023, and can be used to improve access to COVID-19 testing, conduct outreach, improve contract tracing, and otherwise close health disparities.

The CDC also created a three-year grant program, initially funded under the CARES Act, to

support COVID-19 response using community health workers. Community health workers are trusted members of the community they serve and typically do not require specific health professional credentials, rather receiving training in outreach, case management, and other services. They work to bridge the gaps between community members and health services, providing culturally competent, accessible care. Under the grant program, known as Community Health Workers for COVID Response and Resilient Communities (CCR), the CDC allocated DPH $3,000,000 per year in 2021, 2022, and 2023 to train and expand existing community health worker programs in the state. In addition, the CDC selected DHS to provide training and technical assistance to the other award recipients nationwide, and will provide an additional $2,540,000 for these services. The Red Cliff Band of Lake Superior Chippewa will also receive an award under this program, of $350,000 per year to build capacity to use community health workers.

Authorized under ARPA, the CDC created a Disease Intervention Specialists (DIS) Workforce Development funding supplement. Disease intervention specialists use tools such as case investigation and contact tracing to respond to outbreaks and connect people with needed preventive and treatment care. CDC will award DHS $15,012,000 over a five-year period (2021–2025) to strengthen this workforce to respond to COVID-19 and other infectious diseases. The first two awards ($3,002,400 each) have been provided as supplements to the CDC's STD Prevention and Control grant, as shown in Table 3.1. Disease intervention specialists are a key part of existing STD prevention and control efforts.

GPR-Funded Communicable Disease Control and Prevention Grants. Also shown in Table 3.1, DHS is budgeted $500,000 GPR in 2021-22 and 2022-23 to distribute to local and tribal health departments to fund communicable disease control and prevention activities. Health departments can use these funds for disease surveillance, contact tracing, staff development and training, improving communication among health care professionals, public education and outreach, and other infection control measures.

In 2022-23, DHS awarded a base allocation of $2,500 to each local and tribal health department ($240,000 total in fiscal year 2021-22). DHS distributes the remaining funds based on the population in each department's service area. In 2021-22 the median total allocation was $4,050, and the average allocation was $5,208.

State Laboratory of Hygiene. Operated by the University of Wisconsin–Madison, the Wisconsin State Laboratory of Hygiene (WSLH) serves as the state's public health laboratory. Doctors often require blood tests, nasal swabs, or analyses of other samples taken from a patient to detect or confirm the diagnosis of a communicable disease, or to determine the specific strain or type of infection. In some cases these tests can be read directly in the doctor's office, but many require analysis by a clinical laboratory. Commercial laboratories throughout the state perform some of these analyses, but WSLH is a key resource for many clinicians, including public health departments and other programs, and for many types of tests, including less-common illnesses for which WSLH may be the only testing provider.

In addition to diagnosing communicable diseases, WSLH performs several other public health services and conducts research and training. The lab tests for exposure to environmental hazards, such as lead. The lab also analyzes screenings for congenital disorders for every newborn in the state and certain cancer screenings, including Pap tests. The lab performs the majority of blood alcohol and drug tests in operating while intoxicated (OWI) cases and coroners' investigations. Finally, WSLH provides services to other clinical laboratories in Wisconsin and nationwide, including calibration and proficiency testing.

In 2022-23, WSLH is budgeted $11,947,800 as part of the budget for the University of Wisconsin system. The lab also charges fees for many of the tests it performs. Certain DHS grants and contracts support the costs of specific services, such as Pap tests delivered through the Wisconsin Well Woman Program and mpox testing for qualifying patients.

Outbreak Reporting and the Wisconsin Electronic Disease Surveillance System (WEDSS). Local and tribal health departments, DHS, and the CDC work together to monitor the spread of certain communicable diseases to detect and respond to new outbreaks, inform prevention and control efforts for all diseases, identify populations facing the highest risks, and educate the public.

Medical professionals, clinical laboratories, healthcare facilities, school and daycare nurses, teachers, and principals, and anyone else with knowledge that a patient has contracted one of a designated list of communicable diseases are required to notify their local public health department, and in some cases DHS directly. In practice, most of these reports are made by the clinical laboratories analyzing patient specimens to diagnose the disease.

By rule, DHS determines which diseases are reportable in the state. Currently, this list consists of approximately 100 different diseases, ranging from food-borne illnesses to sexually-transmitted infections, diseases spread by mosquitos, ticks, and other vectors, influenza, and many others. Diseases of particular concern must be reported to the DHS Division of Public Health, and in some cases the CDC. The state publishes data on approximately 30 of these, ranging from those that affect fewer than 50 Wisconsinites each year, such as malaria, mumps, and meningitis, to diseases that infect thousands, such as Lyme disease and hepatitis C.

Certain diseases of urgent public health importance, such as hepatitis A, measles, and smallpox, must be reported by telephone within 24 hours, while other diseases may be reported by other means within 72 hours of the identification of a case or suspected case.

For many reportable diseases, local and tribal health departments work to investigate each case to identify the source of the infection, trace and notify contacts the patient may have exposed, and provide guidance or take other measures to limit the spread of the disease. Depending on the severity of the disease and the scope and nature of the outbreak, DHS may conduct some or all of this investigation, or coordinate between local departments when an outbreak spans jurisdictions. Similarly, the CDC tracks diseases of national concern, coordinating investigations between states and providing guidance on recommended interventions.

DHS operates the Wisconsin Electronic Disease Surveillance System (WEDSS) to collect, store, and analyze communicable disease case reports. Laboratories, health care providers, and other reporters can enter case reports directly into the system, which automatically notifies public health departments and the CDC. WEDSS can also be used to analyze data on disease activity. WEDSS receives and processes hundreds of thousands of reports each year, including communicable disease cases as well as certain other conditions tracked through the system, such as birth defects. DHS indicates that approximately 75% of disease reports are received through WEDSS.

Vaccines

Vaccines for Children Program. Vaccines have brought about one of the largest improvements in public health in human history, making diseases that once caused widespread illness and many deaths, such as measles, mumps, and rubella, rare in the United States. Providing vaccines in childhood protects children when they are most vulnerable to many of these diseases. In addition, for some diseases, one or more doses of a vaccine administered in childhood will provide lifelong immunity. Others require regular boosters, often recommended every ten years, to maintain immunity.

Vaccines can be administered at local and tribal health departments, primary care provider offices, and, in many cases, pharmacies. Some people receive childhood vaccinations and stay up to date in adulthood as part of their routine check-ups with primary care providers or visits to a pharmacy. The public health system works to promote vaccination and ensure that people without regular access to a primary care provider, or who face financial barriers, can access the vaccines needed to protect themselves and the population as a whole from preventable diseases.

The federally-funded and state-administered Vaccines for Children (VFC) program provides access to all childhood vaccines recommended by the CDC's Advisory Committee on Immunization Practices (ACIP). These vaccines protect against the diseases listed in Table 3.2. The CDC allocates vaccine to states, which distribute the vaccine free of charge to primary care providers, local and tribal health departments, and other provider enrolled in the program. As of June, 2021, there were 722 enrolled provider sites in Wisconsin.

Any eligible child up to age 18 can receive free vaccines from a VFC provider. All of the following groups are eligible for the program: any child enrolled in or eligible for the Medical Assistance (MA) program, any child that is a member of a Native American tribe, any child without health insurance, and any child whose insurance doesn't cover all vaccinations or has cost-sharing provisions that create a financial barrier to receiving vaccination.

Table 3.2: Diseases Preventable by Childhood Vaccinations Recommended by ACIP

Dengue
Diphtheria
Haemophilus influenzae Type B (Hib)
Hepatitis A
Hepatitis B
Human Papillomavirus (HPV)
Influenza (Flu)
Measles
Meningococcal Disease (Meningitis)
Mumps
Pertussis (Whooping Cough)
Pneumococcal Disease
Polio
Rotavirus
Rubella
Tetanus
Varicella (Chicken Pox)

Providers can charge a standardized fee for administration of a VFC vaccine, and can charge for other services delivered at the same time, such as an office visit or check-up. MA provides coverage for these fees for children enrolled in MA, the largest group of children covered by VFC. For other children, the VFC program prohibits providers from denying vaccination if someone is unable to pay such a fee.

As shown in Table 3.1, in addition to providing the vaccine itself, the CDC provides grant funding to states to administer the VFC program. DHS uses this funding to recruit and enroll providers, distribute vaccines, comply with federal reporting requirements, control fraud and abuse, conduct provider site visits, and perform any other functions necessary to operate the program. DHS can also use this funding to support the state's

immunization program more broadly, including the programs discussed below and efforts to publically promote and provide education on vaccination. In 2022, DHS allocated $1,643,800 from this grant to local and tribal health departments to support programs to promote and provide vaccinations.

In 2020 and 2021 the CDC provided significant one-time increases to the Vaccines for Children grant to support states' COVID-19 vaccination efforts. Authorized under three of the major federal COVID-19 response acts, these vaccine preparedness awards totaled $7.1 billion nationwide; the CDC allocated $117,386,000 to Wisconsin. Initial funds were provided to prepare for and implement a program to vaccinate the entire state against COVID-19. Subsequent awards supported the operation of this program; efforts to improve vaccine equity across race and ethnic groups, urban and rural settings, and communities facing social or financial barriers to accessing the vaccine; and programs to build confidence in the vaccine among those who were hesitant. DHS allocated a portion of these funds to local and tribal health departments, and may continue to expend the funds through June, 2024.

Wisconsin Immunization Registry. DHS maintains a database of vaccinations provided to every Wisconsinite, the Wisconsin immunization registry (WIR), to allow people to track and provide proof of their own vaccinations and to avoid duplication if people receive vaccinations from more than one provider. Vaccine providers enter patient records in the database, and people can access their own and their children's records online. Clinics, local and tribal health departments, and others can access reports to track vaccination rates among their patients.

DHS funds WIR with a combination of CDC funding from the Vaccines for Children cooperative agreement ($645,400 FED in 2022-23, included in the total award shown in Table 3.1), GPR funding in the Medical Assistance (MA) administrative appropriation ($291,700 GPR in 2022-23), and matching federal Medicaid funds ($291,700 FED in 2022-23). In past years, Wisconsin has also received several CDC grants and grant supplements specific to WIR operations and improvements, as shown in Table 3.1. The most recent of these concluded in 2017-18.

Required Vaccinations for Daycare and School Attendance. In an effort to prevent the spread of communicable diseases among school-age children, state law requires that children receive certain vaccinations before enrolling in schools or child care facilities. The statutes provide for exceptions on the basis of medical conditions or religious or personal convictions.

The statutes require schools and daycare centers to report to their local health departments each year the percentage of their students who have met the vaccination requirements, and the names and vaccination progress of any students whose vaccinations are not up to date. This allows health departments and school or daycare administrators to coordinate their response to any outbreak of a vaccine-preventable disease, and provide appropriate guidance and care to any non-vaccinated children.

Generally, schools and daycare centers may exclude any child who has not received the vaccinations required for their age group or met the conditions for a medical, religious, or personal exemption. However, if in the previous year more than one percent of a school district or daycare center's enrollees were out of compliance, the statutes require administrators to exclude non-compliant children from daycare and elementary school (through grade five).

By July 1 of each year, DHS is required to submit a report to the Legislature on the success of the statewide immunization program. In its most recent report, summarizing the information regarding the 2021-22 school year, DHS reported that:

- 88.6% of students met the minimum immunization requirements;

- 4.6% of students had a waiver, due to personal convictions, religious, or medical reasons;

- 68.9% of preschool-age children (up to 24 months of age) had completed their primary immunization series. The primary immunization series includes four DTaP (diphtheria, tetanus, and pertussis), three polio, one MMR (measles, mumps and rubella), at least three *Haemophilus influenzae* Type B, one varicella, and four pneumococcal conjugate vaccine doses.

DHS monitors, coordinates and, provides guidance on immunization requirements to local health departments, schools, and daycare centers, and supports public awareness and education campaigns to promote compliance.

Human Immunodeficiency Virus (HIV)

The human immunodeficiency virus (HIV) attacks and destroys CD4 T-cells, which help the body fight diseases and infections Left untreated, the virus can weaken the body's immune system, resulting in a condition known as acquired immunodeficiency syndrome (AIDS). While there is no cure for HIV, people with HIV can manage the condition through medications that reduce the number of viral particles in a person's blood ("viral load").

HIV is a blood-borne communicable disease, meaning it can be transmitted by blood or across a mucous membrane. It is most commonly transmitted through sexual contact, sharing needles to inject drugs, and through perinatal transmission of HIV to infants. The virus is not transmitted through air or water, saliva, sweat, insects or pets, or people sharing food and drinks.

As of December 31, 2020, there were an estimated 8,035 Wisconsin residents with HIV, including 6,926 who had been diagnosed with the condition and an estimated 1,109 people who may be unaware that they are HIV-positive. In 2020, 208 people were newly diagnosed with HIV in Wisconsin. Of the newly-diagnosed individuals: (a) more than half were diagnosed in Milwaukee and Dane County; (b) 61% were people of color; (c) an estimated 72% contracted the virus through male-to-male sexual contact; and (d) 79% visited an HIV health care provider within one month of receiving the diagnosis.

The DHS Bureau of Communicable Diseases administers several programs that include preventative measures to reduce the transmission HIV and harm reduction efforts to improve the health of people living with the disease. Table 3.3 shows state (GPR) funds budgeted and federal funding the state received to support these services during the past several years.

Prevention and Surveillance. The CDC's integrated HIV surveillance and prevention program, together with a portion of the state funds shown in Table 3.3, support a broad range of

Table 3.3: State and Federal Amounts Budgeted for HIV/AIDS Programs

	GPR (SFY)			FED -- HRSA Ryan White Program (FFY)			FED -- CDC
Year	Mike Johnson Grants	Other HIV/ AIDS Services	Total	Drug Assistance	Other HIV/ AIDS Services	Total	Surveillance and Prevention (FFY)
2017	$3,677,000	$2,220,900	$5,897,900	$4,636,500	$6,747,800	$11,384,300	$1,332,000
2018	4,000,000	2,220,900	6,220,900	4,741,800	6,409,400	11,151,200	2,884,100
2019	4,000,000	2,220,900	6,220,900	4,699,000	5,975,500	10,674,500	2,884,100
2020	4,000,000	2,220,900	6,220,900	4,624,400	5,447,900	10,072,300	2,884,100
2021	4,000,000	2,220,900	6,220,900	4,532,400	4,608,600	9,141,000	2,884,100
2022	4,000,000	2,220,900	6,220,900	4,576,000	4,074,900	8,650,900	2,384,500

interventions to monitor and reduce the spread of HIV, as described below.

Education and Outreach. DPH conducts outreach to promote healthy practices that can prevent the spread of HIV and educate populations with the highest risk of exposure. These activities include raising awareness of the effectiveness of treatments, such as drugs that someone who is HIV-negative can take to protect themselves (for example, pre-exposure prophylaxis, or PrEP) and drugs that someone who is HIV-positive can take to limit the effects of the virus and, in many cases, prevent transmission of the virus (antiretrovirals). DPH also participates in multiple HIV awareness events.

DPH focuses on working with people and communities facing the highest risk of HIV exposure, including gay and bisexual men and any other men who have sex with men, people who inject drugs, communities of color, women who are at risk of engaging in sex work, people with HIV, and people who are incarcerated.

Testing and Referral. DPH supports free or low-cost HIV testing in local and tribal health departments, hospitals, clinics, and other local organizations across the state. Staff at these locations are trained counselors who assess clients' risks of HIV exposure, guide them in strategies to reduce those risks, provide counseling for clients who test positive, and refer clients to necessary medical and social supportive services.

Partner Services. Working with local and tribal health department staff, DPH administers a program to provide confidential notification to the sexual and needle-sharing partners of people who test positive for HIV. After staff receive a positive test result from a lab or clinic, they contact the patient to provide basic counseling and referrals on treatment and techniques to prevent transmission, and offer to contact any sexual or needle-sharing partners who may have been exposed to the patient. If the patient chooses, DPH or LTHD staff will inform those partners of their potential exposure, without disclosing the patient's identity. This service helps increase the share of the population who are aware of their HIV status, seek proper treatment, and avoid transmitting the virus.

Surveillance. Doctors, laboratories, clinicians, and healthcare facilities must report all cases of HIV to DPH, which compiles these reports to monitor patterns and trends in the transmission of the virus. This enables DPH to respond to emerging outbreaks and develop programs to address the state's particular needs. DPH publishes annual reports (see the Additional Resources at the end of this paper) detailing the level of HIV transmission in the state and patterns and trends in incidence.

Mike Johnson Life Care Grant. Under the Mike Johnson life care and early intervention services program, DPH awards a grant to an AIDS service organization to fund certain harm reduction services for people living with HIV. These services include early intervention services to connect people to medical care and other supports following an HIV diagnosis. The grant also supports needs assessments and ongoing case management for anyone living with HIV and their family and caregivers. Grant funds may be used to provide counseling, therapy, and homecare services and supplies, and to refer people to other services that support the health of those living with HIV, including medical care, housing assistance, food assistance, and legal and social services.

2021 Act 226 expanded the Mike Johnson program to include some preventative services, in addition to harm reduction care. The act allows grant funds to be used to provide testing and consultation to partners of people living with HIV and others at risk of infection so that they can receive recently-developed pre-exposure prophylactic drugs (PrEP).

In the 2021-23 biennium, $4.0 million GPR is budgeted annually for the Mike Johnson Life Care grant. In 2022, DPH awarded the grant to Vivent

Health, an organization formed from the AIDS Resource Center of Wisconsin and several other AIDS service organizations in nearby states. Vivent reported serving more than 4,000 people living with HIV in Wisconsin, through locations in ten cities across the state. The agency reports that 92% of their patients in Wisconsin are successfully suppressing the virus, mitigating the symptoms of the disease and preventing transmission.

Medicaid-Supported Case Management Services. Wisconsin's medical assistance (MA) program provides coverage for case management services for MA beneficiaries with HIV. As for other MA services, federal funds support approximately 60% of MA reimbursement costs to providers. The state share of costs for HIV case management, unlike other MA benefits, is paid from the HIV services GPR appropriation shown in Table 3.3. MA beneficiaries with HIV or AIDS and at least one other chronic condition who are enrolled in HMOs are eligible to receive care through the HIV/AIDS health home program, which is intended to ensure access to appropriate specialists and MA-covered services. Vivent Health provides these services though clinics in Dane, Kenosha, Brown, and Milwaukee counties.

AIDS/HIV Drug Assistance Program and Insurance Assistance Program. As shown in Table 3.3, the federal Ryan White HIV/AIDS program provides funding to states to provide HIV care services. The Ryan White program includes several grant programs organized into different parts; Part B provides grants to each state and accounts for the largest amount of funding provided to Wisconsin.

The federal budget designates a large portion of Part B funds to be used to purchase medications and improve access to drug treatments. Wisconsin statutes establish two programs supported by these funds and the GPR appropriation for HIV services: the AIDS/HIV drug assistance program (ADAP) and the insurance assistance program (IAP).

ADAP. People with HIV typically need to take several medications (antiretrovirals) daily to inhibit the virus's ability to replicate within the body. When a drug regimen is successful, the virus can be suppressed to the point that the patient's immune system can function normally, their health can return close to normal, and they will not be at risk of transmitting HIV. In some cases, newly-developed long-acting antiretrovirals can achieve the same results, eliminating the need for adherence to a daily regimen. Many antiretrovirals drugs are prohibitively expensive.

The ADAP reimburses participating pharmacies for providing program enrollees with HIV antiretrovirals and other drugs that are necessary to address an HIV-related health concern. These include drugs to prevent and treat other infections that may occur when a patient's immune system is weakened by HIV, such as hepatitis C.

In addition to state and federal funds, ADAP is supported with rebate revenue the state receives from drug manufacturers. In 2021-22, DHS expended $12.6 million in drug rebate revenue to support the program. This program revenue source, which is currently credited and expended from the Division of Public Health's gifts and grants appropriation, reduces program costs that would otherwise be supported by state and federal funds.

Enrollment in ADAP is limited to Wisconsin residents with HIV who live in households with income at or below 300% of the federal poverty level. (In 2022, 300% of the FPL is $3,488 per month for an individual.) ADAP only provides reimbursement after the maximum amount has been paid by any available insurance, including the medical assistance program. ADAP can provide reimbursement for copayments, deductibles, and any other out-of-pocket costs an enrollee may incur.

IAP. Similar in purpose and fund sources to ADAP, the insurance assistance program provides financial assistance to help people with HIV access and maintain insurance that will provide coverage for antiretrovirals and other HIV medications. The program is supported by the GPR and federal Ryan White funding shown in Table 3.3.

IAP provides subsidies for insurance premiums for people who, due to their HIV infection, either are unable to continue at their current employment, must take unpaid sick leave, or must reduce their hours. With certain restrictions, the program subsidizes employer-sponsored health plans, certain supplemental Medicare plans, and plans on the federal health insurance marketplace at the 'silver' level of actuarial value.

For applicants with household income up to 200% of the FPL, IAP can subsidize up to the full premium cost, subject to availability of funds. Wisconsin residents in households with income between 200% and 300% of the FPL can receive partial subsidies.

In 2020, Wisconsin's ADAP and IAP together served 1,703 people. Approximately 70% of these people had or received some form of insurance, including clients who received assistance from ADAP with copays or deductibles and clients who received insurance subsidies under the IAP.

Other Harm Reduction Programs and Services. Other HIV/AIDS program costs are supported with GPR not earmarked for the Mike Johnson life care grant and the portion of the Ryan White Part B allocation not designated for the ADAP and IAP. In addition, under the 2020 federal Coronavirus Aid, Relief and Economic Security (CARES) Act, the state received a supplement of $479,000 to Wisconsin's Part B allocation to prevent and respond to COVID-19–related healthcare and supportive service needs of people living with HIV.

Much of these funds augment the programs described above, including the ADAP, IAP, and services provided under the Mike Johnson life care grant, in particular case management and mental health services. These funds also support a variety of other services to meet the common needs of people living with HIV, including dental care, housing supports, and providing referrals to other medical and social services.

CHAPTER 4

Child and Maternal Health

Infants, children, and families are subject to several particular public health hazards, including nutritional deficiencies, complications during pregnancy, labor, and postpartum that can be fatal, and rare but severe congenital disorders. Unmitigated, these hazards can cause long-term harm from childhood through adulthood. This chapter describes several public health interventions that provide education, preventative services, nutrition, and specialized care to support the health of infants and their families.

WIC Supplemental Food Program

The federal special supplemental nutrition program for women, infants, and children (WIC) provides supplemental food benefits, nutrition and drug abuse education, and referral services to families that include children under age five or women who are pregnant, post-partum, or breastfeeding. To qualify, participants must have a nutritional risk, as determined by a health screening conducted by a health professional, and reside in a household with income below 185% of the federal poverty level. For example, in state fiscal year 2022-23, the maximum monthly household income for a family of three is $3,551.

The types and brands of food that may be purchased through WIC are more limited than those that may be purchased under the federal supplemental nutrition assistance program (SNAP). WIC limits purchases to those foods designated in a "food package." Depending on the participant type (infant, child, or pregnant woman), the food package may include specified amounts of milk, juice, cereal, eggs, fruits and vegetables, infant formula, baby food, cheese, whole wheat bread, canned fish, and a choice of beans or peanut butter. Allowable amounts of each type of food per month are based on estimates of the basic dietary needs of the eligible woman, infant, or child.

Families use electronic benefit transfer (EBT) cards to purchase eligible foods from participating stores. In addition, all eligible adults and children at least nine months old receive $30 once a year in coupons redeemable for fruits and vegetables at farmers' markets through the farmers' market nutrition program (FMNP).

The U.S. Department of Agriculture, Food and Nutrition Service (FNS) allocates funds to states to support food benefits, nutrition services, and program administration. DPH administers the WIC program through local and tribal public health departments and nonprofit organizations. Federal funding allocated by FNS, together with negotiated rebate revenue the state collects from infant formula manufacturers, fully support benefit and administration costs, with the exception of a 30% state share of administration costs for the FMNP.

Due to funding limitations, not all women and children who qualify for WIC are enrolled in the program. Instead, WIC agencies may maintain waiting lists, and are directed to fill enrollment openings under a priority system established by FNS. This system provides priority to women, infants and children who are at nutritional risk due to serious medical conditions, and lower priority to other WIC-eligible populations, such as children at nutritional risk due to dietary problems and individuals who are at nutritional risk because they are homeless or migrants.

Table 4.1: Annual Information on Wisconsin's WIC Program Costs and Enrollment Federal Fiscal Years 2017-18 through 2020-21

	2017-18	2018-19	2019-20	2020-21
Federally-Funded Expenditures				
Food Expenses After Rebates	$41,376,000	$38,169,600	$36,309,800	$31,244,400
Nutrition Services and Administration Expenses	28,912,800	27,986,500	23,423,400	29,076,600
Total	$70,288,800	$66,156,100	$59,733,200	$60,321,000
Rebates Received from Infant Formula Manufacturers*	$23,265,400	$22,578,100	$21,486,500	$23,423,400
Avg. Monthly Enrollment, by Eligibility Category				
Pregnant Women	7,268	6,727	6,313	6,110
Breastfeeding Women	5,172	4,946	4,940	4,484
Postpartum Women	7,419	6,949	6,629	6,234
Subtotal	19,859	18,622	17,882	16,828
Infants	22,357	21,199	20,568	19,094
Children	50,271	47,845	48,771	50,109
Subtotal	72,628	69,044	69,339	69,203
Total Women, Infants and Children	92,487	87,666	87,221	86,031

*Reduces the amount of food costs that would otherwise need to be supported by federal funds.

WIC agencies are charged with encouraging and promoting breastfeeding as the optimal nutrition for infants. The program offers a wide range of breastfeeding services, including individualized lactation support, peer counselors, prenatal breastfeeding classes, and help in accessing pumps. However, postpartum women who choose not to breastfeed receive infant formula as part of their food package. Infant formula manufacturers provide substantial discounts, in the form of rebates, to state WIC programs in return for exclusive rights to sell their products to state WIC enrollees. Consequently, WIC's costs to the federal government are significantly lower than the retail value of WIC benefits to enrollees.

Federal regulations require states to use a competitive bidding process to contract with one manufacturer to provide infant formula to WIC families. Since 2021, DHS has contracted with Abbott Nutrition to provide infant formulas. Table 4.1 displays program costs and enrollment for the WIC program.

MCH Block Grant Programs

The DHS Bureau of Community Health Promotion's Family Health section administers several programs to improve maternal and child health. The largest source of funding for these programs is the federal Maternal and Child Health Services (MCH) block grant the state receives under Title V of the Social Security Act. The program is administered by the DHHS Health Resources and Services Administration (HRSA).

The purpose of the MCH block grant is to improve the health of the nation's mothers, infants, children (including children with special health care needs), and their families by creating federal-state partnerships that provide each state the opportunity to address health needs of these populations. Grant funds are allocated to states and the District of Columbia based on the number of children living in poverty in a state as a proportion

of the total number of children living in poverty in the United States, based on information from the U.S. Census Bureau's American Community Survey. Each state is required to provide a match of at least $3 for every $4 of federal block grant funds they receive, a condition that may be satisfied with a combination of state and local funds. In addition, federal law requires states to allocate at least 30% of the federal funds for children and youth with special health care needs, and at least 30% to provide preventive and primary care services for children.

Every five years, states are required to develop a plan to address their priority MCH needs, which are organized in six reporting domains: women/maternal health, perinatal/infant health, child health, children with special health care needs, adolescent health, and systems capacity building. Within each category, the plan identifies strategies, objectives, and national and state performance and outcome measures. In its FFY 2023 application, DHS identified the following priority needs:

- Advance equity and racial justice;
- Assure access to quality health services;
- Cultivate supportive social connections and community environments;
- Enhance identification, access, and support for individuals with special health care needs and their families;
- Foster positive mental health and associated factors;
- Improve perinatal outcomes; and
- Promote optimal nutrition and physical activity.

States are required to submit annual applications to HRSA to receive MCH block grant funding. These applications summarize the state's current maternal and child health programs, planned uses of MCH block grant funds, updates on the state's needs assessments, and outcome goals and measures. In addition, the state's application includes an annual report on actual MCH-related spending.

The state's FFY 2023 application summarizes FFY 2021 budgeted and actual expenditures of MCH program funds, as shown in Table 4.2.

Approximately 60% of Wisconsin's MCH block grant funding is provided to local and tribal health agencies, regional centers for children and youth with special health care needs, and other agencies statewide. Local and tribal agencies use MCH funds, together with local contributions, to provide services to target populations, including disseminating best practices and quality improvement efforts to birth hospitals, schools, law enforcement agencies, home visiting providers, and WIC sites.

Wisconsin has five regional centers dedicated to supporting families with children and youth with special health care needs and the providers who serve them. The centers are staffed by specialists who connect families to community resources. Their services are free and private. Families with infants who screen positive for blood or hearing disorders or critical congenital heart disease are provided information on how to contact the regional centers and the services that are available. DHS estimates that over 220,000 children in Wisconsin (approximately 17.5% of all children) have special health needs. Examples of chronic physical, developmental, behavioral or emotional conditions include attention deficit hyperactivity disorder (ADHD), asthma, autism spectrum disorders, childhood cancers, cerebral palsy, Down's syndrome, heart disease, mental illness, deafness, and blindness.

MCH-supported state staff work on several DPH-administered programs, including the newborn screening, lead abatement, oral health, and behavioral health harm reduction programs. In addition, MCH-supported epidemiologists review and analyze vital records and other health data, to inform policy and practice strategies.

Table 4.2: MCH Block Grant Summary, FFY 2021

	Budgeted	Expenditures
Total Federal Allocation	$11,402,300	$10,092,200
Preventive and Primary Care for Children	$3,493,100	$3,065,900
Children with Special Health Care Needs	3,534,700	3,846,800
Title V Administrative Costs	152,700	111,500
Subtotal	$7,180,500	$7,024,200
State MCH Funds	$10,386,200	$4,721,800
Local MCH Funds	-	4,025,500
Program Income	2,370,000	-
Subtotal -- Total State Match	$12,756,200	$8,747,300
Total Federal-State Partnership	$24,158,600	$18,839,400
Other Federal Funds for MCH Programs from DHHS		
State Systems Development Initiative		$89,900
Early Hearing Detection and Intervention		150,900
Pregnancy Risk Assessment Monitoring System		219,300
Rape Prevention and Education		916,600
State Personal Responsibility Education Program		930,800
Pediatric Mental Health Care Access Program		621,800
Injury Prevention and Control		748,500
Total Other Federal Funds		$3,677,800

State and MCH block grant funds support a statewide system of community-based women's health services programs, including collaborations with DPH's reproductive health and family planning program, to provide contraception and sexually transmitted infection prevention services in areas of the state with no or few comprehensive reproductive health care providers.

Other Maternal and Fetal Mortality Prevention Programs

DHS administers several programs to mitigate the health risks of pregnancy and birth for newborns and new parents, particularly to prevent perinatal and maternal deaths. These programs work to connect pregnant people with consistent healthcare early in their pregnancy and maintain that care through the birth and postpartum period for both infant and parent. They also support services and education to mitigate risks and promote healthy pregnancies.

DHS provides grant funding annually to local and tribal health departments and other organizations to conduct outreach to pregnant women with low income. This outreach seeks to promote prenatal and infant healthcare, facilitate enrollment in Medicaid or other assistance programs when eligible, refer pregnant women to local care providers, and conduct follow-up services.

DHS receives federal Medicaid administrative matching funds for 50 percent of the costs of providing outreach and coordination services for Medicaid-eligible populations. The outreach appropriation shown in Table 4.3 funds the GPR share of costs of this program. In addition to this funding and the federal MA matching funds the state claims for these services, the statutes direct DHS to allocate $250,000 annually for these services from the state's award under the MCH block grant.

Table 4.3: GPR-Funded Maternal and Infant Mortality Programs

SFY	Pregnancy Outreach and Infant Health	Racine Fetal and Infant Mortality and Morbidity
2013-14	$188,200	$222,700
2014-15	188,200	222,700
2015-16	188,200	222,700
2016-17	188,200	222,700
2017-18	188,200	222,700
2018-19	188,200	222,700
2019-20	188,200	222,700
2020-21	188,200	222,700
2021-22	188,200	222,700
2022-23	188,200	222,700

Under a separate program targeted to the City of Racine, DHS provides grant funding to the city health department to provide services to reduce fetal and infant mortality, injury, and illness. These services include prenatal and postnatal home visits by public health nurses or social workers, care coordination, community health education programs, and other evidence-based interventions. The city health department must also use the funding to assess the availability of necessary preconception, prenatal, and postnatal services for those who lack insurance or are enrolled in MA, and conduct outreach and awareness campaigns, including to connect people to available healthcare. The grant also requires the city health department to collaborate with an academic institution and a hospital to identify and implement evidence-based practices to reduce fetal and infant mortality and morbidity. In the 2021-23 biennium, $222,700 GPR is budgeted annually for this program.

Several other state programs also promote healthy pregnancy and infancy. The Department of Children and Families and the Child Abuse and Neglect Prevention Board both implement home visiting programs to train and support new parents, similar to the program in the City of Racine. For more information on these and related programs, see the informational paper entitled, "Child Welfare Services in Wisconsin." Programs operated by DHS and discussed elsewhere in this paper also have direct impact on health hazards during pregnancy and infancy, including programs to promote smoking and vaping cessation (see Chapter 7), reduce alcohol consumption (Chapter 8), and screen for certain sexually transmitted infections that may complicate pregnancy (Chapters 3 and 5).

Congenital Disorders

The Division of Public Health operates a program to screen every newborn in the state for congenital disorders, including hearing loss and rare genetic disorders, prior to discharge from the hospital or birthing center. This program is funded by revenue from fees collected for each newborn screened.

The newborn screening program screens for hearing loss, critical congenital heart disease, and approximately 50 disorders detectable in a small blood sample, including conditions such as cystic fibrosis and sickle cell disease. DHS contracts with the State Laboratory of Hygiene to analyze these samples.

DPH also maintains a confidential database to monitor cases of congenital disorders, the Wisconsin Birth Defects Registry (WBDR), now a part of the Wisconsin Electronic Disease Surveillance System (WEDSS). Pediatricians, specialists, and other providers must report congenital disorders of their patients, including disorders identified through the newborn screening program and any other disorders identified before age two. The WBDR tracks 87 conditions. The statutes allocate $95,000 per year in licensing and other fee revenue to operate the WBDR, and the program has been funded from grants from the CDC and other sources in the past.

Typically, approximately 2,000 infants are born with a congenital disorder in Wisconsin each year, three percent of all births. DPH uses the newborn screening program and birth defect registry to connect these patients and their parents to critical healthcare interventions and treatment resources, including services delivered through the Children and Youth with Special Health Care Needs program supported by the MCH block grant. DPH also uses this data to understand trends and patterns in the incidence of congenital disorders in the state and identify clusters that may have a common cause. This surveillance and analysis guides and informs prevention efforts.

CHAPTER 5

Reproductive and Sexual Health

There are several public health hazards that are specific to the reproductive system. These include cancers that can be diagnosed early through regular screenings, such as the Papanicolaou test ("Pap smear") for cervical cancer, allowing treatment to prevent the cancer from spreading or developing to a more advanced stage. Other cancer-specific interventions are discussed in Chapter 6. Sexually transmitted infections, also discussed in Chapter 3, pose a public health risk and can be prevented or controlled through education, testing, and other interventions. Teen pregnancy prevention and family planning services are also key public health supports.

While these hazards vary in cause and health outcomes, the health professionals and clinics responding to them are often the same, and hence the public health system often addresses them together. Table 5.1 identifies the primary state and federal sources of funding for public health responses to sexual and reproductive health hazards in Wisconsin.

Table 5.1: Major State and Federal Funding for Sexual and Reproductive Health Interventions

	GPR (SFY)		FED (FFY)
Year	Women's Health Block Grant	Adolescent Pregnancy Prevention	Title X Family Planning Service Grants to DHS
2013-14	$1,742,000	$69,100	--
2014-15	1,742,000	69,100	--
2015-16	1,742,000	69,100	--
2016-17	1,742,000	69,100	--
2017-18	1,742,000	69,100	$1,000,000
2018-19	1,742,000	69,100	5,620,000
2019-20	1,742,000	69,100	4,080,000
2020-21	1,742,000	69,100	4,363,400
2021-22	1,742,000	69,100	3,032,800
2022-23	1,742,000	69,100	TBD

Women's Health Block Grant

As shown in Table 5.1, DHS is budgeted $1,742,000 GPR in 2021-22 and 2022-23 to provide and coordinate family planning and other sexual and reproductive health services, known as the Women's Health Block Grant (WHBG). The statutes require that DHS provide this funding to public entities (typically, local and tribal health departments), and that DHS allocate a total of $414,000 GPR in each fiscal year for the following specific purposes:

- $225,000 to establish and maintain two city-based clinics for delivery of family planning services, in the cities of Milwaukee, Racine, or Kenosha. In 2022-23, this funding was provided to the City of Milwaukee Health Department.

- $67,500 to provide Papanicolaou tests ("Pap smears") to women in families with income up to 200% of the federal poverty level.

- $54,000 to subsidize follow-up cancer screenings by entities that receive funding under the program. DHS contracts with the State Laboratory of Hygiene to provide the Pap smears and follow-up cancer screening services.

- $36,000 to initiate programs to locate, educate, and treat people at high risk of contracting chlamydia and their partners, in areas of the state with high incidence of chlamydia. DHS contracts with the City of Milwaukee Health Department to provide these services.

- $31,500 as grants to subsidize employment of licensed registered nurses,

licensed practical nurses, certified nurse-midwives, or licensed physician assistants who are members of a racial minority. DHS provides these grants to the Kenosha County Health Department.

DHS awards the remaining WHBG funding to local and tribal health departments to support a variety of sexual and reproductive health services. These funds may be augmented by federal funding the state receives under the Maternal and Child Health Block Grant. Recipients use these funds to deliver services consistent with CDC recommendations on quality family planning services. These services include education and counseling on sexual risk avoidance, pregnancy, and family planning; guidance on and provision of contraceptives, including for men, women, and adolescents; pregnancy testing; testing and treatment for sexually transmitted infections; breast and cervical cancer screening; and counseling to minors on resisting attempted coercive sexual abuse.

The statutes describing the WHBG have specific prohibitions related to abortion services, none of which override the state and federal laws and court rulings related to the legality of providing or restricting access to such services. The public entities receiving WHBG funding may not distribute any portion of the funds they receive to any entity that provides abortion services, makes referrals for abortion services, or has an affiliate that provides or makes referrals for abortion services, except for abortion services that are either (a) medically necessary to save the life of the pregnant person, (b) medically necessary to prevent grave, long-lasting physical health damage to the pregnant person, or (c) terminating a pregnancy conceived by rape or incest that has been reported to law enforcement.

Other Family Planning Services

Similar to the funding awarded to health departments under the WHBG, DHS contracts with local and tribal health departments to provide selected family planning services funded under Title X of the federal Public Health Service Act. Table 5.1 shows the funding Wisconsin has received under this program since 2018, when 2015 Wisconsin Act 151 required DHS to begin administering the funds allocated to the state. The same abortion-related prohibitions described above apply to these funds. In addition, the statutes define family planning services for the purpose of this program to include nondirective information explaining prenatal care and delivery or infant care, foster care, or adoption.

Local and tribal health departments may use the funds they receive under this program to provide; (a) screening for cervical cancer and breast cancer; (b) screening for high blood pressure, anemia and diabetes; (c) screening for sexually transmitted infections; (d) infertility services; (e) health education; (f) pregnancy testing; (g) contraceptive services; (h) pelvic examinations; and (i) referrals for other health and social services.

Adolescent Pregnancy Prevention Counseling. An annual appropriation provides state funding for DHS to award grants for the provision of pregnancy counseling services. As in recent years, in 2022-23 DHS is budgeted $69,100 for this purpose (as shown in Table 5.1), and has awarded a grant of that amount to the Medical College of Wisconsin to provide counseling to adolescents in pregnancy prevention.

Medical Assistance Coverage of Family Planning Services. For many public health hazards, including sexual and reproductive health hazards, some preventative healthcare and other treatments and services rendered on an individual basis may be provided or reimbursed by a recipient's health insurance, if they have coverage. The Medical Assistance program (MA) provides expanded eligibility for coverage of certain family planning services.

The family planning only services program provides contraception and related services to people with income up to 306% of the federal poverty level who are of reproductive age and meet certain immigration status restrictions but do not otherwise qualify for MA. Only the applicant's own income is considered in determining eligibility, not the income of other members of the household, such as parents. For more information, refer to the informational paper entitled, "Medical Assistance and Related Programs."

CHAPTER 6

Cancer

Cancer is a disease in which some of the body's cells grow uncontrollably and spread to other parts of the body. Cancer is caused by changes in cells' genes that control the way the cells function, especially how they grow and divide.

These genetic changes (mutations) occur because of errors that occur as cells divide, or damage to DNA caused by harmful substances in the environment, such as chemicals in tobacco smoke and ultraviolet rays from the sun. In addition, some mutations can be passed from parent to child, which increase the child's risk of developing the disease. Several risk factors are associated with cancer causes, including alcohol and tobacco use, diet, sunlight, and exposure to cancer-causing substances (carcinogens) in the environment. However, advancing age is the most important risk factor for cancer, which may be due to the accumulation of cancer-causing mutations or changing features in human tissue over time. Information from the National Cancer Institute's surveillance program indicates that the median age of a cancer diagnosis is 66 years.

The age-adjusted cancer incidence rate for all males in Wisconsin decreased from 572 per 100,000 population in 1995 to 496 per 100,000 in 2018 (-13.3%), while the age-adjusted incidence rate for all females in Wisconsin increased slightly from 414 per 100,000 population in 1995 to 429 per 100,000 in 2018 (3.6%). There are significant differences in the incidence rates among racial groups in Wisconsin. For example, in 2018, the incidence rate for White males was 488 per 100,000 population, while the incidence rate for Black males was 678 per 100,000 population, or 39% greater than the incidence rates for White males.

Reducing behavioral risk factors and providing early detection through screenings are strategies both health care providers and public health agencies employ to lessen the personal and social costs of cancer. Table 6.1 shows the major sources of state and federal funding for these public health interventions in Wisconsin.

Table 6.1: Major State and Federal Funding for Cancer Control and Prevention

	GPR (SFY)		FED (FFY)
Year	Wisconsin Well Woman Program	Cancer Control and Prevention Grants	CDC National Breast and Cervical Cancer Early Detection Program
2016-17	$2,328,200	$333,900	$3,288,400
2017-18	2,328,200	333,900	3,269,600
2018-19	2,328,200	333,900	3,302,300
2019-20	2,428,200	333,900	3,293,400
2020-21	2,428,200	333,900	3,333,600
2021-22	2,428,200	333,900	3,220,800
2022-23	2,428,200	333,900	TBD

Early Detection of Breast and Cervical Cancer (Well Woman Program)

Under Wisconsin's Well Woman Program (WWWP), DHS reimburses health care providers for screenings, referrals, case management, and patient education services they provide to low-income, underinsured, and uninsured women. Women who are found to have breast or cervical cancer through the program may qualify for treatment services funded by the state's Medicaid program, regardless of whether they meet other eligibility standards for Wisconsin's Medicaid program. In addition, the state funding budgeted for the WWWP supports outreach and education for the prevention of two other conditions that

disproportionately affect women's health—osteoporosis and multiple sclerosis (MS)—and MS testing for those at high risk.

Statutory Funding Allocations and Reimbursement Rates. The statutes require DHS to allocate GPR program funding in each year as follows: (a) up to $422,600 as reimbursement for breast cancer screening services to women who are 40 years old or older and whose income does not exceed 250% of the federal poverty level conducted by a hospital or organization that has a mammography unit available, with funding reduced to reflect services supported by applicable third party coverage; (b) at least $20,000 to develop and provide media announcements and educational materials to promote the program; (c) up to $115,200 to reimburse the City of Milwaukee's health department for breast cancer screening services provided through the use of a mobile mammography van; (d) up to $25,000 as reimbursement for specialized training of nurse practitioners to perform, in rural areas, colposcopy examinations and follow-up activities for the treatment of cervical cancer; and (e) a multiple sclerosis program that includes an education component and up to $60,000 as reimbursement for multiple sclerosis services to women. Statutes also require DHS to fund health care screening, referral, follow-up, case management, and patient education for low-income, underinsured and uninsured women; a women's health awareness and prevention campaign; and an osteoporosis prevention and education program.

By statute, DHS is directed to establish reimbursement rates equal to the Medicare reimbursement rates for identical services, but may modify services or reimbursement if projected costs exceed available funds.

Program Eligibility and Scope of Services. Women may enroll in the program if they meet the following conditions: (a) are Wisconsin residents; (b) are at least 45, but not yet 65 years old, with limited exceptions; (c) do not have health insurance, or do not have insurance that covers routine check-ups and screening, or have insurance but are unable to pay deductibles or copayments; and (d) live in households with income no greater than 250% of the federal poverty level (FPL). For example, in 2022, 250% of the FPL is $57,575 per year for a family of three. Women enrolled in WWWP are not required to pay copayments, deductibles or premiums.

Health screenings include clinical breast examinations, diagnostic testing if a screen indicates an abnormality, human papillomavirus tests, mammograms, MS testing for individuals at high risk of MS, Pap tests (cervical cancer screening), and pelvic examinations. These services must be provided by medical providers who choose to participate in the program.

Administration. Local coordinating agencies are responsible for conducting eligibility determinations and enrolling women into the program, and are responsible for ensuring that participating women receive timely and complete screenings and re-screenings, diagnostic services and treatment services, as well as case management and follow-up services. In addition, coordinating agencies must develop and maintain a treatment plan to assist clients in obtaining recommended diagnostic services or treatment not covered by the WWWP. The coordinating agencies are responsible for conducting outreach and education activities, and recruiting local healthcare providers. Health care providers submit claims to the state's Medicaid fiscal agent for reimbursement.

Program Funding. WWWP is supported from two funding sources, federal funds the state receives under the National Breast and Cervical Cancer Early Detection Program (NBCCEDP) and state general purpose revenue (GPR), both shown in Table 6.1. The NBCCEDP, created by the Breast and Cervical Cancer Mortality Prevention Act of 1990, provides federal funds, through cooperative agreements, to states and tribes to support breast and cervical cancer

screening. States are required to provide matching funds equal to $1 for each $3 of federal funding they receive.

Program Participation and Services. Each month, states, territories and tribes submit information on NBCCEDP program services to CDC, which compiles the information for the most recent five-year period for which information is available. Table 6.2 provides information on Wisconsin's program for the most recent five-year period, calendar years 2016 through 2020.

Table 6.2: Wisconsin Women Served through the NBCCEDP -- Calendar Years 2016 through 2020 (Five-Year Totals)

Participation	
Total Number of Women Served	10,279
Number of Women Receiving Cervical Cancer Screening and Diagnostic Services	3,739
Number of Women Receiving Breast Cancer Screening and Diagnostic Services	10,106
Services and Results	
Mammograms	
Number of Mammograms Provided	16,497
Number of Mammograms with Abnormal Results	2,615
Number of Women with Breast Cancer Detected	210
Human Papillomavirus Infection (HPV) Tests	
Number of Tests Conducted	3,056
Tests with Abnormal Results	342
Papanicolaou (Pap) Tests	
Number of Tests Conducted	4,117
Tests with Abnormal Results	160
Cervical Cancers or Premalignant Cervical Lesions Detected	118

Other Cancer Control and Prevention Programs Administered by DPH

Cancer Control and Prevention Grants. DHS is authorized to award grants to health institutions, public agencies, and nonprofit organizations to conduct cancer control and prevention programs. Funding is provided on a matching basis—50% of program costs are funded from the state grant, and 50% are funded from grant recipients. In the 2021-23 biennium, $333,900 GPR is budgeted annually for the program, which DHS provides to the University of Wisconsin to implement priorities established in the Wisconsin Comprehensive Cancer Control Plan, in collaboration with representatives from statewide public, private, and academic organizations.

Cancer Reporting. Hospitals, physicians, and laboratories are required to report certain information concerning any person diagnosed as having cancer or a precancerous condition to DHS. DHS maintains the information in the Wisconsin Cancer Reporting System (WCRS) in order to understand cancer incidence and mortality in Wisconsin and develop prevention and treatment programs with the goal of reducing cancer mortality. The information is confidential, and DHS may not disclose the information except to tumor registries and researchers, in limited circumstances. DHS may assess fees for accessing information in the cancer registry to fund the agency's costs to collect, compile, and disseminate cancer information.

Papanicolaou Tests Supported by the Women's Health Block Grant (WHBG). The WHBG includes an allocation of $121,500 per year in state funds to support the provision of Papanicolaou tests ("Pap smears") to women in households with low income. DHS distributes this funding to the State Laboratory of Hygiene. For more information on the WHBG, see Chapter 5.

Drug Repository Program. DHS administers a drug repository program, under which persons may donate drugs and supplies for use by individuals with cancer and other chronic diseases. Individuals may donate drugs and supplies that are in unopened, sealed, and tamper-evident packaging and unopened single-unit dose drugs and supplies, with expiration dates that are at least 90 days after the date the drug was donated, at participating pharmacies and medical facilities. Although all Wisconsin residents are eligible to receive donated drugs, priority is given to individuals who are uninsured and individuals who are eligible for Medicaid, Medicare, or other government-funded health care programs.

CHAPTER 7

Tobacco and Vaping

Tobacco use harms people's health in a variety of ways. It causes cancers, heart and lung diseases, stroke, diabetes, tooth and gum diseases, vision impairments, and damage to other systems of the body such as the immune system. Many of these conditions require costly treatment, significantly affect patients' quality of life, and are fatal. The state health plan identifies reducing tobacco use as a focus area for Wisconsin.

Nicotine is an addictive drug that acts as a stimulant, reduces anxiety, and contributes to several of the adverse health effects discussed in this chapter. Nicotine occurs naturally in tobacco leaves, and most nicotine-containing products used recreationally can be classified as either combustible tobacco, smokeless tobacco, or electronic cigarettes. Combustible tobacco refers to any product that involves burning tobacco to produce smoke to inhale. This includes cigarettes; cigarette sub-types such as hand-rolled bidis; various kinds of cigars, including large cigars, smaller cigarillos, and 'little cigars' the size of cigarettes; pipes; and water pipes and hookahs, which bubble tobacco smoke through water before it is inhaled.

Electronic cigarettes, also called vape pens and electronic nicotine delivery systems (ENDSs), are handheld devices. Some resemble traditional (combustible) cigarettes or pens, while others have larger 'tanks' or use pre-filled 'pods' that snap onto rechargeable devices. All electronic cigarettes allow users to inhale an aerosol of fine droplets, typically containing nicotine, flavors, humectants (chemicals that easily aerosolize to simulate smoke), and water.

In June, 2022, the U.S. Food and Drug Administration (FDA) ordered JUUL Labs, Inc., a major manufacturer of ENDSs, to stop selling and distributing all of its products in the United States. However, following a U.S. Court of Appeals ruling, FDA stayed its marketing denial order to provide time for additional review. However, the FDA indicates that the stay and the agency's review does not authorize JUUL Labs, Inc. to market or sell JUUL products in the United States.

A separate, less commonly used class of products, known as heated tobacco, consist of cigarette-like plugs containing tobacco that are heated either by an external flame or an electronic device to produce aerosols containing nicotine and a variety of other chemicals, without burning the tobacco.

Smokeless tobacco refers to products that are taken orally or snorted into the nose. The most common form is moist snuff, also known as dipping tobacco, which is processed, finely-ground tobacco placed between the cheek or lip and gums. It is also sold in easy-to-use pouches akin to small tea bags, known as snus. Dry snuff, in contrast, is processed and powdered tobacco that is typically snorted into the nose. Chewing tobacco consists of larger pieces, cakes, plugs, twists, or rolls of processed tobacco leaves, and is placed between the cheek and gums. Finally, dissolvable tobacco products have recently grown in popularity. These include lozenges, orbs, sticks, and strips that contain tobacco or synthetic nicotine and can be eaten like hard candy or breath strips.

Manufacturers add a variety of flavors to many tobacco and vaping products. In light of the attraction these flavors hold for children, Congress included provisions in the Tobacco Control Act of 2009 making menthol (a mint derivative) the only

permissible flavoring in cigarettes. However, this restriction applies narrowly to combustible cigarettes; other flavors are still widely used in other combustible tobacco products such as little cigars, in electronic cigarettes, and in smokeless tobacco.

Health Risks

Each type of combustible tobacco product, electronic cigarette, and smokeless tobacco delivers somewhat different chemicals in different amounts to different parts of the human body. However, they all contain nicotine and share many of the same harmful effects on health. Much of the discussion below focuses on the effects of cigarette smoking, the most common and most-researched form of tobacco consumption, but significant differences in the effects of different products are identified as well. Overall, electronic cigarettes cause marginally less harm than combustible tobacco products, while smokeless tobacco products differ from smoking and vaping products in some of the areas of the body they affect.

Cancer is one of the deadliest consequences of using commercial tobacco and vaping products; CDC estimates that eliminating their use would prevent one out of every three U.S. cancer deaths. The carcinogens released by these products cause cancers where they are directly exposed to the mouth, throat, and lungs, and can spread to other organs. Tobacco and vaping toxins also weaken the immune system in ways that make cancers from other causes more likely to develop into more harmful forms. Cigarette smoking in particular causes 90% of all lung cancer deaths and causes liver, colorectal, and other cancers. Smokeless tobacco causes cancer in the mouth, esophagus, pancreas, and other organs.

Aside from lung cancer, smoking and vaping also cause other severe lung diseases. Several types of lung damage, blockage of the airways, and other lung diseases are collectively referred to as chronic obstructive pulmonary disease (COPD). Most common are chronic bronchitis, which affects about half of current smokers, and emphysema (affecting a quarter of current smokers), but COPD can also include asthma and other diseases, in combination or alone. COPD causes the third-largest number of smoking-attributable deaths, after cancers and heart diseases. Aside from COPD, smoking also increases the risk and severity of pneumonia, flu, and tuberculosis, which can all be fatal.

Use of tobacco products, and even brief exposure to second-hand smoke, can damage and constrict a person's blood vessels and change the makeup of their blood, altering fat and cholesterol levels and making it more likely to clot. This can cause several types of heart diseases, including coronary artery disease, the primary cause of heart attacks.

This damage to blood vessels and changes to the blood can also cause a stroke, an obstruction of blood flow or rupture of a blood vessel in the brain. Strokes cause damage to brain tissue that is often deadly, and many stroke survivors struggle with disabilities such as paralysis, muscle weakness, trouble speaking, and memory loss.

The Surgeon General reports that smoking increases the likelihood of developing Type 2 diabetes by 30 to 40%. Diabetes requires patients to carefully regulate their diet and routines, may require expensive insulin, and can damage organs and tissues throughout the body.

Tobacco use and vaping during a pregnancy can harm both the mother and child. Smoking can alter the function of the fallopian tubes, increasing the likelihood of an ectopic pregnancy. Nicotine from any source and reduced oxygen levels in the blood from smoking or vaping can harm fetal development, leading to low birth weights and preterm births. These and related effects of tobacco and vaping products also cause miscarriages,

stillbirths, and neonatal deaths. Nicotine impairs a fetus' lung development during gestation, weakening lungs well into childhood and beyond. Nicotine exposure, reduced oxygen levels, and the heavy metals found in tobacco and vaping products all contribute to increased rates of birth defects.

Cancers, heart disease, and lung disease cause over 90% of the deaths directly attributable to smoking; however, using tobacco and vaping products causes several other less-fatal conditions with severe consequences. Nicotine exposure during adolescence, for example, causes long-lasting impairments of cognitive function, attention, and behavior. While nicotine from any product poses these dangers, electronic cigarettes and some dissolvable products are of particular concern because their flavors attract teens and they often deliver higher doses of nicotine than cigarettes.

Population Health Impact

As of the latest survey, conducted in 2015, 19% of Wisconsin adults currently use one or more tobacco or vapor products and a total of 50% are current or former users. Based on 2020 survey data, 42% of Wisconsin adults smoke or previously smoked cigarettes, 25% have used electronic cigarettes, and 14% have used smokeless tobacco. This high level of tobacco use causes high rates of disease, high health care costs, and lost productivity.

Tobacco is the leading preventable cause of death in the state. Based on estimates from the CDC and Surgeon General, tobacco use causes approximately 7,000 deaths in Wisconsin each year, accounting for 13% of all deaths. Nationwide, 5% of the population currently lives with an illness caused by smoking, most commonly COPD. In Wisconsin, the CDC estimates medical care attributable to smoking costs $3 billion per year.

Disparities and Trends in Impacts. Over the past several decades, rates of cigarette smoking have gradually declined, although that trend has begun to level off in recent years. Almost two thirds of Wisconsinites alive today who ever smoked have quit; nationwide, rates of quitting have been increasing and more people are using cigarettes intermittently, rather than daily. However, there are significant differences in the patterns of tobacco and vaping product use, and the resulting health damage, for different population groups.

Youth smoke cigarettes at lower rates than the adult population, but use electronic cigarettes and other products at higher rates, due in part to concerted marketing by tobacco companies and design of products to appeal to youth and new users. 2019 survey data indicate that 6% of Wisconsin high school students smoked cigarettes (less than half the adult rate), but 21% used electronic cigarettes (more than triple the adult rate) and 46% had tried electronic cigarettes at least once. Nationwide surveys have found five to ten percent of children in middle school use electronic cigarettes.

In addition to targeting youth, the CDC reports that tobacco companies have used marketing, promotional samples, product design, and product placement to successfully target specific racial groups. Societal racism limits access to supports for quitting and makes the anxiety-reducing effects of smoking more attractive for some.

Wisconsin residents who are Native American experience the highest rate of cigarette smoking: 36%, or approximately two and a half times the non-Native rate. The CDC identifies specific marketing to Native Americans, such as use of the American Spirit brand. Wisconsin's prohibition on smoking in indoor public places does not applying on sovereign tribal lands, including in casinos.

Among residents who are Black, 26% smoke cigarettes, 1.8 times the rate in the rest of the population. The CDC identifies targeted marketing of menthol cigarettes to Black consumers, and people who are Black are more than ten times as likely to use menthol cigarettes as people who are White nationwide. Menthol cigarettes are easier for youth and new smokers to adopt, and are more difficult to quit.

These disparities have complex effects and compound with other disparities, such as in maternal and infant mortality rates (see Chapter 4). As one indicator, Wisconsin residents who are Native American die from lung cancer at a 30% higher rate than residents who are White, and residents who are Black die at a 50% higher rate.

Similar societal pressures and marketing and sales tactics have also targeted communities with low income. 25% of those enrolled in Medicare or MA smoke cigarettes. A variety of other disparities impact Wisconsin; for example, statistical studies find that people who experience more severe discrimination or violence related to their gender or sexual identity are more likely to smoke. Other trends affect the specific products people use; men, for example, are much more likely than women to use smokeless tobacco products.

Public Health Interventions

Current public health efforts to reduce the harm done by commercial tobacco and vaping products in Wisconsin generally consist of education and promotional campaigns, regulations limiting tobacco sales and use, and cessation services to help people quit. Several interventions combine these strategies, and some programs are organized around serving specific populations instead of single strategies.

In the 2021-23 biennium, DHS is budgeted $5,315,000 GPR annually to fund grants under the Wisconsin tobacco prevention and control program (TPCP). DHS also receives grant funding from the CDC under the National Tobacco Control Program (NTCP).

Table 7.1 shows the amounts of both of these funding sources over the past several years, along with contract funding received by DHS from the FDA to conduct retailer compliance checks, discussed below. Local funds and grants from private foundations also support some interventions.

Table 7.1: Major State and Federal Funding for Tobacco and Vaping Control and Prevention

	GPR (SFY)	FED (FFY)	
Year	Tobacco Prevention and Control Program	CDC Tobacco Control Program Grants to DHS	FDA Retail Inspection Contracts
2014-15	$5,315,000	$1,060,200	$894,600
2015-16	5,315,000	1,018,200	923,200
2016-17	5,315,000	900,300	1,387,700
2017-18	5,315,000	939,100	1,432,900
2018-19	5,315,000	1,104,500	1,486,400
2019-20	5,315,000	1,360,300	0
2020-21	5,315,000	1,588,700	1,543,800
2021-22	5,315,000	1,588,700	1,412,100
2022-23	5,315,000	TBD	TBD

Education and Marketing. DHS awards approximately $2 million annually from the TPCP to 15 to 20 local tobacco-free alliances across the state to support outreach, engagement, and marketing to prevent and reduce commercial tobacco use and vaping. Local and tribal health departments or public health service organizations organize these alliances, and work with schools, tobacco retailers, and other stakeholders.

An additional $1 million in TPCP grants supports similar efforts statewide, including a marketing campaign known as Tobacco is Changing. The local alliances and statewide grantees together support several youth cessation and prevention programs, including the youth-led FACT program and the school-based Not On Tobacco (NOT) model used nationwide by the American Lung Association.

Cessation Aids and Services. The Wisconsin quit line offers a direct aid to quitting tobacco and vaping. Part of a nationwide network of state-based hotlines using the 1-800-QUIT-NOW number, the quit line provides free counseling, referrals to treatment programs, and initial supplies of cessation aids such as nicotine patches, gum, or lozenges. In 2020, the most recent year for which information is available, the quit line received 14,000 calls and provided counseling or medication to 4,000 people. The quit line is available 24 hours a day, seven days a week, by phone, text, and Internet. Operated by the University of Wisconsin Center for Tobacco Research and Information, the quit line receives $672,800 GPR annually from the TPCP appropriation, as well as funding from the CDC grant and federal reimbursement under the medical assistance (MA) program. Federal reimbursement covers 50% of MA administrative costs, which include the portion of costs of operating the quit line that correspond to serving MA-eligible callers.

All health insurance, including MA, covers a variety of cessation services and drugs. Services include advice and counseling delivered individually or in group settings, including by phone or telehealth. Drugs approved for non-pregnant adults include nicotine replacement therapy (in patches, gum, or multiple other forms), the nicotine blocker varenicline, and bupropion, an antidepressant.

The TPCP also supports the Wisconsin nicotine treatment integration project (WiNTIP), which helps substance use disorder treatment providers include tobacco and vaping cessation within their treatment programs for other substances.

Limits on Sales and Use. Regulations on the sale of tobacco and vaping products focus on limiting youth access to these products, not only because of the increased dangers to the developing brain but also because most (87%) of cigarette use nationwide begins before age 18, and 98% begins before age 26. As of December, 2019, federal law prohibits the sale of any tobacco or vaping product to someone under 21. The FDA contracts with DHS to conduct compliance checks using underage buyers to enforce this standard, and may impose fines for noncompliance. Table 7.1 shows the amounts of this contract each year. In 2020, compliance checks were suspended due to the COVID-19 pandemic.

Wisconsin law still sets the legal age at 18. Consequently, state and local law enforcement agencies cannot issue citations to retailers for sales to youths ages 18 through 20. However, DHS provides grants under the TPCP to local and tribal health departments and other organizations to conduct additional compliance checks to inform retailers and the public about the federal age standard and encourage retailers found out of compliance to stop selling to customers under 21. This program is known as Wisconsin Wins.

Federal law also restricts flavors that may be attractive to youth in combustible cigarettes, although it permits these flavors in other tobacco and vaping products. Other regulations limit where and how tobacco and vaping products can be sold or advertised to reduce youth exposure.

Wisconsin statutes also limit youth and adult exposure to smoking and secondhand smoke, and encourage quitting, by prohibiting smoking in most indoor public places, public transportation, and places of employment. However, this prohibition applies only to combustible tobacco products, not electronic cigarettes. Other federal or local regulations or private policies prohibit smoking in other places, including all federally-funded public housing and many college campuses.

Taxation. Excise taxes are another tool used to disincentivize tobacco and vapor product use in

Wisconsin. For more information, see the Fiscal Bureau informational paper entitled, "Excise Taxes (Alcohol, Tobacco, Vapor)."

State Health Plan and Evidence-Based Practices

The state health plan identifies tobacco use and exposure as a health focus area due to its economic costs and preventable deaths. One recent study estimates that a reduction by one percentage point in the statewide smoking rate would save $28 million in MA expenditures in the first year alone.

The healthy Wisconsin report identifies a need to adapt and expand youth prevention interventions to respond to the increasing use of electronic cigarettes and other non-cigarette products. The report also identifies a need for strengthened regulations to support these efforts, including aligning state statutes with the federal 21-year age requirement and regulating products attractive to youth, especially electronic cigarettes and flavored products. In a 2018 survey, most high school students who smoke cigarettes report using menthol-flavored cigarettes, and 89% of all students report that they would not use unflavored tobacco or vaping products of any type.

The report also identifies a need to tailor both youth and adult interventions to the particular population groups with disproportionately high rates of commercial tobacco and vaping product use. The report suggests increasing the use of cessation benefits provided by MA, otherwise making cessation aids freely available, promoting cessation services to residents of public housing, and training people who work on cessation and prevention in the effects of trauma and adverse childhood experiences on people's tobacco use. The CDC provides grant funding under the Networking2Save program to eight national network organizations, each focused on a different population group, to create media campaigns and provide coordination and guidance for interventions within their specific communities.

Several grants from the TPCP support monitoring of tobacco and vaping use in the state, and research to improve intervention strategies. In addition, the Wisconsin retail assessment project (WRAP), completed in 2019, provides information about tobacco and vaping product placement and marketing at the local and assembly district level across Wisconsin.

CHAPTER 8

Alcohol

Excessive alcohol use, commonly defined as binge drinking, underage drinking, and drinking while pregnant, is a public health safety concern because these behaviors result in significant social costs for families, employers, health care providers, law enforcement agencies, and the criminal justice system. The 2020 state health plan lists alcohol as one of the five priority health areas that communities should address.

Information derived from two annual surveys —the National Survey on Drug Use and Health sponsored by SAMHSA and the Youth Risk Behavior Survey sponsored by the CDC—provide estimates of alcohol use by adults and youth, both nationally and in Wisconsin. The survey results indicate that:

- In 2019, 21.9% of adults in Wisconsin engaged in binge drinking on at least one occasion during the past 30 days, compared to the national average of 16.1%. Further, 37.9% of adults in Wisconsin perceived weekly binge drinking as a great risk, compared to the national average of 45.0%. For these purposes, a "drink" is defined as 12 ounces of beer, five ounces of table wine, or 1.5 ounces of 80-proof distilled spirits and "binge drinking" is defined as five or more drinks per occasion for men and four or more drinks per occasion for women.

- In 2019, 29.8% of youths (ages 12 to 18) used alcohol in the past month, which was comparable to the national average of 29.2%. However, 36.7% of Wisconsin youths perceived a great risk from weekly binge drinking, compared to 43.1% of the national average.

Other information compiled by DHS and summarized in its December, 2021, report prepared by the Wisconsin State Council on Alcohol and Other Drug Abuse indicate that:

- In 2020, there were an estimated 3,099 deaths of Wisconsin residents attributed to alcohol.

- In 2019, there were 36,925 emergency room visits attributable to chronic alcohol use conditions.

- Alcohol was the most common substance for individuals seeking substance services in 2020, in that 12,095 (46.9%) of individuals that received substance abuse services were served for alcohol-related services, possibly in addition to other services.

- Alcohol consumption has been shown to increase a person's risk for at least seven types of cancer.

A 2019 study, funded by SAMHSA and prepared by the University of Wisconsin Public Health Institute, estimated that the annual economic cost of binge drinking in Wisconsin was $3.9 billion, including $2.6 million in lost productivity, $560 million in criminal justice costs, $380 million in health care costs, and $354 million in other costs. CDC cites a study that estimated the economic costs of excessive alcohol use in Wisconsin at $4.5 billion in 2010.

Public Health Interventions

As with most public health matters, policies enacted by the state and municipalities, in addition to services offered by health care providers and funded by health plans, are intended to address public health risks of excessive alcohol use and underage drinking. Wisconsin's excise taxes on beer (currently $0.06 per gallon), wine ($0.25 per gallon), and distilled beverages ($3.36 per gallon) affect the affordability of alcohol beverages for consumers. The current statutory restriction on the number of occupational alcohol licenses municipalities issue affects the convenience of purchasing alcohol products, as do restrictions on where businesses with these licenses may be located, and state and local restrictions on the days and hours when alcohol can be sold.

DPH conducts outreach and awareness activities to reduce the most damaging patterns of alcohol consumption. The Small Talks campaign, begun in FFY 2018-19, advocates and provides resources for parents to guide children away from harmful alcohol use. The campaign is budgeted $75,000 FED from the Substance Abuse Block Grant in 2022-23, as well as $265,000 in supplementary, COVID-19–related funding provided under the Consolidated Appropriations Act.

Using federal funding authorized under ARPA, DPH has contracted for several social media, video, and television campaigns focusing on discouraging drunk driving.

Individuals who are convicted of operating while intoxicated (OWI) offenses present a significant public health concern. The Department of Transportation (DOT) indicates that, in 2019, 27,785 people were arrested for OWI violations in Wisconsin. In that year, of 22,683 citations were adjudicated, of which 92% of drivers were found guilty. In Wisconsin, individuals convicted of OWI offenses must undergo an assessment of their alcohol or controlled substance use at an approved treatment facility, and pay a $435 surcharge (in addition to other applicable financial penalties), the revenue from which supports state and local alcohol treatment, enforcement, and prevention programs. Additional information on the state's OWI laws and treatment services is provided in Informational Paper #61, entitled "Intoxicated Driver Laws."

Publicly-funded treatment services for persons with alcohol use disorder are available for individuals with alcohol use disorder, a chronic disease characterized by uncontrolled dependence on alcohol. Typically, treatment services for alcohol use disorder is available through state and county substance abuse treatment programs.

CHAPTER 9

Emergency Medical Services and Injury Prevention

In 2020, unintentional injuries was the fourth leading cause of death in the United States, behind heart disease, cancer, and COVID-19. Further, unintentional injuries were the leading cause of deaths for individuals under the age of 45.

This section describes the major emergency services, emergency preparedness, and injury prevention programs administered by DPH. While ambulance services and emergency healthcare are generally provided and paid for outside of the public health system, DPH plays a key role in coordinating and ensuring access to these services. The public health system also delivers preventative services, including poison control, injury prevention, and violence prevention.

Emergency Medical Services

The DPH's Office of Preparedness and Emergency Health Care (OPEHC) oversees the state's emergency medical services (EMS), which is administered in conformance with Chapter 256 of the statutes and DHS rules promulgated for the program (HS 110). As the lead agency for EMS, DHS is directed to provide quality assurance for the state's EMS system, provide technical assistance to EMS providers, set standards for organizations that offer training to EMS responders and practitioners, facilitate integration of ambulance service providers and hospitals in the same geographic areas, review recommendations of a statewide EMS Board, and investigate complaints against EMS providers. In addition, DHS is directed to prepare a biennial EMS plan for submission to the Legislature and implement measures to achieve objectives in the EMS plan.

Counties, cities, towns, villages, hospitals, and ambulance services may provide emergency medical services after submitting a plan approved by DHS. DHS is directed to provide technical assistances to EMS programs, coordinate the activities of agencies and organizations that provide EMS training, assist in training EMS practitioners, assess resources and services and encourage the allocation of resources to areas of need, and assist hospitals in planning for appropriate and efficient handling of the critically ill and injured patients.

As of October, 2022, there were 791 Wisconsin-based EMS providers, including 450 units staffed by volunteers or operating with a combination of volunteers, part-time, and full-time staff. There were approximately 16,000 individuals licensed to deliver pre-hospital emergency medical care.

EMS Data Reporting. DPH maintains a web-based reporting system, the Wisconsin Ambulance Run Data System (WARDS) Elite that enables EMS providers to enter and submit information on EMS services. Information from WARDS Elite is entered into a national database, the National EMS Information System (NEMSIS), which produces statistical information on pre-hospital ambulance services, which can be used to improve patient care.

EMS Funding Assistance Program. 1989 Act 102 created the EMS funding assistance program (FAP), under which DHS allocates funding to licensed, transporting EMS units in the

state. The program has two components—support and improvement and training and examination aid. Under the first component, all eligible ambulance service providers receive a predetermined base rate plus an additional per capita amount based on the population of the population of the unit's primary service area. The remaining funds are divided equally among all units that apply for emergency medical responder and emergency medical technician training and examination aid. In the 2021-23 biennium, $2.2 million GPR was budgeted annually for the program.

One-Time Funding Provided under the Federal American Rescue Plan Act. In 2022, the Governor allocated $62.0 million of funding the state received under the state fiscal relief fund (SFRF) authorized under the federal American Rescue Plan Act (ARPA) to increase support for EMS services. Of this amount, $8.0 million was provided as a one-time supplement to FAP allocations so that $10.2 million (all funds) will be distributed under the program in 2022-23. The additional $8.0 million funded a $24,390 supplement to every participating EMS provider.

Of the remaining SFRF funding, the Governor allocated $32.0 million to fund EMS "flex grants." This funding was available to support costs of: (a) medical and personal protective equipment and protective supplies; (b) emergency operations, including training required to maintain licensure or upgrade service levels; (c) response equipment, including training required to operate the equipment; (d) emergency response vehicles; (e) emergency medical devices, trauma stabilization equipment, and pediatric and neonatal transport equipment; and (f) staff recruitment and retention.

In May, 2022, the Governor announced that $22.0 million from the SFRF would be allocated for the construction and expansion of fire and EMS stations, EMS and emergency medical responder programs and equipment, and a permanent drive-through immunization and testing site.

Trauma Care

Statewide Trauma Care System. DHS is charged with developing and implementing a statewide trauma care system to reduce deaths and disabilities resulting from traumatic injury by providing optimal care of trauma victims and their families and collecting and analyzing trauma-related data. DHS is directed to seek advice of a statewide Trauma Advisory Council, develop regional trauma advisory councils, and classify hospitals to reflect their emergency care capabilities, based on standards developed by the American College of Surgeons. Rules relating to the program (DHS 118) define these classifications are as follows:

- Level I -- Facility is capable of providing leadership and total care for every aspect of traumatic injury, from prevention to rehabilitation, including research.

- Level II -- Facility is capable of providing initial definitive trauma care regardless of the severity of injury, but may not be able to provide the same comprehensive care as a Level I trauma center.

- Level III -- Facility is capable of providing assessment, resuscitation and stabilization, and provide emergency surgery and arrange, when necessary, transfer to a Level I or II trauma facility for definitive surgical and intensive trauma care.

- Level IV -- Facility is capable of stabilizing and providing advanced trauma life support prior to patient transfer.

Currently, 117 of the state's 130 hospitals are participating in the state's trauma system, of which

12% are classified as Level I or II trauma care facilities and 88% are classified as Level III or IV trauma care facilities.

The rules authorize DHS to collect and analyze trauma system data to evaluate the delivery of adult and pediatric trauma care, develop injury prevention strategies, and provide resources for research and education. In addition, the rules require all hospitals, ambulance service providers, and first responder services to submit data to DHS's trauma registry on a quarterly basis. The regional trauma advisory councils are directed to use these data to improve the system's performance.

Training Emergency Dispatch Personnel. With the enactment of 2017 Wisconsin Act 296, beginning May 1, 2021, public safety answering points (PSAPs, which are public emergency dispatch services) are required, in appropriate circumstances, to provide telephonic assistance on administering cardiopulmonary resuscitation (CPR) by providing each dispatcher with training in CPR, or transfer calls to a dedicated telephone line, telephone center, or another PSAP to provide the caller with assistance administering CPR. Act 296 created a grant program to fund training costs for PSAPs. DHS is budgeted $75,900 GPR in 2021-22 and 2022-23 to fund these training costs.

Emergency Preparedness

OPEHC supports the capacity of the state, local and tribal health departments, and health care providers to prepare for public health threats and emergencies. These activities are supported primarily by federal funds, as described below.

Public Health Emergency Preparedness--CDC Cooperative Agreements. The CDC distributes funding to help health departments effectively respond to public health threats broadly, including infectious diseases, natural disasters, and biological, chemical, nuclear, and radiological events. These funds are discussed in more detail in Chapter 2, with other general-purpose federal funding. Wisconsin was allocated $11.4 million in FFY 2019-20 and $11.6 million in FFY 2020-21 under the program. In addition, the state was allocated $10.7 million in FFY 2019-20 and $35.1 million in 2020-21 to respond to the COVID-19 pandemic.

Hospital Preparedness Program—ASPR Cooperative Agreements. Health care coalitions (HCCs) comprised of hospitals, healthcare organizations, LTHDs, emergency management agencies, and EMS providers assist communities to plan for, respond to, and recover from disasters and other related crises. In Wisconsin, these coalitions are referred to as health care emergency readiness coalitions (HERCs). There are seven HERCs in Wisconsin, each serving a defined region of the state.

The federal DHHS Administration for Strategic Preparedness and Response (ASPR) administers a hospital preparedness program (HPP), which provides funding to states, territories, and four metropolitan areas through cooperative agreements, to improve HCCs' capabilities to plan for and respond to emergencies and disasters. For SFY 2022-23, Wisconsin's allocation of HPP funds is $3.4 million.

The federal Coronavirus Preparedness and Response Supplemental Appropriations Act and the Coronavirus Aid, Relief and Economic Security Act provided $350 million nationwide under the HPP in one-time supplemental funding to assist HCCs in responding to the COVID-19 pandemic. Of this amount, DHS received $3,931,900 and the Wisconsin Hospital Association received $3,773,600.

Emergency Volunteer Registry. OPEHC also operates and maintains the Wisconsin emergency assistance volunteer registry (WEAVR), which enables health care and behavioral health

professionals to register their interest in volunteering their service following a catastrophic emergency incident. Volunteers are trained, and contacted if all other local, regional, or statewide primary responder resources are insufficient to meet the need for response and recovery efforts.

Injury and Violence Prevention

DHS has the statutory responsibility to: (a) maintain an injury prevention program that includes data collection, surveillance, education and the promotion of interventions; (b) assist LTHDs and community agencies by servicing as a focal point for injury prevention expertise and guidance and by providing the leadership for effective local program development and evaluation; and (c) enter into memoranda of understanding with other state agencies to reduce intentional and unintentional injuries.

Statewide Poison Control Center. DHS is budgeted $382,500 GPR in 2021-22 and 2022-23 to provide poison control services that are available statewide, on a 24 hours a day and 365 days a year basis. The statutes require these services to include telephone services capable of providing rapid, accurate, and complete poison information through a toll-free hotline, and specifies the qualifications of online staff for the hotline.

DHS provides this funding as a grant to Children's Hospital of Wisconsin to operate the poison control center. The grantee is required to provide a matching contribution of at least 50 percent of the state funding for the center. The Children's Hospital poison control center is supported from other sources, including federal funds, and hospital membership fees, which enable hospitals throughout the state to have 24 hour a day, 365 days a year access toxicologists, nurses trained in toxicology, and pharmacists.

One-Time Federal ARPA Funding for Safer Communities and Violence Prevention. In October, 2021, the Governor announced the allocation of $45 million in federal funding the state received under the American Rescue Plan Act, as part of the state fiscal relief fund (SFRF). This amount included $25 million for violence prevention efforts and $20 million to support victim services.

The funding for violence prevention efforts included the following: (a) $6.6 million to the Medical College of Wisconsin's Violence Prevention Project to support research, data collection, education, and community engagement efforts around violence prevention as a public health issue; (b) $10.4 million to administer a competitive grant program to support violence prevention projects statewide; and (c) with $8.0 million for the City of Milwaukee's Office of Violence Prevention to respond to increases in violence and trauma, using a public health approach.

The funding for victim services was provided to the Wisconsin Department of Justice to support increase services available under the federal Victims of Crime Act, with $100,000 allocated to the Wisconsin Coalition Against Sexual Assault.

CHAPTER 10

Lead Poisoning

Lead is a metal that is toxic even in small amounts if it enters the bloodstream, which usually occurs through ingestion or inhalation of particles containing lead.

Paints containing high concentrations of lead were widely used in houses until 1950, and paints containing some lead continued to be used in some houses until this use was banned by federal law in 1978. Hence, any building built before 1978 may contain lead paint, as does much of the housing built before 1950.

Lead-based paint poses a health hazard only if flakes, chips, or dust can be ingested or inhaled. This can occur where old paint is peeling, or where two surfaces move against each other, such as in windows and doors. Maintenance or renovation may also dislodge paint or release dust into the air from sanding, and dust or paint chips may remain in soil surrounding houses after projects are completed. If dust, chips, or flakes of lead-based paint are present in or around a home with young children, it is likely that the children will ingest the contaminated material through normal hand-to-mouth contact during play.

As discussed in the next section, exposure of children is of particular concern because of the effects of lead poisoning on growth and development. Lead-based paint causes most childhood lead poisoning in Wisconsin. Additional sources of lead exposure include lead leachate in drinking water, contaminated soil, and household dust.

Lead is seldom found naturally in drinking water sources. The source of lead in drinking water is generally: (a) lead water main pipes that run down the street to distribute water from the drinking water facility to neighborhoods; (b) water service lines which connect a building to a water main in the street; (c) lead solder used in plumbing fixtures or lead pipes in a building; or (d) lead in connecting fixtures (sometimes known as "goosenecks") which connect laterals to the water main.

Most lead in drinking water comes from lead service lines (LSLs). Lead became a popular material for plumbing and water distribution because it is malleable, durable, resistant to corrosion, and can expand and contract without breaking as soil temperatures change. Although the hazards of lead water poisoning have been known since at least the 1890s, LSLs and water service lines that used lead solder were commonly installed until the 1980s. In 1986, Congress passed the Safe Drinking Water Act, which banned the installation of LSLs and the use of lead solder in drinking water installations, but allowed existing LSLs to remain.

Certain industries, such as battery manufacturing and construction, may expose workers to lead, and particles containing lead can spread to children or others with whom workers interact. Certain hobbies may also expose people to lead, including hobbies that use lead ammunition, fishing weights, and solder, although proper handling and hygiene can usually prevent lead from being ingested or exposing children. Household products that come into contact with food or the mouth can also pose a risk if they contain lead, including toys and dishware manufactured before 1978, and imported or domestic products that do not meet safety standards.

Health Risks

Exposure to lead can cause significant physical and neurological harm. The effects are especially severe and long-lasting for children, whose growth and development can be slowed and permanently reduced. Children under age six at the time of exposure face the greatest risks. Lead poisoning in childhood causes life-long impairments of speech, hearing, attention, and learning.

No amount of lead in the bloodstream is safe, but negative health effects become more likely and severe as the level of lead in the blood increases. Tests typically report this indicator of lead poisoning, the blood lead level, as micrograms of lead per deciliter of blood (µg/dL). Lead poisoning typically does not cause immediate symptoms, so health professionals use blood lead levels to define whether or not a child has been poisoned.

In May, 2021, the CDC reduced the blood lead reference value from 5µg/dL to 3.5µg/dL. Wisconsin statutes incorporate this CDC threshold by reference as the state definition of lead poisoning or lead exposure.

Population Health Impact

In 2019 and 2020 an average of 2,620 children under age six in Wisconsin were found to have blood lead levels that exceeded 5µg/dL (the standard in effect at the time). During those years, DHS reported an average of 820 cases of adults with blood lead levels that exceeded 5µg/dL. This data excludes a significant number of lead-poisoned children who never receive a blood lead test due to lack of access or because the cognitive, behavioral, or developmental impairments they experience are not diagnosed.

Trends and Disparities. The annual number of children under six years old with blood lead levels above the 5µg/dL threshold fell by over 90% in the past 25 years, likely due to fewer children living in homes with lead based paint, the removal of lead from certain products and homes, and safer residential housing improvement practices. Further, the removal of lead from gasoline by federal legislation in 1996 removed a major source of exposure for adults and children. The rate of lead poisoning continues to decline, albeit at a slowing pace.

Because exposure to lead paint in older homes, especially those with deteriorating paint, is the largest source of childhood lead poisoning, factors that affect where people live (such as affordability and racial segregation) have a direct impact on their children's risk of lead poisoning.

Children under age six in Wisconsin who are White are poisoned by lead at about one fifth of the non-White rate, with an average of 0.3% of White children in the state identified with blood lead levels above the 5µg/dL threshold per year. On the other hand, communities that live in housing in non-White majority neighborhoods face higher risks of lead poisoning. 1.1% of children who are Asian or Pacific Islander get poisoned, 1.8 times the non-Asian or Pacific Islander rate, and 3.2% of children who are Black get poisoned, 7.7 times the non-Black rate. This means that children who are White face one twelfth of the risk of lead poisoning experienced by children who are Black.

Different locations within the state carry disparate risks of childhood lead poisoning. A variety of localized hazards or patterns of housing development can create regions or neighborhoods with significantly elevated risk. On a larger scale, residents of areas with a larger stock of housing built before 1978 or 1950, including Milwaukee, Racine, and Sheboygan, experience higher rates of lead poisoning.

Income also limits families' housing options,

increasing the likelihood that families with low income will live in an older home, have deteriorating paint, or be exposed to other sources of lead. Nutrition influences how a child's body responds to lead exposure as well, making children with nutritional deficiencies more likely to retain higher levels of lead from any given exposure. Testing identified lead poisoning in 2.4% of children under age six enrolled in the Wisconsin Medical Assistance program for low-income families in 2019, fifteen times the rate experienced by other children.

Public Health Interventions

Efforts to reduce lead poisoning in Wisconsin consist of two primary strategies: using outreach and blood testing to make people aware of lead hazards and how to avoid them, and funding abatement of identified hazards, such as lead-safe renovations of homes with deteriorating lead-based paint or replacement of lead drinking water pipes. Table 10.1 shows major fund sources by state or federal fiscal year. Several one-time federal grants not shown in the table are also discussed.

Outreach and Testing. In the 2021-23 biennium, the Wisconsin childhood lead poisoning prevention program (WCLPPP) provided $769,700 GPR annually in grants to local and tribal health departments to prevent and respond to lead poisoning in children. DHS has also received grant funding from the CDC to support this program, as shown in the table. The WCLPPP conducts outreach and education activities to alert residents to lead hazards in their community, provide guidance to prevent poisoning from them, and promote blood testing. Local and tribal health departments provide additional support for lead outreach and testing efforts from local funds and other federal or private charitable grants.

The WCLPPP also supports coordination and reporting of testing, and investigations into any positive tests to identify the source of exposure, contact all people who may have been exposed, and connect people with resources to remediate the hazard and meet the needs of children who have been poisoned. If a local or tribal health department's investigation identifies a lead hazard, the agency must issue an order requiring the timely remediation of that hazard, although DHS notes that this requirement is not consistently enforced across the state. The statutes require local health departments to conduct such an investigation if a child's blood lead level exceeds 20µg/dL, or exceeds 15µg/dL in two tests at least 90 days apart.

Table 10.1: Major State and Federal Funding for DHS Lead Poisoning Prevention

	GPR (SFY)		FED (FFY)	
Year	WI Childhood Lead Poisoning Prevention Program (WCLPPP)	Milwaukee Outreach Grant	CDC Grants for WCLPPP	EPA Grants for Lead-in-WTR
2014-15	$769,700	$125,000	$405,600	$0
2015-16	769,700	125,000	405,600	0
2016-17	769,700	125,000	374,400	0
2017-18	769,700	125,000	0	0
2018-19	769,700	125,000	0	912,000
2019-20	769,700	125,000	0	460,000
2020-21	769,700	125,000	500,000	468,000
2021-22	769,700	175,000	500,000	TBD
2022-23	769,700	175,000	500,000	TBD

Local and tribal health departments may also claim reimbursement under the Medical Assistance program for conducting lead investigations when testing identifies lead poisoning in a child enrolled in MA. The program will reimburse up to $800 for an initial investigation and $300 for a follow-up investigation to confirm that the hazard has been remediated.

In addition, the statutes direct DHS to provide $175,000 GPR annually as a grant to a community health center in Milwaukee for lead screening and outreach services. Since this provision was enacted in 1996, DHS has awarded this grant to 16th Street Community Health Center in the City of Milwaukee, which provides bilingual outreach and in-home blood testing and education.

Health insurance, including the Medical Assistance program, provides coverage for the costs of administering blood lead tests. In light of the heightened incidence of lead poisoning among low-income families, federal regulations require blood lead testing as part of health screenings for all children enrolled in MA at ages 12 months and 24 months, or at any screening before age six if a child has not yet received a test. In 2019, 80% of enrolled children in Wisconsin received at least one blood lead test by age 24 months. MA uses the rate of children receiving blood lead tests as one factor in determining performance-based payments for MA health maintenance organizations (HMOs).

Children can receive a blood lead test from a primary care physician, and many local and tribal health departments and WIC clinics perform testing as well.

Lead-based Paint Abatement Renovations. Lead-based paint hazards can be remediated by certain renovations, including replacing old windows or doors, sealing surfaces with coatings designed to bind the lead in place, or soil clean-up. For dwellings inhabited by children enrolled in MA, DHS can provide lead-based paint abatement services at no cost to residents under a children's health insurance program (CHIP) health services initiative (HSI). An HSI allows DHS to use a limited amount of funding allotted for administrative expenses to fund preventative services, at the standard matching rate that applies to CHIP services—approximately 73% federal and 27% GPR funds.

As of September 2020, the program, known as the Lead Safe Homes Program (LSHP), has enrolled 132 homes since its implementation in 2019 and completed work on one. The COVID-19 pandemic interrupted work, particularly in homes where residents would need to relocate for the work to be completed safely. The average project costs between $25,000 and $35,000 on an all funds basis.

The terms of the HSI restrict eligibility to dwellings where children enrolled in MA live or frequently sped time, as well as requiring that a formal lead risk assessment be conducted by a certified assessor and that all workers on the site be certified as lead abatement workers or supervisors.

The 2019-21 biennial budget provided $2,000,000 in one-time funding in fiscal year 2019-20 to support lead-based paint abatement. DHS used a portion of this funding to conduct abatement work in houses of low-income families that did not meet the eligibility requirements of the LSHP. Known as the Windows Plus Program (WPP) and focused on high-risk areas such as windows, doors, and porches in homes built before 1950, the program completed abatement work in 16 homes.

In 2020 the U.S. Department of Housing and Urban Development (HUD) awarded Wisconsin a $3.4 million lead hazard control and healthy homes grant to fund lead poisoning prevention work for three years. DHS intends to use the grant to identify and control lead-based paint hazards in

125 eligible privately-owned rental or owner-occupied homes, reach at least 500 people through educational events, publish a website dedicated to preventing lead poisoning that provides information and referrals, and provide training to 80 workers in lead risk assessment or lead hazard control activities. HUD has made similar grants in recent years to local and tribal health departments, including Kenosha County and the City of Milwaukee.

In addition to using this federal funding to support training, DHS oversees the lead abatement workforce through the Wisconsin asbestos and lead database online (WALDO), which provides a directory of certified inspectors and contractors as well as documenting homes that have been certified as lead safe or lead free.

Lead in Water Mitigation. Lead in water service lines can leach into drinking water and damage the health of people drinking the water. In 1991, the EPA published the Lead and Copper Rule, a federal administrative rule that regulates the amount of lead in public drinking water systems. The rule has periodically been updated, most recently in 2020. The rule requires public water systems to monitor for lead pollution by testing water samples from homes with LSLs. Water systems are required to regularly sample the fifth liter of water that pours from a faucet in a home connected to an LSL and measure the lead concentration.

If lead concentrations exceed certain thresholds, the LCR requires water systems to take certain action. Since 2020, the LCR has established a trigger level, 10 µg/L (parts per billion). If 10% of samples in a public water system or more have lead concentrations greater than the threshold level, EPA requires the water treatment system to resample household water at least annually. Additionally, the LCR requires the water treatment system to implement corrosion controls to limit the lead leachate that enters drinking water. The LCR sets an action level of 15 µg/L. If 10% of samples or more have lead water concentrations above this action level, EPA requires the public water system to replace at least 3% of the LSLs each year.

Using federal funding under a grant from the environmental protection agency (EPA), as shown in Table 10.1, local and tribal health departments provide drinking water testing and faucet replacement in child care and early head start facilities. DHS receives the grant and administers this program, known in Wisconsin as lead-in-water treatment and remediation (Lead-in-WTR). The EPA provides this funding under the water infrastructure improvements for the nation (WIIN) act.

Lead Service Line Replacement. As of 2020, there were an estimated 150,069 private LSLs in Wisconsin. An additional 84,637 private water service lines were likely to contain lead, in the form of galvanized steel or lead solder. The LCR requires public water systems to inventory all LSLs. Many municipalities are in the process State and federal government encourage water systems to replace LSLs even in communities not required to do so.

The state finances certain municipal water infrastructure projects through the Safe Drinking Water Loan Program (SDWLP). Funding for the program is provided through federal capitalization grants. Additionally, states are required to provide a 20% match. In Wisconsin, this is provided through revenue obligation bonds. SDWLP financial assistance is provided through low-interest loans and principal forgiveness (grants).

Since 2016, EPA has allowed states to use a portion of the federal capitalization grants received by the state to provide principal forgiveness to projects that would replace private LSLs. Since 2016, DNR has awarded a total of $102.5 million to 75 municipalities for private lead service line replacement projects.

The federal Infrastructure Investment and Jobs Act (IIJA) increases state funding for private LSL

replacement. The law appropriates $3 billion annually between 2022 and 2026 to be used for LSL replacements nationally. Beginning in state fiscal year 2022-23, Wisconsin will receive $48,319,000 annually from this allotment. DNR will award these funds to municipalities in the form of low-interest loans and principal forgiveness (grants) through the safe drinking water loan program. Addition details on the program can be found in the Legislative Fiscal Bureau's informational paper entitled, "Environmental Improvement Fund."

State Health Plan and Evidence-Based Practices

The state health plan identifies childhood lead poisoning, and lead paint hazards in particular, within the focus area of environmental and occupational health. A DHS advisory group has developed recommendations for expanded blood lead testing, including testing all children living in the cities of Milwaukee or Racine approximately at ages 12, 18, and 24 months.

In 2017, a partnership initiated by the Pew Charitable Trusts and Robert Wood Johnson Foundation produced a detailed report investigating lead poisoning in the US and analyzing the costs and benefits of various policy interventions. They list remediation of lead paint hazards in low-income housing and other places frequented by children built before 1960 as a high priority, including recommending that states provide funding for necessary renovations, offer subsidized loans for remediation work, and require lead inspections before high-risk housing units can be sold or rented.

The report identified promoting safe renovation and repair practices as another policy priority. They recommend that states increase inspections of projects to ensure compliance with standards to minimize and contain lead-contaminated dust and debris, focusing on childcare facilities and housing built before 1960.

The report identified lead in drinking water as a final priority. They recommend that states, with federal support, work to replace any remaining lead service lines. They also recommend requiring water testing before the sale or lease of properties and in schools and child care facilities, with results to be posted publically. They identify CHIP as a potential source of funding for states to support testing in homes and childcare facilities.

CHAPTER 11

Chronic Diseases

Chronic disease, such as diabetes, heart disease, stroke, and arthritis, are the leading causes of death and disability in the United States. CDC estimates that, nationwide, 90% of the $4.1 trillion spent on health care is provided to people with chronic and mental health conditions. Chronic diseases have negative health effects that generally persist for the remainder of a patient's life. These conditions can have severe impacts on a patient's quality of life and contribute to a variety of other health concerns. Managing these conditions can create significant financial and personal burdens for patients.

The public health system uses several strategies to prevent chronic diseases and prevent them from progressing to higher severity, a focus area of the state health plan. Some strategies address risk factors common to several of these conditions, such as supporting healthy diets and physical activity. Other programs target specific diseases, such as diabetes. Table 11.1 and the following sections describe the major state-wide public health programs that are intended to prevent and respond to chronic diseases

Table 11.1: Major State and Federal Funding for Chronic Disease Programs

	FED (FFY)		PR (SFY)
Year	CDC Grant Funding for Diabetes	CDC Grant Funding for Heart Disease and Stroke	Tribal Gaming Revenue for Tribes' and Bands' Diabetes Programs
2013-14	$816,985	$1,577,855	$22,500
2014-15	816,985	1,577,855	22,500
2015-16	816,985	1,577,855	22,500
2016-17	816,985	1,577,855	22,500
2017-18	816,985	1,577,855	22,500
2018-19	1,739,825	1,739,825	22,500
2019-20	1,926,453	1,926,453	22,500
2020-21	1,926,453	1,926,453	22,500
2021-22	1,926,453	1,926,453	22,500
2022-23	1,926,453	1,926,453	22,500

Chronic Disease Prevention and Care Programs

National Diabetes Prevention Program (NDPP). The CDC funds the National Diabetes Prevention Program (NDPP) to support structured lifestyle change programs to prevent or delay type 2 diabetes. These programs use standards and strategies established by the CDC to train participants to reduce their risk of developing diabetes, including through changes to their diet and exercise routines.

Wisconsin's Chronic Disease Prevention Program (CDPP), operated by DPH, works closely with the NDPP. Using grant funding provided by the CDC for diabetes prevention and management (shown in Table 11.1), Wisconsin's program works to increase participation in the NDPP by raising awareness of pre-diabetes, promoting NDPP lifestyle change programs, and working with healthcare systems to facilitate direct referral of high-risk patients to the NDPP. The CDPP also works with NDPP providers to support establishing new programs in Wisconsin, train NDPP lifestyle coaches, and increase the availability of services through telehealth.

Diabetes Self-Management Education and Support (DSMES). Using the same CDC grant funding, the CDPP also supports programs to assist people with diabetes manage the condition, prevent it from developing further, and prevent

conditions that diabetes increases the risk of. Actions needed to self-manage diabetes vary between patients, but commonly include regularly monitoring blood sugar, adjusting diet, maintaining physical activity, and managing medications. Self-management education services follow standards established by the CDC to train patients in these skills and educate them about diabetes. Wisconsin's CDPP works to increase access to and promote utilization of these services. The program also works to engage community health workers and pharmacists to connect patients with diabetes self-management services.

As shown in Table 11.1, DHS is also budgeted program revenue (PR) from tribal gaming to provide grants to Native American tribes and bands to support diabetes prevention and management. The program provides $2,045 per year to each tribe or band, which can contribute to self-management and monitoring programs, participation in the NDPP, or several other accredited models of diabetes prevention and care.

Heart Disease and Stroke Programs. In parallel to the funding for diabetes prevention and treatment programs, the CDC provides grant funding for preventing and managing heart disease and stroke. Several interventions are supported by both parts of these linked grants, such as lifestyle change programs and the use of community health workers to provide care and guidance to patients and connect them to clinical care.

People at risk of heart attack, stroke, and other cardiovascular disease often take medications to reduce their blood pressure, cholesterol, or both. The CDPP works to promote medication therapy management and train pharmacists in providing this service to assist patients to correctly and consistently take the medications they need. The program also promotes and trains providers to help people monitor their own blood pressure at home.

Wisconsin's CDPP also works with health systems and providers to improve data collection to monitor risk factors and incidence of these chronic diseases, evaluate care quality, and encourage collaboration between providers.

Alzheimer's Programs. The DHS budget includes several appropriations to provide care and treatment related to dementia, including Alzheimer's disease. While these services are provided in connection with DPH's Bureau of Aging and Disability Resources, they are generally delivered by local aging and disability resource centers (ADRCs), area agencies on aging (AAAs), and county human services departments, instead of local health departments and the public health system.

In 2021-22 and 2022-23. $4,640,000 GPR is budgeted to fund dedicated dementia care specialist positions in the ADRCs and tribal offices, $2,808,900 GPR is budgeted for the Alzheimer's Family and Caregiver Support Program, delivered in part through the Community Aids program, and $131,400 GPR is budgeted as a grant for Alzheimer's training and information.

Respite Care. DHS is budgeted $350,000 GPR in 2021-22 and 2022-23 to provide respite care. This program provides short-term care to people with chronic diseases such as Alzheimer's or developmental disabilities to offer relief for their normal caregiver. Respite from caregiving can help family or other full-time caregivers attend to their own needs, mental health, and other obligations. In the 2021-23 biennium, DHS contracted with the Respite Care Association of Wisconsin to provide these services.

CHAPTER 12

Oral Health

Oral health is an integral component of an individual's overall health because it affects several basic human functions, including chewing, swallowing, and speaking. It involves maintaining healthy teeth, gums, the palate, tongue, lips, salivary glands, chewing muscles, and upper and lower jaws. The state health plan describes good oral health as being free of mouth pain, tooth decay, tooth loss, oral and throat cancer, birth defects and other disease that affect the mouth.

The DPH oral health program supports dental clinics that serve low-income and under-served populations, school-based programs and evidence-based initiatives.

Grants to Dental Clinics

Grants for Dental Services. DHS is budgeted $3,424,300 GPR in 2021-22 and 2022-23 to support several dental services, including: (a) support to the Marquette University (MU) School of Dentistry for clinical education of MU students through the provision of dental services by the students and faculty in underserved areas and to underserved populations in the state, to inmates in correctional centers in Milwaukee County, and in clinics in the City of Milwaukee; and (b) grants of at least $50,000 for fluoride varnish and other evidence-based oral health activities, $700,000 for school-based preventive dental services, and at least $100,000 for school-based restorative dental services. In addition, DHS may provide funding to technical college district boards to provide oral health services.

Grants for Low-Income Dental Clinics. DHS is budgeted $1,700,000 GPR in 2021-22 and 2022-23 to award grants to at least nine nonprofit dental clinics that do not receive grants under federally funded migrant health center program and that have a primary purpose of providing dental care to low-income patients (medical assistance recipients, low-income individuals who do not qualify for MA, individuals with disabilities, children, and senior citizens).

Grants for Rural Health Dental Clinics. DHS is budgeted $895,000 GPR in 2021-22 and 2022-23 to award grants to three rural health dental clinics that serve individuals who are developmentally disabled, elderly, or have low income as follows: (a) up to $232,000 GPR annually to a dental clinic in Ladysmith that serves individuals in Rusk, Price, Taylor, Sawyer and Chippewa Counties; (b) up to $355,600 annually to a dental clinic in Menomonie that provides dental services in Barron, Chippewa, Dunn, Pepin, Pierce, Polk, and St. Croix Counties; and (c) up to $400,000 GPR annually to a dental clinic in in Chippewa Falls that provides services in the areas surrounding Chippewa Falls, including Chippewa, Dunn, Barron, Taylor, Clark and Eau Clare Counties.

Other Funded Oral Health Programs

Donated Dental Services. The Wisconsin Dental Association administers the Donated Dental Services program, which provides dental services to peoples who are unable to afford dental care because of a permanent disability, chronic illness, or advanced age. Program eligibility is determined based on a completed written application and a telephone interview by a referral coordinator. Participating dentists agree to volunteer their services to individuals after meeting them and assessing their dental needs.

Seal-A Smile. Wisconsin's Seal-A-Smile program, a collaborative effort between DHS, Delta Dental of Wisconsin, and the Children's Health Alliance of Wisconsin, is intended to

improve the oral health of children by providing dental sealants in schools. Sealants are a thin plastic coating painted on the chewing surface of back teeth, protecting deep grooves from developing cavities. The program provides grants to local health departments, dentists, dental hygienists, schools, hospitals, community health centers, and nonprofit dental clinics to provide dental sealants in schools, at no cost to participating families, with the permission of each child's parent or guardian. Fluoride varnish is a protective coating that health professionals paint on teeth to prevent cavities.

The statutes direct DHS to allocate annual funding of at least $850,000 for the following purposes: (a) $700,000 for school-based preventive dental services; (b) $100,000 for school-based restorative dental services; and (c) $50,000 for fluoride varnish and other evidence-based health activities.

Table 12.1 summarizes state (GPR) funding DPH allocated for the state's oral health grant programs in state fiscal year 2021-22. In addition to the GPR funding amounts shown in the table, DPH has allocated $689,000 in 2021-22 from a program revenue appropriation funded by revenue DHS received from Delta Dental to support the state's oral health programs.

Table 12.1 State Fiscal Year 2021-22 GPR Funding Allocations for Oral Health Programs

Appropriation and General Purpose	Grantee	2021-22 SFY Contract Amount
Dental Services -- General		
Marquette University Dental Services	Marquette University	$2,427,600
Expanding Dental Services through Technical Schools	Chippewa Valley VTAE District	67,700
Expanding Dental Access	WI Dental Association	53,400
School-Based Dental Sealants for High-Risk Populations	Children's Hospital of Wisconsin	350,000
Seal-A-Smile -- Children's Health Alliance of Wisconsin	Children's Hospital of Wisconsin	350,000
School-Based Restorative Dental Services	Dentamed HealthCare	100,000
Community Water Fluoridation		
	City of Boscobel	11,000
	City of Darlington	10,300
	City of Brooklyn	3,100
	Village of Marathon City	25,700
	Subtotal	$3,398,800
Grants to Clinics Serving Rural Areas		
Rural Health Dental Clinics -- Menominee	Marshfield Family Health Center	$355,600
Rural Health Dental Clinics -- Chippewa Falls	Marshfield Family Health Center	333,300
Rural Health Dental Clinics -- Ladysmith	Marshfield Family Health Center	206,600
	Subtotal	$895,500
Grants to Clinics Serving Families with Low Income		
	Lake Area Free Clinic	$150,000
	Open Arms Free Clinic, Inc.	150,000
	Albrecht Free Clinic	90,000
	Health Care Network, Inc.	150,000
	Fowler Dental Clinic	140,000
	AIDS Resource Center of Wisconsin (Vivent Health)	150,000
	Chippewa Valley VTAE District	100,000
	Rock River Community Clinic	125,000
	Brown County Oral Health Partnership	51,000
	More Smiles Wisconsin, Inc.	150,000
	Waukesha County Community Dental	100,000
	Door County Medical Center Foundation	95,000
	HealthNet of Rock County	150,000
	Bread of Healing Clinic	99,000
	Subtotal	$1,700,000
	Grand Total	$5,994,300

Additional Resources

Additional information on the public health system and public health hazards in Wisconsin can be found in the following resources.

Public Health System, Social Determinants of Health, and Health Disparities:

U.S. Centers for Disease Control and Prevention
Public Health Surveillance and Data Website
https://www.cdc.gov/surveillance/.

U.S. Department of Health and Human Services
Public Health Offices (Listing of Public Health Offices within DHHS)
https://www.hhs.gov/ash/public-health-offices/index.html.

U.S. Department of Health and Human Services
Healthy People 2030
https://health.gov/healthypeople.

University of Wisconsin Population Health Institute
2021 Wisconsin Population Health and Equity Report Card
https://uwphi.pophealth.wisc.edu/wp-content/uploads/sites/316/2022/03/2021WIPopHealthEquityReport-Card_FINAL.pdf

Wisconsin Department of Health Services
Healthiest People 2020
https://www.dhs.wisconsin.gov/hw2020/index.htm.

Wisconsin Department of Health Services
Painting the Picture of Wisconsin's Health -- Wisconsin's 2020 Statewide Health Assessment
https://www.dhs.wisconsin.gov/publications/p03169.pdf.

Wisconsin Department of Health Services
Wisconsin State Health Improvement Plan -- 2019 Annual Report
https://www.dhs.wisconsin.gov/publications/p01791.pdf.

Medical College of Wisconsin
Advancing a Healthier Wisconsin Endowment: Annual Report 2021
https://ahwendowment.org/AHW1/AnnualReports/AHWFY21AnnualReport.pdf.

University of Wisconsin School of Medicine and Public Health
Wisconsin Partnership Program: Annual Report 2021
https://www.med.wisc.edu/media/medwiscedu/documents/service/wisconsin-partnership-program/annual-reports/FY-2021-WPP-Annual-Report_Final.pdf.

Vaccinations:

Wisconsin Department of Health Services
Information on Vaccine-Preventable Diseases https://www.dhs.wisconsin.gov/immunization/vpd.htm

U.S. Centers for Disease Control and Prevention
Descriptions and Data on Specific Vaccine-Preventable Diseases
https://www.cdc.gov/vaccines/vpd/vaccines-diseases.html

HIV:

Wisconsin Department of Health Services
Wisconsin HIV Annual Surveillance Reports
https://www.dhs.wisconsin.gov/hiv/data.htm

Wisconsin Department of Health Services
Wisconsin Integrated HIV Prevention and Care Plan 2017-2021:
https://www.dhs.wisconsin.gov/publications/p01582.pdf

National Association of State and Territorial AIDS Directors
RWHAP Part B & ADAP Monitoring Report
https://nastad.org/adap-monitoring-project

Maternal and Child Health:

U.S. DHHS Health Resources Services Administration
Bureau of Maternal and Child Health
https://mchb.hrsa.gov/,

Wisconsin Department of Health Services
Maternal and Child Health Program
https://www.dhs.wisconsin.gov/mch/index.htm.

Cancer:

National Cancer Institute
https://www.cancer.gov/

U.S. Centers for Disease Control and Prevention
Cancer
https://www.cdc.gov/cancer/index.htm.

Wisconsin Department of Health Services
Wisconsin Cancer Reporting System -- Statistics and Publications
https://www.dhs.wisconsin.gov/wcrs/data-pubs.htm.

Tobacco and Vaping:

Wisconsin Retail Assessment Project
Interactive Data
www.tobaccofreewisconsin.org/retail-assessment.html

Excessive Alcohol Use:

University of Wisconsin Population Health Institute
The Burden of Binge Drinking in Wisconsin
https://uwphi.pophealth.wisc.edu/wp-content/uploads/sites/316/2019/10/The-Burden-of-Binge-Drinking-in-Wisconsin-Full-Report-2.pdf

University of Wisconsin Public Health Institute
The Burden of Binge Drinking in Wisconsin
https://uwphi.pophealth.wisc.edu/wp-content/uploads/sites/316/2019/10/The-Burden-of-Binge-Drinking-in-Wisconsin-Full-Report-2.pdf.

Wisconsin Department of Health Services
Alcohol Dashboard
https://www.dhs.wisconsin.gov/alcohol/adult-use.htm.

Wisconsin State Council on Alcohol and Other Drug Abuse Prevention
Moving Forward: Policies and Strategies to Prevent and Reduce Excessive Alcohol Use in Wisconsin
(https://www.dhs.wisconsin.gov/scaoda/alcohol-prevention-report.pdf.)

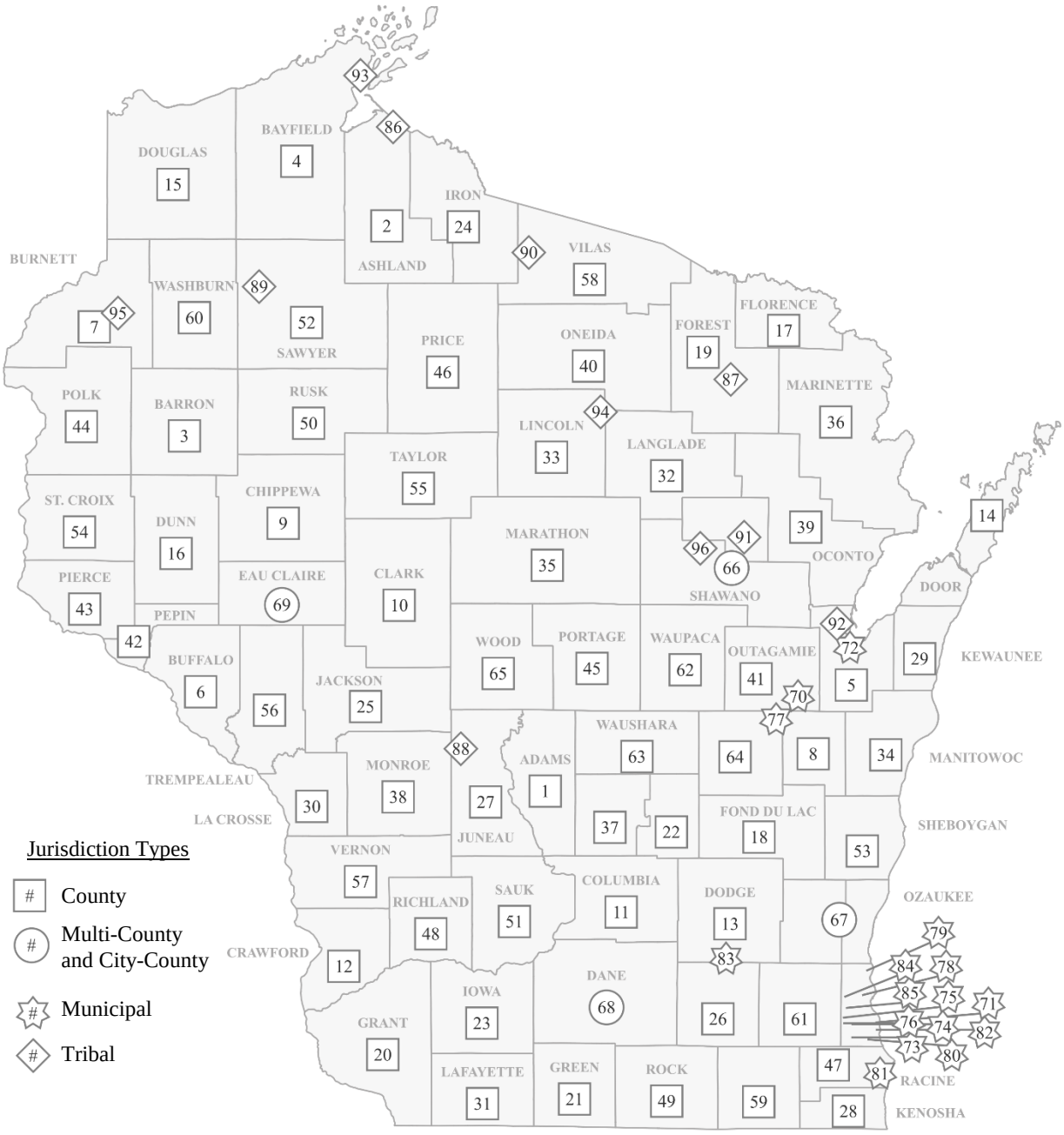
National Institute on Alcohol Abuse and Alcoholism
Alcohol Policy Information System (APIS)
https://alcoholpolicy.niaaa.nih.gov/.

Diabetes:
Wisconsin Department of Health Services
Wisconsin Diabetes Action Plan:
https://www.dhs.wisconsin.gov/publications/p03154-2022.pdf

Dental Health:
Wisconsin Oral Health Coalition
Wisconsin's Roadmap to Improving Oral Health 2020-2025
https://www.chawisconsin.org/download/oral-health-roadmap/?wpdmdl=2138&refresh=5e84ee1b06ad01585770011.

APPENDIX

Local and Tribal Public Health Department Jurisdictions



County Public Health Departments:

1 Adams County Public Health Department
2 Ashland County Health & Human Services Department
3 Barron County Health and Human Services Department
4 Bayfield County Health Department
5 Brown County Health Department
6 Buffalo County Health & Human Services
7 Burnett County Department of Health & Human Services
8 Calumet County Health Division

County Public Health Departments (continued):

9 Chippewa County Department of Public Health
10 Clark County Health Department
11 Columbia County Division of Health
12 Crawford County Public Health
13 Dodge County Human Services & Health Department
14 Door County Health Department
15 Douglas County Department of Health & Human Services
16 Dunn County Health Department
17 Florence County Health Department
18 Fond du Lac County Health Department
19 Forest County Health Department
20 Grant County Health Department
21 Green County Health Department
22 Green Lake County Department of Health & Human Services
23 Iowa County Health Department
24 Iron County Health Department
25 Jackson County Health & Human Services Department
26 Jefferson County Health Department
27 Juneau County Health Department
28 Kenosha County Division of Health
29 Kewaunee County Public Health Department
30 La Crosse County Health Department
31 Lafayette County Health Department
32 Langlade County Health Department
33 Lincoln County Health Department
34 Manitowoc County Health Department
35 Marathon County Health Department
36 Marinette County Health Department
37 Marquette County Health Department
38 Monroe County Health Department
39 Oconto County Department of Health & Human Services
40 Oneida County Health Department
41 Outagamie County Health & Human Services
42 Pepin County Health Department
43 Pierce County Health Department
44 Polk County Health Department
45 Portage County Health & Human Services Department
46 Price County Health and Human Services
47 Racine County Health Department
48 Richland County Health & Human Services
49 Rock County Public Health Department
50 Rusk County Health & Human Services
51 Sauk County Public Health Department
52 Sawyer County Health & Human Services
53 Sheboygan County Health & Human Services
54 St Croix County Health & Human Services
55 Taylor County Health Department
56 Trempealeau County Health Department
57 Vernon County Health Department
58 Vilas County Public Health Department
59 Walworth County Health Department
60 Washburn County Health Department
61 Waukesha County Public Health Department
62 Waupaca County Health & Human Services
63 Waushara County Health Department
64 Winnebago County Health Department
65 Wood County Health Department

Multi-County Partnerships:

66 Shawano-Menominee Counties Health Department
67 Washington-Ozaukee County Public Health Department

City-County Partnerships:

68 Public Health Madison and Dane County
69 Eau Claire City-County Health Department

Municipal Public Health Departments:

70 Appleton City Health Department
71 Cudahy Health Department
72 De Pere Department of Public Health
73 Franklin Health Department
74 Greendale Health Department
75 Greenfield Health Department
76 Hales Corners Health Department
77 Menasha Health Department
78 Milwaukee City Health Department
79 North Shore Health Department*
80 Oak Creek Health Department
81 Racine City Health Department
82 South Milwaukee Health Department
83 Watertown Department of Public Health
84 Wauwatosa Health Department
85 West Allis Health Department

Tribal Public Health Departments:

86 Bad River Band of Lake Superior Chippewa
87 Forest County Potawatomi Community
88 Ho-Chunk Nation
89 Lac Courte Oreilles Band of Lake Superior Chippewa
90 Lac du Flambeau Band of Lake Superior Chippewa
91 Menominee Indian Tribe of Wisconsin
92 Oneida Nation
93 Red Cliff Band of Lake Superior Chippewa
94 Sokaogon Chippewa Community
95 St. Croix Chippewa Indians of Wisconsin
96 Stockbridge-Munsee Community

* North Shore Health Department is a partnership between seven municipalities in Milwaukee County: the Villages of Bayside, Brown Deer, Fox Point, River Hills, Shorewood, and Whitefish Bay and the City of Glendale.