Workforce summary for Minnesota's local public health system in 2017

This report summarizes 2017 local public health system staffing in 2017, submitted by Minnesota's community health boards to the Minnesota Department of Health (MDH). Community health boards reporting staffing by job classification and area of public health responsibility. For a complete description of job classifications and areas of public health responsibility, visit Appendix A. Job classifications and Appendix B. Areas of public health responsibility.

In 2017, Minnesota's local public health system consisted of 51 community health boards. Of the 51 included in this report, 29 are single-county community health boards, 18 are multi-county community health boards, and four are city community health boards. MDH divides community health boards into eight geographic regions for analysis; to view a map of those regions, visit Appendix C. Regions of the State Community Health Services Advisory Committee contains a map of the regions.

MDH calculated full-time equivalents (FTEs) per 100,000 based on 2017 population estimates from the Minnesota Center for Health Statistics.

Minnesota Department of Health
Center for Public Health Practice
625 Robert Street N PO Box 64975
St. Paul, MN 55164-0975
651-201-3880
health.ophp@state.mn.us
www.health.state.mn.us

November 2018. To obtain this information in a different format, call: 651-201-3880.

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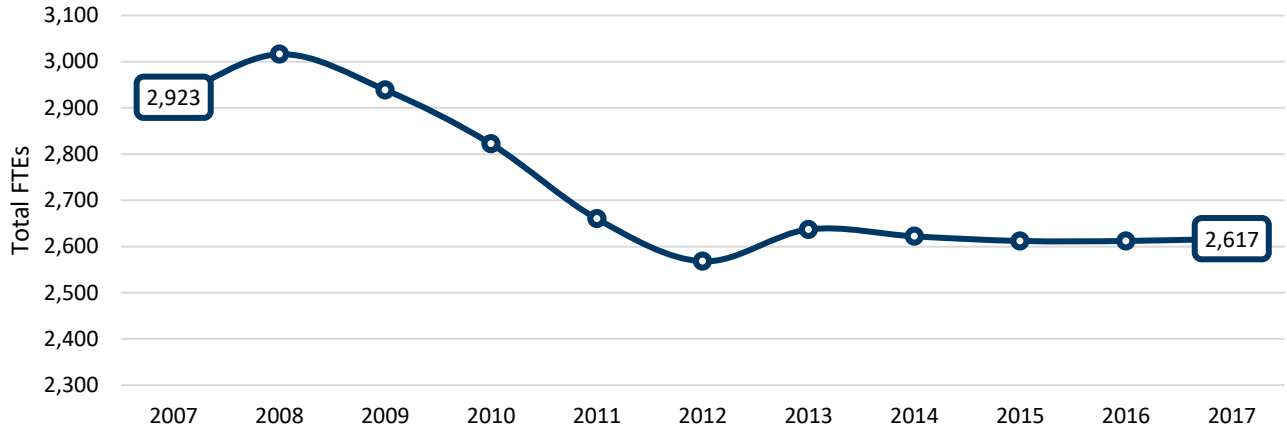
Statewide workforce summary

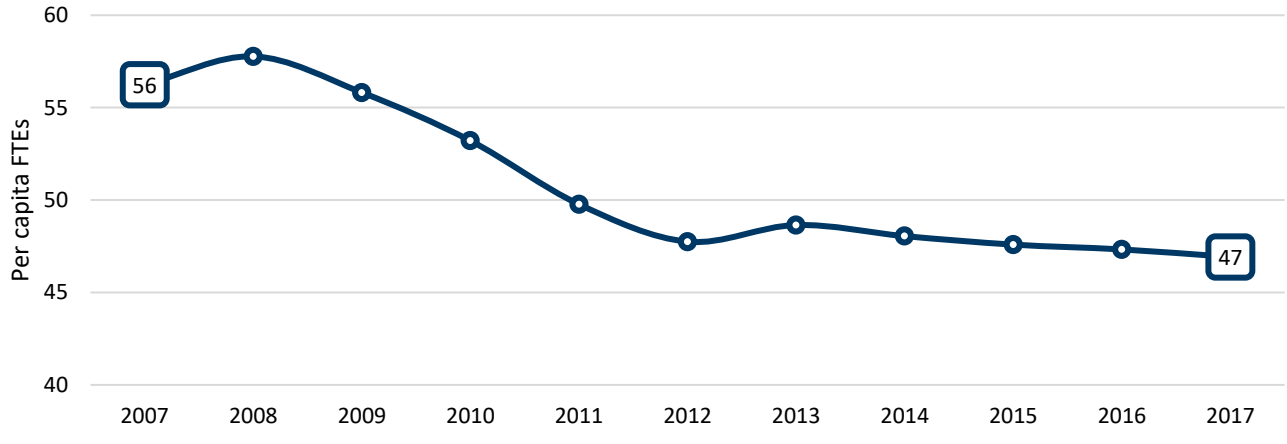
In 2017, Minnesota's local public health system employed a total of 2,617 FTEs, Between 2007 and 2017, the local public health system lost 306 FTEs, equivalent to 10 percent of the state's local public health workforce. The number of total FTEs fell sharply from 2008 to 2012, and has remained relatively stable since that time (**Figure 1**).

Figure 1. Total FTEs in Minnesota's local public health system, 2007-2017



The trend in per capita FTEs mirrors the overall downward trend in total FTEs. In 2007, the state's local public health system had 56 FTEs per capita, and that number fell sharply from 2008 to 2012. After rising somewhat in 2013, the trend in per capita FTEs continued downward to 42 FTEs in 2017 (**Figure 2**).

Figure 2. Per capita FTEs in Minnesota's local public health system, 2007-2017



The local public health system is supported by a variety of job classifications (**Table 3**). Nearly all community health boards employed public health nurses, accounting for 25 percent of the local public health system workforce. Together, public health nurses and other nurses represented 35 percent of the workforce. Other job classifications with a high proportion of workers were administrative support (11 percent) and paraprofessional

(7 percent). Only eight community health boards (16 percent) have epidemiologists, and all but two of these community health boards are located in the metro region.

The distribution of job classifications as a percentage of FTEs in 2017 remained virtually the same as 2016.

Table 3. Public health FTEs by job classification, and community health boards with FTEs in each job classification, Minnesota, 2017

Job classification	FTEs (#)	FTEs (%)	Community health boards with FTEs in job class (#)	Community health boards with FTEs in job class (%)
Public health nurse	661.88	25%	50	98%
Administrative support	294.69	11%	49	96%
Other nurse	259.24	10%	40	78%
Paraprofessional	174.56	7%	37	73%
Public health program specialist	85.33	3%	15	29%
Medical and public social worker	144.2	6%	20	39%
Public health educator	188.37	7%	40	78%
Health administrator	108.01	4%	51	100%
Administrative/business professional	134.56	5%	39	76%
Environmental scientist and specialist	126.09	5%	26	51%
Nutritionist	142.89	5%	35	69%
Technician	32.66	1%	11	22%
Health planner	92.35	4%	20	39%
Epidemiologist	14.98	1%	8	16%
Other*	156.7	6%	n/a	n/a
Total	**2617.00**	**100%**	**n/a**	**n/a**

Figure 4 shows the distribution of total FTEs across all community health boards. Eight community health boards (16 percent) employed fewer than 15 total FTEs. Total FTEs employed ranged from 6 FTEs to 407 FTEs, with a median of 33 FTEs.

The five largest community health boards by population accounted for 38 percent of all FTEs and employed 944 FTEs. This was more FTEs than the 38 smallest community health boards (≤45 FTEs) combined. The community health boards employing over 85 FTEs were mostly located in the metro region, contained a large urban area, or were comprised of multiple counties.

* Includes occupation safety and health specialist, community health worker, dental worker, public health informatician, physician, physical therapist, mental health counselor, interpreter, licensure/inspection/regulatory specialist, service/maintenance, other public health professional, and other.

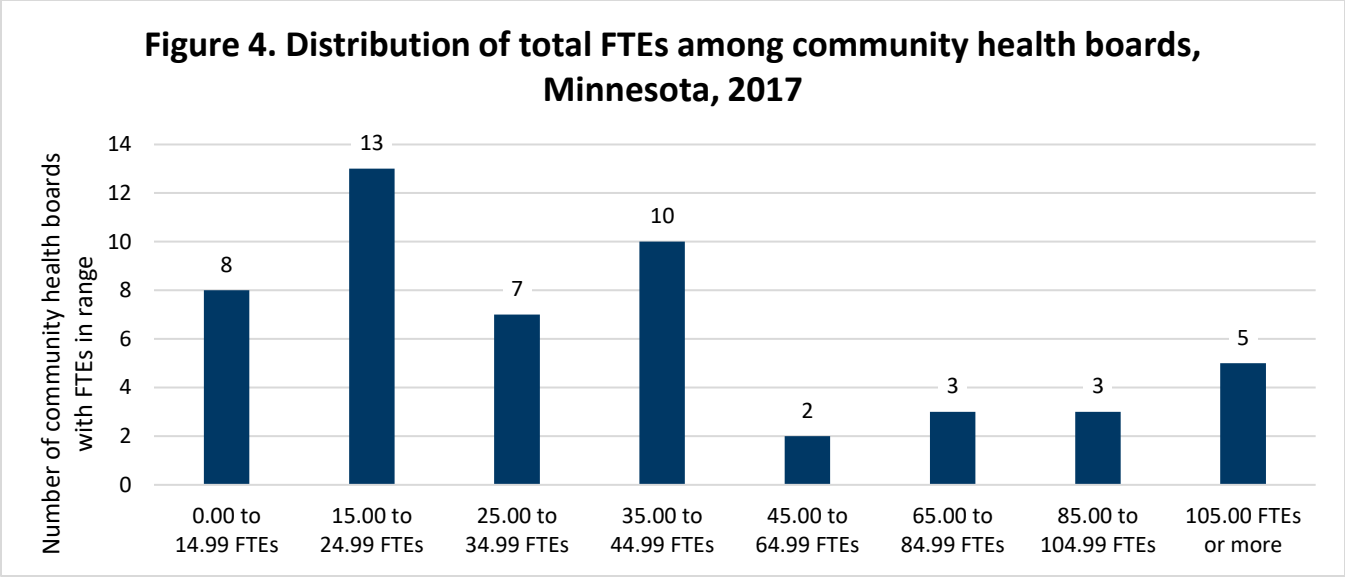


Figure 5 shows the local public health system's FTEs per 100,000 population. Twenty-two community health boards (43 percent) employed fewer than 50 FTEs per 100,000. FTEs per 100,000 ranged from 11 FTEs to 204 FTEs, with a media of 57 FTEs per 100,000.

A majority of the community health boards with the highest FTEs per 100,000 provided direct services to smaller, rural populations.

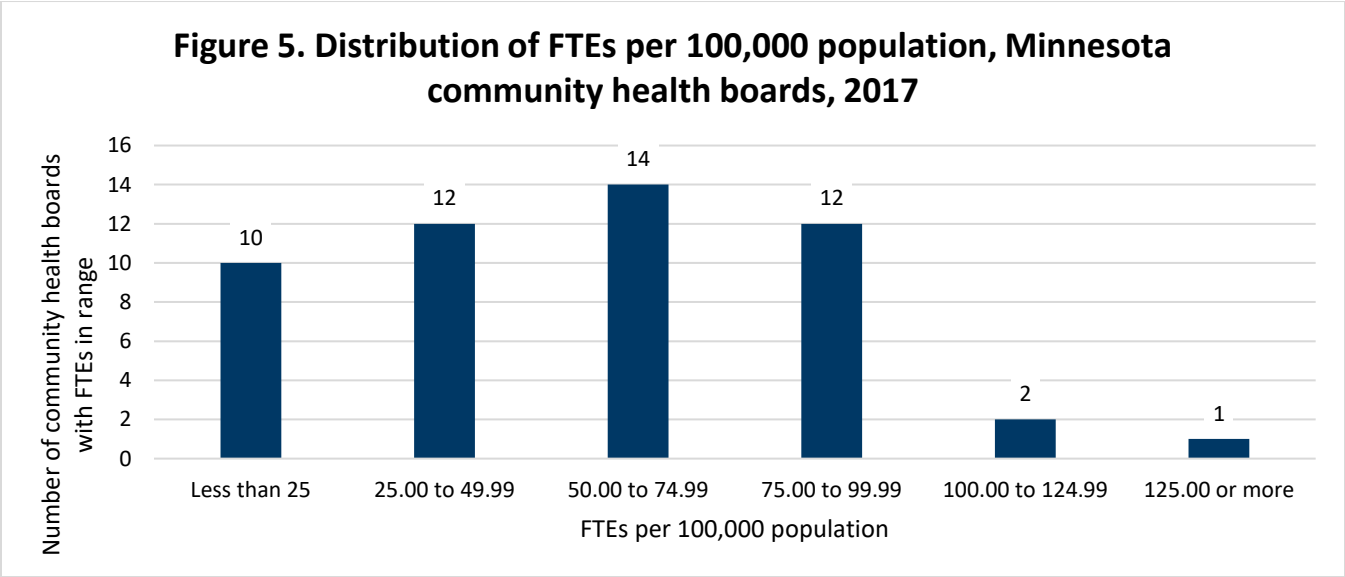
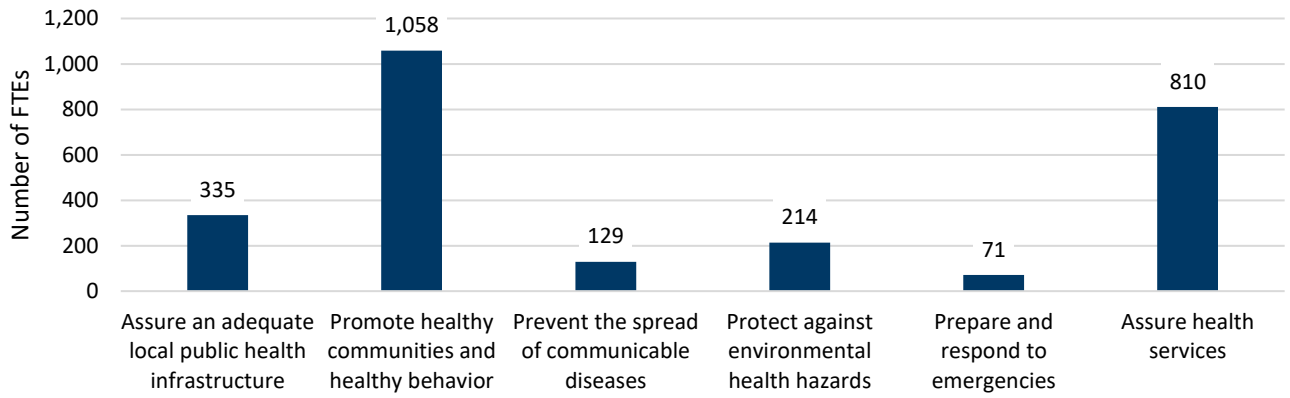


Figure 6 shows the number of FTEs working in each area of public health responsibility. Two areas (assure health services and healthy communities) accounted for 71 percent of the entire local public health workforce.

Figure 6. Total FTEs in each area of public health responsibility, Minnesota community health boards, 2017



The following summaries examine the number and type of staff in each area of public health responsibility. For more information on responsibilities in each area, visit Appendix B. Areas of public health responsibility.

Assure an adequate local public health infrastructure

Community health boards classified 335 FTEs in this area of responsibility, which accounted for 13 percent of all FTEs. While all community health boards classified at least a portion of an FTE for infrastructure, five community health boards had less than 1 FTE for this area. Twenty-nine percent of FTEs were classified as administrative support. Health administrators (18 percent) and administrative/business professionals (16 percent) also accounted for a high proportion of FTEs in this area.

Promote healthy communities and healthy behavior

This area was staffed by 1,058 FTEs, or 40 percent of the local public health system workforce; this is an increase of less than 1 percent (9 FTEs) from 2016. Public health nurses accounted for 34 percent of FTEs in this area. Other staff in this area included health educators (12 percent), public health nutritionists (13 percent), administrative support (9 percent), paraprofessionals (6 percent), and public health program specialists (4 percent).

Prevent the spread of communicable disease

In the local public health system, 129 FTEs (5 percent of all FTEs system-wide) were reported as working in this area of responsibility, an increase of 6 FTEs from 2016. Nurses, both public health and other nurses, accounted for 50 percent of the staff in the area of infectious disease. Other professions included administrative support (9 percent), and public health program specialist (8 percent). It is important to note that two community health boards accounted for 37 percent of FTEs in this area of responsibility, and 22 community health boards employed less than 1 FTE in this area.

Protect against environmental health hazards

This area of responsibility was staffed by 214 FTEs, or 8 percent of the local public health system workforce. Over half (53 percent) of this area's FTEs were environmental scientists and specialists. Other occupations included administrative support (10 percent), licensure/inspection/regulatory specialist (14 percent), and service/maintenance (4 percent). It is important to note that four community health boards accounted for 66 percent of all FTEs in this area, and ten community health boards reported no FTEs in this area.

Prepare and respond to emergencies

This area of responsibility accounted for three percent of all FTEs (71 FTEs), an increase of 2 percent (2 FTEs) from 2016. Fourteen percent of emergency preparedness FTEs were public health nurses. Other professions in this area included administrative support (9 percent), health planner (19 percent), public health educator (14 percent) and program specialist (10 percent).

Assure health services

This area of responsibility employed 810 FTEs, a decrease of 3 FTEs (less than 1 percent) from 2016. Nurses, including public health and other nurses, accounted for 46 percent of FTEs in this area. Other staff included paraprofessionals (12 percent), medical and public social workers (15 percent), and administrative support (8 percent).

A significant part of assure health services includes providing direct services through home health care, hospice, correctional health, and emergency medical services programs.

These direct services accounted for 211 FTEs, a decrease of 20 FTEs (9 percent) from 2016 and 89 FTEs (30 percent) fewer than 2011. These FTEs account for 26 percent of all assure health services FTEs and 8 percent of all FTEs.

Race and ethnicity

Data on race and ethnicity of community health board staff are available for 50 community health boards (See **Table 7**). About 7 percent of community health board staff identified as a race other than white. This is an increase from 6 percent in 2016. Race other than white was determined by grouping black or African-American; American Indian or Alaska Native; Asian; Native, Hawaiian, or Other Pacific Islander; two or more races; and other/unknown into one category. In 2016, 2 percent of staff reported as Hispanic, there was no change in 2017.

Table 7. Staff race/ethnicity, Minnesota community health boards, 2017

Race/ethnicity	Count (#)	Frequency (%)
White	2,436	91.34%
Asian	68	2.55%
Black or African-American	66	2.47%
Hispanic	54	2.02%
American Indian or Native Alaskan	10	0.37%
Native Hawaiian / Other Pacific Islander	3	0.11%
More than one race reported	5	0.19%
Other/unknown	25	0.94%
Total	**2,667**	**100.00%**

Regional workforce comparisons

Table 8 shows the number of total FTEs and FTEs per 100,000 population by region. The metro region had the greatest total number of FTEs (1165) but the fewest number of FTEs per 100,000 (32). The Metro and West Central regions had the largest increases from 2016 (3 percent), while the other regions' staffing decreased from 2016 by a range of less than 1 to 6 percent in total FTEs. Some community health boards outside the Metro provided direct services, which contributed to the higher number of FTEs per 100,000 in Greater Minnesota.

Table 8. Regional FTE totals and FTEs per 100,000 population, Minnesota, 2017

Region	Total FTEs	% of total	FTEs per 100,000 population
Northwest	119	5%	70
Northeast	150	6%	46
West Central	212	8%	92
Central	294	11%	39
Metro	1165	45%	32
Southwest	144	6%	66
South Central	202	8%	69
Southeast	330	13%	65
All Regions	**2617**	**100%**	**44**

Table 9 shows the number of FTEs working in each area of public health responsibility by region. The areas of assure health services and healthy communities accounted for the most FTEs in all regions. The metro region accounted for over half of the FTEs in the areas of environmental health (78 percent) and infectious disease (57 percent).

Table 9. FTEs working in each area of public health responsibility, by region, Minnesota, 2017

Region	Assure an adequate local public health infrastructure	Promote healthy communities and healthy behavior	Prevent the spread of communicable diseases	Protect against environmental health hazards	Prepare and respond to emergencies	Assure health services	Total
Northwest	13	50	5	1	4	46	**119**
Northeast	24	83	2	3	3	36	**150**
West Central	23	63	3	10	3	111	**212**
Central	45	145	13	5	12	74	**294**
Metro	113	462	74	167	32	317	**1,165**
Southwest	20	63	10	8	6	37	**144**
South Central	44	69	8	9	6	65	**202**
Southeast	53	123	14	12	5	124	**330**
All Regions	**335**	**1,058**	**129**	**214**	**71**	**810**	**2,617**

Appendix A. Job classifications

This glossary includes brief definitions and decision guidelines for the titles in the expanded Bureau of Health Professions listing. The listing was developed over the course of the enumeration project conducted by Columbia University School of Nursing Center for Health Policy. These definitions have been slightly modified to better describe Minnesota's public health workforce; modifications have been noted.

Health Administrator: This single category encompasses all positions identified as leading a public health agency, program or major sub-unit. This includes occupations in which employees set broad policies, exercise overall responsibility for execution of these policies, direct individual departments or special phases of the agency's operations, or provide specialized consultation on a regional, district or area basis. Examples of occupations include department heads, bureau chiefs, division chiefs, directors, deputy directors, community health services administrators, public health nursing directors, and environmental health directors. This does NOT include managers, supervisors, or team leaders.

Administrative/Business Professional: Performs work in business, finance, auditing, management and accounting. Individuals trained at a professional level in their field of expertise prior to entry into public health. Examples of occupations include office manager and accountants.

Administrative Support (Including Clerical and Sales): Occupations in which workers are responsible for internal and external communication, recording and retrieval of data and/or information and other paperwork required in an office. Examples of occupations include bookkeepers, messengers, clerk-typists, stenographers, court transcribers, hearing reporters, statistical clerks, dispatchers, license distributors, payroll clerks, office machine and computer operators, telephone operators, legal assistants, secretaries, clerical support, WIC clerks, and receptionists.

Community Health Worker: Assist individuals and communities to adopt healthy behavior. Conduct outreach for public health, medical personnel or health organizations to implement programs in the community that promote, maintain, and improve individual and community health. Provide culturally appropriate health information on available resources, provide social support and informal counseling, advocate for individuals and community health needs, and provide services such as first aid and blood pressure screening. May collect data to help identify community health needs. In Minnesota, this may mean a person with a CHW certificate from a higher education institution or staff working in a CHW capacity as defined by the local health department/community health board personnel standards. Excludes "Health Educators".

Environmental Scientist and Specialist: Applies biological, chemical, and public health principles to control, eliminate, ameliorate, and/or prevent environmental health hazards. Examples of occupations include environmental researcher, environmental health specialist, food scientist, soil and plant scientist, air pollution specialist, hazardous materials specialist, toxicologist, water/waste water/solid waste specialist, sanitarian, and entomologist.

Epidemiologist: Investigates, describes and analyzes the distribution and determinants of disease, disability, and other health outcomes, and develops the means for their prevention and control; investigates, describes and analyzes the efficacy of programs and interventions. Includes individuals specifically trained as epidemiologists, and those trained in another discipline (e.g., medicine, nursing, environmental health) working as epidemiologists under job titles such as nurse epidemiologist.

Health Planner/Researcher/Analyst: Analyzes needs and plans for the development of public health and other health programs, facilities and resources, and/or analyzes and evaluates the implications of alternative policies relating to public health and health care. Includes a number of job titles without reference to the specific training that the individual might have (e.g., health analyst, community planner, research scientist).

Interpreter: Individuals who translate information in one language to another language for public health purposes. (This definition was modified.)

Licensure/Inspection/Regulatory Specialist: Audits, inspects and surveys programs, institutions, equipment, products and personnel, using approved standards for design or performance. Includes those who perform regular inspections of a specified class of sites or facilities, such as restaurants, nursing homes, and hospitals where personnel and materials present constant and predictable threats to the public, without specification of educational preparation. This classification probably includes a number of individuals with preparation in environmental health, nursing and other health fields.

Medical & Public Health Social Worker: Identifies, plans, develops, implements and evaluates social work interventions on the basis of social and interpersonal needs of total populations or populations-at-risk in order to improve the health of a community and promote and protect the health of individuals and families. This job classification includes titles specifically referring to social worker. (This category has been modified from the original occupational title and includes "Mental Health/Substance Abuse Social Worker.")

Mental Health Counselor: Emphasizes prevention and works with individuals and groups to promote optimum mental health. This occupation may help individuals deal with addictions and substance abuse; family, parenting, and marital problems; suicidal tendencies; stress management; problems with self-esteem; and issues associated with aging, and mental and emotional health. It can also provide services for persons having mental, emotional, or substance abuse problems and may provide such services as individual and group therapy, crisis intervention, and social rehabilitation. May also arrange for supportive services to ease patients, return to the community. It includes such titles as crisis team worker. This category excludes psychiatrists, psychologists, social workers, marriage and family therapists, and substance abuse counselors.

Occupation Safety & Health Specialist: Reviews, evaluates, and analyzes workplace environments and exposures and designs programs and procedures to control, eliminate, ameliorate, and/or prevent disease and injury caused by chemical, physical, biological, and ergonomic risks to workers. Occupations include industrial hygienist, occupational therapist, occupational medicine specialist and safety specialist. It also includes a physician or nurse specifically identified as an occupational health specialist.

Other Nurse: Helps plan, develop, implement and evaluate nursing and public health interventions for individuals, families and populations at risk of illness or disability. Other nurses include nurses with the following titles: RN, NP, and LPN. A nurse that has a baccalaureate or higher degree with a major in nursing and meets the requirements stated in Minnesota Rules Chapter 6316 should be classified as a "Public Health Nurse." (This is not an official EEO-4/CHP/BHPr+ definition.)

Other Public Health Professional: This includes positions in a public health setting occupied by professionals (preparation at the baccalaureate level or above) that do not fall under the specific professional categories. (This category has been slightly modified from the original occupational title.). Examples of occupations include physician assistant, laboratory professional, EMS professional, intern, speech therapist, and public relations/media specialist.

Paraprofessionals: Occupations in which workers perform some of the duties of a professional or technician in a supportive role, which usually require less formal training and/or experience normally required for professional or technical status. This includes research assistants, medical aides, child support workers, home health aides, library assistants and clerks, ambulance drivers and attendants, homemaker, case aide, community outreach/field worker, and advocate.

Public Health Dental Worker: Plans, develops, implements and evaluates dental health programs to promote and maintain optimum oral health of the public; public health dentists may provide comprehensive dental care; the dental hygienist may provide limited dental services under professional supervision. This category is specific in its inclusion of only employees trained in dentistry or dental health, but abnormally broad in that it neglects the professional/technician distinction and includes the entire range of qualifications, from dental surgeon to dental hygienist.

Public Health Educator: Designs, organizes, implements, communicates, provides advice on and evaluates the effect of educational programs and strategies designed to support and modify health-related behaviors of individuals, families, organizations, and communities. This title includes all job titles that include health educator, unless specified to another specific category, such as dental health educator or occupational health educator.

Public Health Informatician: Provides informatics expertise to establish policies, practices, and procedures for public health informatics within a program or across the agency to ensure effective use of information and information technology. Also known as public health informatics analyst, public health informatics specialist, health scientist (Informatics).

Public Health Nurse: Plans, develops, implements and evaluates nursing and public health interventions for individuals, families and populations at risk of illness or disability. This title only includes public health nurses who meet the requirements stated in Minnesota Rules Chapter 6316. Public health nurses must have a baccalaureate or higher degree with a major in nursing. (This category has been modified from the original occupational title.)

Public Health Nutritionist: Plans, develops, implements and evaluates programs or scientific studies to promote and maintain optimum health through improved nutrition; collaborates with programs that have nutrition components; may involve clinical practice as a dietitian. Examples include community nutritionist, community dietitian, nutrition scientist, and registered dietician.

Public Health Physical Therapist: Assesses, plans, organizes, and participates in rehabilitative programs that improve mobility, relieve pain, increase strength, and decrease or prevent deformity of individuals, populations and groups suffering from disease or injury.

Public Health Physician: Identifies persons or groups at risk of illness or disability, and develops, implements and evaluates programs or interventions designed to prevent, treat or ameliorate such risks; may provide direct medical services within the context of such programs. Examples include MD and DO generalists and specialists, some of whom have training in public health or preventive medicine. This job classification does not include physicians working in administrative positions (health administrator or official) and some in specialty areas (epidemiology, occupational health).

Public Health Program Specialist: Plans, develops, implements and evaluates programs or interventions designed to identify persons at risk of specified health problems, and to prevent, treat or ameliorate such problems. This job classification includes public health workers reported as public health program specialists without specification of the program, as well as some reported as specialists working on a specific program (e.g., AIDS Awareness Program Specialist, immunization program specialist.) Includes individuals with a wide range of educational preparation, and may include individuals who have preparation in a specific profession (e.g., dental health, environmental health, medicine, and nursing).

Service-Maintenance: Occupations in which workers perform duties which result in or contribute to the comfort, convenience, hygiene or safety of the general public or which contribute to the upkeep and care of

buildings, facilities or grounds of public property. Workers in this group may operate machinery. This includes chauffeurs, laundry and dry cleaning operatives, truck drivers, bus drivers, garage laborers, custodial employees, grounds keepers, drivers, transportation, and housekeepers.

Technicians: This classification includes occupations that require a combination of basic scientific or technical knowledge and manual skill that can be obtained through specialized post-secondary school education or through equivalent on-the-job training. Examples include computer programmers, drafters, survey and mapping technicians, photographers, technical illustrators, technicians (medical, dental, electronic, physical sciences), inspectors, environmental health technicians, nutritional technicians, detox technicians, EMS technicians, hearing and vision technicians, laboratory technicians, and computer specialists.

Appendix B. Areas of public health responsibility

Assure an adequate local public health infrastructure

This area of public health responsibility describes aspects of the public health infrastructure that are essential to a well-functioning public health system—including assessment, planning, and policy development. This includes those components of the infrastructure that are required by law for community health boards. It also includes activities that assure the diversity of public health services and prevents the deterioration of the public health system.

Promote healthy communities and healthy behavior

This area of public health responsibility includes activities to promote positive health behavior and the prevention of adverse health behavior—in all populations across the lifespan in the areas of alcohol, arthritis, asthma, cancer, cardiovascular/stroke, diabetes, health aging, HIV/AIDS, Infant, child, and adolescent growth and development, injury, mental health, nutrition, oral/dental health, drug use, physical activity, pregnancy and birth, STDs/STIs, tobacco, unintended pregnancies, and violence. It also includes activities that enhance the overall health of communities.

Prevent the spread of communicable diseases

This area of responsibility focuses on infectious diseases that are spread person to person, as opposed to diseases that are initially transmitted through the environment (e.g., through food, water, vectors and/or animals). It also includes the public health department activities to detect acute and communicable diseases, assure the reporting of communicable diseases, prevent the transmission of disease (including immunizations), and implement control measures during communicable disease outbreaks.

Protect against environmental health hazards

This area of responsibility includes aspects of the environment that pose risks to human health (broadly defined as any risk emerging from the environment), but does not include injuries. This area also summarizes activities that identify and mitigate environmental risks, including foodborne and waterborne diseases and public health nuisances.

Prepare and respond to emergencies

This area of responsibility includes activities that prepare public health to respond to disasters and assist communities in responding to and recovering from disasters.

Assure health services

This area of responsibility includes activities to assess the availability of health-related services and health care providers in local communities. It also includes activities related to the identification of gaps and barriers in services; convening community partners to improve community health systems; and providing services identified as priorities by the local assessment and planning process.

Appendix C. Regions of the State Community Health Services Advisory Committee (SCHSAC)