The Health Professionals Covenant

“As a health professional dedicated to enhancing the healthcare status and well-being of individuals and communities, I pledge collaboration with all of my health professional colleagues similarly committed, and promise to place patient and public interest above the perceived self-interests of my individual profession.”

— Association of Academic Health Centers
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Robert L. Veninga, Head, Division of Health Management and Policy
John E. Kralewski, Head, Division of Health Services Research and Policy
Thomas A. Louis, Head, Division of Biostatistics
Russell V. Luepker, Head, Division of Epidemiology

University of Minnesota Mission Statement

The University of Minnesota, founded in the belief that all people are enriched by understanding, is dedicated to the advancement of learning and the search for truth; to the sharing of this knowledge through education for a diverse community; and to the application of this knowledge to benefit the people of the state, the nation, and the world.

The University’s mission, carried out on multiple campuses and throughout the state, is threefold:

Research and Discovery
Generate and preserve knowledge, understanding, and creativity by conducting high-quality research, scholarship, and artistic activity that benefit students, scholars, and communities across the state, the nation, and the world.

Teaching and Learning
Share that knowledge, understanding, and creativity by providing a broad range of educational programs in a strong and diverse community of learners and teachers, and prepare graduate, professional, and undergraduate students, as well as non-degree-seeking students interested in continuing education and lifelong learning, for active roles in a multiracial and multicultural world.

Outreach and Public Service
Extend, apply, and exchange knowledge between the University and society by applying scholarly expertise to community problems, by helping organizations and individuals respond to their changing environments, and by making the knowledge and resources created and preserved at the University accessible to the citizens of the state, the nation, and the world.

In all of its activities, the University strives to sustain an open exchange of ideas in an environment that embodies the values of academic freedom, responsibility, integrity, and cooperation; that provides an atmosphere of mutual respect, free from racism, sexism, and other forms of prejudice and intolerance; that assists individuals, institutions, and communities in responding to a continuously changing world; that is conscious of and responsive to the needs of the many communities it is committed to serving; that creates and supports partnerships within the University, with other educational systems and institutions, and with communities to achieve common goals; and that inspires, sets high expectations for, and empowers the individuals within its community.

The School of Public Health reserves the right to change without notice any programs, policies, requirements, or regulations that appear in this bulletin. It should not, therefore, be considered in any way a contract.

The School of Public Health is accredited by the Council on Education for Public Health. All degree programs offered by the School of Public Health or through the Graduate School are fully accredited by the appropriate national accrediting agencies.
Welcome to the School of Public Health. You are joining an institution known for its scholarly advances and professional education. We have a proud legacy of significant achievements and we take comfort in the knowledge that we will be able to reinvent ourselves to meet the challenges of tomorrow.

Today’s global threats to public health are as formidable as ever. In this country, heart disease, cancer, and stroke are the major causes of death. Infectious diseases, once thought banished, have reemerged with increased virulence. Other afflictions, not even perceived as issues a few decades ago, pose ominous threats to society, such as AIDS, violence, substance abuse, teen pregnancy, health problems of the elderly, and environmental pollution.

The School of Public Health faculty is on the cutting edge of new knowledge in all these crucial areas. We have set ambitious goals for ourselves. Success will depend on the collaboration of all partners—faculty, staff, students, alumni, friends, and colleagues. We continue to enjoy an outstanding reputation due to the talents and vision of our faculty. We also take great pride in our dedicated staff and excellent students. Likewise, we are delighted by the accomplishments of our alumni and gratified by the commitment of our friends and colleagues.

Our aim is to prepare men and women to become the next generation of leaders in the field. The need for leadership in public health has never been so urgent—individuals with vision, commitment, and capacity to address the ever-changing challenges confronting us. You, the students, are our future. You can make a difference. I look forward to your contributions to the mission of this school and to the health of the public.

Edith D. Leyasmeyer, M.P.H., Ph.D.
Dean
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School of Public Health

The mission of the School of Public Health is to preserve and enhance the health of the public through education, research, and service programs designed to discover and transmit new knowledge aimed at the prevention of disease and disability, the improvement of health, and the planning, analysis, management, evaluation, and improvement of systems for the delivery of health services.

Organization and Faculty

The University of Minnesota School of Public Health ranks sixth among the nation’s 27 public health schools. It is part of the University’s Academic Health Center which contains the School of Public Health, School of Nursing, College of Pharmacy, Medical School, Dental School, College of Veterinary Medicine, and Duluth’s School of Medicine. They form an integrated community of scholars, students, and faculty who learn about and work toward improving health. Within a network of classrooms, laboratories, clinics, and one of the foremost teaching hospitals in the United States, future healthcare professionals study in a rigorous academic environment, providing care and collaborating in research with world-renowned faculty mentors. This growing interdisciplinary environment offers students the opportunity not only to become involved with important research and the faculty conducting it, but also to cross disciplinary lines to tailor their course of study to their interests and needs.

The School of Public Health contains five administrative units:
- Division of Biostatistics
- Division of Environmental and Occupational Health
- Division of Epidemiology
- Division of Health Management and Policy
- Division of Health Services Research and Policy

Through cooperative teaching programs and research efforts, these units offer 11 academic majors.

Division of Biostatistics

Thomas A. Louis, Ph.D., Head
(612) 624-4655

This division trains public health practitioners and biostatistical scientists, conducts research to develop new biostatistical methods and improve public health, and serves the University, state, and nation. The graduate teaching program develops methodological and applications-oriented biostatisticians. The division’s research program couples collaboration on projects related to public health with development of methods to meet the challenges of these applications. Applied projects include clinical trials and population, laboratory, and policy studies. The division’s Biostatistics Consulting Laboratory offers statistical expertise to health science researchers, while its Coordinating Centers for Biometric Research provide state-of-the-art computing and database infrastructures to support large-scale studies. Both offer training and financial support to students. Faculty service activities keep the division in contact with a wide variety of health and professional agencies, such as the Minnesota Department of Health, National Institutes of Health, Centers for Disease Control, the National Science Foundation, and the Institute of Medicine.

Biostatistics faculty and their research interests:

Aparna Anderson, Ph.D.
(aggregate [ecologic] data methodology and estimating equations, correlation structures for spatially dependent data) (bio)

Bradley Carlin, Ph.D.
(Bayes and empirical Bayes methodology, statistical computing, longitudinal studies) (bio)

John Connett, Ph.D.
(clinical trials in cardiovascular disease, ophthalmology and pulmonary disease, case-control studies) (bio)

Anne Goldman, Ph.D.
(statistical applications in AIDS research, meta-analysis, Bayes and empirical Bayes designs and analyses) (bio)

William Thomas, Ph.D.
(statistical diagnostics, generalized linear models, survival data, variance estimation) (bio)

Lance Waller, Ph.D.
(spatial clustering, environmental and epidemiologic models in data analysis) (bio)

Division of Environmental and Occupational Health

Jack S. Mandel, Ph.D., M.P.H., Head
(612) 626-0900

This division offers academic programs at the master’s and doctoral levels, conducts research in diverse areas of occupational and environmental health, and undertakes continuing education and outreach efforts. The academic programs prepare students to be leaders and practitioners in environmental and occupational health in industry, academia, agencies delivering preventive health services and healthcare, consulting groups, and government and public sector agencies.

The division’s training and research programs emphasize the importance and application of basic scientific knowledge to current societal problems and concerns.

The division hosts the Annual Occupational Health and Safety Institute, an intensive two-week program offering graduate or continuing education credit in an interdisciplinary setting.
Environmental and occupational health faculty and their research interests:

Donald Barber, Ph.D., M.P.H.
  (radiation, safety, and dosimetry) (eh)

Lisa Broseau, Sc.D.
  (industrial hygiene, aerosol exposures, biological aerosols, respiratory protection, occupational exposure limits) (eh)

Timothy Church, Ph.D., M.S.
  (biostatistics with emphasis on cancer research) (eh)

Susan Goodwin Gerberich, Ph.D.
  (injury epidemiology; including occupational and intentional injury) (eh)

Ian Greaves, M.D.
  (lung disorders as they relate to occupational and environmental hazards, agricultural health) (eh)

Rebecca Johnson, Ph.D., M.P.H.
  (occupational and environmental epidemiology, epidemiologic methods, cancer surveillance) (eh)

Patricia McGovern, Ph.D., M.P.H., R.N.
  (evaluation of occupational health policies, programs, and services, occupational health nursing) (eh)

George Maldonado, Ph.D.
  (epidemiologic methods, occupational and environmental epidemiology) (eh)

Jack Mandel, Ph.D., M.P.H.
  (occupational and environmental epidemiology, epidemiologic methods, cancer surveillance) (eh)

Debra Olson, M.P.H., R.N.
  (occupational health nursing, injury prevention and control, agricultural health) (eh)

Gurumurthy Ramachandran, Ph.D.
  (aerosol measurement, exposure assessment, remote sensing) (eh)

Ken Sexton, Sc.D., M.B.A.
  (environmental health policy, exposure analysis, risk assessment) (eh)

Deborah Swackhamer, Ph.D.
  (water chemistry in relation to organochlorine contaminants, pesticides) (eh)

Donald Vesley, Ph.D., M.P.H.
  (environmental microbiology, microbial contamination control, aerobiology decontamination) (eh)

James H. Vincent, Ph.D., D.Sc.
  (industrial hygiene, occupational health, aerosol sciences, applied fluid mechanics) (eh)

Elizabeth V. Wattenberg, Ph.D.
  (toxicology, risk assessment, environmental policy) (eh)

**Division of Epidemiology**

Russell V. Luepker, M.D., M.S., head
(612) 624-1818

In this division, specialists from many scientific disciplines work together toward common goals: develop new knowledge from investigations into the causes and prevention of major diseases and synthesize the evidence on which public policy can be based; develop and test methods of modifying disease risk in individuals and whole populations; apply and evaluate programs to prevent disease and promote health in whole populations; educate students in the theory and applied skills of a population-wide approach to disease prevention and health promotion; and serve the school, the University, and the community in their public health missions. The division houses the academic majors in community health education, epidemiology, and public health nutrition.

The division merges classical epidemiologic observations with laboratory and population-based experiments in disease prevention and health promotion. In an atmosphere of scholarship, research, and scientific criticism, students gain practical experience in research design and implementation and analysis of public health programs. Research in the division is closely tied to graduate training at the master's, doctoral, and postdoctoral levels. The following disciplines are represented in the division faculty: alcohol and drug prevention; cardiology and internal medicine; community health education; epidemiology (aging, cancer, cardiovascular disease, genetic susceptibility, health behavior, infectious disease, and nutrition); health communications; molecular biology; physiology; biochemistry, metabolism, and pathology; psychology; sociology and social work; and veterinary medicine.

**Epidemiology faculty and their research interests:**

Kristin Anderson, Ph.D., M.P.H.
  (laboratory-based cancer epidemiology, pancreatic cancer etiology) (epi)

Donna Arnett, Ph.D., M.S.P.H.
  (cardiovascular disease epidemiology and etiology) (epi)

Judith Brown, Ph.D., M.P.H., R.D.
  (perinatal nutrition and pregnancy outcomes, nutrition and women's health) (pub hllth nutr)

Richard Crow, M.D.
  (psychology, exercise physiology, electrocardiography) (epi)

Patricia Elmer, Ph.D., R.D.
  (nutritional aspects of cardiovascular disease and cancer) (che, epi, pub hllth nutr)

John Finneghan, Ph.D.
  (mass communications in public health) (che, epi)

Aaron Folsom, M.D., M.P.H.
  (cardiovascular epidemiology, preventive medicine) (epi)

Jean Forster, Ph.D., M.P.H.
  (prevention policy, community strategies to reduce chronic disease risk) (che)

Simone French, Ph.D.
  (dieting, eating disorders, obesity) (che, epi, pub hllth nutr)

Myron Gross, Ph.D.
  (biochemistry, nutrition, biomarkers) (epi, pub hllth nutr)

John Himes, Ph.D., M.P.H.
  (child growth and nutrition, anthropometric assessment of nutritional status) (pub hllth nutr, epi, mch)

David Jacobs, Ph.D.
  (biostatistics, cardiovascular epidemiology, low cholesterol and disease) (epi)

Robert Jeffery, Ph.D.
  (behavioral epidemiology with emphasis on obesity and diet) (che, epi, pub hllth nutr)

Rhonda Jones-Webb, Dr.P.H., M.S.P.H.
  (behavioral science, alcohol problems in minority populations, alcohol policy) (epi, che)

U. Beate Krinke, M.P.H., R.D.
  (nutrition, aging, food and nutrition policy development) (pub hllth nutr)

Lawrence Kushi, Sc.D.
  (nutritional epidemiology, dietary assessment, nutritional factors in chronic disease) (che, epi, pub hllth nutr)
The division is home to the majors in health services administration, healthcare administration, maternal and child health, and public health administration. In partnership with the Division of Health Services Research and Policy, the division offers a doctoral degree in health services research, policy and administration.

The Division of Health Management and Policy faculty are committed to education, research, and service in policy and management. Through their teaching and research, this multidisciplinary faculty influences state and national policymaking and improves the access, delivery, and use of healthcare services. They conduct research across a wide range of public health topics, such as factors related to low birth weight, rural health, special care units for Alzheimer's patients, adolescent high-risk behaviors, issues facing families of children with chronic diseases and disabilities, and computerized decision support for patients and planners.

Health management and policy faculty and their research interests:

Mila A. Aroskar, Ed.D., R.N.
(ethics in healthcare) (pha)

Lester E. Block, D.D.S., M.P.H.
(competition, regulation, rationing of health services, health policy) (pha)

Robert Connor, Ph.D., M.H.A.
(finance, insurance, geographic access) (ha)

Bright M. Dornblaser, M.H.A.
(developing innovative healthcare organizations) (ha)

Ann Garwick, Ph.D., R.N.
(mental health, cultural influence on health) (mch)

Leslie A. Grant, Ph.D.
(aging, long-term care service delivery) (ha)

Wendy Hellerstedt, Ph.D., M.P.H.
(perinatal epidemiology) (mch)

George O. Johnson, Ph.D., M.H.A.
(organization and governance of vertically-integrated health systems) (ha)

Theodor J. Litman, Ph.D.
(physician/patient behavior, group practice, long-term care) (ha)

Mary Jane Madden, Ph.D.
(organizational behavior) (hsa)

Marshall McBean, M.D., M.P.H.
(administration, epidemiology) (pha)

Joan Patterson, Ph.D.
(families, chronic illness and disability) (mch)

Sandra J. Potthoff, Ph.D.
(outcome evaluation, decision sciences) (ha)

Michael D. Resnick, Ph.D.
(adolescent health-risk behaviors and resiliency) (ha)

Robert Veninga, Ph.D.
(management communications, organizational behavior) (pha)

Vernon E. Weckwerth, Ph.D.
(statistics, research methods, quantitative methods) (ha)

Marijo Wunderlich, Dr.E.P.H., M.P.H.
(evaluation models, community-based education) (mch)

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Division of Health Management and Policy

Robert Veninga, Ph.D., head

(612) 624-1110

This division educates students to become leaders in the many branches of health services administration and to participate actively in formulating public health policy. It provides a strong advising system and an active field and internship placement service.

Harry Lando, Ph.D.
(smoking intervention and policy) (che, epi)

Alan Lifson, M.D., M.P.H.
(infectious disease, AIDS and HIV, screening high-risk populations) (epi)

Philip Lowry, M.D.
(infectious disease, tuberculosis vaccine development) (epi)

Russell Luepker, M.D., M.S.
(trends in cardiovascular disease risk, effect of interventional cardiology on disease outcomes, community disease prevention) (che, epi, pub hlth nutr)

Leslie Lytle, Ph.D., R.D.
(health behavior, health education, evaluation of eating change programs) (che, epi, pub hlth nutr)

Paul McGovern, Ph.D.
(cardiovascular disease epidemiology, research design) (che, epi)

David Murray, Ph.D.
(evaluation of health promotion programs, design and analysis issues in health promotion research, tobacco and alcohol use in adolescents) (che, epi)

Dianne Neumark-Sztainer, Ph.D., M.P.H., R.D.
(adolescent health/nutrition, obesity, eating disorders, nutrition education program design and evaluation) (che, pub hlth nutr)

Cheryl Perry, Ph.D.
(community-based behavioral interventions with children, adolescents, and families) (che, epi)

Phyllis Pirie, Ph.D.
(behavioral epidemiology, women smokers, survey methods) (che, epi)

James Rothenberger, M.P.H.
(chemical dependency, AIDS, sexually transmitted diseases) (che)

Pam Schreiner, Ph.D.
(cardiovascular disease epidemiology and etiology) (epi)

Thomas Sellers, Ph.D., M.P.H.
(genetic epidemiology, cancer epidemiology) (epi)

Eyal Shahar, M.D., M.P.H.
(cardiovascular disease epidemiology) (epi)

Mary Story, Ph.D., R.D.
(child/adolescent obesity) (mch, pub hlth nutr)

Alexander Wagenaar, Ph.D., M.S.W.
(alcohol and drugs, alcohol policy, impaired driving, injury prevention, community organizing) (che, epi)

Seth Welles, Ph.D., Sc.D.
(infectious disease, pathogenesis of virus-associated malignancies, community-based approaches to STDs) (epi)

Caroline Williams, Ph.D.
(epidemiology and prevention of mental disorders, refugee mental health) (che, epi)

Mark Wolfson, Ph.D.
(alcohol, tobacco, and other drug problems, citizen action, public policy) (che, epi)

Wei Zheng, M.D., Ph.D., M.P.H.
(cancer epidemiology, diet, genetic factors, occupational epidemiology) (epi)
Division of Health Services Research and Policy

John E. Kralewski, Ph.D., M.H.A., head
(612) 624-6151

The division focuses on research and teaching related to health services policy. The multidisciplinary faculty offers three research-based teaching programs: a doctoral program in health services research, policy and administration; a master's of science in health services research and policy; and a postdoctoral program in health services research and policy for clinicians. Division faculty have 40 to 50 research projects underway at any given time and work closely with state and national policymakers to use that research to shape healthcare policy. Faculty research related to health insurance coverage, managed competition, and rural health services played a key role in the development of the Minnesota state health insurance program (Minnesotacare) and proposals for national healthcare reform as well as reform of the Medicare program. The teaching programs are closely linked to this research and policy analysis effort. Students are extensively involved in research projects and work with faculty and policymakers to translate the research into policy initiatives.

There are several centers within the division, including the Health Care Financing Administration Research Center, Rural Health Research Center, and Long-Term Care Resource Center. The division also holds a chair in Long-Term Care and Aging, a Blue Cross Health Insurance Professorship, and the William Wallace Chair.

The division provides the focal point for health services policy research and teaching at the University and, consequently, has links with many other academic units, including the departments of economics and sociology and the Hubert H. Humphrey Institute of Public Affairs. The division also has a close working relationship with other members of the Academic Health Center.

Health services research and policy faculty and their research interests:

John Kralewski, Ph.D., M.H.A.
(medical group practices, managed healthcare) (hsrp&ca, hsrp)

Willard Manning, Ph.D.
(health economics, healthcare demand, preventive health behaviors)
(hsrp&ca, hsrp)

Ira Moscovice, Ph.D.
(operations research, rural health) (hsrp&ca, hsrp)

John Nyman, Ph.D.
(health economics, long-term care) (hsrp&ca, hsrp)

Student Services and Organizations

While the University of Minnesota offers a wide range of student services (listed on page 44 of this bulletin), the School of Public Health offers additional services and organizations specifically for its students.

Student Services Center
Katherine Murphy, M.A., director
(612) 626-3500

Mission—The Student Services Center helps prospective and current students achieve their educational goals by providing information and guidance regarding policies, procedures, requirements, and student life.

Career Center
Joan Pasiuk, M.A., director
(612) 624-6915

Graduate assistantship hotline:
(612) 624-9920 (available August 1 through October 1)

Mission—The Career Center helps students and alumni maximize employment opportunities, enhance career development skills, and develop and maintain professional contacts.

Resource Library—The resource library provides job postings, employer directories, professional and academic journals, and job search materials. These resources are available in D305 Mayo Memorial Building, Monday through Friday, 8:00 a.m. to 4:30 p.m.

Programs—Throughout the year the Career Center sponsors a series of job search workshops. The center also hosts professional panels that address current trends in the job market and skills needed by public health graduates entering a competitive marketplace.

Career Action Day—This networking, recruiting and career information fair is an opportunity to build connections with professional organizations and potential employers from the private, nonprofit, and public sectors.

Individual Advising—School of Public Health students and alumni may schedule appointments for job search coaching.
Student Senate
The Public Health Student Senate represents the professional and graduate student body of the School of Public Health. The organization promotes the interdisciplinary approach to professional and graduate education and the school’s social activities. Membership includes representatives elected from each major. Senate members also participate in the school’s key committees.

Council for Health Interdisciplinary Participation (CHIP)
This interdisciplinary organization for health sciences students promotes the team approach to healthcare delivery through student services and community programs. CHIP offers educational and social activities.

Alumni Society
The School of Public Health has an Alumni Society, affiliated with the University of Minnesota Alumni Association. Membership is open to all students who have completed a minimum of 15 credits of coursework while enrolled in the School of Public Health. Members are entitled to all benefits of the school’s Alumni Society, as well as those of the University’s Alumni Association.

Delta Omega
The national honorary society for graduate studies in public health was founded in 1924 and the local Pi Chapter was organized in 1984. Membership in Delta Omega not only recognizes merit, but also encourages further excellence in and devotion to public health work. Delta Omega membership reflects the dedication of an individual to quality in public health and protection and advancement of the health of all people. Students are nominated and elected yearly based on academic performance.

Minnesota Public Health Association (MPHA)
The association is the only multidisciplinary public health organization in Minnesota. Membership allows students to help influence state and national policymakers, network with public health professionals, and gain knowledge and understanding of the latest research, information, techniques, and activities in various public health areas.

American Public Health Association (APHA)
This organization represents all disciplines and specialties in the public health spectrum. APHA is devoted to protecting and promoting public health and welcomes student members.

Tuition and Fees

The first chart below lists the 1996-97 tuition for the M.P.H. and M.H.A. degrees. The second chart lists tuition for the M.S. and Ph.D. degrees, which are administered by the Graduate School. These fees are subject to change.

The credit plateau is 12-18 credits; there is no charge (except for course fees) for the 13th, 14th, 15th, 16th, 17th, and 18th credits. Each credit above 18 is assessed on a per-credit basis.
Degrees

What degrees can be earned through the School of Public Health?

The chart on page 5 of this bulletin provides a brief overview of what degrees are available in each academic major. Following is a general introduction to each degree.

Master of Public Health— The goal of the M.P.H. program is to educate health professionals for progressive levels of responsibility among the many specific disciplinary areas. In some instances the M.P.H. degree may be combined with another academic major for a dual degree. These options are:

- M.P.H./M.S.W. (master of social work)
- M.P.H./M.B.A. (master of business administration)
- M.P.H./M.S. (master of science, major in nursing)

Master of Healthcare Administration— The goal of the healthcare administration program is to prepare graduates for chief executive and other top-level administrative positions in health services organizations. The M.H.A. may be combined with a master’s in business administration for the M.H.A./M.B.A. dual degree.

What are the minimum requirements for these degrees?

Listed below are the minimum requirements for each degree. Prospective students should check their specific academic area of interest for any additional requirements for that major.

M.P.H. Degree Requirements

To receive the M.P.H. degree from the School of Public Health, students must fulfill the following requirements.

1. Credits— Completion of major requirements with a minimum of 45 credits. Credits transferred from courses taken outside the University of Minnesota must be approved by the major faculty and the dean and shall constitute not more than 18 credits.

2. Coursework— Appropriate coursework as selected by the student with approval by the adviser and in accordance with the requirements of the specific major and the school’s educational objectives.

3. Core Requirements— Students must meet a national standard in the five core areas of public health (administration, behavioral sciences, biostatistics, environmental health, epidemiology). To do this they may choose one or a combination of the following:
   - Pass a preapproved course in each of the five core areas.
   - Pass an equivalency examination in a particular core area.
   - Pass an advanced course in a particular area by obtaining permission from the appropriate division head.
   - Transfer a graduate-level course from an accredited university or college that covers content areas for public health core courses as defined by the Council on Education in Public Health (students must earn a grade of B or better in courses sought for approval and receive approval from the school’s Educational Policy Committee before the course is accepted).

4. Master’s Project— Completion of at least one master’s project, demonstrating familiarity with the tools of research or scholarship in the field, the capacity to work independently, and the ability to present the results of the project effectively. The major faculty specifies the nature and extent of the options available to satisfy this requirement and determines whether the requirement is to be satisfied in conjunction with or independent of the coursework in the student’s program.

5. Comprehensive Examination— Successful completion of a written or oral examination as provided for by the major.

6. Study Plan— Submission of a complete study plan two quarters before anticipated graduation.

7. Grade Point Average— Cumulative GPA of 3.00 for all courses taken A-F required for graduation.

8. Residency— Completion of a minimum of two quarters in residence for a total of at least 16 credits while registered in the school. (Alternative Studies Program students who are granted admission to a degree program may have this requirement waived.)

9. Time Frame— Completion of all degree requirements within seven years from admission to degree candidacy.

10. Internship— Completion of an internship for those first registered fall 1997 or later.

M.H.A. Degree Requirements

To receive the M.H.A. degree from the School of Public Health, students must fulfill the following requirements.

1. Credits— Completion of major requirements with a minimum of 82 credits. (Alternative Studies Program students who are granted admission complete 15 additional quarter credits of full-time study.)

2. Coursework— Appropriate coursework as selected by the student with adviser approval and in accordance with the major. Requirements for the M.H.A. include 57 credits of required coursework and 25 credits of electives.

3. Master’s Project— Completion of at least one master’s project—either an individual research thesis or a group management project—demonstrating familiarity with the tools of research and scholarship in the field and the ability to present the results of the project effectively.

4. Oral Presentation— Formal presentation of the research thesis or group project to students and faculty.

5. Study Plan— Submission of a complete study plan two quarters before anticipated graduation.
6. **Grade Point Average**—Cumulative GPA of 3.00 for all courses taken A-F.

7. **Residency**—Completion of 21 months of study on campus, including a three-month summer administrative residency in a healthcare setting. (Alternative Studies Program students who are admitted must complete a minimum of 9 credits in residence.)

8. **Time Frame**—Completion of all degree requirements within five years of initial enrollment.

**Master of Science and Doctor of Philosophy**

The M.S. and Ph.D. degrees are available in biostatistics (M.S., Ph.D.), environmental health (M.S., Ph.D.), epidemiology (M.S., Ph.D.), health services research and policy (M.S.), and health services research, policy and administration (Ph.D.). Requirements for the M.S. and Ph.D. degrees are determined by the faculty of the respective degree program and areas of specialization, subject to Graduate School credit-hour and residence minimums. M.S. Plan A programs require a minimum of 28 credit hours in addition to a thesis. M.S. Plan B programs require a minimum of 44 credit hours in addition to a project, typically about 120 hours of outside-classroom independent learning. Ph.D. programs are highly individualized, requiring a preliminary written examination, preliminary oral examination, thesis, and oral defense of the thesis in addition to the prescribed coursework.

**Adult Special Status**

Admission as an adult special student or the earning of adult special credits does not imply or guarantee acceptance into a degree program. Admission as a degree candidate must follow normal admission requirements and procedures.

All adult special students, like degree candidates, must plan their program of study in consultation with a faculty adviser. With approval of the major chairperson, a maximum of 22 credits (or two quarters) completed while registered as an adult special student in the School of Public Health may be applied toward the M.P.H. degree, although individual majors may set lower limits. Additional credits can only be transferred by petition approved by the adviser, major chairperson, and dean.

Adult special students who wish to transfer to candidacy for the M.S. or Ph.D. degree may obtain information on current regulations governing transfer of credits by contacting the Graduate School, University of Minnesota, 322 Johnston Hall, 101 Pleasant Street S.E., Minneapolis, MN 55455 (612/625-3014).

**Dual Degree Programs**

**M.P.H./M.B.A.**

The public health administration major offers a dual M.P.H./M.B.A. degree program combining the academic resources of the School of Public Health and the Carlson School of Management. Students who complete the program earn a master’s of public health and a master’s of business administration.

Applicants apply separately for admission to each program. Students begin their first year of study in the School of Public Health, and during their second year take a combination of courses in the **evening accelerated M.B.A. program** and their M.P.H. program. The combined credit load is 101 credits, including double-counted courses.

For more information about the M.P.H./M.B.A., call (612) 625-9480. For more information about the accelerated evening M.B.A. program, call (612) 625-5555.

**M.P.H./M.S.W.**

The School of Public Health’s majors in community health education, maternal and child health, and public health nutrition, in cooperation with the School of Social Work, offer a dual M.P.H./M.S.W. The social work and public health professions have much in common as they address complex social-health problems. They each rely on strategies of prevention, public policy, community planning, needs assessment, research, administration, and evaluation of health and human service programs.

Graduates of the program are prepared to function in a variety of healthcare and public health settings as policymakers, planners, administrators, or educators, depending on their program of study. For more information, contact the School of Public Health Student Services Center at (612) 626-3500 or 1-800-SPH-UofM, and the School of Social Work at (612) 624-5888 or 1-800-SSW-UofM.

**M.P.H./M.S. in Nursing**

The School of Public Health and School of Nursing offer a dual M.P.H./M.S. degree program to qualified nurses interested in public health and public health nursing who want administrative leadership positions in public health agencies and alternative healthcare settings. Within the School of Public Health the following majors offer the dual degree: environmental health, maternal and child health, public health administration, and public health nutrition. Students select a focus area in consultation with faculty from both schools and may complete the degrees on a part- or full-time basis. Curriculum, research, advisement, and clinical placement are integrated in the School of Public Health and School of Nursing programs. All applicants must meet the admission and graduation requirements for both schools. Tuition support and stipends
may be available to qualified students. For more information, contact the School of Public Health Student Services Center at (612) 626-3500 or 1-800-SPH-UofM, and the School of Nursing at (612) 624-9494.

**M.H.A./M.B.A.**

The School of Public Health and Carlson School of Management offer a dual M.H.A./M.B.A. degree program to students already admitted to the healthcare administration major. Students plan an individualized course of study with faculty from both schools and complete the program typically in two to two and one half years depending on the student’s previous educational background. Students are accepted into the dual degree program during spring quarter of their first year or fall quarter of their second year in the School of Public Health. Students must first be admitted to the healthcare administration major before applying for the dual degree. Separate applications must be submitted and acceptance into one of the programs does not guarantee acceptance into the other. For more information, call (612) 624-1110.

**M.D./Ph.D.**

The M.D./Ph.D. program is available to medical students who choose to pursue a Ph.D. in health services research, policy and administration through the School of Public Health. The program reduces doctorate duplication, integrates medical and graduate training, and maximizes research time. It combines six years of coursework and fundamental health services research with clinical training. The training period involves two years of Medical School coursework, including both pre-clinical basic sciences and courses that lay the foundation for research thesis projects and clinical rotation; three to four years of health services research, policy and administration doctorate coursework; relevant research leading to a dissertation; and about 62 weeks of clinical rotation.

For more information, contact Dr. Martin Dworkin, (612) 624-7994, or write the M.D./Ph.D. Program, University of Minnesota Medical School, Box 293 UMHC, 420 Delaware St. S.E., Minneapolis, MN 55455.
Academic Majors: Answers to Your Questions

Frequently Asked Questions

Note: The following questions have been generalized and may not pertain to all majors.

Where can I take the GMAT?
Information about locations and test dates can be obtained by calling (609) 771-7330 or writing to Graduate Management Admission Test Service 15J, 1440 Lower Ferry Road, Trenton, NJ 08618 USA.

What is the School of Public Health’s institution and department code for the GRE?
The institution code is 6874 and the department code is 0616.

What is the School of Public Health’s institution code for the GMAT?
The institution code is 6874 and the department code is 6891.

What is the School of Public Health’s institution code for the TOEFL?
The institution code is 6874.

How long will it take for the School of Public Health to receive my standardized test scores?
Test scores arrive four to eight weeks after the test date, depending on the test taken; computerized test scores arrive in three to four weeks. This should be considered in meeting your application deadline.

Do you require an interview as part of your admissions process?
Some majors require interviews. For details contact the specific major.

What if I don’t meet the minimum requirements or prerequisites?
Questions regarding prerequisites and requirements for admission should be directed to the specific major.

Can I be admitted any time other than fall quarter?
Fall quarter admission is generally a requirement for School of Public Health majors. Any exceptions are at the discretion of the specific major.

How many students are in the School of Public Health?
The school has about 400 students working on their degrees at any given time.
Does it always snow in Minnesota?
Contrary to popular belief, Minnesota isn't trapped in a perpetual tundra. We enjoy the full spectrum of seasons, which includes summer temperatures well into the upper 80s.

Who qualifies for residency?
Those who have resided in Minnesota for at least one calendar year before the first day of class attendance. During that time the primary reason for living in Minnesota must be something other than school attendance. Students holding temporary international visas do not qualify for resident tuition.

Do I have to pay an application fee?
Applicants who have never been admitted to the University of Minnesota must pay an application fee.

Is there a student orientation?
Every fall a few days before classes begin, there is a day-long orientation to the School of Public Health, its facilities, and your specific major.

What will my advising consist of?
You are assigned a faculty adviser who will guide you through your academic program. The Student Services Center or the major coordinators are always available to answer your questions as well.

Do you have an evening or weekend program?
At present you may complete your degree through day school only.

Are courses taught during the summer?
A limited number of public health courses are available during the summer months.

What is the Title IV code for my financial aid application?
The Title IV code is 003969.

Can I transfer courses from another university or college?
Transfer credits must be approved by the faculty of the major and the dean and cannot exceed 18 credits.

Biostatistics
John F. Connett, Ph.D., M.P.H., major chairperson
Anne I. Goldman, Ph.D.,
director of graduate studies
(612) 624-4655
http://www.biostat.umn.edu

What is biostatistics?
Biostatistics combines statistics, computing, and biomedical science to further human health research. The biostatistics major educates practitioners and biostatistical scientists in the application of statistical methods to public health and biomedical science. Biostatisticians design, direct, and analyze clinical trials; plan and carry out health surveys; develop new statistical methods; and analyze data from observational studies, laboratory experiments, follow-up studies, and surveys.

Who should apply?
Biostatistics is an ideal field for students with an excellent mathematical background and ability. You should consider biostatistics if you earned good grades in calculus and other math classes, enjoy working with computers and numbers, value objectivity and scientific methods, are a good communicator, work well with others, and are interested in health-related research.

What does the job market look like?
Job prospects for biostatistics graduates are excellent. Typical starting salaries for graduates with master's degrees currently range from $35,000 to $45,000, and from $45,000 to $60,000 for graduates with doctoral degrees. Career opportunities include conducting research in government or large medical clinics, conducting drug development research in pharmaceutical companies, teaching and conducting research in health sciences at universities, and conducting research at state and federal health agencies. The American Statistical Association's Amstat News is an excellent resource for information on current job openings in the field.

Why Minnesota?
The biostatistics major has an international reputation for excellence in methodological and applied research and training. The University's program also has
• excellent, state-of-the-art computing facilities,
• proximity to a large academic health center,
• small classes and individual faculty attention,
• good record in job placement,
• teaching and research assistantships, and
• opportunities for work experience in clinical trials.

Another reason to choose the University is its strong research program. Biostatistics faculty actively contribute to applied research in projects such as
• community-based clinical trials in AIDS,
• prevention of coronary heart disease,
• prevention of chronic obstructive pulmonary disease in smokers,
• pathogenesis and treatment of otitis media (ear infection) in children,
• prevention of colon cancer,
• treatment of mild hypertension, and
• effects of risk factor intervention on death rate from coronary heart disease.

Research Activities
Faculty methodologic research interests cover a broad spectrum, with emphasis on Bayes monitoring of clinical
trials, other Bayes and empirical Bayes methods, analysis of spatial data, methods for case-control studies, principal components curve decomposition, random effects models, modeling disease natural history, analysis of longitudinal data, database systems, quality control, errors-in-variables, smoothing, meta-analysis, clinical trials, analysis of highly stratified data, and models for univariate and multivariate event-time data. Most research stems from application issues. The division’s applied research unit, the Coordinating Centers for Biometric Research, conducts government- and industry-sponsored clinical trials and other research studies. The division’s Biostatistics Consulting Laboratory serves as a health sciences resource for designing and analyzing studies. Both facilities provide excellent on-the-job learning experiences through graduate research assistantships.

The Degree Programs

The biostatistics major offers M.P.H., M.S., and Ph.D. degrees.

For the master’s degrees, the following courses are required: biostatistical inference, theory of statistics, clinical trials, statistical computing, analysis of categorical data, survival analysis, statistics, biostatistics, and health sciences electives. The M.P.H. involves additional coursework in core areas of public health (administration, behavioral sciences, environmental health, epidemiology) and an internship. The master’s degree usually requires two years of full-time study and includes a project in which students must demonstrate familiarity with research tools, the ability to work independently, and the ability to present effectively the results of their investigation.

The doctoral degree is open to students who have completed requirements for the M.S., shown proficiency in statistics and computing, and have adequate background in mathematics and health sciences. The Ph.D. usually requires one or two years of coursework beyond the M.S. plus the dissertation. Additional course topics for the Ph.D. include general linear models, analysis of longitudinal data, sequential analysis, advanced survival analysis, bioassay and screening, Bayes and empirical Bayes methods, spatial biostatistics, and modern nonparametric methods.

Admission

All application files must be complete no later than March 1 to be considered for financial aid. Applications received after March 1 but before July 15 will be considered on a space-available basis. (Applicants should submit materials by December 31 to allow sufficient time for processing.)

The Admissions Committee assesses an applicant’s knowledge of the field, quantitative and problem-solving skills, and adequacy of skills required to begin the formal course of study. Students with diverse educational experiences are accepted into the program although some applicants are denied admission because of insufficient math training. Students may be conditionally admitted but must complete deficient prerequisites by the end of the first year of study. Courses taken to fulfill prerequisites will not be counted as part of the graduate program.

Admission preference will be given to those who have demonstrated background and interest in health sciences and public health.

The following prerequisites and requirements are in addition to the minimum admission requirements on page 30.

Prerequisites (M.P.H. and M.S.)

1. Mathematics through multivariable calculus (four quarters or three semesters) and linear algebra (one quarter or semester).
2. At least one (quarter or semester) course in applied statistics.
3. At least one (quarter or semester) course in computer programming using a standard procedural language such as FORTRAN or C.
4. Overall GPA of 3.10 or above on a 4-point scale (3.40 or above for quantitative courses).
5. GRE with minimum scores of 450 for the verbal area and 550 for both the quantitative and analytic areas. The GMAT is not accepted as a substitute test.
6. If your native language is not English, the Test of English as a Foreign Language (TOEFL) is required. A score of 600 or better on the TOEFL may replace the minimum GRE verbal requirement.

Admission to the Ph.D. Program

Direct admission to the Ph.D. program is rare but possible with fulfillment of all M.S. requirements listed above plus

1. an M.S. in statistics or biostatistics.
2. coursework in real analysis, mathematical statistics, and inference equivalent to PubH 5464, 5465, 5466.
3. a GPA of 3.70 or above in mathematics/statistics coursework.
4. the GRE with minimum scores of 550 for the verbal area and 650 for both the quantitative and analytic areas.

Financial Aid

Graduate assistantships, traineeships, and fellowships are available. Research assistants work on NIH-sponsored projects in the Coordinating Centers for Biometric Research and the Biostatistics Consulting Laboratory. Decisions on research/teaching assistantships are made in early March. Applicants to the M.S. or Ph.D. programs with strong academic records whose applications are complete by January 1 may be awarded a Graduate School fellowship that provides tuition plus a stipend for one academic year.

The biostatistics major is housed in the Division of Biostatistics. See page 6 for a list of faculty.
Community Health Education

Jean Forster, Ph.D., M.P.H., major chairperson

For more information, contact the major coordinators at (612) 626-8802/8803.

What is community health education?

Community health education promotes the adoption of healthy behaviors leading to improved health in individuals, families, groups, communities, and whole populations. Public health practitioners accomplish this through public and institutional policy, media advocacy and mass media, community organizing, individual and family counseling, support groups and classes, and interventions designed for schoolchildren or employees. Master's degree-level community health educators develop, administer, and evaluate community and organizational programs to support changes in high-risk behaviors such as tobacco, alcohol, and drug use and poor eating habits; work with policymakers and community leaders to change health-compromising policies and practices; and coordinate the work of public and private agencies and health care organizations to produce maximum benefit to the community.

Who should apply?

Consider majoring in community health education if you are interested in the contribution of social factors to health; working with disadvantaged populations; developing and evaluating innovative community-based programs to help prevent disease and injury; working with communities, organizations, and policymakers to reduce health risks; helping people change high-risk behaviors, including tobacco, alcohol, and drug use and poor eating habits; influencing public opinion and policy on health issues through media campaigns and legislative initiatives; and using social change strategies to help communities define and work toward healthy living and working environments.

Applicants are admitted to the community health education major from a wide variety of academic backgrounds, including basic sciences, social and behavioral sciences, and the humanities. There is no single appropriate undergraduate major that prepares students for community health education, but prerequisites should be met by the time of admission. Strong preference is given to applicants who have some volunteer or work experience in public health, social service, or community settings.

What does the job market look like?

Community health educators with a master's degree have had great success finding positions in a variety of settings, including all levels and branches of government, health departments, voluntary agencies, medical care organizations, workplaces, and schools. Their responsibilities might include working with patients or clients in a service or healthcare setting; helping community groups define problems, set priorities, and strategize about how to influence local conditions; designing, administering, and evaluating a workplace behavior change program; administering state health department programs located in communities; helping community groups write grant proposals to fund local health improvement efforts; and lobbying members of state legislatures, Congress, and regulatory agencies regarding health issues.

Why Minnesota?

The community health education major's outstanding features include

• a nationally and internationally recognized faculty who have developed and tested innovative strategies in many areas of health education and social and behavioral health. These include public health policy, strategies for promoting community-wide change, workplace health promotion, school-based programs that feature peer leadership and integration of school and community strategies, and individual change strategies based in community institutions;

• an emphasis on developing strong evaluation skills;

• well-developed connections with the large and diverse public health practice community in the Twin Cities and statewide, which provides students with many opportunities for community-based projects; and

• excellent support services for student research and training activities.

Research Activities

Research activities focus on behavioral epidemiology and community health education, with faculty involved in assessing population behavior patterns and psychosocial risk factors; designing community-wide intervention programs for heart disease, cancer, AIDS, and alcohol and drug abuse prevention; influencing health policies; and evaluating outcomes of behavior change efforts in schools, worksites, and physicians' offices at the community or population level.

The Degree Program

This major educates health professionals to fulfill expanding and diverse roles in community health education. This two-year, 68-credit program focuses on behavioral and social theories, community and individual intervention strategies, communication methods, public policy, and evaluation skills. Coursework in the following areas is required: social and behavioral theory and foundations of health education practice (9 credits), intervention strategies and risk areas (18 credits), evaluation methods (13 credits, including biostatistics, program evaluation, research methods), public health core courses (9 credits in administration, biostatistics, environmental health), and elective courses (15 credits). Students choose elective courses related to community health education and their
area of interest from University-wide offerings. All community health education students must complete a fieldwork experience, which is carried out in conjunction with a public health agency or community-based organization outside the School of Public Health. Students can choose to complete a master’s project that can take the form of a needs assessment, program development, or program evaluation for a community-based organization. Students can also choose to complete an internship or a course with significant field experience and then complete a research or data analysis master’s project based on that experience. The choice is determined by students and their adviser, depending on interest, skills, experience, and goals. An oral defense of the master’s project is required.

The M.P.H. in community health education is also an appropriate degree for students planning to proceed to a Ph.D. degree in social and behavioral epidemiology, which is available at the University of Minnesota for students who wish to pursue advanced study and research careers.

Admission

The application deadline is February 28 for fall quarter of the same year (no winter, spring, or summer admissions).

The following prerequisites are in addition to the minimum admission requirements on page 30.
1. At least one course in quantitative methods (e.g., statistics); a minimum of three courses in social and behavioral sciences (e.g., psychology, sociology, anthropology). Two to three courses in health, biology, or other sciences are suggested.
2. The GRE except for those with an M.D., D.D.S., D.V.M., or Ph.D. from a U.S. or Canadian university (all international applicants must take the GRE).
3. A minimum of one year of salaried or significant volunteer work in public health, social service, or community settings.
4. A TOEFL score greater than 600 (international students only). The test must have been taken no earlier than two years before the requested admission date.
5. Admission interviews are not required.

The community health education major is housed in the Division of Epidemiology. See page 7 for a list of faculty.

Financial Aid

Students are eligible to apply for research and teaching assistantships in the School of Public Health or elsewhere on campus. Benefits for these positions include an hourly salary, medical coverage, and prorated tuition remission.

Environmental Health

Donald Vesley, Ph.D., M.P.H. major chairperson
Deborah Swackhamer, Ph.D.,
director of graduate studies
(612) 626-0900

What is environmental health?

Environmental health is concerned with the interface between people and their environments; work, home, and the outdoors. Understanding how exposures to external hazards create a toxic dose, how that dose may elicit biological responses, and how those responses may progress to disease are the areas uniquely addressed by environmental health professionals. The various disciplines of environmental and occupational health include
• industrial hygiene, environmental chemistry, microbiology, radiation measurements, environmental and industrial engineering—understanding and measuring exposures
• toxicology, medicine, nursing, occupational and environmental epidemiology—biologic response, disease and injury
• environmental and occupational health policy

All disciplines contribute to a collective understanding of environmental and occupational health that can be translated into sound public policies.

Who should apply?

Environmental health is a rapidly growing field with diverse career paths for qualified graduates. There is no specific undergraduate major required. Our applicants’ backgrounds typically include courses in the biological sciences, chemistry, math, physics, engineering, nursing, or medicine. The major provides an academic environment in which students can study, understand, and experience environmental and occupational health problems in an open, systematic, and scientific manner. New ideas and concepts are stimulated through applied and basic research that fosters the kind of understanding and inquiry that are prerequisites for responsible leadership. Our goal is to enhance the desire and ability to understand ideas and formulate value judgments rather than simply accept prescriptions.

What does the job market look like?

Because of increased public concern for the environment and the welfare of workers, well-trained environmental and occupational health scientists and professionals are in demand nationally and internationally. Many excellent careers in this field are available in academic institutions, government agencies, industry, labor organizations, consulting firms, and healthcare institutions.

Career opportunities may include conducting basic and applied research to solve problems of environmental and occupational concern; testing and approval of new chemicals introduced into the environment or the workplace; developing and enforcing policies and regulations that will govern the use
of environmental agents; project management; and teaching. Job titles held by recent graduates include industrial hygienist, occupational safety and health specialist, hazardous waste coordinator, environmental chemist, environmental toxicologist, safety policy specialist, quality assurance specialist, environmental/occupational epidemiologist, occupational health nurse, occupational health manager, quality assessment specialist, labor relations staff specialist, and risk manager.

Why Minnesota? The Division of Environmental and Occupational Health provides excellence in educating environmental and occupational health professionals, conducting research, and serving the people and state of Minnesota.

The environmental health faculty have diverse research interests. Extensive interactions occur among basic and applied scientists within the major and with collaborators inside and outside the University. Because collaborative research is necessary in the multidisciplinary specialty areas of environmental and occupational health, the faculty conduct research and training efforts with the Medical School; Institute of Technology; College of Agricultural, Food, and Environmental Sciences; College of Biological Sciences; College of Veterinary Medicine; and other divisions within the School of Public Health.

Students are encouraged to participate in research activities. They may work as graduate assistants on faculty research projects. Plan B projects and master’s theses are often products of student research efforts in consultation or collaboration with faculty.

Research Activities

Current research programs include industrial hygiene, environmental chemistry, injury epidemiology and control, environmental toxicology, occupational health nursing, occupational medicine, environmental and occupational epidemiology, and biological aspects of environmental health. Major research projects involve the behavior and measurement of airborne particles; toxicity mechanisms of environmental contaminants; health effects of carcinogens; identification and movement of substances, especially by water, through the environment; agricultural health and safety, with reference to injuries and chemical hazards; occupational injuries; respiratory problems in the automobile industry and in agricultural settings; and microbial contamination control.

Degree Programs

The environmental health major offers the M.P.H., M.S., and Ph.D. degrees. Applicants may apply to the following specific tracks within this major: industrial hygiene, environmental chemistry, occupational and environmental epidemiology, toxicology, environmental and occupational health policy, occupational and environmental medicine, occupational health nursing, occupational injury epidemiology and control, and environmental microbiology.

The two master’s programs are complementary. The M.P.H. program provides a breadth of information and experience in various disciplines that recognize and prevent human disease and injury and control environmental hazards. Though a minimum of 45 credits is required for graduation, most students complete substantially more coursework. M.P.H. students must complete basic required courses in environmental health as well as courses in the additional four core areas. A supervised practicum and Plan B project are required.

The M.S. program prepares students for specialized careers in environmental and occupational health. M.S. students receive a solid technical background in their disciplines and by graduation are proficient in applied or basic research. A minimum of 44 credits is required for graduation but most students earn considerably more. Most specialty tracks require a two-year program. M.S. students have the option of completing a Plan A with a thesis or a Plan B project.

The Ph.D. program focuses on research, supplemented with advanced coursework and developed under the guidance of a faculty adviser and a Ph.D. committee. The program involves substantial, independent effort by the candidate. Preparation and defense of a formal thesis is required. Prospective doctoral students must fulfill the requirements (or their equivalent) of an M.S. or M.P.H. program in environmental health before admission to the Ph.D. program or take additional courses to attain a comparable level of knowledge in the field.

Students usually require a minimum of two to three years beyond the master’s degree to complete a doctorate. Doctoral students are expected to develop greater knowledge in their chosen discipline and contribute to peer-reviewed literature in their field.

Admission

The application deadline is April 15.

The following requirements are in addition to the minimum admission requirements on page 30.

Master’s Degree

1. Previous coursework in biological, chemical, or physical sciences or engineering (prerequisites depend on requirements of the chosen specialty area).
2. Compatibility of the applicant’s objectives with those of the major, as stated in a letter of intent.
3. Availability of an adviser in the chosen specialty area.
4. TOEFL score (international students only) above 600. (If the score is between 575 and 600, the student may be encouraged to complete the Minnesota Battery of English Language Proficiency Tests.)
5. For occupational health nursing applicants only, a baccalaureate degree in nursing from an accredited school of nursing is required.
Academic Majors

Doctoral Degree

In addition to all of the above requirements, Ph.D. applicants must have completed the equivalent of a master's degree in environmental health at an accredited institution and provide a statement of interest outlining expectations regarding academic, research, and career goals. Applicants are strongly advised to contact the director of graduate studies and other faculty to discuss research plans and career goals before submitting an application.

Financial Aid

Research assistantships are available as faculty research proposals are funded. Assistantships vary from 25 percent to 75 percent time and provide benefits such as tuition waivers, resident tuition rates, and eligibility for low-cost health insurance. Available positions are posted in the Career Center and on the major's bulletin board. The environmental health major also awards traineeships for specific programs of study that provide stipends and cover tuition and fees. Awards are determined by program directors and award amounts vary yearly depending on funding received and number of awards made. Other sources of financial assistance include the Bond Scholarship, Wright Scholarship, Graduate School Tuition Fellowship, and Graduate School Block Grants.

The environmental health major is housed in the Division of Environmental and Occupation Health. See page 6 for a list of faculty.

Epidemiology

Thomas Sellers, Ph.D., M.P.H. major chairperson
John R. Finnegan, Jr., Ph.D., director of graduate studies

For more information, contact the major coordinators at (612) 626-8802/8803.

What is epidemiology?

Epidemiology is the study of the distribution of diseases in populations, including investigations of disease causes and correlates. Epidemiologic investigations range from the specific (e.g., locating the cause of local outbreaks of infectious disease or disease caused by acute exposures) to the general (e.g., determining causes of worldwide patterns of disease occurrence). At the University, epidemiology also includes the study of disease prevention programs and policies.

To do their work, epidemiologists need skills to understand and analyze public health problems; design, implement, and analyze studies; and interpret study results in policy-relevant ways. Modern epidemiology relies heavily on quantitative methods. Students interested in epidemiology should be comfortable using statistical modeling and testing to address problems in human health and disease. Epidemiologists usually work in collaboration with multidisciplinary teams of other professionals, such as physicians, pathologists, exercise physiologists, nutritionists, statisticians, behavioral scientists, and laboratory scientists.

Who should apply?

Epidemiology attracts people from a variety of backgrounds. No one undergraduate or professional degree provides better preparation than another. Applicants are admitted to the major with backgrounds in biology, mathematics, microbiology, genetics, medicine, dentistry, veterinary medicine, and law. Strong preference is given to applicants with excellent quantitative and analytic abilities and a solid foundation in a life science. Relevant experience in a public health setting is preferred.

What does the job market look like?

Epidemiologists often work for state health departments or healthcare organizations on infectious disease control, chronic disease, or health outcomes. They conduct studies on quality of life, morbidity or mortality, health status, and recovery rate after surgery. They work with health plans on education and training programs in disease prevention. Epidemiologists perform quasi-experimental studies on communities with the goal of improving the health of those communities. Recent graduates with master's degrees have found employment with local, state, and federal health agencies, health insurers, university research programs, and HMOs and other healthcare organizations with research programs.

Why Minnesota?

The epidemiology major’s exceptional faculty includes national leaders in many areas of research, including epidemiology and prevention of cardiovascular disease, cancer, and infectious diseases; genetic epidemiology; and behavioral interventions for improving public health. The major has a unique emphasis that incorporates the study of disease prevention with classical epidemiologic studies of disease etiology, and a strong base of funded research that provides students with many opportunities for research support and material for research projects. There are also excellent support services for student research and training activities.

Research Activities

The faculty develops and implements innovative methods for a variety of research interests, including population-based surveillance of cardiovascular disease and cancer trends; cross-sectional and cohort studies of risk factors and behavior related to cardiovascular disease, cancer, diabetes, AIDS, and other diseases among youth and adults; clinical and community trials in treating and preventing hypertension, coronary heart disease, and cancer; community-based health promotion and program evaluation; case control studies of cancer etiology; the role of genetic factors and their interaction with the environment in the pathogenesis of chronic and infectious diseases;
laboratory studies in blood lipid chemistry; and biologic markers for diet and alcohol consumption.

Degree Programs

Master's degrees in epidemiology are offered through the School of Public Health (M.P.H.) and the Graduate School (M.S.). Applicants, including those planning to pursue a doctoral-level degree, are encouraged to select the M.P.H. degree. Curriculum and requirements for the M.P.H. and M.S. are identical.

An accelerated one-year program at the master's level is offered for students who have completed a M.D., D.D.S., D.V.M., or Ph.D. work in a related field; these students complete a 45-credit curriculum that includes 42 to 43 credits of required coursework plus 2 to 3 credits of electives. Students with other backgrounds complete a 68-credit curriculum that includes 53 to 54 credits of required coursework plus 14 to 15 credits of electives.

There are many epidemiology and other health-related graduate-level courses available as electives. Elective selection offers students the opportunity to develop a specialty emphasis in either a specific disease or problem area or a methodological area. Elective courses are chosen in consultation with an adviser.

All master's students must complete an internship. Epidemiology students fulfill this requirement by completing a master's project. This project may take one of three forms: a written product that demonstrates the student's ability to do quantitative analyses using data collected by the student or obtained from another source; a written literature review of publishable quality that demonstrates the student's ability to critically review literature and synthesize published findings on a medical or public health topic; or an NIH-type grant application. Epidemiology students receive a directory of potential topics/data sets for their master's project; the directory includes potential projects with faculty within the Division of Epidemiology, other University units, the Minnesota Department of Health, and other outside medical and healthcare organizations. A comprehensive oral examination is required.

The major prepares students for careers that use epidemiologic methods in health agencies, medical institutions, universities, research institutes, regulatory agencies, and industry.

The epidemiology Ph.D. program is for students interested in research and teaching careers in the health sciences. It includes a 97-credit core curriculum. In addition to required coursework, students must pass written and oral preliminary examinations, write and defend a dissertation, and prepare a manuscript for publication as senior author.

The program emphasizes etiology and prevention of cardiovascular disease; cancer; alcohol, tobacco, and other substance abuse; and infectious diseases. In addition, students may select one of two field concentrations, including behavioral or biologic aspects of disease etiology and prevention.

The behavioral concentration emphasizes that human behavior patterns are important contributing causes of disease, disability, and death. To understand modern epidemiology and development methods, it is important to understand the origins and development of human behavior patterns and how they are influenced and formed by cultures, societies, families, and personality.

The etiologic concentration emphasizes the biologic influences and determinants of disease incidence and prevalence that preface the development of effective prevention methods, especially regarding cardiovascular disease, cancer, and infectious diseases.

Both concentrations use an empirical perspective and emphasize study design, measurement, analysis, and interpretation.

Admission

The application deadline is January 15 for the Ph.D. program and February 29 for the master's degree, for fall quarter of the same year (no winter, spring, or summer admissions).

The following prerequisites and requirements are in addition to the minimum admission requirements on page 30.

1. Master’s degree applicants should have a solid foundation in a life science (e.g., biology, physiology, microbiology, medicine). Ph.D. program applicants should have prior coursework in a life or behavioral science.

2. Quantitative aptitude is essential for both master’s and Ph.D. applicants. This can be demonstrated by achieving at least a 70th percentile ranking on the quantitative and analytical sections of the GRE and satisfactory grades in college-level quantitative courses such as algebra, statistics, calculus, or trigonometry.

3. Ph.D. applicants should have completed, or be close to completing, a master’s or other advanced degree in a related field.

4. GRE scores (except for those with M.D., D.D.S., D.V.M., or Ph.D. degrees from a U.S. or Canadian university). All international applicants must take the GRE (except M.D.s who have passed the Educational Commission for Foreign Medical Graduates [ECFMG] examination).

5. A TOEFL score (international applicants only) of higher than 600. The test must have been taken no earlier than two years before the requested admission date. The TOEFL is required for every applicant whose previous degree(s) were obtained from a non–English-speaking country and whose native language is not English (except for M.D.s who have passed the English section of the ECFMG examination).

6. Ph.D. program applicants must submit a letter of intent and a separate, written essay describing the proposed research area or topic (500-750 words).

The epidemiology major is housed in the Division of Epidemiology. See page 7 for a list of faculty.
Health Services Administration
Vernon Wedwerth, Ph.D., major chairperson
(612) 624-1110

What is health services administration?
Health services administration integrates business and healthcare disciplines. This distance-learning major enrolls administrators from health service delivery organizations around the world. The program offers practical training and a rich collegial environment in a nontraditional format (self-study and summer workshops). With its public health underpinnings, the program teaches from a population perspective and global orientation that enlarge the concepts of administration.

Who should apply?
The program attracts the altruistic, the entrepreneurial, and the professionally ambitious. The format of the major allows employed executives to earn while they learn, continuing their position while acquiring expertise and credentials.

Only administrators who have been admitted to the Alternative Studies Program are eligible to apply. Admission to health services administration during the first year of study in the Alternative Studies Program is based on appropriate credentials. After the second year of study, performance in alternative studies is also considered in the application process. This major is available to those who are working on an Alternative Studies credential. For information on the Alternative Studies Program, call (612) 624-1411.

What does the job market look like?
Many graduates use their health services administration education to enrich their current position, incorporating new competencies, proven applications, and an expansive professional network. Many also choose to move to positions of greater responsibility in hospitals, HMOs, and public agencies. Demands for healthcare reform in this country and expansion of services in many countries will continue to create opportunities for accomplished healthcare administrators.

Why Minnesota?
Minnesota, renowned for innovations in healthcare delivery and management, is a stimulating milieu for the advancement of health services administration. The curriculum draws on the collective wisdom of students, faculty, and the local community to create an ideal learning environment.

Research Activities
Each student has an assigned adviser who is involved in one or more areas related to the organization, management, and delivery of healthcare, including healthcare regulation and competition; alternative practice delivery systems; healthcare financing; developing innovation in healthcare organizations; organizational leadership and performance; managing change in organizations; developing multi-institutional delivery systems; physicians and patient behavior; and the organizing, financing, and delivery of healthcare services to the elderly, children, and adolescents.

Degree Program
This major is available to healthcare administrators who have been accepted into one of the three Alternative Studies Programs: ambulatory care, hospital and healthcare, or patient care administration. These distance-learning programs are an alternative to on-campus attendance. They strengthen and update the knowledge, skills, and attitudes of healthcare professionals.

Admissions
The following prerequisites and requirements are in addition to the minimum admission requirements on page 30.
1. Cumulative Alternative Studies Program GPA of 3.00 or higher in Courses I and II
2. On-campus interview
3. One original academic record form combining all coursework from each institution attended.

The health services administration major is housed in the division of Health Management and Policy. See page 8 for a list of faculty.

Health Services Research and Policy
Bryan Dowd, Ph.D., director of graduate studies, health services research and policy
Willard Manning, Ph.D., director of graduate studies, health services research, policy and administration
(612) 624-9432

What is health services research?
Health services research focuses on organizing and delivering cost-effective health services. It deals with policy issues related to costs, access, and quality of health services and equitable distribution of health resources.

Who should apply?
Health services research is an ideal field for persons interested in affecting public policy related to healthcare systems. Students come from a variety of educational backgrounds, including economics, political science, public affairs, and sociology. Strong quantitative skills are essential and a health services background is helpful. Our purpose is to train academics and researchers who can contribute to health services research at state and federal levels.
What does the job market look like?

The demand for individuals with a strong background in health services research is particularly great at this time, especially from academic institutions, government, and nonprofit centers. Additionally, with the restructuring of the nation's healthcare system, the demand for highly qualified researchers has broadened to a wide range of private sector opportunities. No matter what federal legislation prevails over the next few years, it is likely that the need for health services research will continue, if not increase. Recent graduates have taken a variety of key positions in academic settings and public sector agencies, including teaching and research positions at Yale University, Harvard University, Tulane University, University of Washington, College of St. Catherine, University of Iowa, and University of Puerto Rico. In the public sector, graduates are working in policy and research in state health departments, a rural health research center, the Indian Health Service, the Centers for Disease Control, and foundations focusing on health issues.

Why Minnesota?

The School of Public Health offers an exceptional menu of opportunities for those interested in health services research and policy. The faculty have extensive research programs and work closely with policymakers at the state and national levels to link their research to practice. Students become involved in these research projects as soon as they enter their educational programs and work with the faculty in the policy arenas. An important part of the Minnesota tradition is that teaching programs are based on a mentoring philosophy. Consequently, students work closely with faculty and form close collegial relationships that enhance learning.

Opportunities to interact with those who have shaped the managed competition policies in Minnesota is a fundamental part of this learning experience and a major attraction of the program. Minnesota is widely known for its innovative health policies and healthcare delivery systems. The concept of hospital systems was initiated in Minnesota, medical group practices have been the main mode of physicians’ practice since the early 1960s, HMOs were pioneered in Minnesota, and Integrated Service Networks are now being developed as the second generation of managed care. Students not only study under the direction of an internationally acclaimed faculty but also have the opportunity to interact with those shaping future healthcare systems.

Research Opportunities

Faculty research interests include areas such as analyzing HMO trends and public policy issues; analyzing data on health insurance purchasing cooperatives and competitive pricing for Medicare; effects of managed competition on the structure of physician practices; outcomes of hospital care; development of second-generation social health maintenance organizations; patterns and quality of care for vulnerable populations; performance and effectiveness of alternative health systems; gender bias and racial discrimination in healthcare; impact of insurance reform on rural providers and consumers; diffusion of technology and its impact on rural providers; developing integrated health delivery systems; organizational influence on the quality of hospital care; and psychoactive drug use by nursing home elderly. Faculty publish in all relevant, health services research, peer-reviewed journals.

Degree Programs

The major offers an M.S. in health services research and policy and a Ph.D. in health services research, policy, and administration. Both programs are administered through the Graduate School and are full-time only.

Master’s Degree

This program prepares health services researchers and health policy analysts to carry out sophisticated empirical studies, formulate policy options, work effectively in the political arena to shape and implement policies, and evaluate policies once implemented. The M.S. can serve as a terminal degree for a wide variety of health services research and policy roles or it can serve as a first step toward the Ph.D. Two options are available. Plan A is available primarily for students with a professional degree in medicine, dentistry, nursing, or pharmacy. Students electing Plan A have fewer formal coursework requirements than Plan B students, but are required to write a thesis. Plan B is for students with a non-health professional background. Students electing Plan B take additional coursework, including a summer internship, and write a research proposal. Both options are full-time, two-year programs.

In the first year of the program, students learn basic, theoretical, statistical skills as well as the main social and health service analytic paradigms most frequently used in health services research: economics, sociology, and epidemiology. They also receive a historical introduction to healthcare and health services research and take courses in measurement and surveys and sampling.

In the second year, students use their quantitative and disciplinary skills on applied policy problems in policy analysis coursework and advanced analytic problems in the health services research methods sequence. Courses in evaluation research, health services policy, and cost benefit analysis complete the required curriculum. Students can choose electives from other divisions in the school or other University departments.

Ph.D. Degree

The doctoral program is offered jointly by the Division of Health Services Research and Policy and the Division of Health Management and Policy. The program is primarily
Academic Majors

1. Undergraduate calculus, statistics, and intermediate minimum admission requirements on page 30.

2. A minimum of 1800 on the GRE.

3. Admission acceptance is valid only for the year of acceptance.

Financial Aid

Graduate School fellowships, training grants, research assistantships, and tuition fellowships are available.

The health services research and policy major and the health services, research policy and administration major are housed in the Division of Health Services Research and Policy. See page 9 for a list of faculty.

Healthcare Administration

George O. Johnson, Ph.D., major chairperson
(612) 624-1110

What is healthcare administration?

Healthcare administration is an interdisciplinary field that combines studies in social sciences, management theory, and public health to prepare students for management careers in healthcare organizations. M.H.A. graduates promote the public’s health by organizing, managing, and leading organizations that effectively deliver health services. Students, alumni, and faculty believe health services are fundamentally important to individuals and our society and contribute to our nation’s productivity and quality of life.

Who should apply?

Students who wish to play a key role in creating an environment in which high-quality health services can be delivered to the community; manage the resources and finances of an organization to ensure that a community’s healthcare needs are being addressed; use leadership and managerial skills in a challenging and complex environment; and help redesign healthcare delivery systems on a regional, national, and international level.

What does the job market look like?

The placement rate for students who have earned the M.H.A. remains strong and graduates find employment in all facets of health services management, including hospitals, integrated healthcare systems, managed care organizations, physician groups, and consulting and social services organizations. Students benefit from the extensive involvement of alumni as they pursue their initial job search.

Why Minnesota?

Throughout its history, the major in healthcare administration has been ranked among the best in the country. Graduates are noted for their vision, achievements in both public and private sectors, and outstanding record of leadership in managing health services. Our students continue to be in high demand and are prepared to move into the many new administrative roles in health services delivery.

Admission

Applications must be received by March 1. Applications for Graduate School fellowships (including all application materials) are due by December 31.

The following prerequisites are in addition to the minimum admission requirements on page 30.

Prerequisites for both the M.S. and Ph.D. programs include

1. Undergraduate calculus, statistics, and intermediate microeconomics. Students who do not have these prerequisites but are otherwise qualified for admission will be advised to take relevant summer session courses either at the University or another accredited institution before beginning the program.
Our outstanding alumni represent more than 1,600 practicing administrators and the Healthcare Administration Alumni Association/Foundation is the largest, most active group of its kind in the country. Graduates help maintain the Minnesota tradition of excellence by serving as mentors and preceptors, speaking with students on current issues in the field, interviewing applicants, and helping students launch their careers. With the help of faculty and staff, students tap into the extensive alumni network to find residency and fellowship sites that will meet their educational and professional needs.

Our healthcare administration students also benefit from the nationally recognized and innovative health services organizations in the Twin Cities. It is here that health maintenance organizations were pioneered and medical technology has made some of its greatest advances. Students are able to study with innovative healthcare leaders and observe the organizations that compose one of the nation's most dynamic healthcare environments.

In 1996, the Accrediting Commission on Education in Health Services Administration awarded full accreditation to the healthcare administration major for a seven-year period, the longest term the commission grants.

Research Activities
Faculty conduct research related to the organization and delivery of healthcare, approaching the issues from a broad range of disciplines, including management, economics, ethics, and finance.

Degree Program
This curriculum combines intense study of management theory with field work experiences to prepare students to effectively meet current and future healthcare management challenges. In response to ongoing changes in the field, we have developed a faculty with expertise in hospital, managed-care, long-term care, and vertically integrated healthcare systems.

Admission to the healthcare administration major, through day school or the Alternative Studies Program, is highly selective. While academic ability is a principal criterion, major consideration is given to a person's experience and aptitude. The program bases admission on an applicant's potential management capabilities as demonstrated through prior academic performance, test scores, and references; and an applicant's interest, leadership potential, and commitment to healthcare management as demonstrated through previous work experience and an on-campus interview.

The M.H.A. can be earned two ways. The first option is full-time academic study for 21 months, including a summer administrative residency of 3 months, with successful completion of 82 credits and an acceptable research thesis or management project. An M.H.A./M.B.A. dual degree is available to qualified students (see page 13 for more information).

The second option is for those already employed in management positions in a healthcare organization but wishing to further their educational and professional goals. Students who have completed Courses I and II of the Alternative Studies Program may apply for admission. If admitted, credits they earn in Courses I, II, and III of the Alternative Studies Program are applied toward the M.H.A.

Students complete a core curriculum and select from a variety of concentrations that include finance, long-term care administration, managed care, health policy, strategic management, information and decision sciences, planning, maternal and child health, international health, operations, and marketing. These concentrations enable students to focus their studies on a particular segment of the industry or deepen their understanding in a specific content area.

Admission
The application deadline is March 15 for fall quarter of the following academic year; the program is full time only. Deadlines for the Alternative Studies master's option are November 15 and March 1 for the following summer sessions. The Admission Committee reviews applications January through April.

The following prerequisites and requirements are in addition to the minimum admission requirements on page 30.
1. GRE or GMAT score.
2. On-campus interview.
3. Completion (before enrollment) of college-level courses in basic principles of accounting, statistics, and microeconomics. Working knowledge of word processing and spreadsheet design.
4. One original academic record form combining all coursework from each institution attended. Students can then accurately compute an overall GPA. To complete this form students should use official transcripts as a reference.
5. Students applying through the Alternative Studies Program master's option must have completed Courses I and II and submit a grade release form.

Financial Aid
Once accepted into the healthcare administration major, students have many financial aid options. Each year the faculty awards the Boardman, Fairview/Gus Donhowe, Douglass Associates, John Dumas, James Stephan, Howard Johnson, James Petersdorf, Carl Platou, and Hamilton/KSA scholarships, as well as the Lutheran Health Services Fellowship and the McNerney/Heintz Managed Care Residency and Scholarship. Scholarship awards are based on academic ability.

First-year students also compete for loans and scholarships administered by the Association of University Programs in Health Administration, American College of
Academic Majors

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Joan Patterson, Ph.D., major chairperson
(612) 625-3660

Maternal and Child Health

What is maternal and child health?

Maternal and child health (MCH) focuses on promoting and preserving the health of mothers, children, adolescents, and families. Mothers and children are among the most vulnerable populations and addressing their needs requires expertise in theories of human growth and development and social ecology. This expert knowledge is combined with the discipline and skill areas of public health—epidemiology, biostatistics, environmental health, management/policy, and behavioral sciences—to assess MCH needs; develop, manage, and evaluate MCH programs; and formulate and advocate for effective MCH policies in areas such as reproductive and perinatal health and health of children (including those with special needs), adolescents, and families. MCH leaders work to identify and promote social and environmental conditions that contribute to the health of mothers and children. They also develop public health programs that may include health promotion and disease prevention, as well as primary care services.

Who should apply?

Students who want to positively influence health outcomes of mothers, children, and families in the United States should apply. Applicants’ interests typically include developing and evaluating MCH programs; working collaboratively with multidisciplinary professionals from communities, public and private organizations and agencies, clinicians, policymakers, and researchers to develop innovative initiatives for health promotion; and/or managing programs that serve the needs of MCH populations.

Applicants who are mid-career and have professional training in health sciences, education, or social services are preferred. Individuals with other backgrounds who have a minimum of one year’s work or volunteer experience in an area of public health directly pertaining to mothers and children are also considered.

What does the job market look like?

Individuals who can combine in-depth knowledge of the health problems faced by women and children with skills in needs assessment, program development and implementation, management, evaluation, and policy analysis are in great demand. Depending on students’ professional status and prior experience, MCH graduates traditionally find positions in city, county, state, and national health departments/ agencies as well as public agencies dealing with education and human services. In addition, MCH graduates assume leadership positions in nongovernmental, community development, and advocacy organizations (e.g., Minnesota Children’s Defense Fund, Healthy Powderhorn, Rainbow Research, Urban League). Increasingly, MCH graduates are being hired by private healthcare organizations, such as managed-care facilities and HMOs, hospitals, and health insurers.

Why Minnesota?

The MCH major is nationally recognized as one of 13 federally-funded training programs. It receives a grant from the Maternal and Child Health Bureau, Health Resources and Services Administration of the Department of Health and Human Services. The MCH faculty is multidisciplinary, with expertise in epidemiology, nursing, psychology, nutrition, sociology, family studies, and program evaluation. They work collaboratively with faculty throughout the School of Public Health, Academic Health Center (general pediatrics and adolescent health in the Medical School), School of Nursing, School of Social Work, College of Education and Human Development (Institute of Child Development), and Hubert H. Humphrey Institute of Public Affairs.

MCH faculty focus their research, teaching, and community service expertise on reproductive and perinatal health; childhood chronic illness and disability; adolescent health; and child, adolescent, and family resiliency. They have active externally-funded research programs in these areas that provide opportunities for student involvement. MCH faculty are also involved in consultation and service to community agencies, affording students additional opportunities for training.

The MCH major encourages students to contribute their diverse perspectives both in and out of the classroom to enhance each student’s educational experience. The MCH curriculum is both comprehensive and flexible. It emphasizes the scientific knowledge of MCH as well as skills in methodology/analysis, management/communication, and policy/advocacy. Students should choose a concentration in one of these areas to fit their goals and objectives and improve their marketability.

Degree Program

The maternal and child health M.P.H. can be earned through a one- or two-year track. Students are strongly encouraged to attend the program full time.

The majority of applicants qualify for the two-year track. At present, this track consists of a minimum of 70 credits.
The one-year track, consisting of a minimum of 48 credits, is for individuals with a doctorate, M.D., extensive knowledge in a health-related area, and/or a minimum of five years of relevant experience in a public health agency. Meeting these criteria does not automatically ensure acceptance. Applicants interested in the one-year track should specify this in their letter of intent and justify this request. If not accepted for the one-year track, applicants may be offered admission into the two-year track.

In addition to coursework, MCH students must meet the following requirements.

1. Complete a 120-hour supervised field experience. This experience helps MCH students strengthen their philosophy and understanding of public health and identify themselves as public health professionals. In addition, the field experience provides students with an opportunity to put their coursework to practical use and establish a network for future employment.

2. Complete a master's project consisting of a critical literature review, research project, or technical field project. The project emphasizes communication skills and enables students to demonstrate their investigative, organizational, and analytical skills in their area of interest.

3. Pass a comprehensive examination.

Current requirements may be revised. Credits transferred for courses taken before admission must be preapproved by the MCH faculty. No more than 18 credits may be transferred.

Dual Degrees
MCH dual degrees are available in conjunction with the School of Social Work or the School of Nursing. Those interested in pursuing a dual degree must submit separate applications and be admitted to one of these schools and the School of Public Health. It is possible to apply for a dual degree once students have begun a program of study. For more information, see page 12.

Admission
The application deadline is February 28 for the following fall quarter. Applicants must designate their track option (one- or two-year) on the application. All applications are reviewed by the admission committee following the deadline date.

The following requirements and prerequisites are in addition to the minimum admission requirements listed on page 30.

1. A minimum of one year of experience in a public health agency/program that, preferably, focuses on mothers, children, and families.

2. A letter of intent specifically describing applicants' professional and leadership experiences; career goals, including their specific professional role and the type of public health-related organization in which they see themselves working in 5 and 10 years; and perception of how the MCH major meets their educational and career needs. Clear career goals in maternal and child health are necessary for admission to this major. The goals must show an understanding of public health and how they will meet the needs of mothers, children, and families.

3. GRE scores must be received by the School of Public Health Student Services Center by the application deadline. This means that applicants must take the examination at least eight weeks before the deadline for the paper version and four weeks before the deadline for the electronic version. Late GRE scores may disqualify an application from consideration for the requested academic year. See page 14 for information on the GRE. Applicants with an M.D. from an accredited U.S. institution are not required to take the GRE.

Financial Aid
Traineeships and research/teaching assistantships may be available to qualified students. For more information, contact the MCH major. Students of color and economically disadvantaged students may be eligible for resident tuition rates. For more information, see page 44.

The maternal and child health major is housed in the Division of Health Management and Policy. See page 8 for a list of faculty.

Public Health Administration
Milena Aroskar, Ed.D., major chairperson
(612) 625-9480

What is public health administration?
Public health administration is a management discipline that enhances the public’s health through innovative policies and skilled administrative practices.

Who should apply?
Individuals who are committed to public service and want to manage organizations in the public health sector and/or shape and create health policy should apply.

What does the job market look like?
Most graduates find employment in their area of interest or one closely related to their professional goals. The curriculum helps students find positions in local, state, and federal public health organizations. In addition, graduates are employed in voluntary health, managed care, long-term care, and various community organizations; mental health and international health agencies; and community clinics.

Why Minnesota?
The public health administration major offers a one-year M.P.H. program for professionals in fields such as public
health, law, medicine, and social work and a one-plus M.P.H. program that accommodates students’ academic and professional goals; a flexible program for part-time students; strong ties to leaders in the public health community; dual degree options with the Carlson School of Management (M.P.H./M.B.A.) and School of Nursing (M.P.H./M.S.); Hubert H. Humphrey Institute of Public Affairs elective coursework; field experience with community leaders in public health administration practice; and an emphasis on marketable skills.

Research Activities
The faculty is involved in research and service in organizing and managing community health service organizations, nursing services, dental services, and services for the elderly. Individual interests include ethics in healthcare; policy issues regarding the role, effects, and public health implications of competition, regulation, and rationing in health services delivery; use of preventive services and access to healthcare, particularly for the elderly; and communication and organizational behavior in health service organizations.

Degree Programs
The public health administration major offers the following.

• A one-year (full-time enrollment) program of 55 to 56 credits for individuals with advanced degrees and/or who have extensive and progressively more responsible work experience in public health practice. The curriculum emphasizes administration (17 credits); policy (10 credits); public health core requirements in biostatistics, epidemiology, and environmental health (10-11 credits); and synthesis (8 credits).
• A one-plus program of 73 to 74 credits for individuals without advanced degrees or with more limited experience. Students complete the one-year program and design two concentrations to gain additional needed and desired competencies.
• A two-year (full-time enrollment) M.P.H./M.B.A. dual degree program with the Carlson School of Management. Students complete 101 credits (includes double-counted credits).
• An M.P.H./M.S. dual degree program with the School of Nursing. Students complete 78 credits (includes double-counted credits).

A variety of electives are available. Concentrations include areas such as public health policy, maternal and child health, international health, health services management, gerontology, and finance.

Students complete a master’s project to develop research and analytical skills in an area of their interest. In addition, they design a field experience that allows them to develop skills and competencies in public health administration practice and provides an opportunity to accumulate public health administration work experience that will enhance job placement following completion of the program.

Admission
The application deadline is April 15. Late applications are considered on a space-available basis.

The following requirements and prerequisites are in addition to the minimum admission requirements listed on page 30.

1. GRE or GMAT scores (M.P.H./M.B.A. applicants should take the GMAT).
2. A basic foundation course in each of the following: statistics, microeconomics, and accounting.
3. One year of public health-related work experience preferred.
4. Your letter of intent should include a description of your college major, honors received, special papers or research projects completed; your leadership experience in college, volunteer activities or on-the-job responsibilities; career interests and professional goals.

Financial Aid
The public health administration major annually awards the Stauffer Scholarship to a student who has demonstrated leadership and academic excellence. Research/teaching assistantships also become available throughout the year as a result of research grants.

The public health administration major is housed in the Division of Health Management and Policy. See page 8 for a list of faculty.

Public Health Nutrition
Judith Brown, Ph.D., M.P.H., R.D.,
major chairperson
For more information, contact the major coordinators at (612) 626-8802/8803.

What is public health nutrition?
Public health nutrition advances knowledge about the role of nutrition in disease prevention and health promotion and applies this knowledge in planning, managing, delivering, and evaluating nutrition services and programs. This discipline includes four key areas of study: discovery of knowledge related to applied human nutrition and the relationship of diet to health and disease; developing, implementing, and evaluating programs to achieve and maintain healthful eating patterns; assuring delivery of nutrition services as a basic component of healthcare; and providing access to a safe and adequate food supply.

Who should apply?
The public health nutrition major welcomes applicants with career goals in public health and applied nutrition.
Applicants must have a bachelor’s degree from an accredited college or university. If they
• are registered dietitians (R.D.) or R.D.-eligible and have a minimum of three years of full-time professional experience in public health nutrition, they may apply for the 10-month, 48-credit program.
• have a nutrition or dietetics degree and are R.D.s or R.D.-eligible, they may apply for the 16-month, 57- to 58-credit program.
• do not have a nutrition degree but will have completed specific science prerequisites before starting the M.P.H., they may apply for the 24-month, 76- to 81-credit program. These prerequisites include 4 to 5 credits of biology, 8 to 12 credits of general chemistry, 8 to 12 credits of organic chemistry with lab, and 4 credits of biochemistry.

What does the job market look like?
National employment opportunities for public health nutrition graduates are excellent. Public health nutritionists work in a variety of settings, including health departments, other government and volunteer agencies, healthcare organizations, and industry.

Why M innesota?
The public health nutrition major emphasizes program planning, health behavior change and intervention strategies, research and evaluation methods, and policy development. Students are provided with practical experience in different agencies and organizations and networking opportunities among public health nutrition professionals. Faculty are internationally recognized for their experience and expertise in public health nutrition and related areas. Ample opportunities are available for student interaction and collaboration with faculty. In addition, because the major is housed in the Division of Epidemiology, students have access to faculty and students with expertise in disciplines affiliated with nutrition.

Research Activities
Faculty research interests include nutrition and pregnancy outcomes, nutrition and women’s health, child growth and nutrition, child and adolescent nutrition and eating behaviors, obesity prevention, dietary assessment methods, dietary risks for heart disease and cancer, and dietary prevention of chronic diseases across the life cycle, especially in at-risk populations.

Degree Program
The public health nutrition major provides students with knowledge and skills needed for public health practice, understanding relationships between nutrition and health, and developing and implementing effective programs and services to improve and maintain the nutritional health of populations.
The following requirements and prerequisites are in addition to the minimum admission requirements on page 30.

1. A minimum of one year of salaried or significant volunteer work in a healthcare agency or community program (applicants for the 10-month track must have a minimum of three years of full-time professional experience in nutrition).

2. Applicants for the 10- or 16-month track must complete an A.D.A. R.D.-criteria form; applicants for the 24-month track must complete the science prerequisite form.

3. Applicants interested in a traineeship/assistantship should complete the appropriate application included in the public health nutrition materials.

Financial Aid

Students interested in working as graduate research or teaching assistants may apply for a limited number of assistantships that may be available in the Division of Epidemiology, School of Public Health, or elsewhere in the University.

Several maternal and child nutrition traineeships are available for public health nutrition students who are U.S. citizens and wish to specialize in maternal, child, or adolescent health. Eligibility includes being a registered dietitian, at least one year of work experience, and career goals in public health nutrition and maternal and child health.

A six-month Dietetic Internship for Graduate Students (DIGS) is available. For more information, see the public health nutrition curriculum sheet or contact Dr. Louise Mullen, DIGS program director, at (612) 624-3255.

The public health nutrition major is housed in the Division of Epidemiology. See page 8 for a list of faculty.

School of Public Health and Graduate School Admission Requirements

Minimum Admission Requirements

1. Baccalaureate or higher degree from an accredited college or university and a standardized test score.

2. One of the following:
   - Cumulative undergraduate GPA of not less than 3.00 based on a minimum of 90 quarter credits or a cumulative postbaccalaureate GPA of not less than 3.00 based on not less than 9 quarter credits as specified by the major and the dean.
   - Minimum GRE score of 1,500 based on the three sections; some majors may allow substitution of the GMAT (minimum score of 500) or the MAT (minimum score of 40) for the GRE. All standardized tests must have been taken within the last five years.

3. The Test of English as a Foreign Language (TOEFL) is required for every applicant whose previous degree(s) were obtained from a non-English-speaking country and whose native language is not English. The minimum TOEFL score requirement is 575.

General Information

- Students are generally admitted fall quarter only. Any exceptions are at the discretion of the specific major.
- International applicants are defined as non-U.S. citizens or non-permanent residents. If you are an international applicant, you are strongly encouraged to submit your application materials well before the stated deadlines to allow for processing time.
- Individual majors may have additional requirements. Students meeting these criteria are not guaranteed admission. Final admission decisions are based on the student’s total profile, including work experience and other background factors; the relative strength of each applicant compared to the current pool of applicants; and the number of students who can be accommodated by the major.
- To receive an M.P.H. or M.H.A. students shall demonstrate knowledge and understanding of the philosophy and general principles of public health as well as those in their area of specialization.
- Educational objectives for doctoral study leading to the Ph.D. are developed between the individual student and relevant graduate faculty.
- The school does not offer a Dr.P.H.
Application Directions

Different degrees require different application procedures. Before completing your application, decide on a specific degree (M.P.H., M.H.A., M.S., Ph.D.) and follow the directions for that particular degree.

M.P.H./M.H.A.
Submit the following application materials to the School of Public Health Student Services Center.

- White School of Public Health application
- Application fee
- Résumé
- Letter of intent
- One official transcript from each university or college attended
- Official GRE scores or substitutions as permitted by the major
- Recommendation forms and letters
- Financial certification form for international applicants only
- TOEFL scores for international applicants only

Healthcare administration applicants also include
- Academic record form

Public health nutrition applicants also include
- A.D.A. R.D.-criteria form or science prerequisite form

M.S./Ph.D.
Submit the following application materials to the Graduate School.

- Beige Graduate School application
- Application fee
- Statement of purpose
- One official transcript from each university or college attended
- English language proficiency examinations as required
- Financial certification form for international applicants only

Submit the following additional application materials to the School of Public Health Student Services Center.

- Copy of beige application
- Copy of statement of purpose
- Copy of transcripts from each university or college attended
- Résumé
- Official GRE scores
- Three completed recommendation forms and letters

Epidemiology Ph.D. applicants also include

- Description of proposed research area or topic (500-750 words)

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