I.  Program Description

Epidemiology is the study of health and disease in populations. It draws on biological, environmental, behavioral, social and statistical sciences. Epidemiologists analyze patterns of disease and health behavior, design and implement studies to identify causes of disease or effective strategies for disease prevention, and interpret research findings and health trends for policy and program development.

Our training program emphasizes development of advanced skills in epidemiologic design, methodology and analysis. Through coursework and working on research with a faculty advisor, students who complete a PhD in Epidemiology at the University of Minnesota develop into independent scholars, and gain the leadership, collaborative and communication skills required for careers in research and teaching in the health sciences and public health.

Our Epidemiology PhD program is unique from most Epidemiology PhD programs at other Universities in that we offer formal tracks of study in either social/behavioral epidemiology or clinical/biological epidemiology:

The Social/Behavioral Epidemiology track recognizes that many of the major diseases affecting today’s population are related to lifestyle, and the behaviors themselves (and their determinants) are an important endpoint for epidemiologic study. Diet and nutrition, exercise, and use of tobacco and alcohol are among the most important contributors to disease, death, and disability in developed countries. To understand modern disease epidemics and to develop ways of preventing them, it is important for public health professionals to understand the origins of these behavioral patterns and the ways in which they are influenced by environment, personality, family, and culture. Students study with experts in tobacco, alcohol, obesity, or social epidemiology, and develop qualitative and quantitative expertise in behavioral interventions and community-based research.

The Clinical/Biological Epidemiology track focuses on the description and determinants of the diseases themselves. The program has particular strengths in the etiology of cardiovascular disease, cancer, genetics and infectious disease. Additional areas of study are in nutrition and maternal, child and reproductive health. Students in this track develop quantitative expertise in epidemiologic methods for clinical and observational epidemiologic research. Students have access to data for research from several major cohort studies including the Iowa Women’s Health Study (IWHS), the Coronary Artery Risk Development Study in Young Adults (CARDIA), Atherosclerosis Risk in Communities (ARIC), the Study of Osteoporotic Fractures (SOF), and the U.S. Radiologic Technologists Study.

II.  Process

The 2014 accreditation of the School of Public Health by the Council for Education for Public Health was the original impetus for undertaking an examination of graduate student learning outcomes for the Ph.D. degree in Epidemiology. The Director of Graduate Studies met individually and in small groups with ten faculty who teach the required courses in the Ph.D. program to elicit their ideas about our goals for training graduate students. The DGS reviewed the characteristics of doctoral programs in accredited Schools of Public Health from our accrediting body, doctoral education in epidemiology developed by the
American College of Epidemiology and the Association of Schools of Public Health, and the report (dated 3/26/13) from the Initial Graduate Student Outcomes Assessment Committee at the University of Minnesota. While information from each of these sources was helpful, the six intellectual principles of PhD Research Education in the University’s report were most closely aligned with the feedback provided by faculty. Ultimately, we based our student outcomes assessment on five of the six principles and also included two additional categories. These included:

- Acquisition of knowledge of basic epidemiologic and statistical principles
- Demonstration of advanced research skills
- Formation of scholarly independence
- Communication
- Leadership and collaborative skills
- Professional responsibility
- Personal and professional management skills

The DGS then mapped Learning Opportunities and Evaluation Opportunities to these goals (see below). This document was then presented at a graduate faculty meeting in June, 2013. The graduate faculty was in full support of the goals, learning and evaluation opportunities.

III. Student input

As our original mandate for this report was for accreditation of the School of Public Health (site visit October, 2014), we did not seek student input. However, we currently have developed an evaluation plan with the Graduate Review and Improvement Program (GRIP) to solicit student feedback about these goals beginning December 2014 through Spring 2015. As part of that plan, we will:

- Survey alumni of our doctoral program to identify the extent to which our program trained them sufficiently for their professional needs and possible gaps to address
- Convene four focus groups with current students, two per track (if resources can be found)
- If resources for the focus groups are not available, we will send our goals to current students to solicit input and/or convene small group discussions during Spring 2015.