Date: December 12, 2019

To: Jocelyn Milner, Vice Provost of Academic Affairs and Director of Academic Planning and Institutional Research

From: Steve Deller, Professor of Agricultural and Applied Economics (Committee Chair, Five-Year Review, MS/PhD in Epidemiology)

Re: Committee report - Five-Year Review, MS and PhD in Epidemiology

Attached is the report of the committee that conducted the five-year review of the MS/PhD in Epidemiology.

Program Director Corinne Engelman and School of Medicine and Public Health Senior Associate Dean Jim Keck reviewed the report. They believe the report accurately captures the strengths and challenges facing the program. The Epidemiology Steering Committee is taking actions to address issues raised in the report.

If you have questions, please contact me or Andrea Poehling.

Attachment: Review committee report

Copy: Monica Turner, Professor of Integrative Biology (committee member/GFEC representative)
Menggang Yu, Professor of Biostatistics and Medical Informatics (committee member)
Corinne Engelman, Department of Population Health Sciences (consultant to the committee and program representative)
Andrea Poehling, staff to the committee
Jim Keck, School of Medicine and Public Health
Karen Mittelstadt, Academic Planning and Institutional Research
Melissa Schultz, Academic Planning and Institutional Research
Michelle Young, Academic Planning and Institutional Research
Summary of activities and materials reviewed:
The review committee was charged by the provost on August 8, 2019 and provided with the following documents:

- Program’s self-study
- School of Medicine and Public Health dean’s memo, dated 4/25/19
- Original proposal to the Board of Regents, dated 2/10/12
- UW-Madison Guidelines for Five-Year Program Reviews, dated 4/18/13

The committee met on September 25, 2019 to review the documents. Consultant-Program Representative Corinne Engelman and Associate Vice Chancellor Jocelyn Milner were present.

The overall conclusion from our review is:

While the original proposal for a Masters and PhD in Epidemiology was overly optimistic in the estimated number of students, the program has settled into a sustainable, albeit smaller, effort. The Epidemiology faculty and staff have identified five new entering PhDs and three Masters students each year as a more reasonable long-term goal. The Review Committee supports this decision. Through its self-evaluation in preparation of this five-year review, the program faculty and staff identified several areas of success as well as areas for potential improvement. The Review Committee applauds the faculty and staff for identifying areas of improvement and strategies to address those issues. The Review Committee believes that the graduate program in Epidemiology is on a solid foundation and making significant contributions to the field of epidemiology and the University of Wisconsin-Madison. The implementation of some of the strategies identified in their self-study and this review will build on this foundation. The committee recommends continuation of the program.

Summary of the program’s key features:

Epidemiology is the study of the distributional aspects of health and disease. The ultimate goal is the understanding of the cause of disease and identification of strategies to promote health and minimize disease. The core mission of the graduate program in epidemiology is to “provide training, mentorship and education in research methods to identify the distribution, determinants, and outcomes of health and disease in population.” Prior to the creation of the Masters and PhD program in Epidemiology at the University of Wisconsin – Madison students interested in epidemiology only had a specialization option within the Population Health graduate program. With the new graduate program, students can now focus and specialize in the study of epidemiology. Epidemiology, as a field of study, is an essential component of any school of public health as it is a critical link between clinical/basic sciences and biomedical data science. The creation of the MS/PhD in epidemiology has better positioned the UW School of Medicine and Public Health in campus-wide initiatives to foster the emergence of the new science of “big data”. In addition, the graduate program in epidemiology is a natural partner to the CALS based program in Global Health. The potential for cross campus synergies across several areas is significant, and the formal degree programs enhance national visibility and aid in recruiting excellent graduate students.
Program strengths:

An influx of epidemiology faculty and researchers into the School of Medicine and Public Health created the critical mass of expertise upon which the MS/PhD program has been built. Although the size of the student pool has not matched the expectations in the original program proposal, the revised target size (5 PhD and 3 MS) allows for a better “hands on” experience with the faculty/staff and stronger one-on-one mentoring environment. The epidemiology faculty made the conscious decision to avoid a high-volume “mill” environment and offer a more personal graduate experience. Time to degree for PhDs is averaging five years, which meets the expectation of the epidemiology faculty/staff. The program, despite its relative “newness” has had strong success in placing their students at premier schools of public health and the profession at large. There is also evidence that some of the MS students are being placed in excellent PhD programs. The graduate program director, Dr. Engelman, is in her second year and is engaged and committed to the program, and administrative support is also satisfactory. Given the strength of the critical self-reflection on the program at the five-year mark, the committee feels confident in the leadership of the program.

Program challenges:

As with any new graduate program there have been some growing pains. The applicant pool averaged just over 20 annually between 2013-2016 to a low of just 10 in 2018 (the preliminary number of applicants for 2019 is up slightly). The result is that the number of students actually enrolling in the program, averaging just above three between 2013-2018, has been a cause for concern. Part of the challenge identified in the program’s self-study centered on funding opportunities for students. Students not receiving funding from UW-Madison tended to enroll in other programs that offered funding.

The faculty/staff have responded to this challenge in three ways. The first is to move away from the initial objectives of a large program toward a smaller, more collaborative, program that provides greater opportunities for one-on-one interaction with the faculty. Second, refocus energies on securing external grants that can provide support for graduate students. Options being discussed include fewer post-docs in favor of MS/PhD students. Third, ensure four (five) years of guaranteed funding for entering students. For admission in 2020, the program will extend three to four letters of offer that include guaranteed funding for five years.

Another key part of the challenge in recruiting applicants to the program is visibility and findability. In the field of epidemiology, students often rely on the program descriptions offered by the Association of Schools and Programs of Public Health. The UW-Madison School of Public Health is not a member of the ASPPH and as such does not appear in any of the ASPPH materials. In the extreme, potential students who rely on the ASPPH listings are not aware of the epidemiology graduate program at UW-Madison. The cost of $30,000 per year has been used as a justification to not becoming a member. This decision, however, may be hampering student recruitment efforts. Upon searching, the committee observed that the University of Wisconsin – Milwaukee is in the ASPPH listing, along with our peer institutions in the Midwest.

The committee also suggested that program faculty consider moving the annual application deadline for admission to the graduate programs from January 15 to December 1. The late deadline means that prospective students may have already received (and accepted) offers from other institutions before being considered at UW-Madison. The committee also
encouraged the program to pursue its goal of reaching out more to undergraduate programs throughout the region and marketing the degree programs more effectively.

Summary of opportunities for improvement:

The review committee commends the epidemiology faculty/staff for undertaking a critical self-evaluation in preparation for this five-year review. In addition to the targeted funding to recruit and retain students, several other strategies for improvement were identified.

Starting research sooner. Concerns were expressed by the PhD students that the time lag between course work and starting dissertation-oriented research was too long. Students have expressed concern that they are not being introduced into the research program early enough in their programs. As a result, the course requirements were altered (moving from 65 credits to 60 credits by removing some elective requirements) allowing students to begin their dissertation research sooner. Based on these discussions, faculty/staff are introducing the graduate students into their research programs earlier in the program. This complements the desire to bring more graduate students onto funded research projects, and the committee supports this effort.

Biostatistics. Because the study of epidemiology requires training in advanced biostatistics, the thinness of faculty in biostatistics is a concern. While the School of Medicine and Public Health was able to partner with the Department of Mathematics to hire such a faculty, the depth within biostatistics remains a concern. As the campus invests more of its limited resources in the sciences of “big data” there is an opportunity for additional resources in advanced biostatistics.

Web presence. Prospective students rely on the web presence of programs when researching which programs to apply for graduate studies. The current web presence of the epidemiology program is in need of improvement. For example, the labs of individual faculty are not well published on the web, yet it is crucial for program faculty to have informative web pages. We encourage the program to enhance the content presented on the program web pages and improve its “feel” to better serve both prospective and current students. In addition to engaging summaries of research, links to news or media reports that feature Epidemiology faculty, staff or students, and inclusion of graduate student achievements and outcomes, is desirable. Engaging current graduate students in this process might be worthwhile. There is also a need to improve web publication of the student handbook, and at the campus level, it is important to increase the consistency and information in The Guide.

Considerations for the five-year review

The committee addressed the following points specific to a five-year review:

1. Determine whether the goals and objectives as stated in the original program proposal were met and evaluate if the program is meeting standards of quality that are expected based on the original proposal.

As noted above, the absolute size of the program was overly optimistic in the original program proposal. Upon further reflection, the epidemiology faculty/staff have elected to refocus on a more modest sized program and emphasize a more personal graduate experience where one-on-one mentoring and closer-knit collaborative research experiences can be gained. Other goals concerning the quality of the program and placement of students have been achieved.
2. Confirm that the program is important to be delivered at UW-Madison and understand the program’s relationship to other programs at UW-Madison. Are other programs positively or negatively impacted? Are connections with other programs as planned in the original proposal developing as envisioned?

The movement from an option within the Population Health program to its own degree program has improved the quality of the educational experience within the UW-Madison School of Medicine and Public Health. Two campus wide partnerships with the CALS Global Health program and the evolving science of “big data” places the epidemiology graduate program as a potential point of synergies across campus.

3. Determine if the resource implications of continuing the program are appropriate.

This is largely a self-funded graduate program through the generation of external grants. The faculty/staff understand that funding for entering students is a necessary condition for the sustainability of the program. Only the biostatistics requirements might need additional resources which, when leveraged with other campus effort, appear reasonable.

Specific Recommendations

- Find the resources required to be a member of the Association of Schools and Programs of Public Health, which should benefit Epidemiology as well as other programs within the School. Perhaps earmark grant indirects toward the membership fee and seek other programs to cost share the membership.

- Better integrate students into the individual faculty/staff research programs/labs earlier in their graduate studies.

- Build a stronger web-presence to better communicate the strengths of the program to prospective students. Work with individual faculty to develop web sites for individual labs.

- Seek partners outside of the School of Medicine and Public Health to leverage limited resources to build the program. This includes collaboration with colleagues at the UW-Milwaukee.

- Eliminate the MS/PhD in Population Health Sciences Option: Epidemiology because it is redundant given the now established graduate program.

Summary

In summary, our committee recommends that the program continues and that the next program review occurs in ten years.