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September 17, 1998

To: Lee Huntsman  
Provost

From: Marsha Landolt  
Dean



Re: Ten-year review of graduate programs in the Department of Environmental Health

*Recommended action:*

At its meeting of May 14, 1998, the Graduate School Council recommended continuation of the M.S. program and conversion from provisional to continuing status of the Ph.D. program offered through the Department of Environmental Health of the School of Public Health and Community Medicine. I concur with the Council's recommendation.

*Background:*

The education and research programs of the Department of Environmental Health deal with the pervasive problem of health hazards in the workplace, home and in the outdoor environment endemic in industrialized societies. The department is the chief academic resource in the Northwest for research, teaching and technical assistance in the environmental health sciences. The educational programs train practicing professionals at the MS level in one of three separate tracks, Industrial Hygiene, Toxicology and Environmental Health Technology. PhD level education prepares individuals for research careers in the basic and applied sciences pertinent to industrial hygiene and toxicology and instructs students in the techniques of laboratory and field research. The PhD program consists of two tracks, Industrial Hygiene and Toxicology. The Department also participates through its BS program in educating University students in the issues, sciences and problems of environmental health. The Department provides service to the State and the region by providing analysis and solutions to environmental health problems. The majority of graduates pursue professional careers locally and remain in contact with faculty.

This review did not assess the MPH program, which is a School-wide offering. Similarly, by prior agreement with Dean Omenn, the review did not assess the BS Program in Environmental Health.

The majority of students (42% of PhD students and 65% of MS students) enter the graduate programs in the department from employment. Student satisfaction with programs offered by the Department is generally high. However, students (predominantly those in the MS program) state a need for increased access to modern equipment (such as they encounter in internships), on data interpretation and professional opportunities to communicate their conclusions. They request greater feedback on presentations and increased accessibility to some of the faculty. Limited access to faculty may in part be attributable to the fact that no faculty in

the School of Public Health and Community Medicine is tenured beyond 50% of salary. The School expects the remainder of salary to be obtained through research grants. Nevertheless, the faculty are aware of the students' concerns and are trying to alleviate them. Students appreciate the efforts of the faculty in securing the research facilities and realize that they otherwise would not be available.

The review committee also spoke highly of the quality of the Department and its programs, particularly noting the interdisciplinary nature of the School and the Department and found that the programs relate the product of research to solutions in community and environmental health problems. The faculty are of high quality with national and international reputations. The department includes several research centers and interacts broadly on campus.

The committee recommended that the Department strengthen its research in industrial hygiene and environmental toxicology (it is very strong in the area molecular and biochemical toxicology), achieve better integration of personnel, program and space to gain efficiency, and develop additional capacity in risk analysis, risk assessment and communication of risk. The Department has responded positively to these suggestions. The Committee also suggested that the Department might be able to decrease the time to the PhD degree by offering a general degree tuned more specifically to the student's interests. Both Drs. Wahl, acting Dean of the School of Public Health and Community Medicine, and van Belle, Department chair, expressed an interest in such a structure. The faculty is discussing revisions of both the MS and PhD programs that would be consistent with this suggestion. Specific comments on individual tracks follow.

The Industrial Hygiene program is small, but is strong and cohesive. The research programs are robust and the faculty are committed teachers. The program recently lost a specialist in ergonomics and relies on an emeritus faculty for instruction in safety. Both of these areas are central to the training of hygienists. Finding replacements for these individuals is a departmental priority. Approximately 9-14 MS and less than one PhD graduate annually from this track. Demand in the region for MS graduates is particularly strong. Training grant and state appropriated Medical Aid and Accident funds would support more students than are currently enrolled. Accordingly, the faculty have committed to increasing graduate enrollment. The MS students speak very highly of their educational experience and recent revisions of the track. The PhD track has only graduated 1 student in the past 3 years and has produced only 2 graduates since the PhD program was initiated in 1990. The department now seeks to admit 1-2 students annually. Since the Toxicology track of the PhD program is strong, the low enrollment for this track is not as problematic as it otherwise would be. However, if the Department cannot increase enrollment it should consider abandoning this track.

The Toxicology program is comprised of outstanding faculty with strong national and international reputations. In addition to their teaching and research efforts, the faculty offer a K-12 outreach program entitled, "Risky Business - Living in a Chemical World," and are to be commended for this effort. Demand for MS graduates in the Toxicology track has fallen in the last few years as demand for assessment of hazardous waste sites has slackened. Demand for PhD graduates in Toxicology has remained more constant, although employment is now most commonly found in the pharmaceutical and biotechnology industries. The MS track has admitted 6-7 students per year over the past 3 years. MS students express some discontent with mentoring in laboratory rotation, feedback on oral presentations and with the offering of courses in alternate years. The faculty are addressing these concerns. Currently there are about 20 toxicology PhD students with an output of approximately 4 graduates per year.

The Environmental Health Technology program offers only a track to the MS. Approximately 4 MS graduates are produced annually through this track. Only 3 faculty in this area have active research programs, strength insufficient to consider PhD training. The demand for MS students from this track is strong, although over the past several years there has been a shift from public to private sector employers.

Departmental financial resources are judged adequate. Excellent support is available for graduate students. The review committee felt that University support was in balance with instructional activities. Staff are well trained and motivated. It was judged that the faculty, staff, students and fellows form a highly productive and effective unit.

The department, in part through its unusual funding arrangement, is a strong exemplar of the benefit that accrues to the state from broadly supporting the activities of a research university. It provides industrial hygiene services and analytical chemistry services to local government and industry. The Environmental Risk Information Service provides advisory and technical assistance (using faculty from across the University) to community groups and individuals faced with environmental issues. As touched upon above, the department has an active outreach effort that includes an extensive K-12 program that includes curriculum development (resulting in materials available over the Internet) and teacher training. There are numerous individual faculty efforts, including lecturing on pesticide exposure, review of local environmental quality programs and opening of laboratories for student tours. One member of the faculty, Mansour Samadpour, has participated actively with King County and Washington and Oregon State Departments of Health on the molecular epidemiology of E coli 0157:H7. During the recent E coli outbreak in Washington, he provided genetic analysis to determine rapidly which cases of E coli infection shared a common food source, permitting state epidemiologists to identify and remove contaminated apple juice from stores and thereby contain the outbreak.

Facilities are divided between South Campus and the Roosevelt Building, which is leased. The space in the Health Science building is not contiguous – it is spread over 3 wings. This division is problematic and unfortunate. Teaching laboratory offerings were judged to be hampered by the lack of control of space and inadequate laboratory apparatus.

The committee concluded with several general recommendations. Those that could be addressed solely by departmental or school action have been. Those that need University support are faculty salaries and space. Space for this department is more strained than for many on campus.

- c. Richard McCormick, President
- Pat Wahl, Acting Dean, School of Public Health and Community Medicine
- David A. Kallman, Acting Chair, Department of Environmental Health
- Gerald van Belle, Past Chair, Department of Environmental Health
- Debra Friedman, Associate Provost
- John Slattery, Associate Dean
- Graduate School Council
- Review Committee