

IDPP REVIEW COMMITTEE REPORT 4 April 2016.

REVIEWERS:

John I. Clark, Professor, UW Department of Biological Structure (Committee Chair)

Caroline (Carrie) Harwood, Professor, UW Department of Microbiology

Scott Landfear, Professor, Department of Molecular Microbiology and Immunology, Oregon Health and Science University

INTERDISCIPLINARY PROGRAM IN PATHOBIOLOGY (IDPP). The program awards a PhD degree and has the potential to award additional degrees (discussed later).

ABSTRACT: The review of IDPP was very favorable. All groups interviewed were impressive, committed to the IDPP program and supportive of IDPP joining the Department of Global Health (DGH). Based on a very thorough self-study document and the interviews, the committee submits recommendations that include the IDPP formally become part of the DGH.

IDDP STRENGTHS:

The IDPP is UNIQUE IN THE WORLD for its combined emphasis on a strong academic education in both BASIC SCIENCE and GLOBAL HEALTH. It may be a model for the future education of effective professionals serving in public and international health care.

The IDPP Director is Professor Lee Ann Campbell. The success of the IDPP program is the result of her dedication to academic excellence in the education of enthusiastic talented students. The self-study document was informative, well organized and easy to read. Her exceptional organizational and communication skills are represented in both the informative Self-Study Document and an excellent Student Handbook which is available online to students, staff, administrators and faculty. The Handbook is a dynamic resource that is updated regularly with thoughtful, knowledgeable information about the Pathobiology Program, curriculum, student guidelines, advice, and program requirements. Students, staff, administrators and faculty use the Handbook. Professor Campbell provides leadership through excellent communication with the trainees, the Steering Committee and the three core committees: Curriculum, Admissions, and Student Affairs. She works with the Administrators of the various institutional partners including Infectious Disease Research Institute (IDRI); Center for Infectious Disease Research (CIDR), Fred Hutchinson Cancer Research Center (FHCRC), Seattle Children's Research Institute (SCRI). It is an enormous management effort. Dr. Campbell is the Director of a very strong Training Grant involving all the components listed above.

STUDENTS are the most important element of the program. The Review Committee met with ten students including students in their first year rotations up to a student who will defend her thesis on 17 March. Their experimental research ranged from vaccine development to infectious disease. Each student could elaborate in a single sentence or two, the significance of their scientific interests. The students were uniform in their praise for the faculty and the administration of the program. It is clear that they enjoy their involvement with IDPP. They felt that there is strong faculty support for students and the program is providing excellent preparation for a scientific career in academics or industry or other institutions. All students except the first year student had attended conferences to present the results of their laboratory research. All are preparing manuscripts and a number had publications. They acknowledged the importance of the first year advisors who served as a faculty guides in the earliest stages of their first year. They told us of their student network through email and texting that allows the

students to keep in contact even though their laboratories may be spread throughout the scientific community in Seattle. A few students have international experience through research collaborations or field work. The level of enthusiasm for the program is very high.

The students feel their education is unique, in part because they have special opportunities to guide it. A course on critical thinking was mentioned as being much more than a journal club reviewing published scientific experiments. The course expects the students to expand in the goals of the research to propose future experiments and develop the knowledge of the biomedical problem necessary to advance the research to treatments. This is one example of how students are involved in the organization of their academic program. Other examples include student symposia, and inviting and hosting of speakers. The students learn professional skills and leadership through a course called "Survival Skills" and there are opportunities to put their learning into practice immediately in presentations and major committees as early as their first year.

Overall, these academic activities inspire a special sense of community among the students that begins at the IDPP orientation at the start of their first quarter. Then an IDPP retreat is scheduled early in the Fall quarter (October) and has a special student session where senior students and junior students work together with the newest students, share their experiences, and recommend potential improvements. There is a strong student network involved in a dedicated academic program that is a great credit to the Director, Professor Campbell. It needs to be noted that the director recognizes the enthusiasm and support of the faculty who are largely volunteers from the several partners throughout the Seattle community. IDPP does not appoint faculty because it is an interdisciplinary program and relies on the interest and enthusiasm of the faculty from partner programs and departments. A common interest in scientific education draws them to the Pathobiology program. Faculty participation is welcome and the responsibilities are defined in the Pathobiology Handbook and summarized in the IDPP self-study document.

There is a good record of accomplishment by the graduates of the IDPP. Most are still involved in science and global health issues.

ADMINISTRATIVE ORGANIZATION: The leadership of the IDPP includes an excellent **STEERING COMMITTEE** representing each of the partner institutions. During the interviews it was clear that the Steering Committee is very active. They know the students, the needs of the students and their achievements. They could name individual students and their projects. They assisted with the study documents. This is an active group intensely involved in the academics as well as the administration of the program.

The three major **COMMITTEES** are **ADMISSIONS**, **CURRICULUM**, and **STUDENT AFFAIRS**. The leaders of each committee are dedicated to the success of students and their achievements. The committees consist of faculty and students who actively participate in the processes involved in each committee assignment. Student involvement is essential. For example, the Curriculum Committee includes three first year students so the committee can consider and respond to the needs of the newest incoming students. The students realize quickly the value of good coordination between the committees and the administration to get things done. The credit belongs to the leadership provided by a Steering Committee that works well with the Admissions, Student Affairs, and Curriculum Committees to provide guidance to the Director, who responds to their (usually) outstanding suggestions to achieve the goals of the IDPP which optimizes the achievements of the students.

Students consider the evaluations of progress to be reasonable, challenging and fair. When students have difficulties with specific areas of the curriculum, extra support is available including tutors. It is an evaluation system designed for student success, in part because outstanding faculty and administration listen to and respond to the needs of the students.

FACULTY: As indicated above, the IDPP could not be effective without an outstanding and committed faculty. There is a large core faculty who anchor the curriculum, engage and challenge the students in courses and in their laboratories, and in symposia. This core participates in student programs and activities. (It might be of interest to survey the faculty involvement in IDPP for comparison with other Ph.D. programs throughout the Health Sciences.)

Many faculty are members of affiliated and partner institutions. The advantage of this situation is that Ph.D. students have an opportunity to see the inner workings of a variety of non-profit research institutions.

SUMMARY of IDPP STRENGTHS: The IDPP is a program characterized at all levels (students, faculty, administration and staff) by commitment, openness, and effectiveness in support of a constructive academic environment for Ph.D. education in basic and global/public health sciences. The IDPP is organized around the students who can work with a responsive faculty and administrative leadership to shape their program. The IDPP is designed for continued improvement to assure success of the graduates.

CHALLENGES and RISKS

The challenges to the future of IDPP are mostly financial, as is often the case. Faculty reimbursement is minimal to none for time spent teaching small graduate classes. These costs are not covered by returns from ABB. Equitable funding for teaching needs to be considered. Resources may be generated through the contributions to academic education made by the Pathobiology program.

It can be a challenge to find funded faculty to take new students in their research laboratories. This is a determinant of the number of students in the program. Training grants and other sources of funds support about 40% of students which may be all that can be expected in the current economic environment.

It is not clear that there is a cushion of support for students when a PI/advisor loses support. How Pathobiology guarantees student support to complete a Ph.D. after the loss of funding needs clarification.

In terms of program administration, there are challenges to having students at different sites. There are a number of events which all students attend. This contributes to keeping students together. There was student interest in having better coordination between scheduled events, like seminars, and student schedules so that conflicts with course or laboratory schedules is minimized.

Special challenges are associated with the funding of international students, who cannot be supported on many US government training mechanisms. i.e. training grants.

While there are a large number of faculty listed in the program, there is a core who are engaged and participate in student programs. Some faculty are not participating and evaluation of their continued involvement may be useful.

The influence and benefits of the IDPP uniqueness could be expanded through programs emphasizing both Basic Science with Public Health. A specific suggestion was to add the option for an MPH/PhD. Another suggestion was an undergraduate major.

While there is fine website, program visibility could be improved. Specifics were not defined.

There are some interactions with industry and this is an area that could be developed to provide trainee exposure to commercial opportunities.

CONCERNS

A plan is needed for the program when IDPP joins DGH. Financial stability is important and a plan is needed to ensure sustainability of the program over the long term. Continued success depends on sustained support for faculty involvement. While there are benefits to being in two schools, apparently ABB is available from the School of Public Health according to a defined formula but not from the School of Medicine.

FUTURE PROGRESS;

Areas of concurrence.

The formal affiliation of the IDPP with the DGH needs to move forward as soon as possible. A plan is needed to address financial stability of the program and integration into the department.

Most faculty, many of whom come from partner institutions have affiliated appointments. Clarification of the salary commitment to the faculty is important.

The emphasis on basic science and global medicine in the IDPP is unique in the context of global health and public health programs nationally and needs to continue. The laboratory education is diverse. For example experimental science ranges from cutting edge molecular biology to clinical studies of infectious disease. This is a strength.

Consider offering an MPH degree combined with the PhD program. The option of MPH/PhD could occur by one additional year. Financial support could be at challenge and the recommendation is to evaluate the structure and policies of such a program while the financial plan is being formulated. The value of the MPH could be great enough that Ph.D. students would pay their own tuition.

Consider benefits of undergraduate degree in Pathobiology;

Mechanisms are in place for self-evaluation and improvement of the Program.

Tuition paying for an MS or MPH degree needs to be considered to expand the academic background of students in the program and resources.

Graduate school council recommendation.

The Review Committee unanimously recommends that the program join the Dept. of Global Health formally. This should be done as soon as possible to benefit from the leadership of the current Director during the transition. A plan is needed that includes discussion of how the IDPP will thrive and improve in the Department of Global Health as well as the benefit the DGH. Synergies between a graduate and undergraduate educational programs appear to be a great opportunity. Another is the synergies between the two graduate programs in global health. The contribution(s) to the greater community of public and global health could be very great.

A plan for financial sustainability of the IDPP needs serious consideration. Consider options for involving the pathobiology in the undergraduate teaching program of the Department of Global health. One mechanism for a path to financial success could be for Pathobiology to participate in an undergraduate global health degree. Community support is another consideration.

Consider the option of awarding a master's degree in public health as part of the program.

Give some thought to succession planning for the leadership of IDPP. Prof Campbell is a critical and historic part of the leadership of the IDPP. Her experience and knowledge could be important during the transfer of IDPP to Global Health. This is a good time to consider an assistant Director who could continue the achievements and success of the IDPP and assist in the transfer.

The Review Committee recommends a subsequent review of IDPP in 10 years.

There is the potential for synergies between educational programs for undergraduates and graduate in the School of Public Health. It may be beneficial to consider a BS that is pathobiology based to complement a BA that is based on international relations, or social justice or epidemiology or other disciplines in the School of Public Health.

A list of bullet points is included that highlight the major points of this review (see below).

Program Strengths

- Highly active and supportive program director (Lee Ann Campbell)
- Excellent Self-Study document
- Committed faculty from broad range of departments and programs
- National level recognition – recently renewed T32
- High level of enthusiasm among PhD students in the program
- Unique graduate program not duplicated elsewhere. The central focus is on laboratory science related to global health problems in a public health degree program.
- Ability to 'leverage' resources of many departments and institutes into interdisciplinary graduate program
- Diversity of disciplines from very basic to applied sciences relevant to global health
- Mentoring of students in career development from early on
- Excellent record of professional placement for graduates of program in diverse careers
- Strong record of program assessing views of graduate students and acting on their suggestions, e.g., with regard to curriculum and course innovation and development
- Course in Critical Thinking is given early and helps students make the transition from formal didactic coursework to becoming a research scientist.

- Course in Survival Skills introduces students to professional development early on
- The retreat gives students a chance to meet faculty early (October). Also, students meet among themselves to make recommendations on program and then meet with faculty to present and discuss their ideas.
- Significant number of international students.
- 'Student Handbook' is an excellent resource for both students and faculty

Challenges and Risks

- Bringing program formally into DGH
- Financial component – how will program be supported long-term?
- Small graduate courses not reimbursed well by ABB.
- Challenge having diverse geographic sites.
- Challenge finding sufficient faculty members with grant support to take on graduate student. Nonetheless, this seems to have worked out quite well so far.
- Undergraduate major. Many undergraduates interested. Could be source of revenue for program and support faculty salaries. Would serve unmet need of undergraduates.
- Will such a new undergraduate program conflict with current Public Health undergraduate major? The review noted that this program is currently oversubscribed. Other undergraduates may be looking for a program with more laboratory science based component.
- Could tuition-paying MPH or MS program be initiated under Pathobiology as potential source of income?
- MPH/PhD option. How would one fund the MPH component for PhD candidates?
- How to increase visibility of the program nationally (e.g., online) to attract more PhD applicants?
- Mid-level faculty members (perhaps 2) be brought into associate program leadership positions to ensure long-term leadership for IDPP. Succession planning should be undertaken soon.

Concurrence with unit, school

- Need to associate with DGH. Long-term absence of association with a department has produced a sense of malaise.
- Uniqueness of this graduate program

Recommendations

- Program needs to be continued and formally brought into DGH
- A plan needs to be developed to secure financial stability for Pathobiology. Undergraduate major could be considered. Tuition paying Masters program?
- Review IDPP again in 10 years.
- Committee in Pathobiology be formed to address enhancing national visibility.
- How would program benefit from being in DGH as opposed to the Graduate School? Synergies between two PhD programs in DGH. Synergies between undergraduate program and graduate programs. More centralized administration for an interdisciplinary program that is geographically dispersed.