

INSTITUTE FOR PUBLIC HEALTH GENETICS
UNIVERSITY OF WASHINGTON

ACADEMIC PROGRAM REVIEW

May 2022

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UNIT	Institute for Public Health Genetics School of Public Health University of Washington, Seattle Campus https://iphg.biostat.washington.edu/
DEGREES	MPH in Public Health Genetics MS in Genetic Epidemiology PhD in Public Health Genetics
GRADUATE CERTIFICATES	Graduate Certificate in Public Health Genetics
YEAR OF LAST REVIEW	2008-2009
UNIT LEADERSHIP	Hilary Godwin, Dean of the School of Public Health Carey Farquhar, Vice Dean for Education, School of Education Bruce S. Weir, Director of the Institute for Public Health Genetics (IPHG) Deborah Bowen, Associate Director of IPHG Anna Mastroianni, Associate Director of IPHG Alison Fohner, Associate Director of IPHG Annique Atwater, Program Manager of IPHG
DATE SUBMITTED	April 13, 2022

A. Required Background Information

I. Overview of Organization

Mission and Organizational Structure

- *Mission of Unit:* The mission of the Institute for Public Health Genetics is to provide broad, interdisciplinary training in public health genetics for future public health professionals, to facilitate research in public health genetics, and to serve as a resource for continuing professional education. The overarching goal is to train highly-qualified individuals for careers and leadership roles in academic institutions, health care delivery systems, public health departments, government agencies and the private sector.

The IPHG was founded in 1997 through the University Initiatives Fund after a competitive application process. The IPHG was formally reviewed by the Provost's office in 2001, and was then provided permanent state funding to cover operating costs, although that funding is no longer earmarked. IPHG had a 10-year review in 2008-2009.

The IPHG was an early provider of training in population-based genetic analysis in combination with the ethical, legal, and social implications of genetic information. It offers the only PhD degree in the US designated as Public Health Genetics. IPHG students graduate with an understanding of how to evaluate genetic data and perform genetic epidemiology analyses, as well as understanding how to evaluate study designs, results, and their relevance for public health through ethical frameworks, legal structures, and economic impacts.

IPHG graduates of the programs are prepared for diverse careers in research, policy, and education. Their strengths are the ability to break down silos, to communicate across diverse disciplines, and to draw on their wide breadth of knowledge to tackle the most pressing challenges in genetics impacts the health of communities.

A strength of IPHG is that it draws faculty from across the UW, including the School of Public Health, the School of Pharmacy, the School of Law, the School of Medicine, the School of Social Work, and the School of Medicine. These 50 faculty engage in the training of students through teaching classes, presenting at student seminars, and mentoring students in individual research projects.

The field of public health genetics has evolved rapidly since the founding of the program. Costs of acquiring genetic data have plummeted. The use of genetic data has permeated routine and specialty healthcare, family conversations, and pandemic outbreak monitoring. The mission of the IPHG continues to be vital as these applications continue to expand.

- *Degrees and Certificates:* Curricula for the following degrees are appended in Appendix D.
 - PhD in Public Health Genetics
 - MS in Genetic Epidemiology

- MPH in Public Health Genetics
- Graduate Certificate in Public Health Genetics
- Enrollment and Graduation data: Appendix F
- *Unit Support of Academic Services:* Each entering student is assigned an Academic Advisor, drawn from the Program Directors. This advisor helps the students navigate courses and program requirements, and connects the student with funding and training resources, and potential thesis chairs. The advisor is later replaced by the student's Thesis Committee Chair or Dissertation Committee Chair. These Chairs must be affiliated with the IPHG and familiar with its mission.

The Program Manager provides ongoing support for students on all curricula and degree requirements. Due to the interdisciplinary nature of the curriculum, the students enrolled in IPHG have highly varied backgrounds and interests. The Program Manager offers one:one consults for all topics ranging from course selection and program requirements, to navigating health and safety resources. The Program Manager performs annual audits of student progress and works with Thesis or Dissertation Chairs to ensure that students meet the requirements of the program. The full costs of the Program Manager position are met by Supplemental Funding to the Department of Biostatistics from the Dean of the School of Public Health.

All IPHG students will submit an annual report for review and discussion by the full IPHG faculty.

Unit Support of Non-Academic Services: These are provided by the Department of Biostatistics Administrative, Fiscal and IT staff. The modest cost of that support is provided by Supplemental Funding to the Department of Biostatistics from the Dean of the School of Public Health.

- *Shared Governance:* The IPHG Directors act as an Executive Committee, with biweekly meetings, to address all academic matters. This committee also acts as the Admission Committee and Prelim Committee for the PhD program. and serves as mentors to all incoming students. There are four members of the Executive Committee: Bruce Weir, Professor of Biostatistics; Alison Fohner, Assistant Professor of Epidemiology; Anna Mastroianni, Professor of Law; and Deb Bowen, Professor of Bioethics and Humanities. The Executive Committee is selected to provide broad representation across the Departments represented on the IPHG faculty and to equally reflect the two core knowledge areas of IPHG training.

Changes to the curriculum are discussed and approved by the IPHG faculty as a whole, in quarterly meetings. Students select representatives to attend the faculty meetings, but those meetings are open. The External Advisory Committee meets annually, but has been inactive during the pandemic.

Budget and Resources

- *Outline of Budget:* Funding allocations within the School of Public health (SPH) are made to Academic Departments, rather than programs such as IPHG and, in particular,

IPHG does not hire faculty or assign faculty duties.

The school has recently removed explicit linking of tuition generated by units to funds allocated for their operation. Although SPH appreciates the recent substantial growth in the IPHG undergraduate program, it is not clear to what extent this growth compensates for the school-wide instructional costs of the IPHG graduate program. IPHG operates with funds allocated to the Department of Biostatistics as Supplemental Funds from the Office of the Dean: the IPHG Director has input to the construction of that budgeted amount. For 2021/2022 the amount is \$444,297.

SPH has also adopted a new Faculty Compensation Model, whereby instructional costs are borne by the instructor's home department, so that IPHG no longer has to contribute to instructor costs for most of its courses. One exception is the suite of undergraduate courses, taught mainly by a Part- Time Lecturer appointed by the Department of Biostatistics. Another exception is the instructor costs for PHG 512: Legal, Ethical, and Social Issues in Public Health Genetics, a required course for all PHG students. For 2021-23, the instructor is a Senior Research Scientist, also appointed as Clinical Instructor, in the Department of Biostatistics. Other required courses are taught by faculty across SPH or in other schools, and are compensated by their home departments. It is anticipated that PHG 512 instruction will revert to a regular faculty member, and other faculty members will be identified for PHG 521: Culture, Society and Genomics and other courses that have not been offered in recent years. Such additions would require modification of the annual Supplemental Funds.

In summary, IPHG has been allocated one professional staff member in Biostatistics as Program Manager. Its Supplemental Funding also provides 0.4 FTE split among its Directors. IPHG does not appoint or direct any faculty – all faculty are hired and overseen by their home academic departments.

IPHG has been allocated a suite of four offices in the Health Sciences H wing. These house the Director, the Program Manager and the Part-time Instructor for Undergraduate classes. The fourth office serves as a small conference room, and the common area in the suite serves as a meeting place for the IPHG graduate students.

- *Advancement Plan:* The Director has worked with the SPH Advancement Office to host some events for potential donors. This has not yet borne fruit. The pandemic has put on hold the annual IPHG Symposium for Seattle-area public health genomics. Associate IPHG Director Alison Fohner has picked up this activity. She is meeting with the SPH Office of Advancement to develop strategies. In addition, she has compiled a database of alumni, including contact information and current professions, which can be used for future advancement and engagement activities. In addition, Dr. Fohner is leading a current Strategic Planning effort to develop directions for IPHG over the next five years. The goals of this Strategic Plan are to help IPHG evolve with the field of Public Health Genetics by evaluating its core courses, outreach strategies, and training opportunities.

Academic Unit Diversity, Equity, and Inclusion (EDI)

- *Unit Diversity Plan:* IPHG operates with guidance from the SPH EDI committee, and in conjunction with the Biostatistics EDI committee. IPHG Director Bruce Weir chairs the

Biostatistics EDI Committee and is therefore a member of the SPH EDI committee. The IPHG Program Manager attends Biostatistics and SPH EDI training. IPHG faculty take part in the EDI activities of their home departments and schools. The discipline of public health genetics is involved with the characterization and accommodation of genetic diversity throughout all of its work, and is keenly aware of the difference between genetic diversity and racial or ethnic diversity.

IPHG students developed a seminar on “Genetics and Race” in Summer 2021. The seminar was so successful and well-received that it is now offered as a for-credit course PHG 590 “Special Topics” starting Spring 2022. This seminar provides opportunities for students to wrestle with complex and challenging concepts of race and genetics. The goal is to enable students to approach the rest of their education with awareness of how race is used and misused in genetics, scientific research, policy, and clinical care. This course contributes to the SPH mission to provide more training opportunities for students on anti-racism and health justice.

- *Unit faculty and staff diversity:* IPHG has only one staff person. IPHG-associated faculty represent wide gender and ethnic diversity, as shown in the appended faculty list (Appendix C).
- *Unit use of institutional resources:* IPHG is eligible to receive SPH funding allocated for increasing student diversity.
- *Outreach strategies:* IPHG takes part in minority recruitment fairs. IPHG faculty in Biostatistics are mentors in the MathAlliance, an organization seeking to increase diversity in the mathematical/statistical sciences. Diversity of IPHG students is documented in the appendix. In his role as Director of the annual Summer Institute for Public Health Genetics, Bruce Weir has been able to increase the non-White proportion among student participants to 68 percent.
- *Environment for URM students:* IPHG faculty are committed to maintaining a welcoming environment for URM students.
- *Faculty recruitment:* SPH funds were provided for IPHG to recruit only one full-time faculty member in the past 20 years. In an open search, Associate Director Alison Fohner was selected as a Strategic Hire in “Omics in Public Health” to bolster the IPHG programs and as a faculty member in the Department of Epidemiology, which serves as her academic home. Since her arrival in Fall of 2018, Dr. Fohner has joined the Executive Committee of IPHG. She has developed and taught a highly successful advanced undergraduate course in Public Health Genetics. She has led efforts to create an alumni database and increase engagement with them, and she is currently leading a Strategic Planning effort to guide the evolution of IPHG over the next five years. SPH funds, via the Dean’s Supplemental Funding to the Department of Biostatistics, has allowed the appointment of Ms. Jennifer Gogarten as a Part-Time Instructor for the IPHG undergraduate courses. Ms. Gogarten was appointed after a National search, although it was her outstanding work with PHG200: Implications of Public Health Genomics for the Modern World and PHG301: Introduction to Genetic Epidemiology, that led to approval for the search. Enrollment numbers in PHG200 and PHG301 have continued to increase, and Ms. Gogarten has also developed PHG 303L Direct-to-Consumer Genetic Testing.” Ms. Gogarten’s most recent Annual Report Statement is appended in Appendix H.

- *Career success of faculty:* Dr Fohner is succeeding in her career. She is currently in her fourth year on the faculty. She was awarded a NIH/National Institutes on Aging K01 career development grant to pursue additional training in proteomics research and to conduct research integrating proteomics and genomics. As more and more highly dimensional and diverse data are generated in the public health sphere, this knowledge of multi-omics will serve to expand highly relevant training opportunities for students.

II. Teaching and Learning

Student Learning Goals and Outcomes

These are appended in Appendix D.

Instructional Effectiveness

- *Teaching evaluation:* Graduate teaching evaluation is the responsibility of the instructor's home department. The IPHG Directors evaluate the undergraduate instructor, and will provide peer- review for all PHG-labeled courses.
- *Training in instructional methods:* New instructors in SPH, including those teaching in IPHG-owned courses are invited to participate in a new-instructor mentorship group through the SPH Curriculum Committee. These groups meet for a quarter and help new instructors learn to navigate SPH-specific technology platforms, learn teaching techniques, and discuss challenges in classroom management.

Teaching and Mentoring Outside the Classroom

- *Faculty role outside the classroom:* Graduate degrees are distinguished by their research component. All IPHG students interact with their thesis or dissertation advisor one-on-one for their research. Most IPHG students have research assistantships, where they also interact one-on-one with IPHG faculty.
- *Monitoring of academic progress:* Every IPHG student meets with the Program Manager regularly to monitor their progress. The IPHG faculty as a whole has instituted annual meetings to discuss the progress of each student.
- *Professional development of students:* Thesis and dissertation advisors provide individual career advice.

III. Scholarly Impact

Several of our alumni are currently employed in government services and programs, including:

- Deputy Director within the Division of Genomic Medicine of the National Human Genome Research Institute (NHGRI) of NIH.
- Research Coordinator for California department of public health, Genetic Disease Screening Program
- Director of Genetics Program for Washington State Department of Health.

- Director of Washington Department of Health newborn screening program.
- Program Lead in disorder follow-up for Washington State Newborn Screening Program.
- Technical advisor at USAID.
- Epidemiologist at National Institute for Occupational Safety and Health (NIOSH), CDC.
- Policy Analyst at the FDA.
- Health Specialist at the NIH All of Us Research Program.

Several others have brought their skills to industry:

- Senior Research Scientist, Optum Genomics
- Corporate Counsel, Amazon Web Services
- Senior Director of Research, Hinge Health
- Senior Technical Program Manager in Health Ethics and Genomics of Health AI, Google Research
- Senior Scientist, Sage Bionetworks
- Senior Corporate Counsel, Providence St. Joseph Health
- Scientific Manager, Seven Bridges Genomics Inc
- Director of Genetics and Prevention at Seattle Cancer Care Alliance
- VP of Product Strategy at Optum Health (health economics)
- Research manager, Ambry Genetics

Several alumni are academics with faculty positions:

- School of Public Health Department of Epidemiology; Pharmacy; Global health; Health Sciences and Population Health; School of Medicine Department of Pediatrics and the Center for Mental Health, Policy, and the School of Law at the University of Washington.
- University Texas Southwestern Medical Center.
- University of California at Davis.

Many people are involved in research as project coordinators at UW and elsewhere (Harvard, UCSF.)

- *Response to changes in the field:* IPHG responded in a nimble to changes in the MPH curriculum, instituted to comply with the Council on Education for Public Health (CEPH) requirements. The addition of mandatory courses led to a reduction in elective courses in the Public Health Genetics MPH.

- *Collaborations:* The entire IPHG program is a collaboration among faculty in several schools and colleges. IPHG faculty advise IPHG students without compensation or expectation from their home departments.
- *Promotion and Tenure Policies:* IPHG Directors Bowen, Mastroianni and Weir will offer input the Promotion Committees in Epidemiology for Dr Fohner.

IV. Future Directions

- *Where is the unit headed:* The IPHG appears to have recovered from the resignation from the institute by a group of faculty in 2015, and a subsequent suspension of student admissions. As Biostatistics Chair just prior to that event, Bruce Weir had facilitated the change of Administrative Department for IPHG from Epidemiology to Biostatistics. After the event he was appointed IPHG Director by SPH, and he has been greatly assisted since then by long-term IPHG members Anna Mastroianni and Deborah Bowen. A strategic plan implemented by the previous SPH Dean responded to the widely perceived need for greater attention to genetics in the school: this resulted in the recruitment of Alison Fohner, an IPHG alumna, as Assistant Professor of Epidemiology. Dr Fohner has joined the IPHG group of Directors.

IPHG is facing a change in leadership. Dr Mastroianni will leave the University of Washington at the end of June, 2022. The School of Law is seeking to appoint an Adjunct Professor to teach her course PHG 523: Genetics and the Law, and there are hopes to identify a Law School faculty member as an Associate Director of IPHG. Bruce Weir wishes to retire in 2023: there are plans for Dr Fohner to become IPHG Director, but there may be a period before she is able to commit sufficient time.

IPHG continues to offer the only Public Health Genetics PhD in the United States, and one of only a very few Masters programs. As such it is well placed to continue its steady growth. Even at its present size, however, the administrative tasks associated with graduate programs have moved beyond the capacity of a single Program Manager.

IPHG faculty are added each year: often after they been approached by PHG students and have agreed to supervise the student's research. The initial approach often follows a presentation by the faculty member at the weekly seminar PHG 580, led recently by Bruce Weir and currently by Alison Fohner.

The IPHG undergraduate program now has five courses: recent enrollment numbers are now shown. The 1630 current student credit hours (SCH) is in stark contrast to the 198 SCH in 2013.

Course No.	Course Title	Instructor	Quarter	Enrollment	SCH
PHG 201	PHG in the Modern World	Jennifer Gogarten	AUT 2021	80	240
PHG 301	Intro. Genetic Epidemiology	Jennifer Gogarten	WIN 2022	148	740
PHG 302	Forensic Genetics	Bruce Weir	SPR 2021	50	150
PHG 303	DTC Genetic Testing	Jennifer Gogarten	SPR 2022	92	460
PHG 401	Computational Genetic Epidemiology	Alison Fohner	SPR 2021	18	40

- *Opportunities and goals:* It is hoped to use the IPHG undergraduate courses to establish an under-graduate minor in Public Health Genetics. Apart from reflecting the interest in the current courses, this would bring attention to genetics as an undergraduate activity. The minor would help identify potential IPHG graduate students.
- *Current benefit and impact of the unit:* IPHG provides a focal point for the quantitative and societal aspects of genetics at the University of Washington. It complements the activities of the PhD tracks in statistical genetics in the departments of Biostatistics and Statistics, as well as those in the recently- established Genetic Counseling program.

B. Unit-defined Questions

Students

The IPHG student application and enrollment numbers have been increasing, with close to 50 students currently in the program. The program has limited TA funding for students to work with its undergraduate courses. PHG PhD students who are US citizens are eligible for support from two T32 training grants. PhD students generally have little trouble in finding RA support. MPH and MS students often find RA support. Several PHG students have local employment.

- Does the committee have thoughts about an appropriate number of students in the program?
- Does the committee have thoughts about the financial support arrangements for the program?
- Does the committee have thoughts about the quality and the diversity of the PHG student body?

Faculty

The program is administered by the Office of the Dean in the School of Public Health (SPH), and it is housed in the Department of Biostatistics. IPHG is an interdisciplinary program with over 50 faculty from several colleges and schools, most of whom are not in SPH. No faculty member has IPHG as their home department. The SPH provide a total of 0.4 FTE for support of a Director and three Associate Directors. The SPH pays instructional costs for the undergraduate PHG courses and for the PHG 512 graduate course. All other instructional costs are met the home department for the course and instructor. Other than support for the Directors, there is no faculty support for student advising or supervision, or service on program or SPH committees.

- Does the committee have thoughts about the administrative structure for IPHG?
- Does the committee have thoughts about the financial support for the PHG teaching program, and about replacing faculty who leave the UW and who have been teaching courses required by the PHG curricula?
- Does the committee have thoughts about engaging non-teaching faculty in IPHG activities?

Infrastructure

The SPH provides 1.0 FTE for support of the PHG Program Manager, primarily for operating the graduate program. SPH provides office space in Health Sciences H wing with offices for the Director, Program Manager and Undergraduate Instructor, an office-sized conference room, and limited touch-down space for graduate students. Space for IPHG graduate students may be provided by the home department of their faculty advisors. The growing undergraduate program adds to the administrative tasks of the Program Manager.

- Does the committee have thoughts about the infrastructure support for IPHG?

Outreach

IPHG attempts to retain contact with its alumni and with appropriate community partners. These include the Fred Hutch Cancer Center and Seattle Children's Research Institute.

- Does the committee have thoughts about IPHG relationships with its Alumni?
- Does the committee have thoughts about IPHG extending relationships with its community partners, especially those in the private sector?

C: Appendices

Appendix A: Organizational Chart

Figure A1. IPHG Organizational Chart

Appendix B: Budget Summary

Appendix C: Information about Faculty

Table C1. IPHG Faculty List

Appendix D: Degree Requirements and Learning Outcomes

D1. MPH in Public Health Genetics Degree Requirements

D2. MPH in Public Health Genetics Learning Outcomes

D3. MS in Genetic Epidemiology Degree Requirements

D4. MS in Genetic Epidemiology Learning Outcomes

D5. PhD in Public Health Genetics Degree Requirements

D6. PhD in Public Health Genetics Learning Outcomes

Appendix E: PHG Enrollment and Graduation

Table E1. MPH Enrollment by Academic Year

Table E2. MS Enrollment by Academic Year

Table E3. PhD Enrollment by Academic Year

Table E4. Degrees Awarded by Year

Appendix F: Alumni List

Table F1. MPH Alumni List

Table F2. MS Alumni List

Table F3. PhD Alumni List

Appendix G: PHG Courses

Table G1. PHG Course Enrollments by Academic Year Autumn 2009 to Winter 2022

Appendix H: Undergraduate Annual Report

Appendix I: Advisory Board and External Advisory Committee

Appendix J: Historical Documents

J1. IPHG Initial Memo

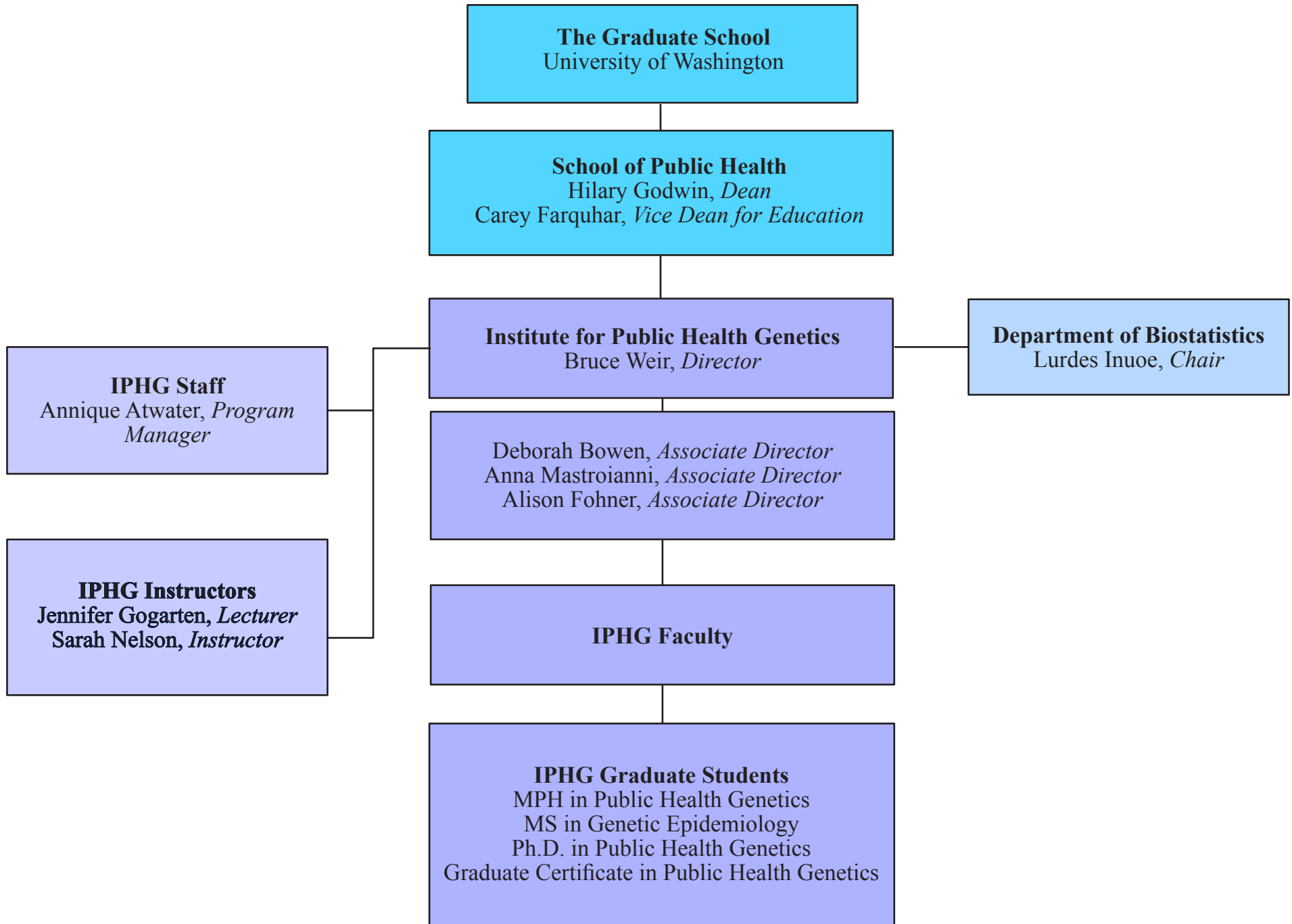
J2. IPHG RCEP Letter

J3. Transition Report

J4. IPHG Restart Memo

J5. PHG Symposium Program

Appendix A: Institute for Public Health Genetics - Organizational Chart



Appendix B: Budget Summary

For 2021/2022, the IPHG receives \$444,297 from the School of Public Health for the following expenses:

<u>Item</u>	<u>Amount</u>
Instructors for PHG undergraduate courses	83,208
Instructors for PHG graduate courses*	67,474
Teaching Assistants for PHG courses	84,535
IPHG Directors	92,365
IPHG Program Manager	99,450
Biostatistics Administrative Support	7,265
Supplies	10,000
TOTAL	444,297

* Includes PHG 512, BIOST 550 and BIOST 551.

Appendix C: Information About Faculty

Name	Rank	Primary Appointments	Affiliations
Elizabeth Blue	Associate Professor	Division of Medical Genetics, School of Medicine	
Deborah Bowen	Professor	Bioethics and Humanities, School of Medicine	Health Systems and Population Health (Adjunct)
Robert Bradley	Professor	Scientific Director, Translational Data Science Integrated Research Center (TDS IRC), Fred Hutch Professor, Herbold Computational Biology Program Public Health Sciences Division, Fred Hutch Professor, Basic Sciences Division, Fred Hutch McIlwain Family Endowed Chair in Data Science, Fred Hutch	Genome Sciences
Brian Browning	Professor	Medical Genetics, School of Medicine	Biostatistics (Adjunct); Genome Sciences (Adjunct)
Sharon Browning	Professor	Biostatistics, School of Public Health	Research Professor, Genetic Analysis Center Member, Population Genetics Working Group, Trans-Omicfor Precision Medicine (NHLBI)
Peter Byers	Professor	Departments of Pathology and Medicine, School of Medicine; Medical Genetics, School of Medicine; Genome Sciences (Adjunct); Oral Health Sciences (Adjunct)	Genome Sciences (Adjunct); Oral Health Sciences (Adjunct)
Sara Curran	Professor	Director, Center for Studies in Demography & Ecology, Jackson School of International Studies; Evans School of Public Policy and Governance; Sociology; Global Health (Adjunct)	Evans School of Public Policy and Governance; Sociology; Global Health (Adjunct) Center for Global Studies; Southeast Asian Center; Technology and Social Change Group (TASCHA); Earthlab
Burcu Darst	Assistant Professor	Public Health Sciences Division, Fred Hutch	

Appendix C: Information About Faculty

Name	Rank	Primary Appointments	Affiliations
Beth Devine	Professor	School of Pharmacy; Shirley and Herb Bridge Endowed Professorship for Women in Pharmacy	The CHOICE Institute; Biomedical Informatics and Medical Education (Adjunct); Health Systems and Population Health (Adjunct)
Daniel Eisenberg	Associate Professor	Anthropology	Biology (Adjunct)
Daniel Enquobahrie	Associate Professor	Epidemiology	Center of Excellence in Maternal and Child Health; Health Systems and Population Health (Adjunct)
Carey Farquhar	Professor	Acting Chair, Global Health Professor: Epidemiology, Global Health	Medicine – Allergy and Infectious Diseases (Professor) International AIDS Training and Research Program (IARTP); Kenya Research and Training Center (KRTC); Center for Studies in Demography and Ecology
Alison Fohner	Assistant Professor	Epidemiology, School of Public	
Mandy Fretts	Associate Professor	Epidemiology, School of Public Health	Center for Studies in Demography and Ecology
Michael Gale Jr.	Professor	Immunology, School of Medicine;	Global Health (Adjunct), Microbiology (Adjunct) Director, Center for Innate Immunity and Immune Disease; Fred Hutch/UW Cancer Consortium; Clinical Research Division, Fred Hutch; Virus and Infectious Disease Division, Fred Hutch
Kelley Harris	Assistant Professor	Genome Sciences	
Nora Henrikson	Assistant Professor	Kaiser Permanente Washington Research Institute (Assistant Investigator)	Health Systems and Population Health (Affiliate)

Appendix C: Information About Faculty

Name	Rank	Primary Appointments	Affiliations
Gail Jarvik	Professor	Head, Division of Medical Genetics, School of Medicine; The Arno G. Motulsky Endowed Chair in Medicine; Genome Sciences	Epidemiology (adjunct); Fred Hutchinson Cancer Center
Grace John-Stewart	Professor	Global Health; Epidemiology; Allergy and Infectious Diseases; Pediatrics	Center for Studies in Demography and Ecology, Center for AIDS Research (CFAR), Global Center for Integrated Health of Women, Adolescents, and Children (Global WACH); Kenya Research and Training Center (KRTC)
Katie (Kathleen) Kerr	Professor	Biostatistics Director, Summer Institute in Statistics for Clinical and Epidemiological Research	Dog Aging Project; Interdisciplinary Center for Exposures, Diseases, Genomics and Environment (EDGE)
Sarah Knerr	Assistant Professor	Health Systems and Population Health	
Su-In Lee	Professor	Paul G. Allen Professor, Allen School of Computer Science & Engineering; Director, Computational Molecular Biology Program; Resuscitation Engineering Science Unit, Department of Emergency Medicine	Biomedical Informatics and Medical Education (adjunct); Electrical and Computer Engineering (adjunct); Genome Sciences (adjunct)
Christopher Li	Professor	Professor, Public Health Sciences Division, Fred Hutch; Vice President, Faculty Affairs and Diversity, Fred Hutch; Associate Director, Diversity, Equity and Inclusion, Fred Hutch/University of Washington Cancer Consortium; Helen G. Edson Endowed Chair for Breast Cancer Research, Fred Hutch	Epidemiology, School of Public Health
Sara Lindstroem	Associate Professor	Epidemiology	Public Health Sciences Division, Fred Hutch Cancer Center

Appendix C: Information About Faculty

Name	Rank	Primary Appointments	Affiliations
Jairam Lingappa	Professor	Global Health; Allergy and Infectious Diseases	Pediatrics (adjunct); Fred Hutchinson Cancer Center; International Clinical Research Center (ICRC) (affiliate investigator); Strategic Analysis, Research & Training (START) Center
Harmit Malik	Professor	Associate Director, Basic Sciences Division, Fred Hutch	Genome Sciences
Anna Mastroianni	Professor	Charles I. Stone Endowed Professorship in Law, School of Law	Bioethics and Humanities (adjunct); Health Systems and Population Health (adjunct); Pediatrics (adjunct)
Ulrike (Riki) Peters	Professor	Professor and Associate Director, Public Health Sciences Division, Fred Hutch; Cancer Prevention Program, Public Health Sciences Division, Fred Hutch; Fred Hutch 40th Anniversary Endowed Chair	Epidemiology, School of Public Health
Amanda Phipps	Associate Professor	Associate Chair, Epidemiology	Public Health Sciences Division, Fred Hutchinson Cancer Center; Center for Studies in Demography and Ecology
Daniel Promislow	Professor	Laboratory Medicine and Pathology, School of Medicine; Biology, College of Arts and Sciences	Co-director and PI, Dog Aging Project, Center for Studies in Demography and Ecology
Alex Reiner	Research Professor	Epidemiology	
Kenneth Rice	Professor	Biostatistics	
Stephen Schwartz	Professor	Epidemiology	Public Health Sciences Division, Fred Hutchinson Cancer Center

Appendix C: Information About Faculty

Name	Rank	Primary Appointments	Affiliations
Brian Shirts	Associate Professor	Laboratory Medicine and Pathology, School of Medicine	Director, Clinical Application of Research in Emerging Technologies (CARET) Unit, Brotman Baty Institute for Precision Medicine; Associate Director, Genetics and Solid Tumor Laboratory, Department of Laboratory Medicine at Pathology
Ali Shojaie	Professor	Biostatistics	Statistics (adjunct); Associate Chair for Strategic Research Affairs, Department of Biostatistics; Founding Director, Summer Institute for Statistics in Big Data (SISBID); Fred Hutchinson Cancer Center; Center for Statistics and Social Sciences (CSSS); UW eScience Institute
Noah Simon	Associate Professor	Biostatistics, School of Public Health	
Peter Tarczy-Hornoch	Professor	Chair, Biomedical Informatics and Medical Education; Pediatrics (Division of Neonatology)	Paul G Allen School of Computer Science (adjunct); Director, Precision Medicine Informatics Group (PMIG); Senior Informatics Advisor, Biomedical Informatics Core, Institute of Translational Health Sciences
Timothy Thornton	Professor	Robert W. Day Endowed Professorship in Public Health, Biostatistics	Statistics (adjunct); Affiliate Investigator, Fred Hutch
Debby Tsuang	Professor	Psychiatry & Behavioral Sciences	Epidemiology (adjunct); Director, GRECC, VISN-20 Geriatric Research Education and Clinical Center; Psychiatrist, Clinical Core, ADRC
Bruce Weir	Professor	Biostatistics	Epidemiology (adjunct); Genome Sciences (adjunct); Director, Summer Institute in Statistical Genetics
Ron Whitener	Affiliate Professor	School of Law	
Ellen Wijsman	Professor	Medical Genetics; Biostatistics	Genome Sciences (adjunct); UW Alzheimer's Disease Research Center (UW ADRC)

Appendix C: Information About Faculty

Name	Rank	Primary Appointments	Affiliations
Benjamin Wilfond	Professor	Professor and head, Division of Bioethics, Department of Pediatrics, School of Medicine	Director, Treuman Katz Center for Pediatric Bioethics; Department of Medical History and Ethics (adjunct)
Rachel Winer	Professor	Epidemiology	
Daniela Witten	Professor	Biostatistics; Statistics; Dorothy Gilford Endowed Chair of Mathematical Statistics	
Joon-Ho Yu	Assistant Professor	Division of Genetic Medicine; Division of Bioethics and Palliative Care	R2UM Principle Investigator

INSTITUTE FOR PUBLIC HEALTH GENETICS**D1. MPH COURSE REQUIREMENTS**

A full-time student must register for at least 10 credits during Autumn, Winter, and Spring Quarters. A full Summer quarter load is 2 credits. A typical student should complete the MPH degree in two years.

REQUIRED COURSEWORK SUMMARY

- 23 credits MPH Core
- 15 credits PHG Core
- 6 credits Electives
- 4 credits PHG 595: Master's Practicum
- 6 credits PHG 580: PHG Seminar
- 9 credits PHG 700: Master's Thesis

MPH CORE

- [PHI 511: Foundations of Public Health](#) (3 cr)
- [PHI 512: Analytic Skills for Public Health I](#) (7 cr)
- [PHI 513: Analytic Skills for Public Health II](#) (3 cr)
- [PHI 514: Determinants of Health](#) (3 cr)
- [PHI 515: Implementing Public Health Interventions](#) (4 cr)
- [PHI 516: Public Health Practice](#) (3 cr)

PHG CORE

- [PHG 511: Genetic Epidemiology](#) (3 cr)
- [PHG 512: Legal, Ethical, and Social Issues in Public Health Genetics](#) (3 cr)
- [PCEUT 513: Basic Concepts in Pharmacogenetics and Toxicogenomics](#) (3 cr)
- [PHG 523: Genetics and the Law](#) (3 cr)
- [PHG 527: Social Science Research Methods](#) (3 cr)

OTHER REQUIRED COURSES

- [PHG 595: Master's Practicum](#) (4 cr)
- 6 credits of Elective coursework – *elective credits may also include [PHG 600: Independent Study or Research](#) and/or [PHG 700: Master's Thesis](#) (beyond the 9-credit requirement)*

PHG SEMINAR & MASTER'S THESIS

- [PHG 580: PHG Seminar](#) (minimum 6 cr)
- [PHG 700: Master's Thesis](#) (minimum 9 cr)

GRADE REQUIREMENTS

Minimum 3.0 grade in each of the *required* courses. Minimum 2.7 grade in each of the *elective* courses.

- Elective courses may be taken S/NS, because the minimum numeric grade for an S is 2.7 or higher

TOTAL MINIMUM CREDITS REQUIRED: 63 credits

D2. MPH in Public Health Genetics

Learning Objectives for the MPH in Public Health Genetics

The MPH degree program trains students in the fundamentals of public health genetics within the context of law, ethics, and policy. The degree requirements include course work in epidemiology, biostatistics, health services, environmental health, law, ethics, and sociocultural aspects of public health genetics; a practice experience (practicum); and completion of a research-based Master's thesis. The program is designed to be completed in approximately two years.

Upon satisfactory completion of a Master of Public Health in Public Health Genetics, graduates will be able to:

1. Meet the [competencies](#) established by the School of Public Health (SPH) and the Council on Education for Public Health (CEPH) for all MPH students.
2. Meet the core competencies established by the Institute for Public Health Genetics for all Public Health Genetics (MPH) students in knowledge areas A and B:
 - Knowledge Area A: Genomics in Public Health
 - Apply knowledge of inheritance and genomic advances, including cellular and molecular mechanisms and technical developments, to understanding the etiology of a variety of rare and common, complex diseases and health conditions
 - Apply epidemiological and statistical approaches to the study of risk factors and diseases with genetic component
 - Identify interactions among genes, environmental factors, and behaviors, and their roles in health and disease
 - Describe how genetic principles and genomic technologies apply to diagnosis, screening, and interventions for disease prevention and health promotion programs
 - Knowledge Area B: Implications of Genetics for Society
 - Identify the impact of genomics on the public health activities of assessment, policy development and assurance
 - Apply methods to address ethical implications of the use of genetic information and technologies in public health
 - Describe legal concepts and the role of the law in the development of policies relating to genetics and genomics; and identify legal implications of the application of genetics and genomic technologies in public health
 - Apply knowledge of key social science concepts in analysis of the political, social and cultural forces that influence the research and clinical application of genetic and genomic technology in public health
 - Analyze in interaction and impact of market forces and public policy on the development and delivery of genetic services

INSTITUTE FOR PUBLIC HEALTH GENETICS**D3. MS IN GENETIC EPIDEMIOLOGY (MSGE) COURSE REQUIREMENTS**

A full-time student must register for at least 10 credits during Autumn, Winter, and Spring Quarters. A full Summer quarter load is 2 credits. A typical student should complete the MSGE degree in two years.

REQUIRED COURSEWORK SUMMARY

- 12 credits Genetic Epidemiology & Statistical Genetics
- 8 credits Epidemiology
- 8 credits Biostatistics
- 3 credits Bioinformatics and Gene Sequence Analysis
- 3 credits Genetic and Genomic Analysis
- 14 credits Electives
- 6 credits PHG 580: PHG Seminar
- 9 credits PHG 700: Master's Thesis

GENETIC EPIDEMIOLOGY & STATISTICAL GENETICS

- [PHG 511: Genetic Epidemiology](#) (3 cr)
- [BIOST 551: Statistical Genetics II: Quantitative Traits](#) (3 cr)
- [BIOST 550/STAT 550: Statistical Genetics I: Mendelian Traits](#) (3 cr)
- [EPI 573: Methods and Issues in Using Biological Measurements in Epidemiologic Research](#) (3 cr)

EPIDEMIOLOGY & BIostatISTICS

- [EPI 512: Epidemiologic Methods I](#) (4 cr)
- [EPI 513: Epidemiologic Methods II](#) (4 cr)
- [BIOST 517: Applied Biostatistics I](#) (4 cr)
- [BIOST 518: Applied Biostatistics II](#) (4 cr)

BIOINFORMATICS AND GENE SEQUENCE ANALYSIS & GENETIC AND GENOMIC ANALYSIS

- [PHG 536: Bioinformatics and Gene Sequence Analysis](#) (3 cr) or [GENOME 559: Introduction to Statistical and Computational Genomics](#) (3 cr)
- [GENOME 552: Technologies for Genomic Analyses](#) (1.5 cr)
- *Alternative GENOME courses can be substitute, with advisor approval, in cases of scheduling conflicts*

OTHER REQUIRED COURSES

- [PHG 512: Legal, Ethical, and Social Issues in Public Health Genetics](#) (3 cr)
- 14 credits of Elective coursework – *elective credits may also include [PHG 600: Independent Study or Research](#) and/or [PHG 700: Master's Thesis](#) (beyond the 9-credit requirement)*

PHG SEMINAR & MASTER'S THESIS

- [PHG 580: PHG Seminar](#) (minimum 6 cr)
- [PHG 700: Master's Thesis](#) (minimum 9 cr)

GRADE & OTHER REQUIREMENTS

Minimum 3.0 grade in each of the *required* courses. Minimum 2.7 grade in each of the *elective* courses.

- PHG 512, PHG 536, EPI 573 and GENOME 552 can be taken S/NS
- Elective courses may be taken S/NS, because the minimum numeric grade for an S is 2.7 or higher

Prior to graduating, student must complete Foundations in Public Health online certification module.

TOTAL MINIMUM CREDITS REQUIRED: 63 credits

D4. MS in Genetic Epidemiology

Learning Objectives for the MSGE Program in Public Health Genetics

The Master of Science degree offers advanced training in Genetic Epidemiology with an emphasis on applied research skills to understand the etiology and prevention of complex diseases with genetic and environmental components. Completion of this degree prepares graduates for careers in academic institutions, health care delivery systems, public health departments, governmental agencies, and the private sector, particularly biotechnology. The core curriculum develops competencies in genetic epidemiology, epidemiology, biostatistics, and bioinformatics within the broader context of ethical, legal and social issues. The degree requires coursework in genetic epidemiology, epidemiology, biostatistics, bioinformatics, law, and bioethics. Upon completion, graduates will have been introduced to the research principles and methods that will enable them to design, conduct, analyze, and interpret genetic epidemiologic research. Successful completion requires a research-based master's thesis.

Upon satisfactory completion of the MS in Genetic Epidemiology, graduates will be able to:

- Meet the generic SPH learning objectives for the MS degree (see Criterion 2.6.a) as detailed in the [SPH Competencies for All Degrees](#) section of the SPH website;
- Apply knowledge of inheritance to understanding the etiology of a variety of diseases and health conditions;
- Describe the major genetic epidemiologic research study designs and their advantages and limitations and apply epidemiological and statistical approaches to the study of risk factors and diseases with a genetic component;
- Design, conduct and analysis of genetic epidemiologic studies and interpretation of findings, including integration of findings from other genetic epidemiologic studies;
- Describe the importance of evaluating interactions among genes, environmental factors, and behaviors, and their roles in health and disease;
- Critically read and evaluate quantitative research findings contained in, genetics, medical and public health journals;
- Write a research proposal including rationale for a specific genetic epidemiologic investigation, including a clear description of methods, and strengths and limitations of the proposed study;
- Demonstrate proficiency in conducting statistical analysis of genetic epidemiologic data;
- Describe the legal, ethical and social issues that may be associated with the collection and application of genetic and genomic information;
- Describe the latest technologies and genomic advances used to investigate the role of genes in disease and normal variation of traits; and
- Communicate effectively and persuasively, both orally and in writing, with colleagues within genetic epidemiology and from other disciplines.

INSTITUTE FOR PUBLIC HEALTH GENETICS**D5. PHD COURSE REQUIREMENTS – YEARS 1 & 2**

A full-time student must register for at least 10 credits during Autumn, Winter, and Spring Quarters. A full Summer quarter load is 2 credits. A typical student should complete the PhD degree in five years.

REQUIRED COURSEWORK SUMMARY

- 14 credits Public Health Core
- 10 credits Genomics Core
- 12 credits Implications of Genetics for Society
- 21 credits Electives
- 6 credits PHG 580: PHG Seminar
- 27 credits PHG 800: Doctoral Dissertation

PUBLIC HEALTH CORE

- [EPI 511: Introduction to Epidemiology](#) (4 cr) or [EPI 512/513: Epidemiologic Methods I & II](#) (4 cr /4 cr)
- [BIOST 511: Medical Biometry](#) (4 cr) or [BIOST 517: Applied Biostatistics](#) (4 cr)
- ENVH and HSERV: 6 credits of Environmental Health and/or Health Services coursework that relates to your research interests

GENOMICS CORE

- [PHG 511: Genetic Epidemiology](#) (3 cr)
- [PHG 513: Basic Concepts in Pharmacogenetics and Toxicogenomics](#) (3 cr)
- [GENOME 565: Advanced Human Genetics](#) (4 cr)

IMPLICATIONS OF GENETICS FOR SOCIETY CORE

- [PHG 512: Legal, Ethical, and Social Issues in Public Health Genetics](#) (3 cr)
- [PHG 527: Social Science Research Methods](#) (3 cr)
- [PHG 523: Genetics and the Law](#) (3 cr)
- *Course determined in consultation with academic advisor* (3 cr)

RECOMMENDED COURSES

- [GENOME 552: Technologies of Genome Analysis](#) (1.5 cr)
- [PHG 536: Bioinformatics and Gene Sequence Analysis](#) (3 cr)
- [BIOST 512/513: Medical Biometry II & III](#) (4 cr/4 cr)
- [BIOST 518: Applied Biostatistics II](#) (4 cr)

OTHER REQUIRED COURSES

- 21 credits of Elective coursework

PHG SEMINAR & DOCTORAL DISSERTATION

- [PHG 580: PHG Seminar](#) (minimum 6 cr)
- [PHG 800: Doctoral Dissertation](#) (minimum 27 cr)

GRADE & OTHER REQUIREMENTS

Minimum 3.0 grade in each of the *required* courses. Minimum 2.7 grade in each of the *elective* courses.

- Elective courses may be taken S/NS, because the minimum numeric grade for an S is 2.7 or higher

Prior to taking the preliminary exam, student must complete Foundations in Public Health online certification module.

TOTAL MINIMUM CREDITS REQUIRED: 90 credits (60 must be earned at the University of Washington)

D6. Ph.D. in Public Health Genetics

Learning Objectives for the Ph.D. Program in Public Health Genetics

The doctoral program in Public Health Genetics offers interdisciplinary training for careers in academic institutions, health care delivery systems, public health departments, government agencies, and the private sector. Training takes place through a combination of didactic courses, seminars, and research participation. The interdisciplinary nature of the program prepares graduates to address scientific and policy questions from multiple perspectives. The PhD program involves fundamental areas of study in human genetics and public health along with core knowledge areas of Genomics in Public Health and Implications of Genetics for Society. Students first undertake coursework and a preliminary examination covering the fundamental areas of study and the core knowledge areas. Then, students develop their dissertation project, an original research endeavor focused on one primary and another secondary core knowledge area. A general and a final examination are required to complete the degree.

Upon satisfactory completion of a PhD in Public Health Genetics, graduates will be able to:

- Meet the generic SPH learning objectives for the MS degree (see Criterion 2.6.a) as detailed in the [SPH Competencies for All Degrees](#) section of the SPH website
- Meet the generic SPH learning objectives for the PhD degree (see Criterion 2.6.a) as detailed in the [SPH Competencies for All Degrees](#) section of the SPH website;
- Demonstrate advanced knowledge in one of these core knowledge areas through coursework and dissertation project research;
- Demonstrate effective integration of the two core knowledge areas while conducting independent, interdisciplinary research in public health genetics;
- Demonstrate the ability to identify resources needed to stay current with the rapid advances in genomics, public health genetics, and clinical genetics, and their application in public health settings; and
- Communicate effectively about public health genetics to audiences from diverse backgrounds, including writing at a professional level and giving oral presentations.

Display competency in "Genomics in Public Health" (Core Knowledge Area A):

- Apply knowledge of inheritance and genomic advances, including cellular and molecular mechanisms and technical developments, to understanding the etiology of a variety of rare and common, complex diseases and health conditions;
- Apply epidemiological and statistical approaches to the study of risk factors and diseases with a genetic component;
- Identify interactions among genes, environmental factors, and behaviors, and their roles in health and disease; and
- Discuss how genetic principles and genomic technologies apply to diagnosis, screening, and interventions for disease prevention and health promotion programs.

Display competency in "Implications of Genetics for Society" (Core Knowledge Area B):

Appendix D: Degree Requirements and Learning Outcomes

- Identify the impact of genomics on the public health activities of assessment, policy development and assurance;
- Apply methods to address ethical implications of the use of genetic information and technologies in public health;
- Discuss legal concepts and the role of the law in the development of policies relating to genetics and genomics; and identify legal implications of the application of genetics and genomic technologies in public health;
- Apply knowledge of key social science concepts in analysis of the political, social and cultural forces that influence the research and clinical application of genetics and genomic technology in public health; and
- Analyze the interaction and impact of market forces and public policy on the development and delivery of genetic services.

Appendix E: IPHG Enrollment and Graduation

Table E1. MPH Program: Student Enrollment by academic by Academic Year

<i>Academic Year</i>	2009 -	2010 -	2011 -	2012 -	2013 -	2014 -	2015 -	2016 -	2017 -	2018 -	2019 -	2020 -	2021 -
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Summer	9	10	9	6	4	8	4	3	1	4	5	4	3
Autumn	18	24	19	16	13	9	8	5	6	13	14	14	14
Winter	20	26	15	13	12	9	6	6	6	14	13	12	13
Spring	23	23	14	12	12	8	6	5	6	16	11	12	IP

Table E2. MS Program: Student Enrollment by academic by Academic Year

<i>Academic Year</i>	2009 -	2010 -	2011 -	2012 -	2013 -	2014 -	2015 -	2016 -	2017 -	2018 -	2019 -	2020 -	2021 -
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Summer	1	2	0	3	3	3	0	0	0	0	1	3	3
Autumn	7	5	5	7	5	1	0	1	2	4	4	9	10
Winter	5	4	5	7	5	1	0	1	2	4	4	8	11
Spring	5	4	6	6	5	1	0	0	3	4	6	7	IP

Table E3. Ph.D. Program: Student Enrollment by academic by Academic Year

<i>Academic Year</i>	2009 -	2010 -	2011 -	2012 -	2013 -	2014 -	2015 -	2016 -	2017 -	2018 -	2019 -	2020 -	2021 -
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Summer	0	5	8	9	11	10	13	11	4	1	3	7	6
Autumn	8	13	14	17	21	19	13	8	5	7	7	15	19
Winter	9	11	13	20	17	15	13	8	5	5	9	15	18
Spring	9	12	14	19	18	19	10	7	5	5	8	12	IP

Table E4. IPHG Degrees Awarded by Year

<i>Year</i>	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
MPH	5	7	5	4	3	4	2	2	0	1	4	5	3
MS	2	2	3	1	3	2	1	0	0	1	2	2	2
PhD	1	1	0	2	4	2	7	4	2	3	1	1	2

Table F1. MPH Alumni by Degree Year

<i>Name</i>	<i>Degree Year</i>	<i>Current Employer (if known)</i>
Felecia E. Cerrato	2009	
Courtney A. Gravett	2009	
Lisel M. Koepl	2009	
Rachel Corinne Malen	2009	Fred Hutchinson Cancer Research Center
Meredith C. Meacham	2009	University of California
Caroline Bercier	2010	Corporate Counsel, Amazon Web Services (AWS)
David Michael Iseminger	2010	Washington Court of Appeals, Division II
Suzanne E. Luther	2010	
Teresa M. Madrid	2010	University of New Mexico
Feyza Menagi	2010	
Amy K. Paul	2010	
Tristan M. Victoroff	2010	
Marilyn S. Hair	2011	
Amber K. Harmon	2011	Medical Resident, California Pacific Medical Center
Sarah Knerr, Ph.D.	2011	Health Systems and Population Health, UW
Megan U. Roosen-Runge, M.D.	2011	University of Washington
Hadar H. Scharff	2011	Google LLC
Emily A. Bane	2012	
Margo W. Bergman	2012	University of Washington
Nirupama Shidhar, Ph.D.	2012	
Lorelei, Walker, Ph.D	2012	
Sara I. Crumb	2013	Best in Class Education Ctr.
Caitlin W. Scoville	2013	
Julie F. Weis	2013	Resident, School of Medicine, University of Washington
Flavia H. Chen	2014	Program Manager, Global Public Policy and Social Change, Harvard Medical School
Megan E. Hawthorne	2014	
Katherine L. Kwong	2014	
Sarah Nelson, Ph.D.	2014	University of Washington
Matthew A. Seymour	2014	University of Washington
Samantha A. Torres	2014	
Emily Youngblom, Ph.D.	2014	
Saam Dilmaghani	2015	
Shweta Girish Pai	2015	Centers for Disease Control & Prev.
Travis C. Hyams	2016	
Corey D. Snelson	2016	

Table F1. MPH Alumni by Degree Year, cont.

<i>Name</i>	<i>Degree Year</i>	<i>Current Employer (if known)</i>
Thyvu Mai	2018	Kaiser Permanente
Shira Grayson	2019	Sage Bionetworks
Carmen Ng	2019	
Elizabeth A. Oestreich	2019	
Tania Vasquez	2019	
Philip R. Crain	2020	Screening and Genetics Unit, Washington Department of Health
Kelly J. Kramer	2020	
Madeline McFarland	2020	
Emiko M. Oshima	2020	
McKenna Tennant	2020	Food & Drug Administration
Jacklyn Dahlquist	2021	
Sarah Lewandowski	2021	University of Washington

Table F2. MS Alumni by Degree Year

<i>Name</i>	<i>Degree Year</i>	<i>Current Employer (if known)</i>
Fong, Pui Yee	2009	
Hamine, Sae	2009	
Horton, Marc Bennett	2010	
Kozloff, Honore Nora	2010	
Kleinstejn, Sarah Elizabeth	2011	
Mosely, Nicholas L	2011	
Rosse, Stephanie Ann	2011	Fred Hutchison Cancer Research Center
Schick, Ursula Martine	2012	
Agatsuma, Renee Haruko	2013	
Tsukazawa, Kazumi S	2013	
Willig, Laurel K	2013	
M. Ragan Hart, PhD	2014	MDisrupt
Storzbach, Dacey E	2014	
Black, Allison G B	2015	
Gordon, William W	2018	Pediatrics, Genetic Medicine, UW
Lin, Yu-Ting	2019	
Pixley, Lauren	2020	
Najera, James	2021	Ph.D. student at San Francisco

Table F3. PhD Alumni by Degree Year

<i>Name</i>	<i>Degree Year</i>	<i>Current Employer (if known)</i>
Grace Wang, Ph.D.	2009	
Joon-Ho Yu, Ph.D.	2010	
Llilda Barata, Ph.D.	2012	
Catharine Riley, Ph.D.	2012	
Kristin M. Beima-Sofie, Ph.D.	2013	University of Washington
Gregory F. Guzauskas, Ph.D.	2013	University of Washington
Jonathan D. Kocarnik, Ph.D.	2013	Fred Hutchinson Cancer Research Center
Stephanie A. Rosse, Ph.D.	2013	Fred Hutchinson Cancer Research Center
Cyan R. James, Ph.D.	2014	
Ursula Martine Schick, Ph.D.	2014	
Elizabeth H. Dorfman, Ph.D.	2015	
Alison E. Fohner, Ph.D.	2015	University of Washington
Mercy Y. Laurino, Ph.D.	2015	
Nirupama N. Shridhar, Ph.D.	2015	
Krysta B. Shutske, Ph.D.	2015	
Anjali R. Truitt, Ph.D.	2015	
Lorelei E. Walker, Ph.D.	2015	National Human Genome Research Institute
Charleen D. Adams, Ph.D.	2016	University of Bristol
Taryn O. Hall, Ph.D.	2016	
Laura M. Heath, Ph.D.	2016	Institute for Systems Biology
Emily Youngblom, Ph.D.	2016	
Alice B. Popejoy, Ph.D.	2017	
Kathleen M. West, Ph.D.	2017	University of Washington
Martha R. Hart, Ph.D.	2018	
Sukh Makhnoon, Ph.D.	2018	
Sarah C. Nelson, Ph.D.	2018	University of Washington
Tara B. Coffin, Ph.D.	2019	Evergreen Perinatal Education
Sahil S. Kejriwal, Ph.D.	2020	
Scott J. Spencer, Ph.D.	2021	
Brenton R. Swenson, Ph.D.	2021	University of Washington

Appendix G: PHG Courses

Table G1. IPHG Course Enrollments by Academic Year

<i>IPHG Course</i>	<i>Instructor</i>	2009 -2010	2010 -2011	2011 -2012	2012 -2013	2013 -2014	2014 -2015	2015 -2016	2016 -2017	2017 -2018	2018 -2019	2019 -2020	2020 -2021	2021 -2022
PHG 200: Implications of Public Health Genomics for the Modern World (AUT)	Gogarten	n/a	n/a	n/a	n/a	110	80	85	91	84	76	81	91	80
PHG 300: Public Health Genomics* (WIN)	Kuszler	n/a	n/a	60	24	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
PHG 301: Introduction to Genetic Epidemiology (WIN)	Gogarten	n/a	n/a	n/a	53	n/a	52	69	108	62	84	109	116	147
PHG 302: Forensic Genetics^ (WIN)	Weir	n/a	n/a	n/a	n/a	6	19	13	31	42	47	43	43	n/a
PHG 303: Direct-to-Consumer Genetic Testing: Uses and Issues (SPR)	Gogarten	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	27	73	90
PHG 401/PHG 501: Computational and Applied Genetic Epidemiology^ (SPR)	Fohner	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	18	14	19	n/a
PHG 511: Genetic Epidemiology (SPR)	Lindstroem	16	26	13	15	15	8	10	3	8	26	25	23	21
PHG 512: Legal, Ethical, and Social Issues in Public Health Genetics (AUT)	Nelson	29	19	12	23	10	4	6	3	8	10	9	23	28

Appendix G: PHG Courses

<i>IPHG Course</i>	<i>Instructor</i>	2009 - 2010	2010 - 2011	2011 - 2012	2012 - 2013	2013 - 2014	2014 - 2015	2015 - 2016	2016 - 2017	2017 - 2018	2018 - 2019	2019 - 2020	2020 - 2021	2021 - 2022
PHG 513: Basic Concepts in Pharmacogenetics and Toxicogenomics [§] (WIN)	Thummel	21	23	14	23	9	10	11	4	14	13	12	20	10
PHG 518: Computer Demonstrations in Genetic Epidemiology* (SPR)	Edwards	8	10	6	9	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
PHG 519: Statistical Methods in Genetic Epidemiology* (AUT)	Weir	8	6	4	7	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
PHG 521: Culture, Society, and Genomics* (SPR)	McGrath	8	15	5	12	10	7	n/a	n/a	n/a	n/a	n/a	n/a	n/a
PHG 522: PHG Ethics* (WIN)	Mastroianni	n/a	7	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
PHG 523: Genetics and the Law (WIN)	Mastroianni	9	13	17	21	22	9	9	17	10	33	38	25	27
PHG 525: Public Commentary on Ethical Issues in Public Health* (SPR)	Edwards	17	n/a	13	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
PHG 527: Social Science Research Methods [±] (SPR)	Bowen	7	8	n/a	10	9	8	14	4	5	14	18	13	n/a
PHG 536: Bioinformatics and Gene Sequence Analysis* (SPR)	Ma	7	7	5	7	2	n/a	0	1	1	1	13	n/a	4

Appendix G: PHG Courses

<i>IPHG Course</i>	<i>Instructor</i>	<i>2009 - 2010</i>	<i>2010 - 2011</i>	<i>2011 - 2012</i>	<i>2012 - 2013</i>	<i>2013 - 2014</i>	<i>2014 - 2015</i>	<i>2015 - 2016</i>	<i>2016 - 2017</i>	<i>2017 - 2018</i>	<i>2018 - 2019</i>	<i>2019 - 2020</i>	<i>2020 - 2021</i>	<i>2021 - 2022</i>
PHG 542: Epidemics and the Politics of Blame: Eugenic and Racial Logics in Shaping U.S. Health Policy* (WIN)	Burke	16	14	7	11	n/a	8	n/a	n/a	n/a	n/a	n/a	n/a	n/a
PHG 544: Ethical Implications of Emerging Biotechnology (WIN)	Fullerton	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	20	21	35	43	40
PHG 551: Genome: Science, Ethics and Society* (AUT)	Fullerton	5	10	8	6	9	8	n/a	n/a	n/a	n/a	n/a	n/a	n/a
PHG 580: Interactive Seminar (AUT, WIN, SPR)	Fohner	94	83	69	88	71	38	n/a	17	24	54	63	72	87
PHG 590: Special Topics in PHG	Various	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	13
PHG 591: PHG Journal Club* (AUT, WIN, SPR)	Doyle	14	16	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
PHG 595: Master's Practicum (SUM, AUT, WIN, SPR)	Weir	7	5	4	2	8	4	1	0	2	4	7	2	6
PHG 600: Independent Study (SUM, AUT, WIN, SPR)	Various	8	29	16	13	23	22	9	1	1	2	3	23	14
PHG 700: Master's Thesis (SUM, AUT, WIN, SPR)	Various	18	20	13	19	26	17	8	2	5	14	22	15	23

Appendix G: PHG Courses

<i>IPHG Course</i>	<i>Instructor</i>	<i>2009</i>	<i>2010</i>	<i>2011</i>	<i>2012</i>	<i>2013</i>	<i>2014</i>	<i>2015</i>	<i>2016</i>	<i>2017</i>	<i>2018</i>	<i>2019</i>	<i>2020</i>	<i>2021</i>
		- 2010	- 2011	- 2012	- 2013	- 2014	- 2015	- 2016	- 2017	- 2018	- 2019	- 2020	- 2021	- 2022
PHG 800: Doctoral Dissertation (SUM, AUT, WIN, SPR)	Various	13	15	17	28	34	40	38	28	15	6	8	15	26
<i>Instructor is reflective of the most recent instructor</i> <i>* Course is no longer offered</i> <i>^ Course is on hiatus</i> <i>§ PHG section was removed in AY 19-20, though PHG students still take the course as PCEUT 513</i> <i>± PHG section was mistakenly removed from TS in AY19-20 & AY20-21; PHG students registered for the BH527 section in those years</i> <i>* PHG 536 is currently being offered every two years</i>														

Appendix H: Undergraduate Annual Report

In winter 2021 Ms. Gogarten taught PHG301 to 116 students, successfully navigating the shift to teaching online, with no students failing the course. In winter 2022 the enrollment further increased to 148, with the transition back to partial in-person learning with a substantial number of students continuing to benefit from the teaching strategies developed during the pandemic (lecture recordings and some remote discussion sections). The decision to add another section very late in the registration process has clearly been successful, assisted in large part by removing registration barriers and sign-up forms. Overall, this genetic epidemiology course has accrued a reputation for being a successful way for students to consolidate their acquired biomedically relevant knowledge prior to grad/med school applications, while giving an opportunity to study disease phenotypes that are personally relevant or interesting. The structure of the class does in a way that gives opportunity for students to develop leadership alongside critical literature analysis skills, which are things that many upperclassmen are seeking to add for job and graduate schools: Ms. Gogarten has written a particularly large number of letters of recommendation for the alumni of this course. This combination of desirable attributes means we are continuing to fill sections of this course to the degree that we make them available. There seems to be scope for six sections next year in 2023 and increase to eight in subsequent years. This course has also been the site of several ad-hoc honors projects: this year focusing on sleep deprivation impacts on the epigenome.

In the past two years Ms. Gogarten has substantially overhauled the course to include a week-long unit on host-pathogen interaction and genetic epidemiology not only of host resistance but also of pathogen evolution. This unit was anchored in real-time observations of pandemic trends, and has been a real high- light of the class. Rewriting the lecture for a year later was a very satisfying way to explain viral evolution of both the delta and omicron waves: it has been distressing but also exciting to know how prescient her earlier teaching has been. She also updated the course to include a section on drug development and gene therapy, to provide a justification for finding disease genes, enhancing appreciation for the ultimate utility of this discipline's direction of inquiry.

Ms. Gogarten is also teaching a library research journal club (MICROM496) on the role of transposable elements in both eukaryotic genome evolution and in human disease. While this is

Appendix H: Undergraduate Annual Report

an unusual partnership for the department of microbiology, it is necessary because PHG still does not have an undergraduate research course designation, although a proposal has been submitted to the curriculum committee.

In spring 2021 Ms. Gogarten taught PHG303, Direct-to-Consumer Genetic Testing Uses and Issues, for the second time to 73 students nearly tripling enrollment from the previous year. Owing to the rapidly changing nature of the field, and the fact that the course is built on original scholarship, there was a substantial revision of lecture content, and multiple case studies were also rewritten and coordinated better with the lecture material. In spring 2022, currently underway, she is undertaking this same class with a move to greater in-person assessment. The enrollment this quarter has gone up even further to 92, nearly filling available seats, and suggesting that in subsequent years additional sections could be added. This course is taken by a particularly diverse set of students, including people from non-science backgrounds and non-public health majors: the course material has been a very engaging way to invite those students to participate in hands-on genomics analysis, while inviting them to contribute connections in their own areas of expertise (business, art, communications, ethnic studies, etc). This engaging nature of the course content is reiterated by the ad hoc honors projects: DTCGT in the realm of international adoption, DTCGT in how families respond to surprise close relatives in the short versus long term, DTCGT marketing to Latinx demographics, and forensic applications as depicted in the media.

Also in association with this class, Ms. Gogarten sponsored a student at the 2022 undergraduate research symposium for his investigations into Jewish Diaspora ancestry analysis using DTCGT approaches. In the autumn 2021, Ms. Gogarten taught PHG200, Public Health Genomics Implications for the Modern World, to an in-person group of students. That course continues to reliably fill, with increasing numbers of people taking the course a la carte and not as part of a freshman interest group. This class has not had associated ad-hoc honors in part owing to being a class taken largely by entering students, but it has been responsible for a very large number of students coming back years later attributing a career change to medicine and/or public health to this course's presence in their lives. She has expanded the lectures on eugenics and disability and connected them more critically to the other curricula, which is one that is particularly impactful

Appendix H: Undergraduate Annual Report

in helping shape students' approaches to medicine and science. This course continues to accommodate new lectures to include current news events, particularly in the area of including LGBTQI issues.

Ms. Gogarten continues to engage in professional development activities, such as completing the SPH anti-racist training as well as getting certified in basic life support CPR/AED for healthcare providers. I have revisited the push for organizing a minor in public health genetics on this campus.

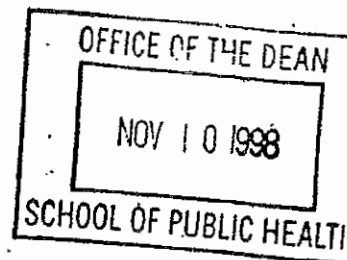
Appendix I: Advisory Board and External Advisory Committee

The Advisory Board for the IPHG consisted of deans, department chairs, and senior members of local institutions, including the UW, the FHCRC, the Washington State Department of Health (DOH), and Seattle Children’s Hospital. The Board generally met on an annual basis, as needed, to provide guidance to the IPHG and to ensure that interests of all of the UW departments and affiliated institutions are represented. The Board last met in 2015.

The External Advisory Board members:

Name	Position
Gil Omenn (chair)	University of Michigan, SPH Dean when IPHG was formed
Garnet Anderson	Head, Public Health Sciences, Fred Hutch Cancer Center
Carey Farquhar	Vice Dean for Education, SPH, UW
Lurdes Inoue	Chair, Department of Biostatistics, UW
Lon Cardon	BioMarin
Peter Kraft	Harvard University
Nathan Price	Institute for Systems Biology
Cynthia Watts	Virginia Commonwealth University
Pending	Washington State Department of Health
Pending	Kaiser Permanente, Seattle

UNIVERSITY OF WASHINGTON



VICE PROVOST FOR PLANNING AND BUDGETING

November 6, 1998

Dear Colleagues:

Enclosed is a final memorandum of understanding for your UIF award, based upon the comments we received to our earlier draft.

I apologize for the delay in sending this final memorandum to you. Please review, sign and route to the next person on the routing slip. The fully executed document should be returned to me as soon as possible.

Thank you all for your support and patience.

Sincerely yours,

A handwritten signature in cursive script, appearing to read "Harlan Patterson".

Harlan Patterson
Vice Provost for
Planning and Budgeting

V981103k

UNIVERSITY OF WASHINGTON

OFFICE OF THE PROVOST

November 6, 1998

Dr. Melissa Austin
Epidemiology
Box 357236

Re: UIF Award for Memorandum of Understanding

Dear Dr. Austin:

The purpose of this memo is to document the understanding of the Principal Investigators, the involved Schools/Colleges and the University regarding the award of your UIF project. This is intended to provide the basis for the start-up, assessment and continuation or termination of the program as detailed in your approved proposal.

Start-Up

Project Summary—Public Health Genetics in the Context of Law, Ethics and Policy

A multi-college, multi-level program will study scientific advances in genetics from many perspectives, including philosophy and social science, and will develop ethical, cultural, and legal frameworks to guide health-care and regulatory policies.

Budget

The approved budget for this project is shown in Enclosure 1. Please refer to Enclosure 2 for instructions and guidelines for implementation.

This budget sets the spending authority for both permanent and temporary dollars. The project leader is allowed to use these funds to further the goals of the project. Funds for faculty/staff positions will be provided at the time of the hire(s). Recaptures of subsequent vacant positions will be retained for use by your UIF project.

Budgeted positions will be eligible for general salary increases based upon the average increases available to the type of position that is provided during the term of the UIF funding. The primary decisions for specific salary increases will continue to be based on the recommendation of the primary appointing department and School/College.

Dr. Melissa Austin
November 6, 1998
Page 2

Assessment

Ongoing assessment of this project is critical to the evaluation, both of project outcomes and of the UIF process itself. Please provide summaries of progress for the project each July 1, indicating milestones of accomplishment, as well as problems and impediments encountered.

The Public Health Genetics Program would be the first of its kind in the nation. No full-scale program including training, research, policy and services exists yet in any other school of public health. The Public Health Genetics Initiative will translate research and training in molecular and cellular biotechnology and medical aspects of genetics into public health programs and policies, with federal and private sector support.

Continuation/Termination

This project has an initial expected UIF funding period of four years. At the end of each biennium, there will be a formal review of the project status and the assessment of project objectives. At that point, the length of time for UIF funding may be adjusted, shorter or longer, to reflect the current and projected status of the project.

As a project with funded non-faculty positions and partial faculty positions (less than .5 FTE), the project sponsors will be given a minimum notice of six months prior to termination to allow for transition for the staff.

As a project with funded faculty positions of .5 FTE or more, the specific faculty positions will continue to be funded. A recommendation to eliminate or reduce funding for a tenured faculty position must be made by the program to the Dean(s) of the appointing department and the Provost. If a decision is made to terminate UIF funding for such a position, the Provost and affected Dean(s) will negotiate the nature and timing of necessary permanent budget changes.

The contact for your administrative staff is Taymin Liu, Associate Director of the Budget Office. She can be reached at 685-9961.

This project is an exciting opportunity to try a venture at the University that otherwise would not have been possible. As a result, it is imperative that we understand the start-up resources, assessment criteria and timing, and the intended ultimate pathway of continued funding or termination. This document is intended to help, both to establish a current understanding, and to indicate that our experience with this new venture may require a mutually agreed-upon modification in the future.

Please sign below to indicate your understanding of these expectations and commitments designed to help give this project every chance for success. We look forward to working with you and seeing the results of this new venture.

Dr. Melissa Austin

November 6, 1998

Page 4

cc: Dr. Richard L. McCormick
Dr. Frederick Campbell
Dr. Debra Friedman
Dr. Marsha Landolt
Ms. Taymin Liu
Mr. Harlan Patterson
Mr. Ken Anderson

Dr. Melissa Austin

November 6, 1998

Page 3

Sincerely yours,

Lee Huntsman, Provost

Acting Dean Patricia Wahl, Public Health

Acting Dean David Hodge, Arts and Sciences

Dean Paul Ramsey, Medicine

Dean Sidney Nelson, Pharmacy

Dean Roland Hjorth, Law

Dean Marc Lindenberg, Public Affairs

Dean Sue Hegyvary, Nursing

Concur: Dr. Melissa Austin

LLH/HP:cl

Enclosures

Enclosure 1
UNIVERSITY OF WASHINGTON

1997-99 University Initiatives Fund Allocations

Project Name: **Public Health Genetics in the Context of Law, Ethics & Policy**

	1997-99			
	<u>Total</u>	<u>1997-98</u>	<u>1998-99</u>	<u>Carryforward</u>
Permanent Allocations:				
GOF	776,000	388,000	388,000	0
DOF	24,000	12,000	12,000	0
Temporary Allocations:				
GOF	0	0	0	0
DOF	0	0	0	0
Total Allocation:				
Permanent	800,000	400,000	400,000	0
Temporary	0	0	0	0
Project Total	800,000	400,000	400,000	0



BOX 357230
SEATTLE, WA
98195-7230

PHONE
206-543-1144

FAX
206-543-3813

sph.washington.edu

SCHOOL OF PUBLIC HEALTH • UNIVERSITY of WASHINGTON

excellent science, shared passion, enduring impact

July 22, 2015

To: Gerald J. Baldasty, Interim Provost and Executive Vice President
Office of the Provost

From: Shirley A.A. Beresford, PhD, Senior Associate Dean
School of Public Health

Re: Request for transfer of Academic Unit

The School of Public Health requests the transfer of the Institute for Public Health Genetics (IPHG) from the School of Public Health, Office of the Dean to the School of Public Health, Department of Biostatistics.

This move will align the academic mission of the IPHG with the growing activity in genetics in the Department of Biostatistics, and will enhance synergistic activities with the PhD degree program in statistical genetics.

This proposed transfer was discussed at IPHG and Biostatistics faculty meetings and was approved via electronic ballot following a meeting on 1/5/15. In late December 2014, we appointed a transition planning committee with a set of charges that included conducting a review of the competencies for graduates of an interdisciplinary public health genetics program, and identifying an augmented list of key faculty with the relevant expertise. That committee submitted their report to the School at the end of June 2015, and made recommendations including to maintain the public health genetics curricula and to designate the Department of Biostatistics as Administrative Home of the IPHG.

School of Public Health and program faculty and staff have discussed the logistics of the move and are confident that there will be no negative impact on students. Although there may be some changes to program requirements as a result of recommendations of the transition committee, current students have been assured that they may complete their programs with the continuing support of current IPHG faculty. I endorse the recommendations of the transition planning committee to prepare the program to re-open admissions in Autumn 2015.

The proposed transfer does not involve:

- The termination of an undergraduate or graduate program.
- The removal of tenured faculty or untenured faculty before the completion of their contract.
- A significant change in the terms, conditions, or course of employment of faculty of the IPHG. [Faculty continue to be employed in their own departments, and

*Soul Catcher emblem:
A Northwest Indian
symbol of physical and
mental well-being.
Artist: Marvin Oliver*

compensation is from funds allocated to IPHG through the Department of Biostatistics.]

- A significant change in the overall curriculum of a college, school, or campus or the University as a whole.
- A significant departure from the stated mission of a college, school, or campus, or the University as a whole.

Given that this proposed move has met the above criteria we feel that this proposal would not require a full RCEP.

Although our initial assessment suggested that a limited RCEP process would not be necessary, we await your guidance on whether that is the case.

cc: Howard Frumkin, MD, DrPH, Dean, School of Public Health

Public Health Genetics Transition Planning Committee Schedule

- **March 2015.** Review existing program (documentation and personal recollection): the Institute of Public Health Genetics (IPHG) and the degree programs in Public Health Genetics (PHG).
 - What worked? What didn't work?
 - Who were the faculty in the program? Who weren't in the program?
 - Who were the students in the program? Where are they now?
 - What was covered in the degree curricula? What wasn't covered?
- **April 2015.** What should PHG look like after July 1, 2015?
 - What is the role of the IPHG?
 - What is the nature of undergraduate and graduate training in PHG?
 - Who should be the faculty in the IPHG?
 - Which students should be admitted to the PHG degree programs?
- **May 2015.** Formulation of specific plan for Senior Associate Dean Shirley Beresford.
 - Plan should include responses to specific questions listed in Dean Beresford's memo of December 30, 2014.



BOX 357230
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sph.washington.edu

30th December 2014

Bruce S. Weir. PhD
University of Washington: Box 359461

RE: Charge to Transition Planning Committee

Dear Bruce:

This is to invite you to form and chair a transition planning committee for the Institute of Public Health Genetics. As you know, several of the current IPHG faculty have announced their intention to leave the Institute on June 30, 2015 and Malia Fullerton, the IPHG Director, will step down on that date. One of the implications of these faculty leaving the program is that current PHG courses may move to the home departments of those faculty.

I expect you will invite current IPHG faculty as well as faculty from across the University, and possibly outside the University, to serve on this committee.

I would like you and your committee to prepare a report for me by May 31, 2015. You should first address the question of whether the IPHG should continue to exist beyond June 30, 2015. Assuming a positive answer to that question, then I would like you to:

1. Prepare a list of core and affiliate faculty for consideration by the current Academic Program Committee (APC) of IPHG.
2. Identify a candidate for Director of the IPHG for consideration by the APCy and Chair of the Department of Biostatistics.
3. Prepare a list of members for an IPHG Advisory Board, consisting of members from the University of Washington and outside the University for appointment by the Chair of the Department of Biostatistics.
4. Conduct a review and update of the competencies for graduates of an interdisciplinary public health genetics program, and identify key faculty with the relevant expertise.
5. Consider any possible revisions to the curricula of the PHG degree programs, with particular reference to courses that will be the responsibility of the IPHG.
6. Consider potential ancillary opportunities related to public health genetics including but not limited to a genetic counseling training program or professional degree program.

*Soul Catcher emblem:
A Northwest Indian
symbol of physical and
mental well-being.
Artist: Marvin Oliver*

7. Consider the resumption of admission of students to PHG degree programs in the Fall of 2016.
8. Consider any other items you and your committee deem necessary for the success of the IPHG.

Yours Sincerely,

A handwritten signature in black ink, appearing to read "Shirley Beresford". The signature is written in a cursive, flowing style.

Shirley A.A. Beresford, PhD
Professor, Epidemiology & Senior Associate Dean



SCHOOL OF PUBLIC HEALTH • UNIVERSITY of WASHINGTON
excellent science, shared passion, enduring impact

Memorandum of Understanding

between

The University of Washington (“UW”) School of Public Health (“SPH”) Dean’s Office (“OD”), Department of Biostatistics (“Biostatistics”), Department of Epidemiology (“Epi”), and Institute for Public Health Genetics (“IPHG”).

For the Fiscal Year 1 July 2014 through 30 June 2015

This agreement describes the move of the administrative home of IPHG from the Office of the Dean, School of Public Health to the Department of Biostatistics. The Master of Public Health (Public Health Genetics) and Graduate Certificate in Public Health Genetics will be moved from the Department of Epidemiology to the Department of Biostatistics. The Master of Science (Public Health Genetics) and Doctor of Philosophy (Public Health Genetics) will be moved from the School of Public Health Dean’s Office to the Department of Biostatistics. The agreement is based on the commitment of Biostatistics and the Dean of the School of Public Health to enhance IPHG in future years. Future years will be summarized by a similar agreement between the then relevant parties.

Definitions

1. IPHG: For the purposes of this agreement, IPHG is defined as the educational activities occurring within IPHG. This includes, but is not limited to, tuition-based activities. IPHG does not include research related activities, nor does it include educational activities done by IPHG-related faculty under the auspices of other entities within the UW.
2. Activity Based Budgeting (“ABB”):
 - a. ABB is defined as the University’s budgeting mechanism for allocating funds to individual schools. ABB has no explicit department component. ABB is comprised of three components:
 - i. Tuition: A school’s pro-rated allocations of tuition revenues.
 - ii. Research: A school’s share of the F&A funds generated by budget numbers within the school.
 - iii. Supplement: Funds allocated to a school independent of specific metrics, originally specified in 2012 and subsequently modified for reasons unrelated to educational or research performance.
 - b. For more information about current policies see <http://www.washington.edu/admin/pb/home/opb-abb.htm>
3. SPH Allocation Model: This is the algorithm adopted by SPH to allocate Provost awarded funds to departments. At the time of this MOU, it is summarized in Finance Memo 20120409.

General Administration & Program Representation: Effective on the date of signing the MOU.

1. The IPHG is a longstanding interdisciplinary program, now residing administratively within the SPH. The IPHG Director will maintain the responsibility for IPHG's day-to-day program operations including admissions, curricular decisions, and student services.
2. During the year, the Senior Associate Dean, with concurrence from the Director of the Program and the Chair of Biostatistics, established a Transition Planning Committee for the IPHG program. The Chair of that committee has been charged to address the question of whether the IPHG should continue beyond June 2015 and what configuration of faculty from the several participating Schools and Colleges will continue the IPHG mission of embracing ethical, legal, policy and social issues of genetics, as well as provide expanded expertise in the environmental, epidemiological, global health, health policy and statistical aspects of Public Health Genetics.
3. The Core IPHG faculty and the IPHG Director form the Academic Program Committee (APC) for IPHG. They will make recommendations for members of an Advisory Board, including members from the University of Washington and from outside the University, who shall be appointed by the Chair of Biostatistics.
4. The selection of the IPHG Director will be made by the Chair of Biostatistics in consultation with the IPHG faculty. He or She will continue as IPHG Director, subject to satisfactory appraisals by the APC and the Chair of Biostatistics.
5. The IPHG Director will be responsible for governance of the IPHG academic program. Support for administrative effort will be built into the internal IPHG annual budget.
6. IPHG policies for financial support of courses should be consistently applied and available to all Faculty.
7. The Program will be reviewed on a biennial basis by the IPHG Advisory Board.
8. The Director of the Program will report to the Chair of Biostatistics. The Chair of Biostatistics will perform an annual review, as well as a 5-year comprehensive review, of the Program Director.

Fiscal

1. The IPHG's SPH budget allocation will be awarded to Biostatistics. Biostatistics agrees to pass the IPHG component of its allocation directly to IPHG. During the term of this agreement, Biostatistics does not expect IPHG to contribute funds to the department's operations. Funding for IPHG is expected to be derived from three primary sources:
 - a. Tuition generated by Public Health Genetics courses as defined by the SPH allocation model used for departments, namely the PHG share of student credit hours.
 - b. Adjustment Funds: The Dean has committed adjustment funds to assist IPHG move towards self-sustainability. These are \$150,000 for the current fiscal year (FY15). First priority for any future carryover of IPHG funds will be to offset (reduce) the need for adjustment funds in the subsequent year.
 - c. Other IPHG revenue-generating educational activities.

2. Existing IPHG Gift Accounts will be transferred to the Biostatistics Org Code, and disbursements made in accordance with the policies established for those accounts. This will include new gift funds earmarked for DNA Day activities.
3. It is the responsibility of the IPHG Director to oversee the budget of the Program, formulate proposals for budget revisions and make projections for the next three to five years to share with the APC and the Department Chair.
4. Implementation: These steps will be completed within four weeks of signing this MOU.
 - a. Organization Codes (“orgcode”):
 - i. Biostatistics will create an Organization Code (“orgcode”) at the 9 digit level dedicated to IPHG.
 - ii. Epi will retire the current IPHG orgcode of 3100003240. Retirement can be either closing of the orgcode, or renaming the orgcode to avoid confusion with IPHG.
 - iii. OD will close the current orgcode 3100006220. All assignments (i.e. budgets, employees, space, etc.) to this orgcode will migrate to the new Biostatistics orgcode.
 - b. Budget Numbers
 - i. All educational related budget numbers moved to the Biostatistics organization code.
 - ii. Appendix A provides a summary of the budgets transferred in September 2013. All existing balances and committed funds were transferred with the budget numbers.

Staff

1. IPHG Professional, Classified and Student staff will be members of the Biostatistics department, and they will receive administrative and IT support from Biostatistics. They will be subject to Biostatistics staff policies and procedures although their immediate supervisor will be the IPHG Director.
2. Implementation
 - a. IPHG staff will be assigned to a Biostatistics budget that is unique for IPHG
 - b. Appendix B provides a summary of staff who will be transferred to the IPHG sub-budget.
 - c. IPHG will not have a unique payroll unit code within Biostatistics.

Space

1. It is expected that IPHG students and staff will retain their current use of Raitt Hall. Details are provided in Appendix C.
2. Implementation
 - a. Space currently assigned in Space Inventory Management System to IPHG will be re-assigned to the IPHG orgcode in Biostatistics.
 - b. Appendix C. provides a summary of the space that will be transferred to IPHG orgcode in Biostatistics.

Students

1. IPHG Students will continue to be advised by the Program’s PhD and MPH Advisors. Individual academic plans will be reviewed with advisors to assure satisfactory progress through the program requirements.

2. Thesis and dissertation committees will remain unaffected by the administrative move.

Faculty

1. IPHG faculty appointments will remain in their home departments. They will house their grants in those departments unless other arrangements are made with individual faculty to house their grants in Biostatistics. Appendix D contains a roster of IPHG faculty as of January 1st 2015.
2. IPHG faculty will maintain their primary academic appointments in their current home departments and schools. (Appendix D)
3. Faculty actions will be initially discussed and voted on by the APC. However regular appointment, promotion, retention actions, while informed by IPHG APC vote, will adhere to the processes of the primary UW academic department of the IPHG faculty member. Ordinarily the department will consider the recommendations from the IPHG.
4. The APC will have primary responsibility for appointment of core and auxiliary IPHG faculty, subject to the approval of the Chair of Biostatistics.
5. The recommendations regarding faculty actions will be copied to the Manager of Academic Affairs in the Office of the Dean of SPH via the Department of Biostatistics in the usual way.
6. The IPHG may request to initiate new faculty searches in one or more departments when required to meet program needs. Faculty searches will be run by the appointing department according to school and department policies, with input from the IPHG APC faculty.
7. Assistance with other faculty and Academic HR processes such as establishing Graduate School Faculty status and appointing postdoctoral fellows and visiting scholars sponsored by IPHG will be provided by the faculty's appointing department.

Academic Program

1. The processes for curriculum development and review, and other academic matters will remain the responsibility of the IPHG faculty. The IPHG is an interdisciplinary academic program with activities managed by its APC. This committee has responsibility for admitting students to the Public Health Genetics degree programs and monitoring their progress. It determines the curricula and content of PHG-labeled courses, and it makes strategic plans regarding the growth and direction of the academic program.
2. The IPHG Director, acting with the APC, will make teaching assignments to faculty within the constraints of the funds available in the IPHG budget.
3. The IPHG will retain its eligibility to nominate IPHG students for Outstanding Student and other awards offered by SPH and the University of Washington independent of Biostatistics nominations for the same awards.
4. The IPHG representation to SPHEC will move from a responsibility of the Senior Associate Dean to a responsibility of the Chair of Biostatistics.
5. IPHG student representation on the student committees will be unaffected by this move of administrative home.

6. Implementation

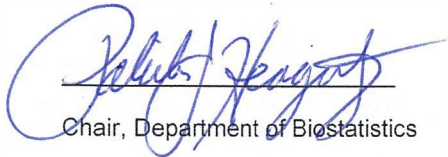
- a. For attribution of tuition revenue, all IPHG academic codes will be transferred to the Biostatistics. This includes major codes, minor codes, and curriculum codes. These are:
 - i. Curriculum code: PHG
 - ii. Major Code: PHG

Term of Agreement

1. The term of this initial agreement is from 1st July 2014 to 30th June, 2015



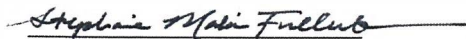
Dean, School of Public Health



Chair, Department of Biostatistics



Chair, Department of Epidemiology



Director, Institute for Public Health Genetics

Appendix A. Budget Numbers transferred to IPHG org code in Biostatistics

OrgCode	Org Name	Budget Number	Budget Name	Balance as of Sep 1 , 2013
3100003240	PUBLIC HEALTH GENETICS	079124	PHG NON-MATRIC REVENUE	\$ 13,491
3100003240	PUBLIC HEALTH GENETICS	644671	SPH IPHG EXCELLENCE	\$ (2,533)
3100003240	PUBLIC HEALTH GENETICS	658780	PUBLIC HLTH GENETICS	\$ 8,701
3100006220	INST PUBLIC HEALTH GENETICS	075716	PUBLIC HEALTH GENETICS	\$ (34,569)
3100003000	EPIDEMIOLOGY	659507	PUBLIC HEALTH GENETIC RES	\$ 62,112
			Total	\$ 47,202

Appendix J: Historical Documents
J3: IPHG Transition Plan

Appendix B. Current IPHG Staff transferred to Biostatistics IPHG Home Department Budget on Sept. 1, 2013

Name	ID Number	Job Class
Barb Snyder	873000203	Counseling Services Coordinator

Appendix J: Historical Documents
J3: IPHG Transition Plan

Appendix C. Summary of Space

Organization Name	Facility	Room Number	ASF	Primary Use	Principal Investigator
IPHG	1301 - RAI - RAITT HALL	331	353	OFFICE GENERAL SUPPORT	SNYDER, BARBARA
IPHG	1301 - RAI - RAITT HALL	331A	126	FACULTY OFFICE/DESK	SNYDER, BARBARA
IPHG	1301 - RAI - RAITT HALL	331B	159	DEAN/CHAIR/DIR/OFF	FULLERTON, STEPHANIE M

Appendix J: Historical Documents
 J3: IPHG Transition Plan

Appendix D. List of IPHG Core Faculty (Academic Planning Committee)

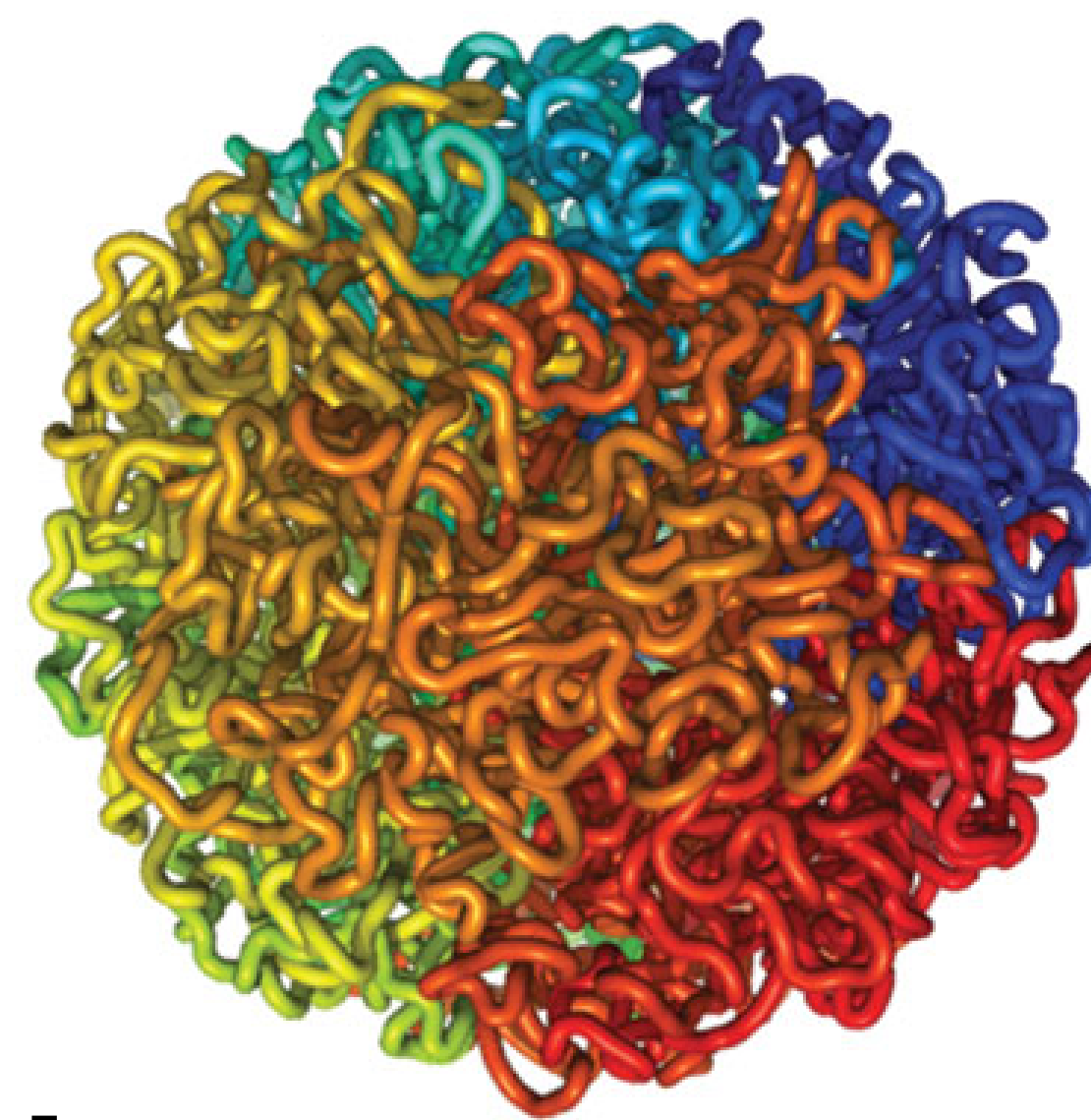
Faculty	Email	School	Department
Deb Bowen	< dbowen@bu.edu >	Medicine	Bioethics and Humanities
Wylie Burke	< wburke@uw.edu >	Medicine	Bioethics and Humanities
Deb Lochner-Doyle (DOH)	< Debra.LochnerDoyle@DOH.WA.GOV >	Public Health	Epidemiology (affiliate instructor)
David L. Eaton	< deaton@uw.edu >	Public Health	Environmental and Occupational Health Sciences
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TO: GRADUATE SCHOOL, UNIVERSITY OF WASHINGTON
FROM: BRUCE S. WEIR, PhD, DIRECTOR, INSTITUTE FOR PUBLIC HEALTH GENETICS
SUBJECT: REQUEST TO LIFT SUSPENSION OF ADMISSIONS
DATE: 20TH AUGUST 2015
CC: HOWARD FRUMKIN, MD, DrPH, DEAN, SCHOOL OF PUBLIC HEALTH

The Academic Policy Committee of the Institute of Public Health Genetics met on July 8, 2015. They asked me to request that the suspension of admissions to Master of Public Health in Public Health Genetics, the Master of Science in Genetic Epidemiology and the Graduate Certificate in Public Health Genetics be lifted. The programs should like to accept applications for the Fall of 2016, so it would be helpful to lift the suspension as soon as possible.

Since last year's request, interested and committed faculty in public health genetics were invited to form a transition planning committee. Following several meetings, they submitted a report to the Dean of School of Public Health, which also included a recommendation to lift the suspension on admissions. This request is justified on the basis of the number of faculty wishing to join IPHG, the continuation of programs without change at present, and the identification of instructors for all required courses. Dean Frumkin, Senior Associate Dean Beresford, the School of Public Health Executive Committee, and the School of Public Health Faculty Council are all supportive of this request.

**PUBLIC
HEALTH
GENOMICS**
**Symposium
& Poster Session**



Speakers:

Gil Omenn, Michigan

Jay Shendure, UW

Jim Olson, FHCRC

Gail Jarvik, UW

Nathan Price, ISB

Alan Aderem, SBRI

Solveig Sieberts, SAGE

Wednesday, January 28, 2015

9:00 AM–5:00PM, UW Tower Auditorium

Registration Check-in: starts at 8:00 AM

Website: phgenome.uw.edu Email: phgenome@uw.edu

Hosted by: University of Washington Department of Biostatistics

Sponsor: Axio Research



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