

SIMON FRASER UNIVERSITY

S.05-124

Senate Committee on University Priorities Memorandum

TO: Senate

FROM: John Waterhouse
Chair, SCUP
Vice President, Academic

RE: Proposal for a Masters of Science in
Population and Public Health in the
Faculty of Health Sciences (SCUP 05-061)

DATE: November 16, 2005

At its October 19, 2005 meeting SCUP reviewed and approved the proposal from the Faculty of Health Sciences for a Masters of Science in Population and Public Health.

Motion

That Senate approve and recommend to the Board of Governors, the proposal for a Masters of Science in Population and Public Health in the Faculty of Health Sciences.

encl.

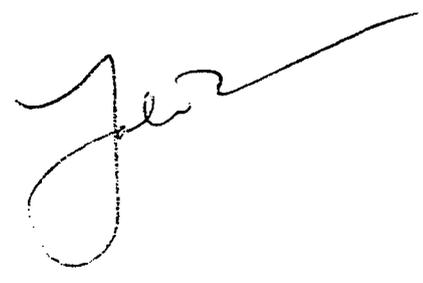
c: D. MacLean
A. Davison
C. Dean

SIMON FRASER UNIVERSITY
DEAN OF GRADUATE STUDIES
MEMORANDUM

TO: Senate Committee on University Priorities
FROM: Jonathan Driver, Dean of Graduate Studies
Chair, Senate Graduate Studies Committee
SUBJECT: Faculty of Health Sciences: New program proposal (GS 2005.35)
M.Sc. in Population & Public Health
DATE: October 3, 2005
cc: Charmaine Dean, Health Sciences

At its meeting of 12th September 2005 Senate Graduate Studies Committee approved a new program proposal - M.Sc. program in Population & Public Health in the Faculty of Health Sciences. I request SCUP recommend approval of the new program to Senate.

This proposal is substantially the same as the cohort special arrangements program which was approved by SGSC and submitted to SCUP in November 2004. A set of new graduate courses was approved in March 2005, as part of the cohort program.

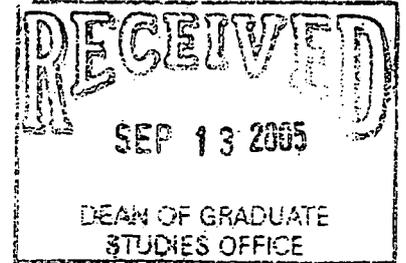




FACULTY OF HEALTH SCIENCES

PHONE (604) 291-4821
FAX (604) 291-5927

MEMORANDUM



DATE: September 13, 2005
TO: Jon Driver, Dean of Graduate Studies
FROM: Charmaine Dean, Associate Dean, Health Sciences *CBDean*
RE: Editorial Corrections from Senate Graduate Studies Committee,
September 12, 2005

Enclosed is the revised Proposal for an MSc in Population and Public Health. The elective courses have been removed from the calendar entry; and we have corrected from the calendar entry the duplicate listing of Patton's name and the job titles of Dr. Andrew Wister and Dr. Dan Weeks.

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PROPOSAL FOR MSC PROGRAM IN POPULATION AND PUBLIC HEALTH

21 July	2004	“Notice of Intent” and supplementary information approved “in-principle” by Senate Committee on University Priorities
24 September	2004	Received by Dean of Graduate Studies
14 October	2004	Reviewed by Assessment Committee for New Graduate Programs
12 November	2004	Received revised program proposal from Faculty of Health Sciences
22 November	2004	Sent proposal to four external reviewers by Dean of Graduate Studies
2 February	2005	Sent proposal to two external reviewers by Dean of Graduate Studies
17 March	2005	Received four external reviewers’ reports by Dean of Graduate Studies
30 March	2005	Sent four external reviewers’ reports to Faculty of Health Sciences by Dean of Graduate Studies
9 May	2005	Received response to external reviewers’ reports from Faculty of Health Sciences
11 May	2005	Reviewed and approved by Assessment Committee for New Graduate Programs, pending minor revision
17 August	2005	Received revised proposal by Dean of Graduate Studies
30 August	2005	Submitted to Senate Graduate Studies Committee

SIMON FRASER UNIVERSITY
DEAN OF GRADUATE STUDIES
MEMORANDUM

TO: Jon Driver, SGSC

FROM: Trude Heift, ACNGP

SUBJECT: Program Proposal in
Population and Public Health

DATE: August 30, 2005

At the ACNGP meeting of 5th May 2005 the committee unanimously recommended that the proposed Master's Program in Population and Public Health be forwarded to SGSC, with the recommendation that they be approved, pending the following revisions:

- 1) Implementation of the changes from the faculty's response letter to the external reviews;
- 2) Description of the research areas of new faculty hires;
- 3) Two minor changes to the examination procedures of the practicum stream.

These changes have now been made and the concerns raised by ACNGP have been addressed.



H

SIMON FRASER UNIVERSITY
DEAN OF GRADUATE STUDIES
MEMORANDUM

TO: Dr. Charmaine Dean	FROM: Trude Heift, ACNGP
SUBJECT: Program Proposal in Population and Public Health	DATE: May 11, 2005

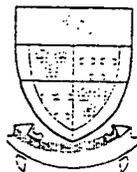
Dear Dr. Dean:

Thank you for your presentation at the ACNGP meeting on May 11. The committee was very pleased with the explanations you provided at the meeting and recommends the following modifications of the graduate program proposal in Population and Public Health to go forward to SGSC.

- 1) Implement the changes from your response letter to the external reviews;
- 2) Add a brief description of the research areas of the new faculty hires and the courses they will most likely be teaching;
- 3) On p. 27 of the proposal, delete "(including an expert in the area of the project, or an adjunct faculty member from the intended practicum workplace)";
- 4) Clarify the examination procedures of the practicum stream by adding a sentence that they will follow university regulations.

Please send us a copy of the revised proposal and I will forward the recommendation to SGSC. Thank you for your hard work on the proposal.

Best regards,





Proposal for an MSc Program in Population and Public Health

EXECUTIVE SUMMARY

In 2003, Senate approved a motion to establish a Faculty of Health Sciences and mandated, as the first programming priority, a Master of Science degree in Population and Public Health. A preliminary proposal for this degree was approved by the Senate Graduate Studies Committee, and the Senate Committee on University Priorities. The full proposal is presented here for your consideration.

The proposed MSc will prepare established professionals and recent graduates for positions of leadership in health research and in the health professions. Graduates will be skilled in health research and health program evaluation methodologies, health data analysis, the generation and dissemination of new knowledge, and the application of this knowledge in formulating new health policies. As such, this program will meet a rapidly growing need in the healthcare system across Canada, and will provide graduates in an area of rapidly increasing demand.

The syllabus will cover health sciences from the level of systems, communities, populations, and individual and clinical perspectives. There will be two streams - a thesis stream based on research, and a stream based on course work and a practicum or project. Those taking the practicum / project stream will be equipped to investigate and to apply evolving knowledge in their roles as practitioners in health care and delivery and in health promotion and disease prevention. Those taking the thesis stream will have had fewer courses, but through their theses they will have experience in generating new knowledge through original research. Both streams will build on a foundation of courses in the scientific methodology for population health research, epidemiology, determinants of health, health education, and disease control and prevention. Case studies will frame policy costs and benefits as trade-offs in different strategies for societal investment in health.

SFU's commitment to the Faculty of Health Sciences and the MSc in Population and Public Health is embedded in the university's resolutions, strategic planning, and priorities. The University has committed funds for the initial faculty and staff hiring and the necessary infrastructure, including space. Ten new faculty members have been recruited and a search for Canada Research Chairs is under way. This proposal is the next critical step in the implementation of the Master of Science in Population and Public Health degree. The first Master of Science in Population and Public Health students were admitted into a cohort based special arrangement in September 2005.

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I CURRICULUM

The program will prepare professionals and graduates for positions of leadership and positions in research in (1) population and public health, (2) policy and planning for health care and delivery, and (3) health promotion and disease prevention. The syllabus will cover health issues from the level of systems, communities, and populations, encompassing and transcending individual or clinical perspectives. The courses will emphasize community health research, health education, disease control, and disease prevention. Case studies will frame policy costs and benefits as trade-offs in different strategies for societal investment in health.

1. Curricular requirements

The MSc in Population and Public Health will have two streams:

- a thesis stream with a minimum of 24 credits and
- a practicum / project stream with a minimum of 36 credits

Students in either stream will take a core of five 4-credit courses, and the remainder of their courses as electives. Persons intending to develop in-depth research capability, including those planning to pursue a PhD, will be directed toward the thesis stream. Those with a professional or practitioner interest in a position of leadership that includes implementation and application of health research, health policy development and administration, would normally take the practicum / project stream.

Learning objectives represented in the curriculum

Population and Public Health leadership requires an array of professional skills and scientific literacy, ranging from statistical and epidemiological aspects of risk assessment, through managerial competence, to evidence-based understanding of all the determinants of health. Probably no program of study can systematically provide the entire range, but we can teach the appropriate fundamental knowledge to provide a solid foundation in the area. The program provides these through instruction in the theoretical underpinnings of population and public health concepts. Skills gained will be consolidated in workplace-integrated learning, independent study or research, and problem-solving case studies in an interdisciplinary team. The relationships between the instructional components / course work and the learning goals are outlined in Table 1 at the end of this section.

The scientific and methodological skill-set for Population and Public Health includes:

- Biometrics, biostatistics and epidemiology at the level of contemporary usage
- Determinants and measures of health: mortality, morbidity, well-being and quality-of-life
- Health economics, individual and population behavior and principles of public health
- Analysis and interpretation of data on secular, environmental, occupational, and global trends for population health
- Ethical issues, and sensitivity to belief systems in local, multicultural, and trans-national populations
- Community and population-based methods for program evaluation and intervention-evaluation

Areas of application include:

- Implementing population-based health needs assessment, risk assessment, and health promotion programs
- Establishing determinants of health using multivariate and meta-analysis and applying the data in policy development

- Applying epidemiological evidence along with biomarkers and molecular evidence in strategic health decisions
- Using program and intervention evaluation to assess the effectiveness of programs and projects
- Implementing health promotion, disease prevention, and capacity-building strategies
- Undertaking health, epidemiological, environmental, or occupational monitoring and disease surveillance

2. Requirements for the degree

[This section is abstracted from Appendix 1 - Calendar entry, which also provides details of the course structure and degree requirements.]

The MSc in Population and Public Health will have a thesis stream and a practicum / project stream.

Theses, practica, and projects will be supervised by a senior supervisor and supervisory committee.

Thesis stream - requirements:

1. A master's thesis
2. A minimum of 24 credits:
 - Five Population and Public Health program core courses
 - At least one Population and Public Health elective course¹
3. A one credit orientation course, Seminar in the Health Sciences, taken (satisfactory/unsatisfactory) in the first semester of study.

Practicum / project stream requirements:

1. A **practicum**, consisting of one-semester full-time as an intern in a workplace appropriate to the degree, or a **project** based on a problem or analysis in population and public health that involves a research component. The purpose of the practicum / project is to develop skills related to the health sciences, population health or workplace health policy, and its assessment, enhancement, and innovation. A supervisory committee (including an expert in the area of the project, or an adjunct faculty member from the intended practicum workplace) must be approved by the Graduate Program Committee prior to the start of each practicum. The supervisory committee will assist the student in developing a proposal which must be approved before the start of the practicum semester.

¹ It is anticipated that each elective courses will be offered at least once every two years, depending on student demand and faculty availability.

2. A minimum of thirty six credits:

- Five Population and Public Health program core courses and a course in research conceptualization
 - At least one Population and Public Health or Global Health elective course.
 - Two practicum/project related courses. (1) The Practicum/project report. The supervisory committee will monitor the student's performance and ongoing development of the report during the practicum. (2) Seminar in Workplace-Integrated Learning. Following the practicum, students will collectively critique their practicum or project report in this course.
 - The remaining courses can be selected from Population and Public Health program electives or from approved graduate courses available from other academic units across the university. Students are encouraged to include one elective from another Faculty.
3. A one credit orientation course, Seminar in the Health Sciences, to be taken (satisfactory / unsatisfactory) in the first semester of study

3. Course descriptions

Core courses and most of the designated electives have been specifically tailored to the long term educational objectives of the Faculty. Courses are identified as HSCI when they are expected to be widely used across this and future graduate programs. Courses specifically relevant to Population and Public Health are labeled PPH, and courses specifically relevant to Global Health are labeled GLOH.

For a detailed course list and course descriptions see Appendices 1 and 2.

Note: Full course proposals will be developed in cooperation with faculty members to be hired in 2004-2006. As courses are developed, they will be submitted for approval in the normal manner.

4. Expected class sizes and student/faculty ratios

From our survey of SFU students, we estimate initial applicant numbers at 30-50 from SFU graduates. Depending on advertising, there could be 10-20 from persons in the health profession seeking to upgrade their qualifications, and 10-20 from graduates at other universities. Interest on this magnitude would allow us to be selective. From about 70 applicants, we plan to accept 20 into the initial admission cohort, and allow this to grow by about 10 per year to plateau at about 40 MSc students.

These numbers predict an initial MSc student to faculty ratio of about 3. This may fluctuate over the initial years with variability in student enrollment or faculty recruitment. With 14 faculty and 40 students taking an average of 3 courses per semester, and about 10 courses offered per semester, we anticipate about 12 students per course in the steady state - perhaps half that number in the first start-up year of the program.

5. Research expectations or implications for this program

An optimal ratio between enrollment in the thesis versus practicum / project streams will be explored during the admission process. In the initial cohort, five to seven thesis students will be admitted, depending on availability of supervision. In subsequent years, we expect this number to double.

Table 1. How the curriculum contributes to the goals of the program

The core courses and other required activities are intended to provide the central learning objectives of the program. The elective and directed studies courses provide depth in one or a few areas relevant to a particular student's individual needs.

Course area	Health economics	Health Systems	Epidemiology	Bio-statistics	Public health	Research design / methods	Social / cultural determinants	Practicum / work-place learning seminar	Seminar in health science	Team case studies	Thesis
Methodological underpinnings: Math-stat, computing, risk management, epidemiology and population-based methods, surveillance, intervention			✓	✓		✓	✓		✓	✓	✓
Research skills: Experimental design, flowcharting, evidence-based epidemiological inference, proposal writing, confounders and field-modification			✓	✓	✓	✓	✓	✓	✓	✓	✓
Communication skills: oral, written, facilitation, consensus-building.		✓			✓			✓	✓	✓	✓
Data acquisition & data mining: Initiate, organize and carry out the research important to Population and Public Health particularly utilizing information from large health administrative data systems	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓
Applications of health policies across population: health promotion / disease prevention, determinants of health, genetic, social and cultural, modification of population health behaviours	✓	✓			✓	✓	✓			✓	✓
Project analysis & management: Generate, design, develop and execute community / population-based projects and programs, needs assessment, program evaluation, efficiency, cost-effectiveness	✓	✓			✓	✓		✓		✓	✓
Value sensitivity: Evidence-based, ethically unassailable, sensitivity to the issues, lifestyle needs and belief systems (community norms and values) of the population involved.			✓		✓	✓	✓	✓		✓	✓
Team-building skills: Knowledge and skills to work in an interdisciplinary environment. Brainstorming, consensus building, teamwork in a community of scholars.		✓			✓			✓	✓	✓	

✓ Implies the course partially meets the goal. Shading means the goal is central to the course purpose

II LEARNING METHODOLOGIES

1. How learning methodologies achieve intended outcomes

As indicated above, courses from both inside and outside the Faculty of Health Science will provide a common foundation of core methodological skills and a range of electives to accommodate the specialized needs of students. Supervised research in the thesis stream will provide specialized research training, while in the practicum / project stream the student will take an investigative approach to methodologies and decision-making tools currently used by health practitioners.

2. Features

Distance education and independent study

Our survey indicated that a significant number of prospective students want a web component to their courses, including the possibility of taking some courses solely by web delivery. We have agreed in principle with eLINC SFU to progressively incorporate these components into the courses. The Faculty of Health Sciences will take responsibility for providing content, and eLINC will provide web design and course delivery resources. Web / classroom integration will complement the integration of classroom exposition with workplace implementation.

Employability skills

Cooperative Education SFU has agreed to make their instructional modules on employability and job-search skills available to our students. The skills most desired by the employers they surveyed are: team-problem solving, good oral and written communication, and mathematical and computational skills [Zumbo et al. http://www.ecps.educ.ubc.ca/grad_programs/merm/plan.html Appendix B:] Most, if not all, courses will incorporate a mix of all three of these.

Workplace-integrated learning

Theoretical skills are best conceptualized in the context of applications in which they will be used. For this reason, we will use practica, case studies, workshops, and seminars to stress applications. Students from academic and professional backgrounds will learn from each other in an interdisciplinary, participatory learning community of scholars. The involvement of health professionals as associates in the teaching program and as guest lecturers will enrich the classroom experience. In their final semester, practicum students will take a mandatory course in which those coming from or moving to professional careers will draw from each other's experience. Here they will reinforce the skills and applications they encountered in the investigative aspects of their practica, by explaining and discussing specific examples of workplace problem solving.

Case studies

Wherever possible, courses will incorporate case studies to ensure grounding in current real-world problems. Learning will be active, rather than a passive memorization of facts. Diverse viewpoints will be explored in an inclusive way, while inferences will be strictly evidence-based.

Exchange and transfer of courses and research from other universities

We encourage the incorporation of relevant postgraduate courses from other universities into the students' degree programs. The "Western Dean's Agreement" facilitates the process of transferring credit. Participating universities include: University of Alberta, Athabasca University, Brandon University, University of British Columbia, University of Calgary, University of Lethbridge, University of Manitoba, University of Northern British Columbia, University of Regina, University of Saskatchewan, Simon Fraser University, and University of Victoria. Such courses include distance learning and web-based courses, which would not require the student to travel. Thesis students may do part of their thesis research at another university provided that arrangements satisfactory to the supervisory committee can be made.

Degree completion time

If a student takes 12 credit hours of course work per semester, normal completion time is 4 semesters. Alternatively the courses can be completed over 5 semesters: four semesters at eight credits per semester and a practicum semester. At least one course will be offered outside regular office hours to allow completion by persons working part time.

For students who want to complete the MSc in 3 semesters a sequence of course offerings will be made available to allow this.

III FACULTY AND OTHER RESOURCES

The University has already made a substantial commitment to the establishment of the new Faculty. The following demonstrates that the necessary infrastructure has been provided.

1. Personnel

The University has committed funding for the eventual hiring of fourteen faculty and has allocated two Canada Research Chairs to the faculty in addition to a recently appointed CRC in Infectious Diseases. For the initial cohort, ten faculty have been hired and two CRCs will be hired. See Appendix 3 for the faculty job descriptions.

The initial hiring in progress will build key research, technical, and methodological strengths in the following areas: Health Economics, Epidemiology (three positions), Qualitative Research Methods in Health, Biostatistics, Public Health/Community Medicine. In addition, faculty from existing academic units are anticipated to contribute to the elective courses through course offerings in their home units or through cross-listed courses. Some of these faculty will be formally recognized as Associate Members of the new faculty.

Adjunct Professors will be appointed from the outside community, bringing their professional experience and expertise to the graduate student thesis and practicum supervisory committees and helping guide the development of the new faculty.

Staffing, faculty workload, and supervisory responsibilities

Faculty will teach the equivalent of four courses annually, with appropriate relief for supervising practica and graduate students, and extraordinary administrative responsibilities.

There will be two Associate Deans in the Faculty of Health Sciences. The Associate Dean (Academic Programs) will oversee academic administrative responsibilities with regard to faculty, students, graduate and undergraduate programs. The Associate Dean (Research) will oversee research activities of the faculty, including those of the Institute for Health Research and Education, and the Data Warehouse. Appendix 4 provides information on program governance.

The initial faculty complement, will together teach 14 to 21 courses including the core, electives, and practica. Their areas of expertise will be appropriate to the core courses and will condition the availability of elective courses. The currently committed complement of faculty will therefore cover annual offering of the core courses plus biannual offering of the elective courses plus practica. A fuller complement of electives will be offered to the extent that faculty from other departments are available to contribute to graduate courses through buy-out, secondment, or course cross-listing.

The core and other course allocations may be mapped out as follows:

1 x Health Economist:

Health economics, health project evaluation and management¹, plus other electives

¹ Please refer to Appendices 1 and 2 for more information about the following courses

3 x Epidemiologists:

Advanced topics in epidemiology for the health sciences (core),
Topics in research design and methods for the health sciences (core),
Case studies in health systems and the determinants of health (core), plus electives

1 x Biostatistician:

Case studies in applied biostatistics for the health sciences (core) plus electives

1 x Public Health / community health physician:

Electives

1 x Qualitative Research Methods in Health:

Case studies in qualitative research methods for the health sciences, plus other electives

In practicum or project development, the practicum workplace supervisor (an adjunct faculty member) will work directly with the student in project planning, and project supervision. The senior supervisor (a faculty member) will be responsible for oversight, supervision, and quality control.

Competence of faculty members to supervise MSc students

We anticipate that hirings will be across assistant, associate, and full professor levels. Unless we decide to hire some ABD candidates, all will have demonstrated ability to supervise graduate students at the Masters and potentially at the PhD level.

[Editor's Note: Appendix 5 provides summary descriptions of expertise of the new faculty appointments.]

2. Library

The Library has recently upgraded resources in the area of Population and Public Health to be comparable with other universities offering cognate programs. A detailed report from Megan Crouch, the Health Librarian, is provided in Section VII.

3. Data Warehouse: Databases for population health research

The Faculty of Health Sciences is negotiating with the BC Department of Vital Statistics for transfer of their entire Vital Statistics Database to SFU, on the understanding that it would also be used for the support of health research and education. A Memorandum of Understanding is expected imminently. The Data Warehouse is central to the vision of FHS. Various data sources are envisioned for the warehouse: vital statistics, arthritis, health authority, cardiac registry – to increase capacity for health research broadly at Simon Fraser University and in the province. This will link with developing expertise in spatial statistics and GIS, Health communications, Computing science: security, interfaces, data mining, Public health/social epidemiology and virology/immunology. In addition, we are negotiating a Memorandum of Understanding with the Provincial Health Services Authority to provide the opportunity for health research and practica within the major health facilities of the Greater Vancouver Area.

4. Support for graduate students

It is anticipated that all graduate students accepted for admission will have financial support for a reasonable duration for completion of their degrees. We expect the financial resources offered to students in this program will be significantly more than the median at SFU. Financial support for graduate students will come from a variety of sources including:

- **Research Assistantships** funded from faculty research grants will be available to most, if not all, thesis students
- **National Scholarships:** exceptional students will bring their own national scholarships earned in superior undergraduate studies. Moreover, many students in the practicum stream will be on time-limited scholarships, or paid or unpaid study-leave from careers in health.
- **SFU Entrance Scholarships** and special entrance scholarships
- **Faculty Fellowships:** The Faculty of Health Sciences intends to emulate other faculties that offer full fellowships and also half-fellowships to match other sources of funding. During practicum / project semesters various summer fellowships may be available for work-study semesters. These could be supplemented by the foregoing.
- **SFU University Fellowships:** and research fellowships will be available through the Dean of Graduate Studies office.
- **Traineeships:** External traineeships are available from national and provincial agencies, for example MSHRF, BC Cancer Agency etc. The faculty has been asked to help find recipients for Traineeship grants specific to Population and Public Health from Health Canada via the CHIR - details at <http://www.cihr-irsc.gc.ca/e/services/20151.shtml>. The faculty has also been contacted by health foundations such as AIDS Vancouver with regard to eligibility for fellowships specifically available for students in health programs. These could include Heart Health agencies, CARS, and the BC Cancer Foundation.
- **Teaching Assistantships** in seven lower division undergraduate courses that will be available when these courses are offered, starting in 2006. Students who prefer not to take a full course load while doing a TAship have this option.

5. Space

Space was allocated in 2004, and a 300% expansion in Fall 2005 has provided the additional space required to house the new faculty and graduate students and their research programs along with expansion of the Institute for Health Research and Education, for example through the acquisition of the BC Vital Statistics Data Base.

In Fall 2006, the School of Criminology will move from its present location in the West Mall Complex to the new Arts Complex, whose construction will start in 2004. The Faculty of Health Sciences will then expand into the West Mall space vacated by Criminology.

By 2007-2008 it is anticipated that a new building will have been constructed for the Faculty of Health Sciences.

6. Timelines for implementation

Partnership arrangements with other academic units of SFU are under way and will be completed after this program is running. Also note that we are discussing an agreement with the Department of Statistics and Actuarial Science to provide STAT 302 or an equivalent each Fall for students who lack this pre-requisite. Framework agreements with participating health authorities should be in place by late 2005. Fulfilling our mandate for a full MSc in Population and Public Health is contingent upon timely implementation of this proposal.

IV PROGRAM CONSULTATIONS AND EVALUATION

1. Preliminary consultation - External needs assessment

An external needs assessment was undertaken prior to submitting a proposal to Senate for the new Faculty of Health Sciences. SFU commissioned Zena Simces & Associates to report on:

- the status of population health recognition on a national basis
- the community view of research and graduate education in population health
- the need for Population and Public Health programs at SFU

The following is an excerpt from a UBC comprehensive 2004 survey of Public Health Education in Canada undertaken by the Canadian CDC and the BCCDC. To view a full version of the UBC report, go to <http://www.bccdc.org/downloads/> and click on Statistics and reports.

The Simces report was conducted through Internet searches of Canadian graduate public health education programs, funding organizations and research programs as well as through interviews with 80 key stakeholders in the public health community and an email survey of nine professional health organizations.

The study looks at three areas of recognition within public health: Canadian research programs and funding organizations; the health care system; and university graduate programs. Within research and funding organizations, population and public health is now considered a separate research stream which provides evidence that initiatives within this area are significant. Health Canada has shown its support to public health through the publishing of 6 reports on health care delivery over the last several years.

It was also noted in the report that most graduate programs in public health are found within Medical Schools in Canada. UBC and the University of Victoria (UVic) are involved in an interdisciplinary graduate program that offers courses in public health. There are two new innovative models of training in population health: the Western Regional Training Centre for Health Services Research (UBC & U of Manitoba) and Health Canada's Skills Enhancement for Health Surveillance program. The latter program's primary focus is to provide on-line epidemiological training to public health professionals to be used in local decision making and planning; it is part of the Centre for Surveillance Coordination.

The research findings of the Simces report support the importance placed on public health by Canadian research programs and funding agencies, universities and the health care field. Key stakeholders involved in the report identified the critical need for increased studies and understanding of population and public health, and specifically in the area of practical, applied and policy relevant research. They also identified population and public health as an important area for future education, research and collaborative effort. Programs supporting funding for public health research have increased and continue to grow, albeit at a much slower rate than funding contributed to clinical and basic science. Although there are several Canadian public health programs, there is still a shortage of trained professionals to teach public health skills.

The study found gaps in education and practice related to three significant areas:

- Policy-relevant research
- Transfer of research knowledge
- Measurement of outcomes and effective interventions

According to the research done by Zena Simces & Associates, future significant developments in education in population and public health in BC include:

- Expanding UBC's medical school to UVic and UNBC
- UBC's Institute of Health Promotion Research graduate program
- Establishing a Collaborative Community Health Research Centre at UVic.

The needs assessment concludes:

Lessons learned from experience of others emphasize how important it is to build on strengths and enhance the capacity of current researchers and educators to work with each other and to collaborate with colleagues from other universities, agencies, communities and countries. This, along with a flexible program that meets student needs and rewards faculty appropriately, will create the synergy to establish SFU as a key contributor to the population and public health field.

The full Simces report is at <http://ihre.sfu.ca/publications.php> External Consultant's Report.

Appendix 6 provides information on the submission of the Letter of Intent, while appendix 7 describes the evolution of health sciences at SFU.

2. Ongoing consultation - Policies and procedures for review

A comprehensive external review of the MSc program will occur in the fourth year of the new program. The review will be consistent with University policy and include an assessment of the educational programs, faculty complement, and their scholarly activities.

3. Membership of advisory committees

A Faculty of Health Sciences Oversight Committee has been established. Dr. John Waterhouse chairs a monthly meeting to provide consultation on the Faculty of Health Sciences. Recent discussions have centred on the planning for the Faculty's initial MSc program. Committee members are John Waterhouse, John Pierce, Jon Driver, Brian Lewis, Mike Plischke, Bill Krane, David MacLean, Colin Jones, and Irene Rodway. Once faculty members are on site, the Faculty of Health Sciences Graduate Program Committee will report to the Dean of Graduate Studies in the usual manner.

VI EDUCATIONAL MERITS AND TIMELINESS

Population health - reframing public health in a 21st century context

When practices of public health were formalized in the mid-19th century, unidentified infectious agents and occupational exposures posed acute threats to health. Thus, public health became associated with large-scale acute health hazards like poor sanitation, bad water quality, food contamination or adulteration. Hazard-mitigation was accomplished through immunization, environmental monitoring, building codes, licensing of restaurants, and school programs to monitor child health. Health budget planners, constrained by the cost of contemporary medical care, are recognizing a need to broaden public health into a much wider range of preventive and intervention measures, including health promotion strategies. The broader new vision is "population health."

Distinguishing population health from individual health and health care delivery

Population health analyses the determinants of health at a level broader than that of the individual or clinical model. It extrapolates data regarding individual health and disease to implications for the health of a population. Population health considers the determinants of health (nutritional, genetic, lifestyle, sociocultural, geographical, etc.) and effectiveness of health services, insofar as they determine the health and well-being of a cultural group, community, or population. A workable health system requires a detailed and specific understanding of the determinants of population health, not least for planning individual health care delivery strategies. Of particular concern is the paralysis in implementing changes needed in health policy and in convincing decision makers regarding needs and viability.

Physical and biological approaches must be integrated with social and behavioural sciences

Advances in the sciences such as molecular genetics and the biochemistry of disease have allowed a more reductionistic approach to population determinants of health and disease, and yet science alone is demonstrably unable to mitigate health risks in a population. In shaping health outcomes, scientific information has done little to change human behaviour, the social contexts of human interactions, or periods of sensitivity and vulnerability. Risk communication is needed, but also effective strategies for behavioural change to mitigate lifestyle habits and other risks associated with everyday living conditions (housing, work, neighbourhoods). The added focus on social environments and conditions associated with chronic degenerative diseases demands the involvement of social and behavioural scientists, criminologists, and quality-of-life scientists, not least psycho-neuro-immunologists. Analyzing population risks has become more important than individual risk mitigation. Beyond this, health risk mitigation requires reframing risk perception. Small, almost unnoticed risks affecting large numbers of people have a greater overall impact than the more dramatic risks that affect only a few. For all these reasons, an interdisciplinary approach to health promotion strategies and disease prevention across populations has moved to centre stage. Public and population health encompasses acquisition, interpretation, and dissemination of research data and its application in motivating and implementing policy change. Success will be contingent upon more effective interdisciplinary collaboration among behavioural, social, statistical, and biomedical scientists.

Key questions for research and knowledge dissemination in population health:

- What are the determinants of health at the individual level and at the societal level?
- In what ways do the macro- and micro- "social environments" determine societal health?
- How do socio-economic characteristics (above the level of the individual) determine societal health?
- How do determinants of health act incrementally through the stages of the life cycle?
- What are the mechanisms by which sociocultural factors impact our health?
- What is the significance of "global health" to the health of Canadians?

[Canadian Institute for Health Research, where these concepts have become part of the official health policy goals of Canada <http://www.cihr-irsc.gc.ca/e/institutes/ipph/12274.shtml>].

Evidence-based answers to these questions require the most rigorous application of scientific methodology, including the knowledge and methodology of biology, human physiology, epidemiology, statistics, and the social sciences.

1. Relationship to SFU's research priorities and strategic goals

The Senate motion that established the Faculty of Health Sciences states: "The new MSc program in Population and Public Health will be developed as a priority ... the full program proposal will be developed, submitted, and approved by January, 2005." As scheduled, the first cohort of students was admitted to the cohort MSc program in September, 2005.

The high priority for increased capacity in health mirrors societal needs and an increasing demand for personnel with training specific to the area of Population and Public Health - not so much to provide personal health care to patients, but to diminish the need for patient care by addressing the key determinants of the population's health. Health Canada and other agencies are earmarking funding for the training and deployment of persons with advanced skills in this area, as well as for retraining faculty members and other professionals. These changes have created a niche into which SFU intends to expand at this time, as reflected in its current Strategic Plan.

2. Relationship to existing Canadian programs

Distinctive characteristics and competitive advantage

Overall, the program examines health issues in health systems, community development, and health promotion contexts, as distinct from a clinical or individual perspective. The perspective ranges across populations in contrast to focusing solely at the perspective of individual health. The issues of concern in "Population Health" and the contemporary approach to "Public Health" outlined above illustrate the major distinction from most existing health programs in Canada.

Cognate programs at the other BC universities reflect the Faculty in which they are mounted. In general, nursing and medical schools at UBC and imminent new medical schools at the University of Victoria and the University of Northern BC carry a mandate to focus their public health programs on health care and delivery at the level of the individual patient, clinical epidemiology, nursing, and health management. The University of Victoria has a major initiative in Medical Informatics, and the University of Northern BC has a major initiative in Nursing, as well as a mandate to focus on Northern issues and particularly First Nations Health. The absence of an established medical model at SFU allows us to position the degree at the population and systems level, in which the interdisciplinary diversity of the faculty gives SFU an opportunity to enjoy a competitive advantage. The integration of both natural and social scientists into the IHRE and its Steering Committee, into the drafting and planning of this degree proposal, and into the job descriptions of the faculty members to be hired, all point to a truly interdisciplinary Faculty of Health Sciences.

While there is some overlap with the titles of the degrees at other BC Universities, the program course requirements and descriptions are very different, and there is almost no overlap in the courses offered or required. The emphasis in the current program will complement the research strengths of SFU in physiological systems and individual health (Kinesiology), in molecular and cellular determinants of health (Molecular biology and biochemistry), and in social and cultural aspects of health (Psychology, Gerontology, Sociology and Anthropology, and other departments). We have chosen a degree structure that will give Simon Fraser University a competitive advantage in the area of Population and Public Health, vis-à-vis degrees constrained by a medical school context. Appendix 8 provides further discussion on the degree title.

Similar programs at other institutions in Western Canada

Worldwide our degree will not be unique. Excellent examples of similar programs exist at the London School of Hygiene and Tropical Medicine, the University of Maastricht, Portland State University, and the impressive and comprehensive array of degrees in Health Sciences at the University of Toronto. The existence of similar programs elsewhere assists with "product recognition" and we have sought to borrow from the best available in Canada, the US, UK, and Australia.

In Western Canada, University of Manitoba offers a thesis degree, and the University of Calgary offer a course and thesis MSc in Community Health Sciences, as well as a Master of Community Medicine Program. They have a broad spectrum of courses overlapping substantially with our own under the categories: Biostatistics, Epidemiology, Health Research Methods, and Health Care.

<http://meddevs1.med.ucalgary.ca/InfoHub/chs/getCurrent.jsp?page=courses>

The Department of Public Health Sciences at the University of Alberta offers an MSc in Population Health, which requires a thesis plus six courses: Introduction to Health Systems and Health Policy, Fundamentals of Public Health, Population Health Research Methods, Demographic or Data Analysis, Determinants of Health, Introduction to Epidemiology. This program has significant overlap with our thesis stream, but little with our practicum / project stream. <http://www.phs.ualberta.ca/>

In contrast, the most closely related programs in BC, where they exist, differ substantially in goals and methodology.

University of British Columbia

MSc Healthcare and Epidemiology

The focus of this program on clinical epidemiology reflects its academic location in the Faculty of Medicine. Its focus is epidemiology and biostatistics, with a thesis degree related primarily to clinical issues. "A research-oriented Master of Science ... with eight months of course work primarily in epidemiology and biostatistics followed by a thesis which applies this to topics related to the health of populations and the delivery of health services." On the face of it, it appears similar to the current proposal. However, it is a thesis degree only, and the courses required have little overlap with the current proposal, being primarily in epidemiology and biostatistics. In addition this program proposal is distinctive because of its extensive use of case studies, its integration of workplace experience and through distance learning. The population health focus and project-management skills that Simon Fraser University's program will emphasize will compliment the clinical educational opportunities at the University of British Columbia.

University of Northern British Columbia

MSc in Community Health

UNBC offers "a research-oriented Master of Science ... with 36 credits of course work followed by a thesis which applies research to topics related to the health of populations and the delivery of health services." However, the focus of this program is "Health issues in northern, remote, and First Nations communities." The course structure has very little overlap with the current proposal. The number of courses specific to the degree is much smaller than the current proposal, and most of the courses are nursing related.

University of Victoria

The closest related degree at UVic is a *School of Health Information Science*, which has no significant overlap with the current proposal. Plans for a satellite Medical School at UVic are currently being implemented, but projections regarding a MSc in Community Health have not yet come to fruition.

Simon Fraser University

SFU has many departments, programs, and courses that provide a context for the current proposal, and add to the range of useful elective courses (see "Courses" in Appendix 1). There is, however, little overlap in the goals of any specific program with the current proposal. For completion, we mention the following.

Masters of Public Policy degree (Harbour Centre Campus)

The degree in public policy requires nine core courses in economics, political analysis, quantitative methods, and policy analysis plus six electives for a total of 45 credit hours. While the areas of specialization do not overlap, there are opportunities for synergy. Some of their courses may be electives in the currently proposed degree, or double-listed in both faculties.

3. Demand for the Program from Prospective Students

1. Survey of potential students

To date we have carried out two surveys: (1) upper level students at SFU and (2) health professionals currently in health-related workplaces.

Survey of SFU upper level students

In a survey of third and fourth year SFU students, well over 150 expressions of interest in the newly proposed program were received. Respondents were from the major departments contributing to IHRE. Over 80% completed a detailed survey of their career goals and educational intentions.

Survey of health professionals

We intend the program to appeal to persons currently working in the field of health as professionals. A survey of Canadian health professionals regarding their interest in taking the MSc degree confirms this. By September 1st, we had received over 70 expressions of interest, and over 40 completed our questionnaire. From a preliminary analysis, 60% of those who responded are currently employed in the health field. Somewhat to our surprise, there was almost as much interest in the thesis stream as in the practicum / project stream. Respondents' primary areas of interest in the program are: Determinants of health (82%), Development of leadership skills (74%), and Health of vulnerable populations (62%), their career goals are spread over a wide range, with Health education and health promotion being favoured by a significant margin. As to the possibility of co-operative education, 79% are very interested or somewhat interested. Almost 80% are very interested in web delivery, and almost 60% are very interested in part time studies. As to educational background 5% had degrees in Business, 10% in Nutrition, 10% in Health Promotion, 5% in Psychology, 5% in Sociology, with 50% "Other". The data confirm that the program appeals to health professionals and practitioners who wish to (1) enhance their knowledge of population health-related issues, (2) acquire additional skills to meet a demand for health research and evaluation in their workplace, and (3) equip themselves for a career change. They come from a wide range of backgrounds. The first choice for location as a place to do the degree, for most people was SFU, but working at home via Web delivery (54%) as opposed to 35% whose first choice was SFU Burnaby Campus. Over half were interested in beginning studies in Fall 2005.

2. Predicted student population - new graduates and health professionals

Taken together, our surveys confirm that applications will come from graduates seeking additional expertise and certification necessary for a career in an area related to population and public health, health policy, epidemiology, community health, health literacy, health promotion, and outcomes or determinants of health. Some will already be employed in the health field and will be seeking career advancement. Others will be newly graduated and in search of a graduate degree that would qualify them for a position allowing more responsibility than a Bachelor's degree.

3. Relation to long-term societal needs

The Simces report on the needs to be served by this degree program confirm that population and public health are strategically important areas for Canada and will remain so in the foreseeable future. An executive summary of the report is given in an appendix to this document. The full report is available to interested persons upon request. The Simces report shows a most satisfactory integration of this proposed SFU degree with current and future Public Health Education activities in BC and Canada.

4. Demand for graduates from prospective employers

1. Governmental sector

Potential employees include a range of governmental health agencies extending well beyond Health Canada. These include the Population and Public Health Branch of Health Canada, Regional health boards, BC Cancer Control Agency, Provincial and Federal authorities, including CIDA, Centres for Disease Control, International agencies, UN agencies (i.e. World Health Organization, UNICEF, UN-AIDS, UNFPA, and FAO, and Pan American and Africa-focused governmental agencies.)

2. Private and non-governmental organizations

Opportunities for graduates will include research agencies such as BC Cancer Research Centre, BC Cancer Foundation, Heart and Stroke Canada, Canadian Cancer Society, Canadian Public Health Association, Canadian Multicultural Health Promotion Society, and private health research foundations such as the McCreary Centre. Environmental health assessment organizations, advocacy groups for human health, and other private foundations are also potential employers.

5. Timelines for students - course scheduling

Completion of the thesis degree at normal pace would take 16 months, but note that thesis completion is inevitably variable. The practicum-based degree would take in a cohort of students each fall semester who could proceed in lockstep. We are reluctant to force students to adhere to this, but we strongly recommend it. This has many advantages, not least that at a normal pace, the cohort would finish in 16 months. At an accelerated pace, the practicum-based degree could be completed in twelve months. Students must apply for this option and will be approved only if they have demonstrated resourcefulness and independence, and obtained an excellent grade point average.

Table 2 Guidelines for degree completion

The possibilities for degree completion include the accelerated completion

Semester	Thesis	Practicum / project stream normal	Practicum / project stream accelerated
Fall	3 courses + 1 credit seminar	3 courses minimum + 1 credit seminar	4 courses minimum+ 1 credit seminar
Spring	3 courses + pilot research + thesis proposal	3 courses minimum including HSCI 895 Research Conceptualization course	3 courses minimum including HSCI 895 Research Conceptualization course
Summer	Thesis research (possible completion)	Practicum + Practicum Report, HSCI 896	Practicum + Practicum Report HSCI 896 + Practicum Seminar in workplace integrated learning HSCI 897.
Fall	Thesis write-up and defence	1 course + Practicum Seminar in workplace integrated learning, HSCI 897.	

Table 3 Course scheduling feasibility

Courses	Fall 2005	Spring 2006	Summer 2006	Fall 2006
HSCI 691 Graduate seminar in the health sciences	X			X
HSCI 801 Biostatistics I		X		
HSCI 802 Research topics in epidemiology for the health sciences	X			X
HSCI 803 Research methodology for the health sciences	X			X
HSCI 804 Systems analysis of health care and delivery				X
HSCI 890 Special topics in health sciences	X			
HSCI 891 Special topics in health sciences				
HSCI 892 Special topics in health sciences				
HSCI 895 Research conceptualization and design in the health sciences		X		
HSCI 896 Practicum/project report			X	
HSCI 897 Seminar in workplace integrated learning				X
PPH 801 Concepts and mechanisms in the determinants of health		X		

VII ADDITIONAL MATERIAL REQUIRED BY SFU

1. Reviewers

The external reviewers are: Tom Hassard, Professor and Graduate Program Director, University of Manitoba, Department of Community Health Sciences; Leslie McBride, Associate Professor and interim Director, Portland State University, School of Community Health; Bruce Reeder, Department Chair and Professor, University of Saskatchewan, Royal University Hospital; and Irving Rootman, Professor, University of Victoria, Faculty of Human & Social Development.

2. Budgetary

Commitment by SFU

SFU has provided for the hiring of the faculty members needed to teach the courses, CRC chairs to allow a solid foundation of funded research, technical and support staff, and operating costs for the initial three years of operation. An initial budget of \$1.8M has been established, and this should prove adequate. Provision has also been made to allocate space in parallel with the growing needs of the program as faculty complement increases over the initial years.

Recommendation regarding fees

An enhanced fee structure for the degree may be recommended to recover the costs of external lecturers and practicum administration. A flat per-semester fee of \$2000 per semester, dropping to \$1000 after the first six semesters, is currently favoured.

Library report on library resources required

Introduction

During the development of SFU's Institute for Health and Research Education and the evolution of the Faculty of Health Sciences, the Library has been working to assess our collections and other needs to support the growth of health-related research and programs at SFU. The Library has funded a Health Sciences Librarian, and has sought funding from a variety of sources to support the growth of our health-related collections. However, current funding is not adequate to cover the requirements of the proposed graduate program. The library costs associated with the program are detailed below, with an explanation of funding already secured, and an enumeration of outstanding costs.

Monographs

The library purchases most books through approval and notification programs from major book wholesalers. In preparing this assessment, the Library analyzed gaps in the current collection and developed book approval profiles for Canadian, US, UK and other foreign imprints relating to the subjects covered by the program. A list of these headings is available. In addition to acquisitions under these headings, selective purchases from clinical and biomedical subjects relating to the courses will be made. An allocation is also required to fulfill direct requests from new faculty members for the program as they are hired.

The additional annual cost of purchasing books to support the program will be \$55,000. This represents 425 books per year at an average book cost of \$105 for titles from Social Science disciplines and 65 books per year at an average cost of \$155 for Biomedical titles.

In addition to the ongoing purchase of new publications, there is a need to do some retrospective collection building to fill gaps in the collection. This will include recently published material as well as a limited number of classic and reference works in these areas. For example, the Library has not been collecting at all to date in the areas of some of the proposed courses and has very limited holdings:

HSCI 8xx Health problems of vulnerable populations [not for immediate delivery - ed.]
HSCI 8xx Science and evidence-based inference in the health sciences
GLOH 8xx Women's, children's and reproductive health [not for immediate delivery - ed.]

In the areas of many other proposed courses, the Library has been collecting only selectively, but not at a level suitable to sustain a graduate program, for example:

HSCI 803 Research methodology for the health sciences
HSCI 802 Research topics in epidemiology for the health sciences
HSCI 806 Case studies in epidemiology of chronic, infectious and acute health problems
HSCI 8xx Research frontiers in health promotion and disease prevention
HSCI 807 Topics in health risk assessment and risk management

Considerable progress was made building the population, public health and epidemiology collection during 2003/04 with funding from the Library and the VP Research. Retrospective collection development will continue during 2004/05 with funding from an Indirect Costs of Research grant (\$110,000 allocated).

Ongoing cost: \$55,000/year

Serials

The Library provides access to many journals that will support the proposed program. Rather than listing them all here, links are provided to existing lists:

- Selected electronic journals in Health Care and Epidemiology at SFU Library
<http://www.lib.sfu.ca/researchtools/electronicjournals/ejdb.htm?Display=DisciplineID83>
- Selected electronic journals in Medicine at SFU Library
<http://www.lib.sfu.ca/researchtools/electornicjournals/ejdb.htm?Display=DisciplineID74>

In consultation with IHRE faculty, the Library started a number of new journal subscriptions in 2004. However, there are still significant gaps in the collection that will need to be addressed to adequately support a graduate program in this area.

New journals to be acquired:

Academic medicine	Health services research. HSR
AIDS care	Human nature -- An interdisciplinary biosocial perspective
Canadian journal of nursing research	International journal for quality in health care
Cancer epidemiology biomarkers & prevention	Journal of evaluation in clinical practice
Evaluation and the health professions	Journal of family planning and reproductive health care
Health education and behavior: the official publication of the Society for Public Health Education	Journal of health communication
Health education research	Journal of health law
Health law review	Medical care research and review
Health policy and planning	
Health promotion international	

Medical decision making
Medical informatics & the internet: an international journal of informatics in health care
Methods of information in medicine
Milbank quarterly
Nutrition research reviews

Proceedings of the nutrition society
Social history of medicine
Sociology of health and illness
Statistical methods in medical research
Teaching and learning in medicine
Tobacco control
WHO Technical report series

The 2005 cost of these journals is \$19,908. This will be covered by a one-time budget transfer from IHRE in 2004/05. In order to cover commitments into the future, this will need to be ongoing funding. **Journal backfiles to be purchased** (one-time cost): \$90,000 covered by Indirect Costs of Research funding 2004/05

The Faculty of Health Sciences has plans to hire up to seven additional faculty members to deliver the program in Population and Public Health. These new faculty members will come to SFU with the expectation that key journals not presently in our collection can be added. With no faculty reporting in the FHS (Faculty of Health Sciences) and no programs in place to date, the Library has received requests, and prioritized for ordering, over \$40,000 of new journals in the past two years. In order to have an allocation to accommodate some journal requests from new faculty, the Library requires an additional \$20,000.

Ongoing cost: \$40,000/year

Bibliographic Tools

The Library provides access to the following databases that will support students in the program:

Medline
Alt-Health Watch
Cochrane Library
Health Source: Consumer Edition
Health Source: Academic/Nursing Edition
Popline
PsycINFO
Web of Science

The Library has adequate bibliographic tools to support the proposed program.

Additional funding required from the Faculty of Health Sciences

Monographs: \$55,000/year; Serials: \$40,000/year **TOTAL: \$95,000/year**

Note: The materials required for this program are located in the WAC Bennett Library on the Burnaby campus. This assessment is based on the assumption that the program will be offered at SFU's Burnaby campus. If the program were to be offered at SFU Surrey or Harbour Center, or as an off-campus location, additional Library costs would be incurred.

by: Gwen Bird [gbird@sfu.ca]: 29.July.2004

APPENDIX 1 - PROPOSED CALENDAR DESCRIPTION

Faculty of Health Sciences

2812 West Mall Centre, 604.291.4821 Tel,
604.291.5927 Fax, www.fhs.sfu.ca, fhs@sfu.ca

Dean

D.R. MacLean MD (Dal), MA, MHS (Tor)

Associate Deans

C.B. Dean BSc (Sask), MMath, PhD (Wat)

M. Hayes BA, MSc, PhD (McM)

Director, Administration and Operations

I. Rodway, inrodway@sfu.ca, 604-268-6778

Education Program Consultant

A. Davison BSc (Cape Town), MS, PhD (Rutgers)
adavison@sfu.ca

Faculty Members

Faculty hiring is under way. See Faculty of Health Sciences website <http://www.fhs.sfu.ca> for updated information.

Associate Members

B. Brandhorst, Chair, Molecular Biology and Biochemistry

F. Brinkman, Molecular Biology and Biochemistry

D. Cohn, Political Science

R. Corrado, Criminology

D. Culhane, Sociology and Anthropology

A. Davison, Kinesiology

M. Ester, Computing Science

D. Finegood, Kinesiology

J. Graham, Statistics and Actuarial Sciences

G. Gutman, Gerontology

N. Haunerland, Biological Sciences

M. Howlett, Political Science

J. Hu, Statistics and Actuarial Sciences

G. Iarocci, Psychology

D. Kaufman, Education

S. Lear, Kinesiology

L. Lemare, Education

R. Lockhart, Statistics and Actuarial Sciences

C. Lowenberger, Biological Sciences

C. MacKenzie, Kinesiology

S. MacLean, Political Science

B. McNeney, Statistics and Actuarial Sciences

N. Olewiler, Economics

A. Parameswaram, Engineering Science

W. Parkhouse, Kinesiology

C. Patton, Sociology and Anthropology/ Women's Studies

S. Pigg, Sociology and Anthropology

M. Pinto, Vice President Research

A. Rawicz, Engineering Science
S. Robinovitch, Kinesiology
N. Schuurman, Geography
G. Tibbits, Kinesiology
D. Weeks, Psychology
A. Wister, Gerontology

Introduction

The Faculty of Health Sciences accepted its first students in September 2005, with the admission of a cohort of students to the MSc Population and Public Health. New faculty members have been appointed with experience in multidisciplinary approaches to health using multidisciplinary approaches and a wide range of methodologies. Their expertise provides links to current research and teaching programs by complementing existing faculty with health interests, in other departments Research and teaching programs at the graduate and undergraduate levels share the defining features of the Faculty of Health Sciences, integrating social and natural sciences approaches to determinants of individual and population health, health promotion and risk mitigation, and health informatics and technologies. This integration combines a broad spectrum of research approaches, methods of inquiry, levels of analysis, and research perspectives. Interdepartmental graduate degrees are available by special arrangements. See "1.3.5 Admission Under Special Arrangements" on page 240.

Graduate Degree Offered

Master of Science

Graduate Program

Graduate Contact, 604-268-7036

Graduate Chair

R. A. Lockhart BSc (BrCol), MA, PhD (Calif)

MSc in Population and Public Health

Learning Objectives

Currently accepted students will have applied for admission under the University's provisions for a MSc by Cohort Special arrangement. This may be superseded by a simpler degree structure with more options by the time of registration for the fall semester.

Those completing the program will have well-developed skills in health promotion, disease prevention, determinants of health, and understanding of the complex interplay among types and levels of societal investment in health, along with the resulting trade-offs and implications for development of public policy. The program emphasizes strong research, methodological, communication, and computational skills, including the use of large health databases.

Applicants seeking a research career, or those seeking a PhD degree, or new graduates without prior work experience will be advised to take the thesis stream. Graduates from this stream will have demonstrated competence at research, having completed a thesis and having gained relevant research skills in their course work.

Applicants with significant relevant work experience, and seeking professional or practitioner positions of leadership in health, will normally be advised to take the practicum/project stream. Graduates from this stream will have theoretical and practical concepts of population health, determinants of health, epidemiology, health promotion, health economics, global health, individual and population health-relevant behavior, and principles of public health. Skills will be learned in the context in which they are

applicable, through emphasis on workplace-integrated study, problem-based learning, team-approaches to case studies, and seminars. The practica provide workplace experience in population and public health. Applications are in advancement of health, social policy-making and health problem solving.

General Aspects

It is anticipated that the applicants to this program will have a variety of educational backgrounds, and in recognition of this, the degree structure is flexible. It provides an opportunity for students with strengths in one area to remedy deficiencies in another, through required qualifying and make-up courses at both the graduate and undergraduate levels. The program will be delivered intensively for cohort completion in four semesters, including a practicum in the penultimate semester. The intended full-time course load is the equivalent of four courses per semester, plus other required activities. All day and evening courses include web-integrated components that provide flexibility.

Residency

Students will normally be required to spend at least two semesters at SFU.

Admission

Applicants who are recent graduates should have completed a baccalaureate degree in a discipline related to health, policy analysis, epidemiology, or systems of information technology. A cumulative grade point average of at least 3.3 is normally required. Applicants with substantial experience as practitioners in health or a related field will be evaluated in part on their academic credentials and in part on their career accomplishments. Applicants may receive conditional admission to the program, subject to the satisfactory completion of additional specified courses.

Application

Applicants should have successfully completed a university-level undergraduate course in statistics equivalent to SFU's STAT 302-3 (Analysis of experimental and observational data). Applicants may receive conditional admission to the program, subject to the satisfactory completion of additional specified courses. See "Graduate General Regulations" on page 239 for further information. Applications should be received by January 31st of each year. The earliest applicants may receive priority consideration for financial support. Students will normally be admitted for the September (Fall) semester.

All applicants must submit the following:

- A graduate application form and the application fee.
- All official transcripts showing all grades (mailed directly from the granting institution).
- Three confidential letters of reference mailed directly from referees, at least two of whom are university faculty members. This requirement may be waived for mid-career applicants with professional experience, where one or more letters from employers may be used to confirm the applicant's readiness for advanced studies.
- A one-page essay that explains why the applicant wishes to pursue this MSc degree, and identifies a problem of special interest to the student within the program.
- A student whose first language is not English and whose undergraduate degree was from an institution where English is not the language of instruction is required to submit TOEFL (570 minimum) and Test of Written English (five or above) scores.
- Students must indicate whether they are applying for the thesis or practicum/project stream. Normally it will not be possible to switch between streams after the first week of the second semester in the program.

An application package is available from the Faculty of Health Sciences or can be downloaded from the web page <http://www.fhs.sfu.ca>.

Not all students who meet standards can be admitted. Availability of a faculty supervisor, availability of expertise in the desired area of study, enrollment space in the program, and specific preparation of the student for the proposed studies are factors.

A student may be awarded conditional admission. This means the student is admitted contingent upon completing additional courses to a specified standard, normally during the first semester.

Upon admission, each student will be assigned a temporary faculty advisor. See "1.6 Supervision" on page 242 for information governing appointments of senior supervisors and supervisory committees, including timelines.

Degree Requirements

The first students will be admitted to the thesis stream in January 2006.

Thesis Stream

Students must:

- Complete and successfully defend a thesis.
- Complete a minimum of 24 credits including the core courses HSCI 801, 802, 803, 804 PPH 801, and elective courses. With approval from the graduate program committee, electives may be chosen from graduate courses in other academic units across the university. At least one must be a Population and Public Health elective, and students are encouraged to include one elective from another faculty.
- Complete a one-credit seminar, HSCI 691 (graded satisfactory/unsatisfactory), preferably in the initial semester of study in the program.

Practicum/Project Stream

Students must:

- Complete a practicum, consisting of one-semester full-time as an intern in a workplace appropriate to the degree, or a project based on a problem or analysis in population and public health that involves a research component. The purpose of the practicum/project is to develop skills related to the health sciences, population health, or workplace health policy, and its assessment, enhancement, and innovation. A supervisory committee must be approved by the graduate program committee prior to the start of each practicum. The supervisory committee will assist the student in developing a proposal which must be approved before the start of the practicum semester. The senior supervisors will include a FHS faculty member or associate, and one other committee member. The practicum/project work term is normally completed in the summer semester. A grade is assigned for the practicum/project report, based on an evaluation of a work term report and assessment of the student's work by both the supervisor and the practicum co-ordinator. Examination of the practicum or project shall be at a defence according to university regulations.
- Complete a minimum of 36 credits selected in consultation with the supervisory committee, normally including the core courses HSCI 801, 802, 803, 804 PPH 801, the research conceptualization course HSCI 895, and the practicum/project report HSCI 896. Students who have completed a practicum will be expected to take HSCI 897, while students who have completed a project may take it if they have workplace experience. In addition, at least one Population and Public Health elective course is required. The remaining courses can be selected from the electives listed in the Calendar entry for Population and Public Health or from graduate courses available from other academic units across

- the University. Students are encouraged to include one elective from another faculty.
- The one-credit seminar, HSCI 691 (graded satisfactory/unsatisfactory), should be taken in the initial semester of study in the program. See “Graduate General Regulations” on page 239 for additional requirements.

Core Courses for the MSc in Population and Public Health

Core Courses in Health Science

HSCI 801-4 Biostatistics I
HSCI 802-4 Research Topics in Epidemiology for the Health Sciences
HSCI 803-4 Research Methodology for the Health Sciences
HSCI 804-4 Systems Analysis of Health Care and Delivery
PPH 801-4 Concepts and Mechanisms the Determinants of Health

Thesis, Practicum/Project, and Seminar Courses

HSCI 691-1 Graduate Seminar in the Health Sciences
HSCI 890-4 Special Topics in Health Sciences
HSCI 891-4 Special Topics in Health Sciences
HSCI 892-4 Special Topics in Health Sciences
HSCI 895-4 Research Conceptualization and Design in the Health Sciences
HSCI 896-4 Practicum/Project Report
HSCI 897-4 Seminar in Workplace Integrated Learning
HSCI 898-6 MSc Thesis

Elective courses will also be offered; a schedule of offering of core and elective courses may be obtained from the Faculty of Health Sciences.

Professional Associates and Workplace Supervisors for Practica

The practicum coordinator will organize practica placements. Oversight of the practicum program will be by a Community Partnership Advisory Board, consisting of members of the graduate faculty, recognized adjunct faculty who function as workplace mentors, and one or more graduate student representatives. Workplace mentors will be recognized by the Faculty of Health Sciences as leaders in the field of health, willing to provide workplace-integrated learning experience. They will be found primarily in the public sector or non-governmental organizations.

Time to completion in the practicum / project stream

The practicum degree can normally be completed in four semesters including a one-semester practicum. Courses will be available for accelerated completion by students who wish to complete the degree in three semesters. Alternatively the courses can be completed over 5 semesters total: 4 semesters at eight credits per semester and a practicum semester.

Tuition fees

A fixed, enhanced, all-inclusive per semester tuition fee will apply irrespective of the course load, even for part-time students. See the Graduate Fees section of the graduate calendar for details.

APPENDIX 1A – ELECTIVE COURSES

Proposed Health Sciences' Population and Public Health Elective Courses

PPH 802-4 Health economics, project evaluation and management
PPH 803-4 Scientific and methodological foundations of population and public health
HSCI 805-4 Topics in bioinformatics and health information systems
HSCI 806-4 Case studies in epidemiology of chronic and infectious diseases, and acute health problems
HSCI 807-4 Topics in health risk assessment and risk management
HSCI 808-4 Conceptualization and mechanisms in the sociocultural determinants of health
HSCI 809-4 Case studies in qualitative research methods for the health sciences:
GLOH 801-4 Case studies in health problems of vulnerable populations
GLOH 802-4 Case studies in global health

Current Recommended Electives from other Programs

BISC 883 Special Topics in Environmental Toxicology
CMNS 845 Communications Knowledge Systems and Development
GERO 801 Health Policy and Applied Issues in Gerontology
GERO 802 Development and Evaluation of Health Promotion Programs for the Elderly
GERO 820 Principles and Practices of Health Promotion
GERO 822 Families, Communities and Health
STAT 802 Multivariate Analysis
STAT 805 Non-Parametric Statistics and Discrete Data Analysis
STAT 806 Survival Analysis
STAT 890 Biometrics
MBB 841 Bioinformatics
MBB 826 Immunology
MBB 835 Genomic Analysis
MBB 838 Human Molecular Genetics
MBB 842 Proteomics
MBB 871 Directed Readings in Molecular Biology and Biochemistry
BISC 605 Management of Animal Disease Vectors
BISC 650 Environmental Risk Assessment
BISC 654 Food and Drug Toxicology
BISC 838 Population Biology
BISC 852 Biology of Animal Disease Vectors
BISC 854 Ecotoxicology
BISC 855 Biochemical Toxicology
BISC 883 Special Topics in Environmental Toxicology
BISC 888 Directed Readings in Biology
MPP 801 Economic Foundations of Policy Analysis I
MPP 803 Political Foundations of Policy Analysis I
MPP 805 Research Techniques and Quantitative Methods I
MPP 810 Selected Topics in Public Policy I
MPP 802 Economic Foundations of Policy Analysis II
MPP 804 Political Foundations of Policy Analysis II
MPP 806 Research Techniques and Quantitative Methods II
MPP 807 Introduction to Policy Analysis
KIN 812 Molecular and Cellular Cardiology

KIN 821 Advanced Cardio-respiratory Physiology
KIN 851 Recent Advances in Experimental Carcinogenesis

In addition to the courses listed above, MBB, Gerontology, Kinesiology, Statistics and Actuarial Science, and other programs offer special topics courses of interest to graduate students in this program.

APPENDIX 2 - COURSE DESCRIPTIONS

We are requesting approval in principle for the following courses. At this stage, course descriptions are provisional. We would prefer to delay the usual detailed course proposal forms, including the textbook, grading scheme, and the detailed course outline, until most of the faculty members teaching these courses are on campus and therefore can provide input in course development (Fall 05). Note that HSCI 691, 801, 802, 803, 804, 890, 891, 892, 895, 896, 897, 898, and PPH 801 are existing Health Sciences courses, having been approved for the Special Arrangements MSc program in Population and Public Health.

HSCI 691-1 Graduate seminar in the health sciences

A seminar course required of all graduate students in Health Sciences. Students will gain perspective on the Faculty's overall array of research. Presentations will be given by faculty and students, to be followed by seminar discussions. Strategies for effective oral, poster, and web-based presentations will be considered, as well as methods for facilitating discussions.

HSCI 801-4 Biostatistics 1

Introduction to statistical techniques required in epidemiologic and health care research. Review of descriptive and graphical methods, probability distributions, estimation and inference. A discussion of rates and standardization. Introduction to lifetables. Diagnostic tests and ROC curves. Design of experiments. General concepts in hypothesis testing; power and sample size estimation. Inference for proportions, contingency tables, odds ratios. Prerequisite: STAT 302 or equivalent.

HSCI 802-4 Research topics in epidemiology for the health sciences

This course considers epidemiologic inference in individual and population health. Principles, theories, and methods for epidemiologic research are discussed from scientific, managerial, behavioral and sociocultural perspectives. Morbidity, mortality, and, relative risk are examined. Designs for longitudinal, cross-sectional and intervention studies are developed. Students will acquire skills in critical interpretation of the epidemiologic literature; methodology for estimating disease frequency, and measures of effect; evaluation of study designs; analysis of confounding errors, and identification of misclassification, selection, and information bias.

HSCI 803-4 Research Methodology for the Health Sciences

This course discusses current methodology and strategic research design for advances in knowledge and understanding in the health sciences. Problem definition, data collection sampling and analysis using qualitative and quantitative methodology are considered. Contemporary case studies will illustrate the advantages and disadvantages of alternative approaches to a range of real-life problems.

HSCI 804-4 Systems Analysis of Health Care and Delivery

This course discusses components of health care systems, issues, and interactions between components. System outputs, medical services and the delivery of primary health care are reviewed. The course considers the Canadian health system and alternatives that impact it or provide better models for delivery. Effecting change, policy development, health system design are considered, and criteria for evaluating alternatives are developed. Different measures of health status are compared, and trend analysis is conducted for predicting future health care and funding. Components of expenditure are reviewed.

HSCI 805-4 Topics in bioinformatics and health information systems

An overview of health information systems, trends and issues, with a particular focus on e-health and the use of internet-based technologies. The rational design, development, and operation of biomedical information and systems technology crucial to health care organizations ranging over hospitals, walk-in clinics, health departments, and provision of pharmaceuticals.

HSCI 806-4 Case studies in epidemiology of chronic and infectious diseases, and acute health problems

A case-studies approach to advanced epidemiological strategies for elucidating the mechanisms in morbidity and mortality, specifically emphasizing infectious diseases and vulnerable populations. Successes and failures in the application of scientific analysis to the control of epidemics.

HSCI 807-4 Topics in health risk assessment and risk management

Statistical methodology for risk assessment and risk management in health-related decision-making. Evidence-based scientific assessment of risks prerequisite to effective delivery of health care. Balance and precision in risk perception, and balancing risks against costs. Decision making under uncertainty. Bayesian analysis of risk. Programs for regulatory compliance; liability issues; insurance and indemnification; auditing self-regulation, and protection of those at risk. Misconceptions, paradoxes, and confounders in statistical assessment of risk. Numerical tools for investigating the minimization of health risks to the population at large and to participants in the health care system.

HSCI 808-4 Conceptualization and mechanisms in the sociocultural determinants of health

Assessment and measurement of the impact of sociocultural factors, including ethnicity, language, gender, and socio-economic status on health and disease, and quality of life. The impact of a community's cultural practices, traditions, and beliefs on community health. Development, conduct, and evaluation of culturally-based population and public health research and intervention. Sociocultural dimensions of illness, health maintenance and health care delivery. Applications in health policy decisions, professional practice, health care provision, analysis and research.

HSCI 809-4 Case studies in qualitative research methods for the health sciences

Exploration of the range of qualitative approaches to research questions in the health sciences and population and public health. Emphasis will be given to the focus group approach and key-informants interview techniques, and scientifically sound strategies for qualitative data collection and analysis. A case-studies approach to interdisciplinary theoretical and methodological debate.

HSCI 890-4 Special topics in the health sciences

Special topics in areas not currently covered within the graduate program offerings.

HSCI 891-4 Special topics in the health sciences

Special topics in areas not currently covered within the graduate program offerings.

HSCI 892-4 Special topics in the health sciences

Special topics in areas not currently covered within the graduate program offerings.

HSCI 895-4 Research conceptualization and design in the health sciences

The conceptualization, planning and management of a research project, including project management skills, problem objectives, definition of deliverables. Strategies for effective implementation, data collection, exploratory data analysis, report preparation, and dissemination of results. A case studies approach will focus on individual projects selected by each of the students for a practicum. Note that the practicum proposal must be approved by the Graduate Studies Committee before commencing the practicum. Prerequisites: HSCI 801-4

HSCI 896-4 Practicum / Project report

This course is only open to students in the practicum/project stream who must take it in the semester of their practicum. A study, detailing work experiences, conceptualizing goals, strategies for implementing them in the workplace, and evaluating the strengths and weaknesses of the approach taken. The study will result in the preparation of a scholarly report on the work experience in the structure of a formal paper. The report will include an analysis of the strategic objectives, confounding variables, recommendations, and discussion of practical strategies for implementation. This course must be taken concurrently with the practicum semester. Prerequisite: HSCI 895.

HSCI 897-4 Seminar in workplace integrated learning

This course is intended for practicum students in the semester following completion of the practicum report. In exceptional circumstances, students who have worked as health professionals may be approved to take this course without completing the Practicum/Project report course. In this course, students will circulate their Practicum/Project report. The student presents the written report to the class for peer-critique in a seminar. Discussion and constructive critique by the class follow, along with an analysis of the methodology and tools used, their strengths, weaknesses, and confounders, and an examination of what is novel and what represents the cutting edge of technology in the specific working environment considered. The student weaves all opinions and insights into a final practicum overview, which integrates what was learned into a common conceptualization of the relevant health theory and methodology. Prerequisite: HSCI 896.

HSCI 898-6 MSc Thesis

PPH 801-4 Concepts and Mechanisms in the Determinants of Health

How interactions between biology, behaviour, and the socio-cultural environment determine health. A study of human biology, psychosocial factors, environmental factors, physical activity, work, social, political, and economic factors, and the health care system as health determinants. Strategies to promote and protect health and prevent disease in the Canadian perspective.

PPH 802-4 Health economics, project evaluation and management

Planning, conduct and management in the evaluation of population and public health programs. Collaborative development of evidence-based evaluation plans, techniques and strategies of evaluation, utilization of findings, and standards for evaluators. Case studies, culminating in student preparation of a proposal for project evaluation in a specific public health setting-

PPH 803-4 Scientific and methodological foundations of population and public health

An integrated view of qualitative and quantitative methods for the measurement of health in developed and developing countries, and the determinants of individual, population and public health across privileged and vulnerable populations. Methodology and practice in the science of population and public health; including theoretical and practical approaches to disease prevention, prolongation of life and community health promotion through regulatory, technical, cognitive, structural, and participative interventions. This transdisciplinary basis of population and public health draws on the biomedical, behavioral and sociocultural sciences, and the principles and methods of epidemiology.

GLOH 801-4 Case studies in health problems of vulnerable populations

Variability of health risk, outcomes, and quality of life and appropriate health promotion strategies among populations, and among cultural groups within a population - emphasizing the contrast between rich and poor, privileged and marginalized population groups. Nutritional security, pregnancy outcomes and perinatal risk, child hunger. Toward a single-level health care system, nationally and worldwide problems and solutions.

GLOH 802-4 Case studies in global health

Population health measures in an international setting, factors determining population growth globally, as measured by and a variety of health indices including socio-economic status and more recently used measures such as QALYs, DALYs and YPLL. Mechanisms by which socioeconomic factors impact health. Positive and negative health consequences from globalization and military conflict. Maternal and child health, infectious disease epidemics, nutrition and malnutrition. Primary care and health promotion in under-developed countries; water quality and sanitation.

APPENDIX 3 - FACULTY JOB DESCRIPTIONS

Job descriptions, in the form of the advertisements for the positions are appended here. The actual resumes will be added as faculty members are appointed.

Job descriptions in the advertisement for the initial tenure-track positions

Simon Fraser University is internationally recognized for research and teaching excellence in the liberal arts and sciences, and for innovative interdisciplinary and professional programs. The new Faculty of Health Sciences will extend and enhance this reputation. In conjunction with a new innovative Masters program in Population and Public Health, beginning in September 2005, we are seeking seven new faculty positions. A major emphasis of the program is to enhance skills in collaborative community health research, advance the ability to prevent disease, and increase understanding of the complex inter-play among types and levels of societal investment in health and social systems, the resulting trade-offs and implications for public policy-making.

The new Faculty will have a core complement of faculty chosen for their multi-disciplinary approach to health-related research and their ability to examine questions from varying methodological perspectives. In addition to the positions listed below, the faculty complement will be augmented by the appointment of several other new positions to be filled within the next few years, as well as at least three Canada Research Chairs. The expertise of all new hires will bridge to existing research and teaching programs at SFU and will complement the specialized expertise of faculty working within existing departments. These new faculty members will have primary appointments and teaching responsibilities in the new Faculty. Graduate programming within the Faculty will commence with a Masters program in Population and Public Health in September 2005. The successful candidates will be scholars with demonstrated interests in interdisciplinary research and teaching.

Health Economics

This appointment will focus on the economic dimensions of health, including the socio-economic determinants and the application of economic tools and analysis to an understanding of health and health outcomes in society. Given the multi-dimensional character of the new health faculty, the individual's research background and teaching interests may be in population health, social policy, poverty and income distribution, family economics, public policy, or health economics as traditionally defined. Further, the appointment is expected to fill a leadership function in mobilizing and augmenting existing university resources so as to build SFU's skills and reputation in this field. Demonstrated involvement in public policy development and experience in working with community groups outside academic settings would be an asset.

Epidemiology

We seek three epidemiologists having research and teaching interests within the broad areas of social, clinical or basic biomedical epidemiology, as well as the application of epidemiological analysis to public policy. SFU has research strength in a variety of areas including biostatistics, social and cultural population studies, social, clinical and developmental psychology, bioinformatics, population and behavioural genetics, infectious disease and vaccine development, congenital and chronic heart disease, diabetes/obesity, gerontology and kinesiology. There is great interest in adding epidemiological strength in any of these areas. We seek candidates whose research interest may include, but is not limited to, chronic disease, infectious disease, molecular, genetic, bioinformatics and spatial epidemiology, intergenerational analysis of health outcomes, ageing, health disparities, and national and international health policy. Candidates should possess strong quantitative skills and demonstrate a clear

understanding of theoretical/conceptual issues in their area of epidemiology. Proficiency with various software analysis packages and the management of large datasets is required.

Qualitative Research Methods in Health

The ideal candidate will have demonstrated research and teaching expertise with a range of qualitative and interpretive research techniques in one or more areas of innovation, such as: theoretical basis of qualitative/interpretive research; collaborative and participatory research; integration of methods; institutional ethnography; ethnography of everyday life; life history or narrative analysis. We seek a scholar with a Ph.D. in social science or humanities discipline, whose active program of research contributes broadly to the understanding of social determinants of health and health disparities, including, but not confined to, environment and political ecology of health; intersections of gender, race, class, sexuality; disability studies; comparative or historical analysis of policy environments. Demonstrated involvement in public policy development and experience in working with community groups outside academic settings would be an asset.

Biostatistics

We seek candidates who are committed to the development of statistical methodology and to collaborative scientific research, as well as to teaching in an interdisciplinary program. Candidates are required to hold a Ph.D. in Statistics at the time of appointment. Simon Fraser University has an active group of statisticians working in the areas of biostatistics, environmental statistics, disease mapping, statistical inference, survival and longitudinal analysis, clinical trials, statistical genetics and genetic epidemiology, Bayesian methods, sampling theory and biomedical modeling. Experience with the analysis of large datasets would be an asset.

Public Health/Community Medicine

This appointment will focus on the broad area of public health policy and practice principally related to primary and community based care with emphasis on health promotion and disease prevention. Given the multi-dimensional character of the new health faculty, the individual's research background may be in population health, infectious or chronic disease prevention and control, health outcomes, occupational or environmental health. Experience in program evaluation and/or international health would be an asset. Qualification requirements include a Baccalaureate in Medicine with eligibility for licensure in Canada and post-graduate education with a Masters degree in a relevant discipline. A Fellowship in the Royal College Physicians of Canada (FRCPC) in Community Medicine, several years of practicing clinical medicine and/or experience with public health program delivery would be an asset. Nursing PhD's with work and research experience in community health or public policy may also be considered.

APPENDIX 4 - GOVERNANCE - PROGRAM ADMINISTRATION

The MSc in Population and Public Health will initially be managed by the Associate Dean, Academic, the Faculty Graduate Program Committee (GPC) and its Chair. With enrolment of the first cohort, the students will be invited to name a representative to the GPC.

The faculty members of the GPC will serve as the admissions committee for the program, deal with annual reviews of graduate student performance, approve thesis supervisory and examining committees and practica supervisory committees, and take the initiative in further development of graduate programs in the faculty. In addition to ensuring that the GPC fulfills its academic mandates, the Associate Dean, Academic will take responsibility for the rights and academic well-being of graduate students in the program and will take the initiative in development of other graduate programs in the Faculty.

In the long term with the addition of several other graduate programs and offerings, individual programs will have their own GPCs and will elect their own chairs. The Faculty Graduate Studies Committee will then consist of the chairs of the GPCs, and a student member. The Faculty Graduate Studies Committee will approve the membership of the GPCs. The FHS Faculty Graduate Studies Committee will perform the same role as Faculty Graduate Studies Committees in other Faculties.

A practicum coordinator will be identified. Among the responsibilities of the practicum coordinator will be to assure consistency of standards in the work experience and the grading of proposals and reports across the Faculty.

APPENDIX 5 - SUMMARY OF EXPERTISE OF INITIAL APPOINTEES

Kitty Corbett: Interventions to improve practice (organisational and professional), to change behaviour (lay persons) and promote health (policy change). Examples of these activities include: healthcare provider and community worker training for STD and HIV prevention; community-based intervention for tobacco control; professional-lay communication; social marketing and media advocacy to promote public health objectives and social justice.

Core Course Teaching:

- HSCI 803 Topics in research design and methods for the health sciences.

Elective Course Teaching other than Special Topics:

- HSCI 808-4 Conceptualization and mechanisms in the sociocultural determinants of health
- HSCI 809-4 Case studies in qualitative research methods for the health sciences
- GLOH 801-4 Case studies in health problems of vulnerable populations
- GLOH 802-4 Case studies in global health

Michael Forlenza: Biobehavioural and Psychosocial Oncology; the Molecular Epidemiology of Cancer; Psychoneuroimmunology; Behavioural Medicine and Cancer Presentation.

Core Course Teaching:

- HSCI 802-4 Research topics in epidemiology for the health sciences
- HSCI 803-4 Research methodology for the health sciences

Elective Course Teaching other than Special Topics:

- PPH 803-4 Scientific and methodological foundations of population and public health
- HSCI 806-4 Case studies in epidemiology of chronic and infectious diseases, and acute health

Craig Janes: Anthropology and Public Health; Social Determinants of Health; Healthcare Reform Policy; and Global Health Studies and Ethics.

Core Course Teaching:

- HSCI 803-4 Topics in research design and methods for the health sciences

Elective Course Teaching other than Special Topics:

- HSCI 808-4 Conceptualization and mechanisms in the sociocultural determinants of health
- HSCI 809-4 Case studies in qualitative research methods for the health sciences
- GLOH 801-4 Case studies in health problems of vulnerable populations
- GLOH 802-4 Case studies in global health

Michel Joffres: Chronic and infectious diseases, hypertension, diabetes, and record linkage studies. Community based prevention programs, large-scale clinical trials, policy development and has recently developed a focus in mental health.

Core Course Teaching:

- HSCI 802-4 Research topics in epidemiology for the health sciences
- HSCI 803-4 Research methodology for the health sciences

Elective Course Teaching other than Special Topics:

- PPH 803-4 Scientific and methodological foundations of population and public health
- HSCI 806-4 Case studies in epidemiology of chronic and infectious diseases, and acute health

Rochelle Tucker: Largely community-based studies on weight-focused behaviours and depressive symptoms across gender and ethnic subgroups of adolescents and the predictors of depressive symptoms in these populations; and tobacco-dependency amongst adolescents with eating disorders.

Core Course Teaching:

- HSCI 802-4 Research topics in epidemiology for the health sciences
- HSCI 803-4 Research methodology for the health sciences

Elective Course Teaching other than Special Topics:

- PPH 803-4 Scientific and methodological foundations of population and public health

Marina Morrow: Focus on women and mental health with respect to health policy and social change.

Core Course Teaching:

- HSCI 803-4 Research methodology for the health sciences

Elective Course Teaching other than Special Topics:

- HSCI 808-4 Conceptualization and mechanisms in the sociocultural determinants of health
- HSCI 809-4 Case studies in qualitative research methods for the health sciences

Leilei Zeng: Analysis of Longitudinal Data, including model mis-specification and missing data. Also, research relevant to the area of Optometry. *Joint appointment with Statistics and Actuarial Science, Faculty of Science.*

Core Course Teaching:

- HSCI 801-4 Biostatistics I
- HSCI 802-4 Research topics in epidemiology for the health sciences
- HSCI 803-4 Research methodology for the health sciences

Elective Course Teaching other than Special Topics:

Tim Takaro: Environmental and occupational health, particularly asthma and asbestos studies.

Core Course Teaching:

- HSCI 802-4 Research topics in epidemiology for the health sciences
- HSCI 803-4 Research methodology for the health sciences

Elective Course Teaching other than Special Topics:

- PPH 803-4 Scientific and methodological foundations of population and public health
- HSCI 807-4 Topics in health risk assessment and risk management

Note that nominees for the CRC Chairs are not described here. The first nomination will be forwarded for consideration July 15, 2005, and the second in Fall 2005. Two searches were not completed this year: for a biostatistician and a health economist. These will be re-advertised in the next academic year. Finally, three limited term appointments have also been made: Arun Chockalingam, Stephen Corber and Christine Joffres.

APPENDIX 6 - PRELIMINARY PROPOSAL (LOI & SUPPLEMENT)

The Preliminary Proposal and letter of intent that were approved by Senate Graduate Studies Committee, and Senate Committee on University Priorities are available at <http://fhs.sfu.ca>

APPENDIX 7 - THE EVOLUTION OF HEALTH SCIENCES AT SFU

Simon Fraser University has a long history of health research and education. Four of the more visible health-related programs are the School of Kinesiology, the Gerontology Program, the Department of Molecular Biology and Biochemistry, and the Department of Psychology. Moreover, health research activity has expanded in recent years, leading to a significant presence in departments across the University ranging from Engineering Science through the Social, Economic, and Mathematical Sciences.

In June 1991, a Task Force on Applied Health Programs was established to advise the University on program directions and strategies for developing health programs. However, this initiative foundered in 1995 because there was neither an obvious champion to lead this initiative nor a stable funding source to ensure implementation and continuation of new health programs.

A report of the Presidential Committee on University Planning (PCUP) in 1996 again noted considerable interdisciplinary interest in health at both the undergraduate and graduate levels and recommended that such opportunities should be actively pursued. In the summer of 1999, a consultant was engaged to assist the University in evaluating its prospects for launching a comprehensive Health Initiative and an internal Steering Committee was convened to manage and direct the project.

This activity was encouraged by the emergence of both internal and external factors:

- increased interest, expertise and advocacy within Simon Fraser University for developing a coherent, visible, and innovative presence in health research in Canada
- restructuring of federal funding in which health is more broadly conceptualized in, e.g. creation of the Canadian Institutes for Health Research
- increased priority for management of health systems and health care in the public policy agenda
- increasing awareness and concern for health-related issues, the social, economic and cultural determinants of health, and health care financing.

These events provided an opportunity for Simon Fraser University to distinguish itself from traditional University health programming and Medical Schools within Canada.

The Institute for Health Research and Education (IHRE) was formally established in 2000, founded upon a broad conception of the term "health" that spanned the entire spectrum of research approaches, methods of inquiry, levels of analysis and research perspectives employed by researchers investigating physical, psychological, and community health and disease. The specific goals developed for the Institute for Health Research and Education (IHRE) were: (1) To foster health-related research at Simon Fraser University through the development of research collaborations and partnerships which bridge the biomedical, clinical and social science sectors incorporating multiple research perspectives and (2) To develop and offer innovative education programs in the broad area of health (www.ihre.sfu.ca).

In relation to the first goal, the IHRE brings together over 130 researchers from all sectors of SFU who identify health as their primary area of research. The Institute has been successful in attracting research funding to SFU from Provincial Sources such as the MSHRF, and has encouraged and fostered support for grant applications federally to the CIHR. A major proposal is under development for possible submission to the next round of the CFI Innovation Fund competition. A Canada Research Chair has been established in Infectious Diseases and this program is anticipated to grow. Finally, the IHRE is in intensive negotiation with the BC Government over the location of and access to the Provincial Vital Statistics data base.

Following up on the second goal, IHRE was charged with the development of a Faculty of Health Sciences (FHS) and a postgraduate degree that would provide an initial focus for its first programming initiative, namely an MSc in Population and Public Health.

The Faculty of Health Sciences

The Faculty of Health Sciences was approved by Senate in Sept 2003. The proposal establishing the new faculty states: "The new Faculty ... will have a core complement of faculty chosen for their transdisciplinary approach to health-related research and their ability to examine questions from varying methodological perspectives. Their expertise will provide a bridging function to existing research and teaching programs and will complement the specialized expertise of faculty working within existing departments. ... Implementation of a proposed graduate program in Population and Public Health is viewed as the first step in implementing a series of teaching and research programs related to health. This initiative will require hiring new faculty with expertise in epidemiology, biostatistics, health economics, and health policy analysis. ... the proposed Faculty will act as an incubator for new health programs and a home for researchers and programs that fit the integrated vision. ... The new MSc program in Population and Public Health will be developed as a priority ... the full program proposal will be developed, submitted, and approved by January, 2005. The first cohort of students will be admitted to the MSc program in September, 2005."

The new Faculty of Health Sciences will support research and develop teaching programs that bridge science, policy, and practice across the five sectors at the foundation of IHRE. These areas fit well with the vision of the new Faculty and are consistent with existing capacity at SFU. Each new program area will be defined by a set of shared features:

- (1) the integration of science outcomes, analysis, and policy,
- (2) the cross-sectoral nature of the research questions and programs, and,
- (3) the adoption of multiple perspectives, modes of inquiry and levels of analysis.

Attendant with establishment of the new Faculty, a strategic plan was drawn up regarding the major transition elements that would be anticipated. These included:

- Appointment of a Dean of the Faculty of Health Sciences
- The launch of faculty hiring for the new Faculty
- The development of a proposal for a degree in Population and Public Health and other degree programs, both undergraduate and graduate.
- A space and infrastructure plan
- The development of an administrative structure for the new faculty

The steering committee of the Institute for Health Research and Education was reconstituted and a committee with executive powers was struck comprising senior administrators, and chaired by the Academic Vice President.

APPENDIX 8 - SHOULD THE DEGREE BE AN MSc?

There was initially some debate over the naming of the program, which was put to rest when the external reviewers supported the current designation. During this time we considered this issue carefully. For largely historical reasons an account of the rationale is retained here. The MPH degree is commonplace, but inappropriate for what we propose. We could find no example of a "Masters of Population and Public Health." Persons with an MPPH qualification have a "Master's of Philosophy in Public Health" degree. We would contend that it is appropriate for a Faculty of Health Sciences, like the Faculty of Applied Sciences, to design and offer a Master's degree that contains sufficient scientific content to warrant the appellation MSc. Referees have expressed an opinion overwhelmingly supporting the title be MScPPH

An overwhelming majority of programs worldwide are MSc

While there are many Master of Public Health degrees, they address areas of study quite different from those addressed in the current proposal. There are almost no examples of Master of Population and Public Health (MPPH) or Masters of Population Health (MPopH). More typically the degree is a MSc, and Faculties of Health Sciences across North America offer MSc programs in Community or in Public Health, and most of these include a contribution from the social sciences at least equal to what we are proposing. Canadian examples include: Memorial U Newfoundland MSc Community Health, U Saskatchewan MSc Community Health and Epidemiology, U of Manitoba MSc Community Health Sciences, U of Alberta MSc Population Health, University of Northern British Columbia MSc Community Health, Laval U. MSc Community Health, University of Toronto MSc Community Health. We could cite many dozens of precedents, including most of the leading institutions in this field in the USA and Europe.

The approaches proposed will be strictly scientific

Study of the determinants of health of populations can be no less scientific than study of the health of individuals. The approach extends the scientific principles that underlie molecular, genetic, cellular, and physiological determinants of health. The level of scientific analysis at least equals similar approaches in statistics, epidemiology, physiology and pathology. Moreover the mathematical, epidemiological, and statistical extension of investigation of populations requires scientific methodology way beyond the level of a single individual.

Faculty members being hired are almost all considered to be scientists

Six of the seven faculty positions currently with the search committees are for people who would normally be considered scientists. Certainly, the approaches in all the proposed courses will be scientific, using the methodologies firmly rooted in the natural and mathematical sciences. Without such an approach, evidence-based decision making in population health would be impossible.

It is now quite usual for the word "sciences" to follow "health" or "social"

Scientific methodology extends far beyond biology, chemistry, and physics, into geography, geology, epidemiology, and indeed throughout the social sciences. The most important and most reliable conclusions in the social sciences use the scientific methods and scientific inference rigorously. The social scientists on the IHRE Steering Committee in fact requested that the Faculty be called Health Sciences rather than Health Studies, on the basis that the greater part of the social sciences are rooted in the scientific approach.

There is precedent at SFU for MSc programs with a similar scientific approach

There are also SFU precedents for a science degree that includes social sciences. Both Geography, and Statistics and Actuarial Science, offer an MA and an MSc with identical cores. The School of Kinesiology for many years offered (Kines) where the program included significant components from the social sciences - Dance in the past and currently Psychology.

We propose to distinguish our degree from MPH degrees

Modern Public Health has been radically reframed over the past decade from a focus on localized clinical problems and prevention mitigation of infections and other acute hazards. The current emphasis is less situational, and focused more on safeguarding the health of populations through policy development. Concerns relate less to emergencies or time-limited events, and more to chronic and non-infectious diseases, to long term measures affecting populations and communities as a whole, and to health promotion. SFU's MSc degree in Population and Public Health will allow health practitioners to qualify themselves for professional positions in community or population health in an evolving system of health care and health authorities. It is more research oriented than the MPH degree. The MPH degree is primarily a professional degree and typically not the first graduate degree. It provides general knowledge of public health as well as workplace experience and is a terminal degree. The workplace experience in an MSc in Population and Public Health has a research component with a scientific focus and may lead to further study. The practicum courses emphasize research skills, evaluation of projects and their dissemination.