Schools of Public Health and the Strengthening of Public Health Systems in Canada – A Discussion Paper

Prepared for the Public Health Human Resources Task Group

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Prepared by:

Dr. Brent W. Moloughney
Public Health Consultant

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Table of Contents

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INTRODUCTION

Strengthening Canada's public health systems is dependent on ensuring a sufficient, competent, and appropriately distributed workforce. As outlined in a series of recent reports, there is no one single solution to this challenge and a comprehensive approach involving multiple components will be required. With the emergence of as many as twenty universities across the country planning or currently delivering professional graduate training in public health, this particular gap is rapidly being addressed. While the expanded capacity is welcomed, it also prompted interest on the part of the Public Health Human Resources Task Group (PHHRTG) and university programs to develop a set of guidelines for Canadian Masters in Public Health (MPH) programs. The content of the guidelines were influenced by existing MPH program accreditation and review criteria from other countries and were shaped by an "interest to ensure a sufficient level of consistency among these programs so that the MPH designation is useful and meaningful to students, employers and training programs."[1] Feedback from the academic community indicated a positive response to the leadership role the PHHRTG had taken in developing the guidelines.

Many of the existing and planned MPH programs will be delivered by university departments within Faculties of Medicine or Health Sciences. Some of these universities are actively considering the development of schools of public health. While also providing MPH training, schools of public health represent larger institutions with greater profile, organizational independence, and the critical mass to offer a much broader range of professional training and applied research initiatives. The development of schools of public health represents a major change for Canada, which has not had a school of public health for over 30 years. Most recent public health system reports have been silent or vague about the concept of having schools of public health. One exception is a 2005 paper prepared for the PHHRTG that outlines a comprehensive strategy for public health workforce education in this country and makes several school-related recommendations.[2] With the breadth of topic areas covered in that paper, it did not allow for inclusion of more in-depth analysis of specific issues related to the creation of public health schools. Now that a number of universities are considering the establishment of such schools, it is timely to assess in more detail the potential roles and contribution of schools of public health in strengthening Canada's public health systems.

Following their work in developing the MPH program guidelines, the PHHRTG has requested the development of this discussion paper to inform system stakeholders regarding the key strategic issues posed by the development of schools of public health in this country. In doing so, this paper will attempt to address the following questions:

- What are the needs and gaps that schools of public health should ideally address?
- What do we mean by a "School of Public Health"?
- How would schools help meet system gaps in workforce development?
- How would quality and consistency for schools be obtained?
- What are the options for accreditation?
- What are the next steps?

The preparation of this paper was informed by a review of existing public health system reports, U.S. school of public health accreditation criteria, web pages of selected existing schools, and interviews of key informants within and outside Canada. As a discussion paper, the issues raised in this paper will hopefully inform the planning and implementation of schools of public health in this country, as well as identify questions that need to be further pursued. Key potential audiences for this paper include universities planning schools of public health, formal public health systems at federal, provincial/territorial, and regional levels, ministries of health and advanced education, and professional associations.

WHAT ARE THE NEEDS? EXISTING PUBLIC HEALTH SYSTEM GAPS

Public health is society's response to threats to the collective health of its citizens. Public health practitioners work to enhance and protect the health of populations by identifying their health problems and needs, and providing programs and services to address these needs. Core public health system functions include population health assessment, health surveillance, disease and injury prevention, health promotion, and health protection, including the capacity to prepare for and respond to public health emergencies. These functions are applied in a systematic manner against a wide range of health conditions and determinants including the prevention of chronic diseases and injuries, the control of communicable diseases, environmental health, and healthy development throughout the life cycle. A draft set of public health workforce core competencies has recently been developed in Canada and provide an excellent overview of the range of knowledge, skills and abilities required of public health practitioners.[3]

The public health workforce is comprised of numerous disciplines that have varying levels of formal training in public health. Many have undergraduate degrees in a health-related profession and have received variable exposure to public health in their core training. Currently, these staff require substantial orientation and training after employment within the public health system. Schools might have roles to strengthen the

public health component of undergraduate professional education, as well as orientation and ongoing continuing education of the workforce.

In addition to front-line service providers, public health systems need a selection of more specialized staff predominantly at regional, provincial/territorial and national system levels. These staff are often engaged in tasks that inform the work of front-line staff and require a greater depth and breadth of competencies (see box). Most existing public health-related graduate training programs have been provided by university departments with a much greater focus on research than practice. Among those with a practice orientation, some have a greater focus on clinical practice for

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Selected Examples of Public Health Tasks Requiring Graduate Level Training

- Preparing a profile of the health of the population including disease trends and factors contributing to health (e.g. health status report)
- Utilizing information on health status, existing scientific evidence for effective interventions, and community characteristics, to provide advice on priorities for public health action
- Developing a comprehensive plan to address a community health priority such as obesity prevention
- Planning and conducting an evaluation of a program
- Conducting an investigation of an outbreak of a communicable disease.
- Preparing a strategic plan for a public health organization.
- Reviewing existing evidence and providing expert advice on how best to address a specific situation.

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individual care in health care settings than on the practice of public health, whose focus is on the health of populations in communities, regions and provinces/territories across Canada. For example, a clinical epidemiologist may be primarily trained to assess the effectiveness of medications or other treatments in patients versus a population epidemiologist whose focus would be on how to assess the health needs of a population or assist in the investigation of communicable disease outbreaks in a community.

Several reports have stressed the importance of strengthening the public health system's workforce and have identified numerous gaps and concerns including:

- The need for interdisciplinary training
    - Public health practice is highly inter-professional (different professionals work together, sharing their skills and knowledge, to provide more effective services) yet both education programs and health human resource planning have traditionally been profession or discipline specific. If we expect different professions to work together, then they should be trained together.
    - The practice of public health is informed by the skills of many different basic science and knowledge domains. A modern public health professional needs to know something of epidemiology, social sciences, law, ethics, health service management, etc. Training programs need to integrate the learning of these individual components to produce a professional who can apply them in practice for a diverse range of health issues.
- The need for increased training capacity – relevance, number, distribution, options
    - There have been few dedicated public health education and continuing education programs.

- The majority of the public health workforce is comprised of front-line workers and they typically do not require graduate level training. However, they do require a set of public health competencies. For many, their pre-employment preparation is insufficient and knowledge and skills need updating over time to deal with new issues and evidence. Front-line and specialized staff are challenged by the lack of continuing education offerings in public health.
    - The graduate programs that have existed tended to focus on epidemiology and research skills, so many graduates go into research rather than public health practice. Those who do practice public health feel their training has not prepared them adequately.
  - Training capacity is not evenly distributed across the country. Several jurisdictions depend on training programs in other provinces to prepare their public health workers.
  - From a system perspective, Canada requires a spectrum of training options: formal degree levels (bachelor, master, doctorate); non-degree training (diploma, certificate); continuing education; different formats (distance, e-learning, short-course, etc.). Supporting mid-career upgrading has implications for distance education options, as well as part-time formats.
- More public health field placements and practica
  - The sector's ability to attract new providers is limited by the lack of field placements/practica in public health. For example, if nursing and medical students are not exposed to public health practice in their training, what is the likelihood of them wishing to pursue this as a career option later? Lack of practica in higher need areas also impairs their ability to recruit since students were not exposed to these settings in training.
- Stronger public health applied research environment with knowledge translation and exchange – existing knowledge is not being fully applied and there is limited ongoing research that specifically addresses the questions of public health practitioners. Require strong linkages between those doing the research and those needing to apply research findings.
- Better coordination among institutions to avoid duplication and support access to a full range of training programs and share/collaborate so as to be sustainable with foreseeable resources. While previous discussions of "virtual" schools of public health were based to some extent on being unable to create a real integrated school, they were also trying to harness the expertise that already exists in different universities and avoid its unnecessary duplication.
- Quality improvement and accreditation – current lack of Canadian based initiatives for either graduate programs or schools of public health.[4-7]

In these early stages of public health human resource planning, precise descriptions of the current workforce and projected needs are not yet available, although work has begun in these areas. What recent reports have clearly highlighted is the widespread gaps that currently exist in training programs, the need for an expansion of the capacity of existing public health systems, and a coming wave of retirements among the existing workforce.

The potential contribution of schools of public health needs to be judged by the extent to which they contribute to the identified system needs. The next section of this paper will briefly describe existing schools of public health.

WHAT IS A SCHOOL OF PUBLIC HEALTH?

Schools of public health exist in a number of countries around the world. A brief summary of their definitions/models will be described.

U.S. Schools

In the U.S., the Council on Education for Public Health (CEPH) sets similar, but distinct sets of criteria for accredited graduate programs[8] and schools of public health.[9] The criteria for schools are much more demanding than for graduate programs. The following are key defining features of schools according to CEPH and may be the most challenging to meet for Canadian schools from a structural and critical mass perspective:

- Same rights, privileges and status as other professional schools (e.g. Medicine)
- MPH degree in each of five areas of knowledge basic to public health[i]
- PhD degree in at least three of the five specified areas of public health knowledge
- At least five faculty per discipline area – all full-time in PhD-related disciplines and minimum of 3 full-time and 2 FTE in MPH-only disciplines (i.e. 21 full-time plus 4 FTE)
- If sponsored by more than one institution, then lead institution needs to:
    - Have level of independence of solo applicant
    - Provide MPH curricula in at least the five areas of basic public health knowledge
- Note: cannot be called or promote institutions as a "School of Public Health" if only accredited as a MPH graduate program – this has implications for universities considering program accreditation through CEPH but wishing to become a "school" in the future.

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[i] Biostatistics – collection, storage, retrieval, analysis and interpretation of health data; design and analysis of health-related surveys and experiments; and concepts and practice of statistical data analysis;
Epidemiology – distributions and determinants of disease, disabilities and death in human populations; the characteristics and dynamics of human populations; and the natural history of disease and the biologic basis of health;
Environmental health sciences – environmental factors including biological, physical and chemical factors that affect the health of a community;
Health services administration – planning, organization, administration, management, evaluation and policy analysis of health and public health programs; and
Social and behavioral sciences – concepts and methods of social and behavioral sciences relevant to the identification and solution of public health problems.

While the criteria require a minimum of 25 faculty, according to the Association of Schools of Public Health (ASPH), experience has found that schools typically require twice this size to achieve sufficient critical mass. There are currently 38 CEPH-accredited schools of public health and 65 graduate programs. There are two trends of particular note. A growing number of schools are being accredited with about 1-2 new schools being added per year. In addition, institutions outside the U.S. are beginning to seek accreditation from CEPH. For example, the newest accredited school is in Mexico and the Universite de Montreal received accreditation of its Master of Science Program in Community Health in 2005. According to CEPH, there are a number of additional schools in the U.S. and outside the country pursuing accreditation. The CEPH is the only accrediting body of public health graduate programs and schools in the world. With the emergence of multiple MPH programs and increasing discussion of schools of public health in Canada, CEPH has received inquiries from a number of Canadian institutions. As shown by the existing program accreditation in Montreal, CEPH is willing to entertain applicants from Canada and ASPH would welcome CEPH accredited Canadian schools into its association.

The CEPH accreditation criteria create a distinct dichotomy between schools and programs. The initial focus on "schools" was a result of governmental incentives for that particular model. Accreditation was initially started just for schools and then later expanded to programs. According to the current director of CEPH, the quality of MPH training is not necessarily superior in an accredited school as compared to an accredited program. A school however, is more likely to offer a greater breadth and depth of training options (e.g. additional MPH streams, electives, doctorate degrees, etc.).

One of the concerns with an accreditation process is its potential negative influence on innovation. However, while the CEPH accreditation criteria are quite specific and detailed, U.S. schools are in fact quite heterogeneous. As one key informant noted, "when you've seen one U.S. school, you've seen one U.S. school." One contributing factor may be that for many of the CEPH criteria, schools can determine how to fulfill them and be able to justify their chosen approach.

In addition to the accreditation of public health schools and programs in the U.S., a new ASPH initiative is planning for *individual* level credentialing. In April 2006, the National Board of Public Health Examiners was established to develop a voluntary credentialing exam for graduates who earn masters or doctoral degrees from CEPH-accredited schools and programs. According to ASPH, the intent is to have this public health credential be a mechanism to ensure that graduates have mastered required competencies. It also appears to be an additional mechanism to clearly differentiate between accredited and unaccredited programs. Initial implementation of the examination is currently planned for 2008. It is unclear at this point how this initiative might impact plans for Canadian schools.

A recent report from the influential Institute of Medicine on public health professional education notes that "Schools again are faced with the need to evolve, in part because current problems demand new knowledge and approaches, and in part because of

scientific advances and the increased understanding of the determinants of health, their linkages, and their interactions."[10] The committee preparing the report identified the following six major responsibilities of schools of public health:

- Educate the educators, practitioners, and researchers as well as to prepare public health leaders and managers
- Serve as a focal point for multi-school transdisciplinary research as well as traditional public health research to improve the health of the public
- Contribute to policy that advances the health of the public
- Work collaboratively with other professional schools to assure quality public health content in their programs
- Assure access to life-long learning for the public health workforce
- Engage actively with various communities to improve the public's health.[10]

Schools in Europe

In Europe, the situation with schools of public health is less clear. There is an Association of Schools of Public Health – European Region (ASPHER) that was founded in 1966 and has over 72 institutional members from over 30 countries. Despite the organization's name, membership is open to institutions such as schools, faculties, departments or units responsible for education in public health within the European Region. An examination of their membership list indicates that most are university departments, although with some schools as well (e.g. London School of Hygiene and Tropical Medicine, several Scandinavian and Eastern European schools).

While ASPHER does not offer accreditation, it does offer an optional quality peer review process that is a benefit, but not requirement of membership. Only a minority of member organizations have been reviewed and most recent reviews have been conducted in eastern Europe due to availability of third party sponsorship. The peer review criteria are similar with those of CEPH, but do not distinguish between schools and programs. In fact, the terms appear to be interchangeable.

As part of an option analysis to inform the development of a formal accreditation process, ASPHER published the findings from a series of meetings and background papers.[11] In reviewing this material, it appears that ASPHER is using the term "school" quite broadly to refer to a training program versus the more traditional sense of an institution within or associated with a college or university. ASPHER has indicated a desire to establish a formal accreditation scheme, but has not yet done so.

One of the formal schools of public health within ASPHER is the London School of Hygiene and Tropical Medicine. That school has not participated in an ASPHER review but did, at one point, actively consider CEPH accreditation. It was apparently not pursued due to the lack of practica in its programs, and possibly with difficulties anticipated meeting criteria with respect to environmental health.

Australian Schools

In Australia, the Australian Network of Academic Public Health Institutions (ANAPHI) includes 19 institutions that currently offer a suite of public health programs. ANAPHI was formed to promote collaboration among Australian academic institutions contributing to public health education and research and to develop partnerships with governments to better understand and respond to the national interest. Most of the member institutions receive funding under the Australian government-funded Public Health Education and Research Program (PHERP).

The majority of the ANAPHI institutions are university departments, although seven are labelled as schools of public or population health. The schools are of varying sizes, but most are relatively large with close to 50 faculty. They tend to be clustered with other health science schools into Faculties.

Federal funding of public health graduate education is relatively unique compared to other fields in Australia. However, the federal government there provides targeted public health funding to the states that accounts for approximately half of the entire public health system budget. While the federal funding encouraged an increase in training capacity, it also led to a rapid proliferation of programs. The government subsequently required the creation of state-based consortia to reduce duplication, improve access, and increase critical mass. The consortia will be addressed in more detail later in this paper.

ANAPHI is actively discussing how to improve quality in its institutions. At the moment, a working group is mapping out the existing quality indicators and processes among their programs and schools. They will also be reviewing their national training guidelines and take into consideration the new MPH competencies released by ASPH. A series of workshops are expected through the fall to discuss findings and options. It is too early to predict what the outcomes will be, although the issue of accreditation will likely be discussed.

Canada - University of Alberta's School of Public Health

The University of Alberta announced in March 2006 the establishment of Canada's first and only school of public health in recent decades[ii]. The School exists as an independent Faculty with responsibility for academic planning, recruitment, promotion and tenure, and budget. Three main existing components were brought together in this new organization:

[ii] The University of Toronto can lay claim to the title of having had the country's first school of public health. The School of Hygiene was founded in 1927, accredited by the predecessor to the current CEPH, and was a founding member of the Association of Schools of Public Health. The School was integrated into the Faculty of Medicine in 1975.[12]

- Department of Public Health Sciences
- Centre for Health Promotion Studies
- Alberta Centre for Injury Prevention and Research.

Currently, this school offers course-based and thesis-based Masters programs in health promotion, a MPH, a MSc, and a PhD in public health sciences. As implementation of the School proceeds, the intent is to seek CEPH accreditation.

Trends Towards Creation of Schools of Public Health

The interest in developing schools of public health is clearly not limited to Canada. The concept of a school is widely accepted and being applied around the world. New schools continue to be developed in the U.S., as well as other countries (see box). In addition to those listed, new schools are being actively developed in Eastern Europe, Southeast Asia, and India. For example, the creation of the Public

> **Recent Schools of Public Health**
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> Chinese University of Hong Kong - 2004
> Griffith School (Brisbane) – 1997
> University of New South Wales (Sydney) – 2001
> University of Alberta - 2006
> Recent CEPH Accreditations:
> - Instituto Nacional de Salud Publica – Mexico – 2006
> - University of Kentucky - 2005
> - Drexel University (Philadelphia) – 2004
> - University of Arkansas for Medical Sciences – 2004
> - Texas A&M University System Health Science Center - 2001

Health Foundation of India was announced in April 2006 and it intends to establish five new schools of public health, as well as an accreditation agency to standardize public health education. ASPH has been advising on the development of schools in India and several deans of U.S. schools attended the announcement in New Delhi.

CHARACTERISTICS OF EXISTING SCHOOLS

Information on existing and planned schools was obtained through key informant interviews (see Appendix A) and internet searches of selected schools (see Appendix B).

Independence

Schools are a higher level organizational entity than a university department and therefore have a greater level of independence. The CEPH accreditation criteria stress the importance of the independence of a school of public health with it having a similar ranking and set of privileges compared to other schools (e.g. medicine) in that university. This feature was also observed in many, but not all schools outside of the U.S. Key informants described that independence provided the autonomy:

- To set a common mission for the organization
- For administrative and budgetary control
- To set criteria for faculty selection and advancement
- To define and offer interdisciplinary degrees
- To develop collaborative arrangements within and outside the university including the public health system – easier to do as a school than as a department of a bigger Faculty
- For greater visibility and profile for public health
- To raise funds and apply them in fulfillment of the organization's mission.

In other words, there was the ability to not only set the mission, but to create the necessary environment to fulfill it. A key characteristic of a school of public health should be an orientation towards practice. Greater autonomy provides the means to achieve that orientation. Individual university contexts can vary. It is possible that a department could have some of these desired characteristics and a school might not have all. However, levels of Faculties or Schools are typically the organizational level where this set of authorities is situated.

Some existing schools outside the U.S. are not separate from Faculties of Medicine. In some cases, such as in Liverpool, "medicine" appears to be used to refer to all health sciences so that the medical school appears to be organizationally at the same level as the public health-related school. The structure of the new school in Hong Kong is more complex. Located within the Faculty of Medicine, there are other professional schools for nursing and pharmacy, and a series of medical departments and other centres. While substantial autonomy has been given to the school, there is a perceived benefit of maintaining close linkages with medicine for teaching public health to physicians and other health care professionals, as well as supporting the interface between public health and primary care. In fact, the Department of Community and Family Medicine is located within the school of public health.

Faculty Size

In addition to having a greater level of independence than departments, there is an expectation that schools will typically have a greater level of critical mass than a department. This is because a school is expected to have a greater range of depth and breadth than a typical department, plus greater links to the field. According to the CEPH, the minimum number of full-time faculty is 25. Many of the schools reviewed around the world are considerably bigger. Key informants suggested that having at least double this number is preferable, although it may take time to achieve. Many of the institutions in Canada who are actively pursuing the concept of schools are planning on having at least 25 faculty, however, this is dependent in many cases on new funding and assumes availability of qualified faculty. CEPH's criteria requiring a specific disciplinary distribution of those faculty is a related but distinct consideration and will be addressed in more detail later in this paper.

Interdisciplinary Environment

A common theme described by many of the key informants was that having a school meant that one could bring together multiple disciplines, contributing to training of interdisciplinary professionals and supporting applied research. This is similar to other professional schools such as medicine in which the expertise of a number of basic sciences inform the training of an applied professional. Bringing multiple disciplines together to participate in teaching and applied research can of course be achieved without a school. However, a school has intrinsic advantages of fostering active collaboration through use of organizational structures, physical co-location, as well as single executive direction. Several key informants also identified that a school is better able to reach out and make linkages with other entities within and outside a university without potential direct or indirect barriers from home faculties.

An issue raised by some Canadian and international key informants is whether the CEPH's focus on five core disciplines may limit the breadth of expertise required for a school. This issue will be addressed in greater detail later in this paper.

Diversity

As previously described, there is considerable diversity among American schools of public health. Many of the schools focus on specific geographic regions, as well as developing specific areas of focus. Many schools have a distinctly international focus and several Canadian schools are similarly planning to have a concentration on "global health". In Australia, schools can vary considerably with the extent to which they are focussed on public health practice versus research.

Collaborative and Virtual Models

Few schools exist as formal collaborations. In the U.S., the CEPH criteria allow for collaborative models, but stipulate the minimum nature of such arrangements. Currently, there is only one CEPH accredited collaborative school, which is in New Jersey. The initial collaboration was between the New Jersey University of Medicine and Dentistry (NJUMD) and the State University (Rutgers) in the formation of a collaborative graduate program. The NJUMD is actually a collaborative model itself as it contains three medical schools. A collaborative model avoided duplication and the potential for three separate schools of public health in a relatively small geographic area. Two additional institutions have since joined the collaboration. A public health coordinator exists at each site and is the primary contact for the dean. This has facilitated communication and coordination across the different campuses.

In Australia, schools are part of state-based consortia. This arrangement was a condition of federal funding versus a voluntary evolution of training programs. The federal funding acted as a glue to encourage consortia and many would not have been created otherwise.

As organizations have grown and there is increasing competition, tension among consortium partners has been increasing. One consortium has apparently stopped functioning. In another, an attempt was made to have a common set of first year MPH courses jointly provided by partners followed by a second year of specialization streams offered by individual institutions based on their areas of strength. While attempting to avoid duplication, it has resulted in tension between programs who are seeking to encourage students to attend their particular streams. Consortia seem to work better if partners are not in competition and have separate niches. Rotating leadership roles such as the chair of the consortium among partners can also help build trust and mutual understanding.

Canada has a number of similarities with Australia. With a relatively small population, large geography and a limited pool of potential faculty, the concept of a consortium would seem to have value. In Canada, there appear to be some logical bases for consortia. One is in larger cities such as Montreal and Vancouver, and another is on a regional basis in which individual institutions may have insufficient critical mass or the regional population base does not warrant multiple schools. However, rivalries often exist among local institutions and it can be difficult for them to establish voluntary partnerships.

In the absence of government funding incentives, the other incentive to encouraging formal partnerships might be accreditation criteria that encourage collaboration for smaller entities. While not necessarily an option for everyone, it is also possible that a university could consider a collaborative partnership with an existing accredited school of public health in the U.S. in order to achieve particular objectives (e.g. certain content strengths, critical mass, accreditation status, etc.). Such a move would mirror some cross-border partnerships in other fields (e.g. Queen's and Cornell Universities' Executive MBA program).

No virtual models were encountered in the review of schools of public health. This idea has been suggested and discussed in Canada for a number of years. It seems that the motivation for the virtual aspect has stemmed, at least partly, from concerns about the feasibility of achieving a real school versus the intrinsic characteristics of a virtual model. One of the primary reasons for establishing a school is to create an organization with sufficient critical mass of expertise and capacity under single leadership to address professional training, applied research and service in an integrated manner. A virtual school cannot fulfill these characteristics and it is therefore suggested that this concept and term be abandoned. This is not to suggest that a school should not participate in virtual networks or other distributive learning models or offer distance education. However, a virtual network is not a school since "school" suggests the existence of some central organizational entity with a critical mass of expertise and capacity.

School Advisory Boards

Several existing schools have some type of advisory group that provides a mechanism to involve key stakeholders. For example, the Board of the London School of Hygiene and

Tropical Medicine includes a number of professional and governmental representatives (see Appendix C). In Australia, the consortium model is required to have an advisory body with formal public health system involvement.

It is beyond the scope of this report to examine the different types of boards used and their relative advantages. However, boards have been a key governance element in the development of provincial public health agencies in this country and was a recommended, but not instituted feature for the federal agency. For a school, it is a means to support the strategic linkages to practice. As one key informant commented, a public health school can be a mechanism to seek a common agenda with partners and a board would be a means to facilitate this. A concern raised in the interviews was managing the possible expectations that having a board might create for a school. This argues for clarity of purpose and role for a board.

The next section will explore in more detail the extent that a school of public health model in Canada will have the potential to meet system needs outlined earlier in this paper.

SCHOOLS AS A MEANS TO MEET SYSTEM NEEDS IN CANADA

An earlier section of this paper outlined system needs in several areas of public health training and applied research. At the moment, Canada has a number of programs that can provide unidisciplinary graduate training in basic public health sciences such as epidemiology. The country has had a limited number of professional public health masters degree programs, but that is clearly changing with the creation of multiple new MPH-type programs. Assuming that capacity being in place, the question becomes the incremental benefit that schools might offer.

Core School Functions: Training, Applied Research and Service

Training: interdisciplinary education

If Canada is to have several MPH graduate programs, why do we need schools? In addition to providing quality generalist MPHs, an obvious contribution of a school will be the capacity to offer a greater breadth of specialized streams of applied public health training. Specialized streams each require their own critical mass of expertise, so that a larger entity would be positioned to offer a

> **Specialist Streams – LaTrobe University School of Public Health**
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> - Health policy
> - Health promotion and social sciences
> - International health policy
> - Health services management
> - Workplace health and rehabilitation
> - Healthy Aging

greater breadth of such streams. For example, the school at LaTrobe University in Australia offers six specialist streams in addition to a general stream for its MPH degree

(see box). The existence of the Australian consortia provides, from a student perspective, an even greater choice of streams among institutional partners.

There are some specialized areas of public health practice that perhaps only a few institutions in the country could support. Examples might include public health law, informatics, and genomics. It seems more likely that developing and supporting capacity in these areas is more likely in a school setting with extensive affiliate arrangements.

Just as schools of medicine and nursing are affiliated with well developed teaching environments such as teaching hospitals, a school of public health would similarly be expected to be linked to a substantive array of practice experiences and practice-based teaching faculty. This ideally involves faculty with joint appointments that combine teaching, research and service. While it is possible to do this through smaller university departments, critical mass with a focus on professional training and formal partnerships with the public health system could facilitate development of robust training centres.

In addition to breadth, there is also the issue of depth of public health professional training. While many existing universities are able to provide doctorate training in a public health basic science, the value of a school is to be able to provide interdisciplinary doctorate training (e.g. DrPH-type degree) with a greater focus on system application. The extent of interdisciplinary expertise to support such a program and likely arrangements with affiliate schools and practice settings have critical mass and organizational demands better suited to a school.

Continuing education is a major gap for public health systems. Public health employers have tended to not invest in this area and typical university departments have limited interest, capacity and practical expertise to provide continuing public health education. It seems likely that only institutions with strong linkages with the field who can build training capacity in partnership with governmental and professional organizations will be able to address these gaps in a meaningful way. With the paucity of existing resources, doing this work well in a few locations is likely preferable to scattered attempts across the country. Schools with strong orientations to practice and with strong links to the field seem ideally suited. The argument for school involvement is even greater for highly specialized professional development programs such as a public health leadership and management program that might benefit from collaboration of a School of Public Health and a School of Business or Public Administration.

One potential risk of creating a school of public health is that, in shifting an existing department out of a faculty such as medicine, linkages to undergraduate professional education may be weakened. Similarly, other schools or faculties (e.g. nursing) might think that they do not have to worry about training their students in public health because that is the public health school's responsibility. These are not arguments against a school, but do present a risk. In addition to directly providing graduate level training, schools need to contribute to undergraduate professional programs from which the majority of the public health workforce is recruited.

Applied Research

The ability to conduct relevant applied research that will inform and improve the organization and delivery of public health services requires close linkages with the public health field. This has been well established and is one of the central objectives of the announced funding of Applied Public Health Chairs from CIHR-IPPH and the PHAC[iii].[13] Existing university departments have struggled to employ individuals with a history of practice in public health. One consequence is that the research interests of faculty tend not to coincide with the needs of practitioners. A school provides the environment to attract individuals with applied research interests such as providing the flexibility in joint appointments of individuals with a foot in both the practice and research community. The ability to tackle key applied research questions requires a mix of skills that can be more readily brought together in a rich interdisciplinary environment. For example, whether it is to more deeply assess the health impacts of housing or other health determinants or to assess the relative benefits of different organizational structures for public health within regional health authorities, pulling together the appropriate investigation team is more likely to be successful within a school environment. Strong linkages with the field also can provide a mechanism to support the translation of research findings into practice.

Achieving the potential of greater applied research will not result solely from creating a school. Similar to university hospitals with embedded clinical researchers, strengthening practice-relevant public health applied research will require comparable public health practitioner researchers who are based within public health organizations but with strong links to the School.

Service to Public Health Systems and Communities

The third fundamental quality of a school model is that of service. The extent to which the two preceding elements, training and applied research, are actually oriented towards practice will strongly influence service. The formal linkages with the public health system can contribute to service in a number of ways including jointly appointed practitioners (e.g. Medical Officers of Health) who are actively involved in service delivery, as well as providing continuing education training to practitioners, policy advice to government and communities, and other roles. Applied research by its nature is linked with service. The school's faculty also serve as potential surge capacity in times of emergency, as well as a credible public voice on public health issues.

[iii] The Centre de recherche en prévention de l'obésité has also become a partner funding chairs that respond to their priorities.

Envisioned Outputs and Design Characteristics of Schools of Public Health

For schools of public health to fulfill key roles in the public health system, they must:

- Provide educational programs that are informed by and focussed on system needs and address the core competencies for public health practice. Programs will:
    - Be interdisciplinary
    - Address professional and research-oriented training
    - Include masters and doctorate level
    - Provide a range of specialized streams
    - Address accessibility such as distance and part-time education options
    - Include professional continuing education
- Conduct applied public health research that is interdisciplinary and linked to practice
- Provide support to other faculties and professional schools in teaching of public health and related topics (e.g. undergraduate health professional training)
- Execute agreed partnerships with public health system at local, provincial and national levels.

The creation of a school of public health to fulfill these roles requires several important characteristics:

- Leadership and support from the highest levels within the university for:
    - A professional school model with sufficient autonomy:
        - Able to establish its own mission and priorities
        - Have its own budgetary control
        - Greater control over faculty selection, promotion and tenure
    - Realignment of relevant departments/centres under the auspices of the new school
    - To make the investment to be effective
- A realistic and sustainable plan to obtain support and participation of a variety of relevant departments, centres, etc. within the university
    - Those directly becoming part of school
    - Those forming strategic alliances
- Plan to achieve an appropriate number and mix of faculty:
    - Mix of content expertise to support a school's mandate: training, applied research, and service
    - Experience and link to practice
- Realistic and sustainable plan to put in place the necessary linkages and partnership agreements with public health systems
- Linkages with other academic institutions
- Vision and mission for school – identification of areas of focus/strength
- Mechanism for quality improvement
- Business case and source(s) of funding.

Realignment of Existing University Departments and Centres

An obvious starting point for building a school of public health is to bring together existing expertise and capacity from within the university. A typical starting point is the department of epidemiology or similar entity. For universities with medical schools, this would mean a shift of that department to the public health school since it would be difficult to imagine having parallel epidemiologic capacity in schools of medicine and public health. An exception to this is a clinical epidemiology unit or department which may have better alignment with a medical school because of its focus on clinical care issues.

Other university entities are likely to be included in a school such as centres focussed on health promotion, injury prevention, or vaccines. Involvement, in some way, of veterinary programs appears to offer good potential synergies. Less clear in the Canadian context are departments focussing on health services policy and research. These entities have typically been much more focussed on health care services than on public health system policy and services. The main professional degree of these departments is a MHA or similar degree that is often taken by individuals seeking management type positions in health care institutions such as hospitals or regional health authorities. Therefore, these departments may not necessarily be interested in being part of a school of public health. Nevertheless, in all provinces but Ontario, public health is organizationally integrated within health authorities and there is a desire for these authorities to have a population health-based approach to planning and delivering services across the health care continuum.[14] In American schools of public health, health services and management is one of the five core disciplines and covers much more than just public health. However, many school graduates go to work in managed care so the context there is different. Overall, the fit of broader health services policy, management and research seems uncertain for Canadian schools of public health. A possible approach is to view health care services policy and research to be an optional component of Canadian schools noting that this may be an issue of concern if seeking CEPH accreditation.

Shifting of existing capacity into a school has some additional implications. If the school is to be independent, particularly from medicine, there needs to be a willingness of university officials to allow such a shift because of the potential loss of faculty positions, as well as their associated research dollars. The other issue is the willingness of the faculty to move. Some key informants indicated that in their institutions, faculty are not obliged to move and have the discretion to go elsewhere in the university. This could potentially mean that less faculty end up in the school than originally planned.

In general, the core faculty of a school will initially come from existing university departments and centres. In many of these entities, the faculty have not necessarily had strong linkages with the practice community. The insufficient orientation of existing training and research programs towards practice is in fact one of the primary reasons for creating schools in the first place. Creating a new organizational environment and culture

oriented to public health practice will likely require substantial attention in schools, as well as aggressive recruitment and linkages with existing practitioners.

Linkages with Public Health Systems

The extent of linkages with the formal public health system is a critical element for a school of public health. Training programs need to be aligned with employer needs and students must have opportunities for practice within the system. Educational programs cannot be limited to formal graduate degree programs. Schools must play a key role in addressing the continuing education needs of the existing workforce. Understandably, universities cannot do this alone and there must be active involvement of the public health system to fund and participate in such programming. Similarly, research within schools needs to be relevant to practice.

ASPHER's peer review criteria provide a useful description of the many types of linkages between schools and public health systems that they seek in schools' self-assessments and site visits (see Appendix D). There are multiple ways that schools might establish strong links with formal systems:

- Active involvement of representatives from the public health system, provincial and regional levels (+/- federal), in the planning of the school
- Ensuring public health system representatives are on school advisory board
- Strong linkages/experience with the practice community as a criteria in the selection of the senior leadership of the school
- Creation of jointly funded positions with regional/provincial public health organizations
- Organizational strategies (e.g. units, pods, theme groups, etc.) within the school that focus on public health areas of practice (i.e. communicable diseases, environmental health, healthy development, chronic disease and injury prevention, occupational health, etc.).
- Joint sponsorship of teaching/research health units
- Joint efforts at continuing education
- Professional training programs formally assess employers and alumni on educational needs and extent being addressed
- Participation in applied research networks that involve practitioners and researchers
- Active involvement of the school in public health practice. This might include needs assessment, population health profiles, review of evidence, strategy development, assistance with outbreak investigation, etc.

As the preceding list demonstrates, there are many ways to pursue linkages. Many of these items are dependent on a true orientation to practice rather than simply a wishful add-on. A partnership is a two-way process. The public health system must similarly be in a position to engage the school. Many of the items listed above will require time and financial support from the public health system, but should be viewed as strategically

important. The greater the extent that initiatives can be co-sponsored by the system, the more likely they will occur and be oriented to the system's needs.

Linkages with Other Academic Institutions

Several key informants in this country stressed the importance of collaborative approaches to share expertise and training opportunities among institutions. Admittedly, the experience with collaborative models in other countries has been challenging. There is some irony in observing that while collaboration and partnership is a key domain of the public health core competencies, there is difficulty putting it into practice *within* the public health community. Considering the needs of the public health system and the limited existence of practice-oriented faculty, it would be ill advised for schools to develop in isolation of each other or of the other institutions involved in public health related training and research. A forum for communication among institutions planning schools, as well as other providers of public health training would seem to be an obvious starting point. While major funding initiatives such as those in Australia can serve as an incentive for institutions to work together, even funding of specific positions or supports (e.g. grant writing assistance) can be strategically used to induce institutions and disciplines to work together.

Funding

Even in universities with pre-existing sources of critical mass, creation of a school is not simply a matter of putting those pieces together with a new logo. Assuming maintenance of existing departmental budgets, additional funds will likely be required for a number of areas:

- Support services – administrative and support services (e.g. IT, HR, finance) that used to be addressed by the home faculty now will be provided or purchased by the school. Greater responsibilities may also exist for student and alumni services (e.g. admissions, credentialing, etc.)
- Marketing and fundraising – one of the advantages of a school is greater visibility and the ability to raise funds including access to one's own alumni. These tasks however, require infrastructure to maintain communication through websites, e-mails, periodic newsletters, etc.
- Increase in faculty – there are likely areas of gaps in existing faculty that will need to be addressed. Jointly funding positions are a mechanism for building affiliations with other content areas (e.g. school of business, law, etc.), as well as practice (e.g. public health practitioner researchers).
- Expansion of programming – creation of specialized streams, continuing education programs, etc. may require significant investment
- Greater leadership capacity – creation of a school will call for greater strategic leadership and creation of collaborative partnerships. There may also be a need for greater disseminated leadership roles beyond the head of school who may have more

of an external focus. Development of interdisciplinary training and research may require theme groups. Some financial incentives will likely be required to build these groups.

- Capital investment – while not an immediate step, once a school is created, then it will likely wish to co-locate core faculty and programs as soon as possible. This will likely mean the need for a new location.

Costing of these items is context dependent. Some plans may need little (e.g. 5-10 positions) in the way of new faculty while others may require substantial numbers. The addition of a small number of new faculty and joint appointments, leadership costs, and marketing to create a new school could require an additional annual operating budget of at least one, if not two million dollars. If substantial numbers of new faculty positions are required then new costs will be considerably higher.

Quality Improvement – Accreditation

While different provinces have bodies with varying degrees of involvement in reviewing and approving graduate programs, accreditation by an independent body is the norm for professional schools in many fields. The website of the Association of Universities and Colleges of Canada lists the accrediting bodies for several professional programs. Included are health professional schools such as medicine and nursing, as well as non-health institutions such as business schools. The scope of accrediting bodies ranges from provincial (accounting) to national (nursing) to bi-national (medicine) to multi-national (e.g. business schools). In some cases, there is more than one potential accrediting body. Accreditation is seen as a means of validation to potential students, employers of graduates, other institutions and research funders that they have achieved a specified level of quality. It also serves as an internal process of quality improvement.

For public health, the CEPH is the only organization in the world that specifically accredits schools of public health. Its objectives include:

1. To promote quality in public health education through a continuing process of self-evaluation by the schools and programs that seek accreditation
2. To assure the public that institutions offering graduate instruction in public health have been evaluated and judged to meet standards essential for the conduct of such educational programs, and
3. To encourage - through periodic review, consultation, research, publications, and other means - improvements in the quality of education for public health.

As previously described, ASPHER does reviews of institutions offering public health training and has wanted to set up an accreditation mechanism. This however, has not been achieved to-date. In a presentation to ASPHER in 2001, the then director of CEPH

made the following list of advantages and disadvantages of accreditation based on their experience:

Table 1: Advantages and Disadvantages of Accreditation

Advantages	Disadvantages
• Promotes quality and improvement • Establishes credibility and offers an assurance that an individual institution is reputable. • Positions individual schools and programs to compete more effectively for resources, both within and outside the institution • Agreement about standards and best practices tends to raise the level of performance across the field; the reputation of the entire field is enhanced • Various agencies rely on accreditation status for a variety of purposes including funding decisions for grants and contracts and establishing eligibility for jobs • Students and prospective students can and do rely on accreditation status to be sure that the educational institution has met minimum standards in the field. Has a consumer protection purpose. • The ability to transfer credit from one institution to another is greatly enhanced by accreditation status. • Ongoing self-evaluation and commitment to continuous improvement that is characteristic of accreditation provides an effective system of accountability • Accreditation enhanced the national reputation of a school or program and represents external peer recognition	• Expensive. Annual fees plus additional charges at the time of a site visit. Biggest expense is the time and resources devoted to self-study process by faculty and other participants • Minimalism. Attests only to meeting minimal standards. Does not recognize excellence. Outstanding schools and programs often frustrated that their stellar performances not rewarded. • Exceptionalism. Viewed by higher-level university administrators as special pleading for a particular profession, often demanding and coercing resources, impinging upon institutional autonomy and constraining the ability of the university to make decisions in best interest of the entire institution, not just the professional training program • Not very effective at weeding out bad schools and programs. Rarely are bad schools and programs taken off the accredited list and usually only after prolonged deliberations. • Can do nothing about the many programs that choose not to seek accreditation. Schools and programs that do not voluntarily seek accreditation are held to no external standards and can pretty much do as whatever they wish – except advertise that they are accredited

Source: Pat Evans, former CEPH director, as stated in *Quality improvement and accreditation of training programmes in public health, ASPHER, 2001.*

Many of the Canadian institutions developing schools of public health have identified CEPH accreditation as one of their goals. Several key informants noted that CEPH is the only current option for accreditation and would at least be interested in considering a Canadian option if it existed. Some key informants raised concerns regarding the relevance of some existing CEPH criteria for the Canadian context.

Conceptually, the CEPH objectives and criteria seem consistent with the desired outputs and structural/design characteristics outlined earlier in this paper for Canadian schools of public health. However, the way that CEPH has operationalized these concepts may not totally align with what is desired for schools of public health in this country. The following table assesses some specific design features of schools and includes the CEPH related criteria. It also begins to distinguish what might be essential for Canadian schools and not just optional or desired. This differentiation is provided primarily for discussion purposes, although it does highlight areas of potential concern with some existing CEPH criteria.

Table 2: Analysis of Selected School of Public Health Design Characteristics

Design Characteristic	Essential Characteristic	Desired Characteristic	CEPH Criteria	Comments
Independence of school	Distinct organization with sufficient autonomy to establish mission and priorities; budgetary control; faculty selection, promotion and tenure	Same level of independence and status accorded to professional schools in that institution	Same level of independence and status accorded to professional schools in that institution	Certain level of autonomy required to be a school. Whether level of independence required by CEPH is mandatory is unclear. Several existing international schools do not appear to meet CEPH criterion. Anticipate some proposed Canadian schools may also not meet it.
Appropriate number of faculty	Sufficient critical mass to support mission and offerings of school. Must have identifiable core, full-time faculty. To support mandates of training, applied research and service, minimum 25 faculty seems reasonable.	Fully developed school have 50 or more faculty.	21 full-time + 4 additional FTE (i.e. 25 total)	25 faculty appears consistent with most schools in other countries and with range of desired outputs Meeting criteria in many schools assumes funding for new positions, availability of appropriate new faculty, and willingness of existing faculty to be transferred to school.

Design Characteristic	Essential Characteristic	Desired Characteristic	CEPH Criteria	Comments
Appropriate mix of faculty	Clearly defined faculty which, by virtue of its size, multidisciplinary nature, educational preparation, research and teaching competence and practice experience, is able to fully support the program's mission, goals and objectives. This includes a sufficient mix of faculty and practical experiences to support development of the required competencies for public health practice (from ASPHER, CEPH-2002 version)	In addition to core capacity, have ability to have specialized areas of focus/strength. Not all schools would/should strive to develop specialized capacity in everything. Internal capacity for broader health care services policy, research and administration is an additional consideration.	5 faculty in each of epidemiology, biostatistics, environmental health sciences, health services administration, social and behavioural sciences	CEPH criteria appears arbitrary Is 40% of core faculty in epidemiology and biostatistics an "appropriate mix"? Environmental health may be problematic – limited faculty nationwide – need 5 in each school? Seems to provide less emphasis on interdisciplinary preparation & practice versus basic sciences
Interdisciplinary education	Focus is on preparing interdisciplinary public health professionals (generalists and specialists) possessing core competencies who through exposure to a breadth of optional courses and electives, can receive more intense exposure to selected areas of practice. Minimum is interdisciplinary MPH and DrPH type degrees.	Potential to specify minimum available streams and doctorate offerings.	MPH specialty streams in each of 5 above disciplines Doctorate in at least 3	CEPH's emphasis seems placed on uni-disciplinary preparation versus interdisciplinary.
Strong linkages with public health system	Clearly demonstrate a successful relationship with public health community and contributes to improved quality of practice and programs.	Series of partnership agreements with public health system (training, policy, applied research, service)	Pursue active service activities consistent with its mission	CEPH criterion consistent with what is desired, but need greater expectations in Canada. Receptivity of system required.

Design Characteristic	Essential Characteristic	Desired Characteristic	CEPH Criteria	Comments
Continuing education	In partnership with employers, offer a range of continuing education programs to meet needs of the existing workforce.		Shall engage in activities that support the professional development of the public health workforce	CEPH criterion consistent with what is desired, but need greater expectations in Canada. Requires active involvement and investment by public health system.
Linkage with other academic institutions	Distributed learning network that allows access to specialized expertise across the country. Partnerships to compensate for insufficient critical mass among schools and programs.	Regional partnerships that link the school with other institutions involved in public health workforce preparation. Conduct region-based needs assessment, design of training programs, sharing of students.	When a school is sponsored by more than one institution, the lead institution should have level of independence of comparable schools and provide MPH training in 5 core disciplines`	Challenging to achieve even with incentive funding (e.g. Australia)

Table 2 illustrates some important points. Completing the "essential" and "desired" columns is challenging. Discussion is required among academic institutions and other key stakeholders to pursue what in fact is essential for Canada and what might be optional. This preliminary analysis indicates that there are some areas of potential concern. For example, CEPH's criteria for five faculty by five basic disciplines seems arbitrary although perhaps this is offset in its application during accreditation reviews. It seems questionable whether these five disciplines are sufficient for a modern school of public health. As noted in a recent U.S. Institute of Medicine report on public health education,[10] there are key emerging areas for public health education that are required including:

- Informatics
- Genomics
- Cultural competence
- Global health

- Communication
- Community-based participatory research
- Policy and law
- Ethics

Whether this is the right list of additional content areas is not the immediate issue, although there is good reason to believe that public health leadership and management and knowledge translation are high system priorities across Canada.[6,15] Both the draft Canadian public health workforce core competencies[3], and the newly released ASPH MPH competencies[16] describe many cross-cutting competencies that should also be the basis for training programs and thus, faculty recruitment. If one were planning a hypothetical Canadian school of public health from scratch with an initial faculty complement of 25, would one strive for 5 faculty for each of the 5 CEPH core disciplines? If the answer is no, then there is a risk that Canadian schools being currently planned may skew their faculty recruitment in order to meet the CEPH criteria.

The explicit requirements for faculty distribution by core disciplines is interesting and appears to be a new criterion. The previous edition of CEPH accreditation criteria from 2002 had the exact same wording as ASPHER stating: "the school shall have a clearly defined faculty which, by virtue of its size, multidisciplinary nature, educational preparation, research and teaching competence, and practice experience, is able to fully support the school's mission, goals and objectives." Of note, the then head of CEPH made the following statement to an ASPHER meeting regarding lessons learned in their many years of accreditation:

> *"It has been necessary and desirable to move away from quantitative standards such as the minimum number of faculty, books in library, etc. as the judgement about accuracy relates not so much to a numerical standard but rather is a function of the configuration of specializations offered by the school, the number of advanced level courses needed, …and other functions of the school such as research and service."[17]*

Such a perspective appears reasonable and less arbitrary, particularly if CEPH will be increasingly involved in the accreditation of non-US schools.

It is not yet clear whether the CEPH criteria are appropriate for the Canadian context and if not, the extent of the disparity. Some key informants suggested the need to consider an alternative. However, others pointed to the long experience that CEPH has in doing accreditations, as well as the costs involved in supporting a stand-alone system. In addition, it would be problematic if a stand-alone system was viewed as a second-rate process with less stringent criteria than the U.S. The balance between having a reasonable set of desired criteria and avoiding having a number of schools ineligible for review will also need consideration.

Options For Accreditation of Canadian Schools of Public Health

There appear to be a limited number of practical options for accrediting Canadian schools of public health.

1. Do nothing
   - Programs/schools apply to CEPH as they wish
   - Canadian schools adapt to U.S. criteria – whether or not criteria are appropriate for the differences between countries in intended outputs of schools and nature of their public health systems
   - Likely result is that some schools will be unable or unwilling to meet criteria
   - Potentially left with mixture of some schools that apply and some that do not – with a limited population and limited number of institutions that can likely sponsor a school, quality not being addressed in consistent manner

2. Develop voluntary guidelines for schools
   - Possibly an interim solution while sorting out accreditation options

3. Develop a joint Canada-US accreditation process with CEPH
   - Utilize CEPH experience with accreditation
   - Could involve a mixture of Canadian and US reviewers
   - Adapt existing criteria for Canadian context – note: <u>requires CEPH acceptance</u>

4. Develop a Canadian accreditation system
   - Need to develop own criteria, administrative structure, surveyors (time, cost, effort)
   - Canadian schools faced, particularly early on, whether to proceed with more widely known CEPH criteria or novel Canadian system
   - Option to at least consider whether to maintain distinction of school vs. program for accreditation purposes

Option 1 does not appear to be attractive and will likely result in a mix of accredited and unaccredited schools. In addition, planners of Canadian schools appear to at least be interested in exploring a Canadian option for accreditation. The main option appears to be

whether it is possible to negotiate a joint bi-national accreditation process with CEPH that includes some distinctive criteria (or the interpretation of existing criteria) for Canadian schools versus developing a made in Canada accreditation scheme. The existing joint accreditation of Canadian and American medical schools might be a model for such an arrangement. It might also include some other international schools who wish to be accredited. One issue needing consideration for any option is its applicability across the country. If accreditation is to be a meaningful quality improvement mechanism from a system-wide perspective, then all schools should be eligible and participate. A situation where only a minority of schools participate cannot be viewed as a successful system outcome.

With respect to planned/existing schools of public health in Canada, what is uncertain at this point is:

     a. the extent to which the CEPH criteria are unacceptable or inappropriate for Canadian institutions (which criteria, with what restructuring?)
     b. the extent to which CEPH would entertain an affiliate arrangement versus the creation of a (potentially) competing accrediting body particularly for the international community.

The preceding accreditation discussion is focussed on schools of public health, however it is difficult to look solely at school accreditation without considering accreditation of MPH graduate programs. The impression is that the CEPH criteria are less contentious for programs, however whatever accreditation processes are pursued for schools need to also encompass graduate programs as well. Discussing accreditation criteria will likely require analysis of key aspects of what it means to be a school, mission and values, independence, critical mass, linkages with the formal public health system and other critical characteristics.

How Many Schools?

The preceding discussion focussed primarily on the context of a single school. However, the current situation is the possible development of as many as 9 schools of public health in this country. Will each of these schools be able to establish a critical mass of interdisciplinary faculty to support quality training, applied research and service? If faculty are spread too thinly, what will likely be the impact on quality? Training public health professionals is not a mass production process. It typically requires a shift in orientation from thinking about health issues from an individual perspective to one based on population health approaches. That shift requires exposure to problems and active discussion. Not surprisingly, the CEPH criteria stipulate that low student to faculty ratios are required to teach public health.

If each school only planned on recruiting five new applied faculty, that is still 45 new positions. This is a substantial number and their source is unclear. Furthermore, some

universities are planning on recruiting a much higher number of faculty. There will be further competition for these limited resources if provincial and federal governments and their associated public health agencies start recruiting heavily. While in the past there might not have been competition between practice and academic environments, a school should be an organization focussed on practice. Therefore, a school will be attempting to recruit the same types of individuals that combine public health practice experience and academic interests/experience.

Another challenge is that the actual numbers of public health workers required is uncertain. We know there are gaps and impending retirements. However, the sudden explosion of multiple new MPH programs and schools raises an obvious question of whether there will eventually be excess capacity.

There is no simple answer to these issues and no entity has collective oversight. However, it seems prudent that universities make a careful assessment of their business models to be clear about the intended focus for the school. This includes geography, source of students and their career paths, synergy or duplication with other schools, and content areas. At a minimum, regular communication among proposed/actual schools seems warranted.

ISSUES AND QUESTIONS FOR DISCUSSION

This paper has provided an analysis of the potential role for schools of public health in Canada. There appears to be a definite role for schools of public health to strengthen public health systems in this country assuming that schools are being planned and implemented largely with an orientation to public health practice. Several design characteristics are outlined that are intended to strengthen professional education, applied research, and service.

Clearly, issues and concerns regarding accreditation through CEPH need further analysis and discussion. However, accreditation is a mechanism to achieve quality, not an end in itself. There needs to be clarity regarding the target of that quality improvement process. Therefore, prior to tackling specific accreditation criteria, there needs to be a discussion of what the collective vision for schools of public health is in this country. Then one can identify what needs to be emphasized through accreditation mechanisms.

The following questions are provided as an initial starting point for dialogue among key system stakeholders. Depending on the audience, some questions may be of much greater relevance than others.

If this is going to be a web survey some questions will have to be redesigned. There are a number of Yes/No questions, whereas answering on Agree/Disagree scale of 1-5 would give more information.

Also tick lists of characteristics and other factors would make answering the questionnaire easier.

1. To your knowledge, are planned schools of public health (SPH) being defined in a sufficiently similar way in this country? To what extent should there be a minimum level of consistency in terms of what they offer across the country?

2. What key design characteristics would you recommend be present in Canadian SPHs versus what can be optional? (note: independent of any existing accreditation criteria)
   a. Autonomy: does a SPH need to have the same level of independence and status accorded to other professional schools in that institution?
   b. Faculty number: does a SPH require a minimum core faculty of 25 full-time faculty?
   c. Faculty diversity: is the minimum faculty complement of a SPH comprised of five full-time faculty from each of epidemiology, biostatistics, environmental health, social and behavioural sciences, and health services administration?
   d. Program diversity: is there a minimum number of academic programs that a SPH should be expected to offer?

3. What will SPHs offer that we do not have now? (i.e. what gaps will they fill?)

4. Is an orientation to public health practice a key defining feature of a SPH?
   a. Why/Why not?
   b. Are professional training, applied research and public health service relevant characteristics of the core mandate of a SPH? Are there others?
   c. To what extent can and should SPHs establish processes for faculty selection, promotion, and tenure that give sufficient weighting to professional education, applied research and public heath service?

5. Linkages between the public health system and a SPH:
   a. What needs to be in place to support effective collaborations, linkages, affiliations and joint appointments between public health systems and a SPH?
   b. Should the governmental public health system support SPHs to develop and deliver an expanded offering of continuing professional education training?
   c. What specific commitments would universities require from public health systems in their region to facilitate teaching by practitioners and access to suitable practica?

6. How can <u>interdisciplinary</u> training and applied research be best accomplished by a SPH? (e.g. structure; selection and promotion of faculty; creation of new graduate degrees; other)

7. What are the financial and other challenges/barriers to establishing and maintaining a SPH ?

8. Should the development of SPHs in Canada coordinated, and if so how?

9. What are the role and need for collaborative models:
    a. Among Canadian SPHs? (Regionally? Nationally?)
    b. Among Canadian SPHs and other public health-related academic institutions? (Regionally? Nationally?)
    c. How might this be accomplished?

10. Accreditation of SPHs:
    a. What are the positive aspects that must be present in any proposed accreditation of new SPHs?
    b. To what extent are the existing CEPH accreditation criteria appropriate for Canadian SPHs? (see section "What is a school of public health" section for key items)

11. What assistance would be useful to universities, employers, and practitioner groups in defining the content of a core curriculum in public health?

12. What opportunities exist for active communication among universities planning SPHs? How might this best be accomplished?

13. Any other comments or suggestions?

APPENDIX A - KEY INFORMANTS INTERVIEWED

Key Informant	Organization
Canada	
David McLean	Dean, Faculty of Health Sciences, Simon Fraser University
Perry Kendall	Provincial Health Officer, Ministry of Health, British Columbia
Doug Wilson	Professor Emeritus and Senior Advisor to the Dean, School of Public Health, University of Alberta
David Lowe	Advisor to the President on Public Health, University of Calgary
Bruce Reeder	Professor, University of Saskatchewan
John Frank	Scientific Director, CIHR-IPPH
John Hoey	Special Advisor to Principal, Queen's University
Richard Masse	President and CEO, National Public Health Institute, Quebec
Gilles Paradis	Professor, McGill University
US	
Leonard Syme	Professor Emeritus, Berkeley School of Public Health
Audrey Gotsch	Dean, New Jersey School of Public Health
Harrison Spencer	President and CEO, Association of Schools of Public Health Former Dean – London School of Hygiene and Tropical Medicine
International	
Vivian Lin	Chair of Public Health, School of Public Health, LaTrobe University
Sian Griffiths	Dean, School of Public Health, Chinese University of Hong Kong
Alison Hill	Programme Director, South East Public Health Observatory, Oxford

APPENDIX B – PROFILE OF SELECTED SCHOOLS OF PUBLIC HEALTH

School	Governance	Faculty	Graduate Degrees Offered	Put Centres/Departments here?
Drexel University School of Public Health, (Philadelphia)	Headed by Dean University has colleges and schools (3)	25 not counting secondary and adjunct appointments	MPH Executive MPH DrPH	
University of Arizona, College of Public Health	Headed by Dean One of 17 colleges in the university	45 listed as "primary faculty"	MS (Epidemiology) MS (Clin Epidemiology) PhD (Epidemiology) MPH (6 streams)	
University of Iowa, College of Public Health	Headed by Dean One of 11 colleges in the university Note: has external board of advisors	77 faculty listed (not broken down into primary, adjunct, etc.)	MPH (general with 4 focus area or 6 sub-tracks of specialization) MSc (six disciplines) MHA PhD (8 disciplines)	
London School of Hygiene and Tropical Medicine	Headed by Director One of 20 self-governing colleges. Court of Governors with appointments from multiple stakeholder groups	215 Academic 169 Research	MSc (public health – 5 streams) MSc (18 other degrees) DrPH MPhil, PhD	
Nordic School of Public Health, Goteburg, Sweden	Headed by Dean Board appointed by Ministers of each of 5 Nordic countries	19 Teaching and research staff	MPH DrPH	
Griffith School of Public Health	Headed by "Head of School" PH School is one of 10 schools in health cluster which is headed by pro-vice chancellor	13 faculty	MPH MHSM Mnutr MPhil, PhD	
LaTrobe School of Public Health	Headed by "Head of School" School is in Faculty of Health Sciences which comprises 7 schools	53 faculty	MPH (7 specialist streams) DrPH MHSc MHA	

School	Governance	Faculty	Graduate Degrees Offered	Put Centres/Departments here?
University of Melbourne School of Public Health	Headed by "Head of School" One of 7 schools in the Faculty of Medicine, Dentistry and Health Sciences	41 faculty	Coursework Masters (7) of these, one is MPH, another is "specializations" of which there are 8 types Research Masters (3) DPH PhD	
School of Public Health, Chinese University of Hong Kong	Headed by Director (former head of Faculty of Public Health Medicine in England) One of 3 schools (others are nursing and pharmacy) in Faculty of Medicine (only health science faculty).	24 Faculty (only professors listed, nil lecturers – many "support and teaching staff several with "Dr." titles)	MPH (12 areas of concentration) MBA (health care) MSc (epi and biostats, applied epi) MHSc MSc (Family Medicine, Gerontology, Occupational Medicine, Sports Medicine, Women's Health) MPhil, PhD (social medicine)	

APPENDIX C – LONDON SCHOOL OF HYGIENE AND TROPICAL MEDICINE BOARD

The School's "Court of Governors" is comprised of appointees from multiple sources:

- British Medical Association
- Council of the University of London
- Home Secretary
- Medical Research Council
- Royal Institute of Public Health
- Royal Society
- Royal Society for the Promotion of Health
- Royal Society of Tropical Medicine and Hygiene
- Seamen's Hospital Society
- Secretary of State for Defence
- Secretary of State for Environment, Food and Rural Affairs
- Secretary of State for Foreign and Commonwealth Affairs
- Secretary of State for Health
- Secretary of State for International Development
- Secretary of State for Scotland
- Senate
- Society of Occupational Medicine
- Co-opted Members
- Observer
- Secretary

APPENDIX D – ASPHER CRITERIA FOR LINKAGES BETWEEN SCHOOLS OF PUBLIC HEALTH AND THE PUBLIC HEALTH SYSTEM

The school must be able to clearly demonstrate a successful relationship with the Public Health community that results in the improved quality of programmes. The importance of potential employers should be reflected in all aspects of school activities.

Sub-criteria	Explanation of criterion and evidence to be provided by the School of Public Health	Standards
2.1 The needs for professionals in Public Health	Evidence about the analysis of the future needs and careers for professionals in Public Health	The training programme should be focused on the present and future needs of employment in the field of Public Health. Those involved in the programme must have information on careers in PH services.
2.2 The Ministry of Health (or the health authorities) and Health and Public Health services	What is the attitude of the involved authorities of the health services? Evidence about involvement of the staff of the school in the formulation of health policy. Provision of research and consultancy. Evidence about the impact of the programme on the health services.	The programme must demonstrate close cooperation in various sectors of PH with the health authorities at national, regional and/or local level(s). The programme should have a formal cooperation, e.g. contractual service agreements, consultancy appointments or services, etc. It should be clear that the health and public health services make use of the expert advice from within the programme. The programme should have influence on the promotion of quality in PH and of evidence- based PH practice.
2.3 Other Ministries (e.g. Ministry of Higher Education, Research, Environment.)	Policy documents on training needs from Ministries of Education if they exist and/or evidence of processes within the school to assess the likely needs. Evidence of participation in advice and debate on the health consequences of public policies should be presented. Evidence of contracts for research and consultancy should be available.	The school should be aware of policies on number of people to be trained in the PH profession. Those involved in the programme should demonstrate awareness of other organisations providing competing or complementary training. The school should stress its particular role within this provision. The school should provide advice on PH implications of other government policies.

Sub-criteria	Explanation of criterion and evidence to be provided by the School of Public Health	Standards
2.4 Contribution to informed public debate in PH issues.	Contribution to informed public debate in PH issues.	Significant number of people participating in media and public debate should be shown.
2.5 Universities	Spectrum of disciplines available. What is the level of cooperation with other faculties within the same university and/or other Higher Education institutions. What are the mechanisms for interfaculty co-operation? Is the programme part of joint training activities with other training settings? Etc Evidence of appropriate mechanisms for recognising contributions of other faculties and training institutions should be provided.	Full spectrum of disciplines required for PH training should be available either internally or externally.
2.6 Health and Public Health Professionals and their associations	What impact, if any, has the programme had on professional association in PH? How far has the programme changed the views the professionals have of themselves and of their role in the health systems?	The programme should provide evidence of support for the development or continuing evolution of professional associations in PH and have joint activities if appropriate. The programme should demonstrate how students are encouraged to feel a professional identity in PH.
2.7 Non Governmental Organisations	Is there any perceived influence from the programme among the main NGOs active in public health in the region ? Evidence of co-operation with the NGO sector should be shown. Evidence of the involvement of NGOs and public health services should be provided. How much and how formally are they involved in different levels: planning committees, field assignments, etc?	The programme should demonstrate a definite influence on the promotion of quality in PH and of evidence-based PH practice in the NGO sector. NGO health and public health services should be shown to be making use of the expert advice within the programme.

Sub-criteria	Explanation of criterion and evidence to be provided by the School of Public Health	Standards
2.9 International Co-operation Participation in projects of significant size involving PH specialists and researchers from outside Europe.	Demonstration of the level of cooperation with IGOs, NGOs and networks and training institutions. Number of teaching courses and contact hours by staff from countries outside Europe. Input from foreign visitors in the programme. Experience from countries outside Europe provided by staff. Number of students from countries outside Europe and number of exchange students.	Staff from the programme should demonstrate an understanding of the context of international PH from participation in such projects. There should be a participation of staff and visiting teachers from other countries outside Europe or with experience of countries outside Europe. Student exchange with countries outside of Europe should be encouraged and supported.

Source: Bury JA, Martina G. Quality improvement and accreditation of training programmes in public health. ASPHER, 2001. Note: European-focused criteria are not included.

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