

# Articulation of Undergraduate and Graduate Education in Public Health

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## SYNOPSIS

The rapid growth of individual undergraduate courses, minors, and baccalaureate degrees in public health presents a new issue for graduate public health education: how does a graduate or professional program address previously completed undergraduate public health coursework? A review of college directories found listings for 154 North American baccalaureate degrees in public health, public health education, and public health nursing. This article addresses the purposes of public health undergraduate education as (1) general liberal arts education, (2) education complementary to other non-public health graduate degrees, (3) preprofessional education, and (4) professional education preparing undergraduates for entry-level careers. Following a discussion of reasons to consider articulation of undergraduate and graduate degrees, as well as barriers to articulation, the article presents potential strategies for articulation and future issues to consider in addressing admission of undergraduate public health students to master of public health programs.

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The rapid growth of baccalaureate education in public health presents a new issue for graduate public health education: how does a graduate or professional program address previously completed undergraduate public health coursework completed by applicants to master of public health (MPH) programs? The issue is, in part, a consequence of entry-level education in public health evolving first at the graduate level and subsequently at the baccalaureate level, combined with a recent renewed interest in public health education by students, colleges, and employers.

The Institute of Medicine's 2003 report, *Who Will Keep the Public Healthy? Educating Public Health Professionals for the 21st Century*, addressed discipline and education, stating, "A public health professional is a person educated in public health or a related discipline who is employed to improve health through a population focus. Nearly all public health professionals encompassed by this definition have earned at least a baccalaureate degree."<sup>1</sup> The report also recommends that MPH programs collaborate with undergraduate institutions, recognizing the contributions of these undergraduate programs to the education of public health professionals and encouraging such programs to make further advancements in public health education.

A review of five college directories used by high school students to select a college or university (*Barron's Profiles of American Colleges*,<sup>2</sup> *The College Blue Book*,<sup>3</sup> *The College Board Book of Majors*,<sup>4</sup> *Peterson's Four-Year Colleges*,<sup>5</sup> and *The Princeton Review Complete Book of Colleges*<sup>6</sup>) identified four different categories of baccalaureate degrees using the term "public health" in their titles. After consolidating the content of the individual directories to create a comprehensive listing, a total of 154 undergraduate programs in public health were identified. Surprisingly, this number reflects significantly more baccalaureate programs than the combined 109 Council on Education in Public Health (CEPH)-accredited schools (40) and MPH programs (69).

Complementing the 154 baccalaureate-degree programs were numerous public health-related majors listed in disciplines such as environmental health, health administration, nutrition, mental health, and health policy, as well as public health minors. These undergraduate programs are not exclusively outside the domain of accredited graduate public health education. A 2005 survey conducted by the Association of Schools of Public Health (ASPH) Task Force on Undergraduate Public Health Education identified 17 minors and majors in public health offered by universities with CEPH-accredited schools of public health (SPHs), and an additional eight located in "aspiring" SPHs.<sup>7</sup> Additional baccalaureate degrees may be associ-

ated with universities offering CEPH-accredited MPH programs.

The presence and growth of baccalaureate programs gained the attention of CEPH and resulted in the publication of a technical assistance paper entitled "Including Undergraduate Public Health Degree Programs in Your Unit of Accreditation" in 2006.<sup>8</sup> This document noted:

Various stakeholders in the field of public health in general, and representatives of specific disciplines in particular, have encouraged the use of CEPH accreditation of undergraduate public health degree (UGPHD) programs as an approach to quality assurance. The health education field, through the National Transition Task Force on Accreditation in Health Education, has specifically requested a move toward CEPH accreditation of UGPHD programs with health education concentrations.<sup>8</sup>

ASPH responded by establishing the previously mentioned Task Force on Undergraduate Public Health Education, and in 2006 collaborated with the Association of Prevention Teaching and Research (APTR) and the Council of Colleges of Arts and Sciences to sponsor a Consensus Conference on Undergraduate Public Health Education. In 2007, the Association of American Colleges and Universities (AAC&U), in partnership with the APTR, announced the Public Health and Liberal Education project, developed to help faculty at universities without CEPH-accredited programs "design and teach undergraduate courses that engage students with the world's major questions through the lens of public health."<sup>9</sup>

## UNDERGRADUATE PUBLIC HEALTH EDUCATION

### What is the purpose?

With the rapid growth of undergraduate programs as well as professional association and accreditation engagement, it is reasonable to ask: what is the purpose of undergraduate public health education? Based upon current and developing undergraduate public health courses and programs, and the efforts of ASPH, a variety of appropriate/desired options exist. These options include undergraduate education in the following forms:

- General liberal arts education, offering an introductory course that informs all students about population-based public health concepts, and/or an introductory public health course that is used as a strategy to market graduate MPH or master of science in public health (MSPH) education. Such courses might meet undergraduate general education requirements.

- Educational content complementary to other non-public health graduate degrees, such as degrees in environmental sciences, social services, statistics, health administration, business administration, international relations, or public administration.
- Preprofessional education for students planning to pursue medical, dental, or legal education. Public health courses offer a potential benefit to these students by helping them understand and apply public health and population-studies concepts in the practice of their profession, or simply as a strategy to enhance their prospects for admission to professional programs.
- Professional education preparing baccalaureate graduates for entry-level public health careers.

A review of program descriptions of undergraduate activities in public health education suggests that the purpose of the programs varies and is both mission and market driven. Consequently, each of these strategies may be relevant in a particular setting or for a specific audience.

#### **Curriculum content**

A second issue in addressing undergraduate education is defining the public health coursework that students should complete. A variety of course strategies exist:

- Offering one or more introductory or overview public health courses with variation in depth and breadth of graduate-level content. (ASTR and AAC&U's Public Health and Liberal Education project proposes three courses: public health 101, epidemiology 101, and global health 101.<sup>9</sup>)
- Offering courses in the five core content areas of public health (biostatistics, environmental health, epidemiology, health behavior, and health policy and management) with variation in depth and breadth of graduate-level content.
- Offering other coursework related to public health such as ethics, evaluation, research methods, introductory/overview courses, contemporary/current issues courses, informatics, health disparities, health communication, the biological basis for public health, and prevention and health promotion.

#### **ARTICULATION**

##### **Reasons to consider articulation**

How should an accredited graduate school or program address baccalaureate coursework earned by an MPH applicant requesting advanced standing to bypass

MPH course requirements? This question presents an important reason for schools to consider formal articulation of undergraduate and graduate education in public health.

While MPH programs rarely specify prerequisite courses for admission, other disciplines often do specify prerequisite courses or degrees. For example, graduate programs in disciplines such as nursing and engineering typically specify an undergraduate degree in their discipline as a prerequisite to admission to a master's degree program. In other disciplines such as business, for example, a master's in business administration program does not typically require a baccalaureate degree in business administration, but commonly does require courses in areas such as accounting, mathematics, statistics, and/or economics. There are several reasons to consider prerequisite coursework for graduate education. Prerequisite coursework can serve as (1) introductory work promoting a common level of understanding among entering students, (2) a screening mechanism to evaluate a student's ability to perform in the graduate program, and/or (3) a means to achieve accelerated study at the graduate level by bypassing introductory courses.

A student with an undergraduate degree or completed coursework in public health may pursue a graduate or professional degree in another discipline in which the student's undergraduate education will complement that curriculum, rather than duplicate it. However, in the case of a student completing coursework or a baccalaureate degree in public health and subsequently enrolling in an MPH or MSPH program, articulation may become a more complex issue. It would be desirable and in the interest of both the prospective student and the program to avoid the inefficiency of duplication of undergraduate and graduate curricula. In addition, effective articulation would provide the student with an opportunity to complete a graduate degree more quickly, or to complete additional specialized or advanced work in the same time period. However, assessment of content and competency of undergraduate coursework from another university, or another department at the same university, may be difficult. While "repeating" courses may be inefficient and may duplicate previous undergraduate work, most universities will not count one course for both an undergraduate and graduate degree.

Some options are available to address articulation of undergraduate coursework, including awarding credit for undergraduate courses in a manner similar to the transfer of graduate coursework. (This is typically permitted in the instance of undergraduate courses completed in excess of baccalaureate degree requirements.)

Another option would be to waive specific graduate curriculum requirements based upon undergraduate work, without awarding academic credit, and then permitting the substitution of more advanced courses to meet degree requirements.

### Barriers to articulation

Assuming that the academic and professional communities can agree that there is value to creating opportunities for degree articulation, it is first necessary to identify potential barriers to achieving such articulation so that these barriers may be addressed. Perhaps the most basic barrier to articulation is a resistance to change, as few schools or programs appear to have embraced this matter. In addition, there is not clear consensus that the absence of degree articulation is a problem, or that establishing articulation strategies presents a benefit. In addition, numerous arguments may be made in opposition to creating opportunities for articulation of undergraduate and graduate public health degrees:

- Undergraduate courses at different institutions may vary in rigor and content, making assessment difficult. Due to the variety of undergraduate options and the lack of accreditation, it could be difficult to assess content and quality. Acceptance of undergraduate coursework for an articulated graduate program would require establishment of policies to determine how it would be assessed.
- Mixing students with and without public health baccalaureate coursework or degrees in graduate courses complicates teaching based upon differences in “baseline” student knowledge of content. This issue is further complicated by the lack of prerequisite coursework in most MPH graduate programs.
- Most, if not all, MPH programs are governed by graduate school or university policies, as well as by regional university accreditation associations and CEPH. Typically, these policies do not accommodate articulated degrees.
- Students are not likely to pursue both undergraduate and graduate public health education. Consequently, articulation is unnecessary.
- If specific competencies to promote articulation can be defined, the process will be complicated by graduates of non-public health baccalaureate programs in related disciplines such as business or public administration seeking to waive content or courses in areas such as accounting, quantification, computer science, natural science, political science, economics, or other relevant areas.
- If specific competencies to promote articulation can be defined, how would articulation address graduate program applicants with a baccalaureate degree in a discipline other than public health, but with extensive public health-related work experience?
- Would the quality of graduate education be diminished if a student pursues articulated degrees in the same university with the same faculty teaching the same courses at both the undergraduate and graduate levels?
- Presently, there are not successful models of articulation available to evaluate effectiveness or to serve as examples for other universities.
- The goals of undergraduate education, which often focuses on a liberal arts orientation to public health, may differ from graduate education, with its focus on preparing students for professional practice.

### Strategies for articulation

If it is agreed that articulation of undergraduate and graduate degrees in public health is a desirable outcome, barriers to the objective of creating articulated public health degree programs must be overcome. The next step toward overcoming these barriers would be to develop specific strategies to achieve the desired outcomes. A variety of strategies to promote articulation could be established either incrementally or concurrently, including the following options:

- Plans for formally articulated programs might be established at a single university where both undergraduate and graduate public health education are offered, as a memorandum of agreement among two or more programs, SPHs, or universities; and/or a national policy supported by ASPH and/or CEPH.
- Graduate programs could base course waivers on detailed content analysis of undergraduate course syllabi or by competency examinations using the ASPH MPH core competencies.
- Early matriculation to graduate school might be offered prior to the awarding of a baccalaureate degree, where the baccalaureate degree requirement is either waived or awarded upon completion of the first year of graduate education. This model is most common with early admission to medical or dentistry schools.
- Graduate programs, with the approval of the graduate schools that govern their degrees, could permit current undergraduates to enroll in

graduate courses applicable to graduate degrees. (Many universities permit baccalaureate students to take graduate coursework in a final semester; however, this credit applies only to a graduate degree and not the student's baccalaureate degree.)

- Graduate programs could create undergraduate prerequisite courses for all entering students in areas such as overview of public health, introductory epidemiology, introductory biostatistics, public health biology, and/or ethics.
- Graduate programs, with the approval of graduate schools, could grant academic credit for selected, previously completed undergraduate courses, reducing hours required for the articulated degrees. (This would also require CEPH's concurrence to revise the MPH 42-semester-hour accreditation requirement to accommodate undergraduate work.)
- Duplication of coursework could be avoided by waiving specific graduate-course requirements based upon undergraduate work, and substituting advanced graduate courses to achieve greater depth in curriculum content. (In most universities, this would require approval of their graduate schools.)
- Programs could waive required field experience requirements for students with baccalaureate practicum experiences admitted directly to graduate education.
- Degree time could be compressed through creation of formal "3 plus 2" or "4 plus 1" undergraduate/graduate degree options offering both baccalaureate and master's degrees in a five-year combined program.
- A small number of advanced or specialty MPH or MSPH degree programs designed exclusively for graduates of baccalaureate public health curricula could be established.
- Students with a baccalaureate degree in public health could be offered the opportunity to bypass a master's degree and proceed directly to doctoral education. This option exists in some universities for selected disciplines such as economics.

## CONCLUSION

In establishing academic policy to address the articulation of undergraduate and graduate public health education, a number of issues remain unanswered and

require careful consideration, including the following questions:

- Is the offering of undergraduate public health degrees and articulation with graduate degrees in the best interest of the students and graduate programs?
- What is the benefit of completing coursework, a minor, or a baccalaureate public health degree to graduate and professional degrees including the MPH?
- Is there a common definition of degree articulation, and is one needed?
- If undergraduate public health education continues to prosper, is creation of articulated degrees desirable?
- Is a single articulation strategy desired, or are multiple options preferable?
- Is a national policy desirable as a means to guide, facilitate, or influence the quality of articulated degrees?
- Will/should universities without CEPH-accredited SPHs or MPH programs establish baccalaureate programs in public health? If so, what is the potential impact on educational quality, and how would a graduate program address these students as applicants to MPH programs?

In contrast to many disciplines, entry-level education in public health evolved first at the graduate level, and was followed by baccalaureate education. In light of the recent growth in undergraduate public health education, there is potential duplication in curricula between degrees, and questions exist concerning the benefit of a student pursuing both undergraduate and graduate education in the discipline. While discussion of public health degree articulation has received limited attention to date, the growth of undergraduate education may require the establishment of undergraduate program accreditation, or formal relationships for articulation. While national policy would facilitate opportunities for articulation, collaborative efforts by individual undergraduate and graduate degree programs may be an initial means to develop models for the profession as an alternative to the status quo.

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