Guide to Public Health & Health Navigation Education in Community Colleges
Part I

Prepared as part of the
Community Colleges & Public Health Project
League for Innovation in the Community College

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Introduction and Background

Education for public health in the 20th century was focused on graduate students as recommended by the 1915 Welch-Rose report[1]. Throughout the 20th century public health education evolved to include students with a wide range of background and educational goals.

In 2003 the Institute of Medicine recommended that "...all undergraduates have access to education in public health"[2]. The following decade saw a rapid expansion in general public health degrees as well as undergraduate specialty degrees. There was more than a 5-fold increase in the number of bachelor's degree graduates in the decade following the Institute of Medicine recommendation.[3] The Chronicle of Higher Education has identified public health as one of the "5 College Majors on the Rise".[4]

Public Health organizations are encouraging the growth of education for public health in community colleges as well as four-year colleges. The American Public Health Association, a professional organization representing over 30,000 public health professionals, has endorsed and encouraged undergraduate public health education at both community colleges and four-year colleges[5]. Healthy People 2020, the largest national public health planning effort, set 2020 objectives to increase the number of community colleges as well as four-year institutions offering undergraduate public health education.[6]

To recognize the 100th Anniversary of the Welch-Rose report, the Association of Schools and Programs of Public Health (ASPPH) developed the Framing the Future Task Force to produce new models for 21st century public health education. The League for Innovation in the Community College was represented on the Task Force which developed the concept of the continuum of public health education from community colleges to doctoral degrees.

The Community College and Public Health report was sponsored by the League for Innovation in the Community College (the League) and the Association of Schools and Programs of Public Health's Framing the Future Task Force and approved in November 2014.[7] The report is part of the ongoing Community Colleges and Public Health project whose mission is to fully include community colleges in the continuum of public health education.

The report reflects an emerging consensus of public health education and practice organizations. Collaborating organization in the development of the report included the Society for Public Health Education (SOPHE), the Association of University Programs in Health Administration (AUPHA), the Association of Environmental Health Academic Programs (AEHAP) as well as the National Association of County and City Health Officials (NAACHO) and the Association of State and Territorial Health Officials (ASTHO).

The Community Colleges and Public Health Project (CC&PH) report recommends the following:

- **_Public Health: Generalist & Specializations_** designed for transfer to bachelor's degree programs in general public health, health education, health administration, or environmental health.
- **_Health Navigator_** academic certificate and associate degree programs designed for direct employment as well as potential transfer to a bachelor's degree.

The Community College and Public Health report recommends specific courses and provides recommended content outlines. The recommended programs are not the only possible public health programs that may be offered in community colleges. For instance, the report recognizes the potential for health information management programs with a public health focus. Community colleges may want to identify additional public health programs and related programs that meet their mission and the needs of the local workforce. In addition, community colleges may play an important role in the continuing education of the public health workforce.

This Guide to Public Health and Health Navigation Education in Community Colleges is designed for widespread dissemination in digital and print formats by individuals and organizations. It will include:

Part I
- Summary of the Recommendations of the Community Colleges and Public Health Report
- Student audiences for introductory public health courses associate degrees and academic certificate programs
- Learning outcomes for recommended courses and programs
- Growth of bachelor's degree programs and career opportunities in public health and health navigation
- Undergraduate public health resources and references

Part II- Available Spring-Summer 2016
- Articulation issues and recommendations
- Existing quality assurance mechanisms for public health bachelor's degree programs
- Options for quality assurance mechanisms for health navigation programs
- Detailed plans for new programs developed by participants in the League's "call for planning"
- Research data on public health and health navigation education in community colleges

Summary of Recommendations of the
Community Colleges and Public Health Report

Public Health: Generalist & Specializations

Public Health: Generalist & Specializations programs are designed as transfer program to bachelor's degree programs in general public health as well as health education, health administration, and environmental health. The programs all share a common foundations and core public health curriculum.

The recommended required courses for the public health generalist option includes the introductory/over view course for each of the three recommended specialties i.e. health education, health administration, and environmental health. Each specialization adds additional courses which were developed in collaboration with the respective education associations to help ensure transferability to a bachelor's degree program. Experiential learning and electives are also included in the 30 semester credit hour recommendation. A strong general education foundation including written, oral, and basic quantitative skills is strongly recommended.

Curriculum Structure

Associate degrees designed for transfer to a bachelor's degree are encouraged to include 30 semester credit hours of public health related coursework, including experiential learning out of a 60 semester credit hour degree program. To optimize student transfer and student mobility to four-year programs, the associate degree programs are encouraged to teach associate degree courses that meet baccalaureate degree expectations.

The Public Health: Generalist & Specializations program should be designed to articulate with public health generalist or specialized bachelor's degree programs including health education, health administration, and environmental health. Articulation agreements are desirable but not essential.

Programs should incorporate core courses and specialty courses that are consistent with the ASPPH Undergraduate Baccalaureate Critical Component Elements Report (critical component elements). [8] They should also utilize the Association of American Colleges and University's LEAP Essential Learning Outcome[9] and the AAC&U VALUE rubrics.[10] The critical component elements are now central to the accreditation process for bachelor's degree majors since they are being used by the Council on Education in Public Health (CEPH) for accreditation of undergraduate

public health majors including "standalone" programs located in colleges and universities without graduate education in public health.[11]

The 60 semester credit hour Public Health: Generalist & Specializations associate degree program should include the following components.

- **Foundations:** Human Health/Personal Health and Wellness: Students need an introduction to the underlying science of human health and disease, including opportunities for promoting and protecting health across the lifespan. A range of existing health and wellness courses may satisfy this requirement. However, it is important that the course includes a population health perspective as well as an individual health focus.
- **Core Public Heath Courses:** Public Health: Generalist & Specializations associate degrees should be consistent with the ASPPH Critical Component Elements. The core should include an Overview of Public Health as well as Health Communications.
- **Required Courses Beyond the Core:** Nine semester hours of coursework in Health Education, Health Administration, and Environmental Health as recommended in the Community Colleges and Public Health report. Alternatively, nine semester hours in one of these specializations may be substituted as a specialization.
- **Experiential Learning:** Service learning or other experiential learning in the community should be a requirement of the degree. It may be offered as a separate course or integrated into the curriculum. Credits hours should apply based on the standards set by individual institutions. Experiential learning should include supervised curriculum with learning outcomes and opportunities for reflection.
- **Electives:** Six to nine semester credit hours chosen from a wide range of potential electives with emphasis on broad population issues such as health and diversity and global health. A public health preparedness course should also be offered.

Note that the Foundations course and the two Core Public Health courses are the same for all associate degree programs recommended in the Community Colleges and Public Health report. This should allow students enrolled in community colleges with multiple public health related programs to initially pursue foundational and core public health courses before selecting between available associate degree offerings.

Health Navigator Programs

Health Navigator associate degree programs are designed primarily as applied degrees intended to respond to the rapidly growing job market for assisting individuals to navigate the increasingly complex public health, health care, and health insurance systems. The rapid increase in employment opportunities as community health workers, patient care navigators, and health insurance navigators increasingly requires professionalization of the field.

In addition to immediate employment opportunities upon graduation, the Society for Public Health Education (SOPHE) has endorsed the development of Health Navigator associate degrees designed for transfer to a bachelor's degree in Health Education. SOPHE has recommended the development of transfer programs and articulation of degrees with the bachelor's degree health education specialist programs

Academic certificate programs may also be offered for those with work experience or previous academic degrees. In addition, those enrolled in other associate degree programs in the health professions and human services fields may find a Health Navigator academic certificate program is a valuable addition to their degree.

All academic certificate programs should include the four required Health Navigator courses as well as experiential learning for those who have not had relevant work experience. It may be possible to begin an academic certificate program with fewer levels of approval than required for a degree program. In addition, an academic certificate program may facilitate the start-up of an associate degree program using the Public Health: Generalist & Specializations as well as the Health Navigator model.

The recommendations for Health Navigator degree and academic certificate programs are intentionally designed to provide community colleges with flexibility to meet local needs and state certificate requirements where applicable. In addition, the electives offered by each institution may be tailored to the needs of the local workforce.

Curriculum Structure

The 60 semester credit hour Health Navigator associate degree program should include the following. Additional general education courses should include those that focus on written and oral communication skills and basic quantitative skills.

- **Foundations:** Human Health/Personal Health and Wellness: Students need an introduction to the underlying science of human health and disease, including opportunities for promoting and protecting health across the lifespan. A range of existing health and wellness courses may satisfy this requirement. However, it is important that the course includes a population health perspective as well as an individual health focus.
- **Core Public Heath Courses:** Core course should include an Overview of Public Health course plus a Health Communications course.
- **Required Courses Beyond the Core:** Prevention and Community Health, Healthcare Delivery, Health Insurance, and Accessing and Analyzing Health Information should be required for a total of 12 semester hours to ensure that all graduates have a solid grounding in the basic content and process knowledge and skills expected of a wide range of health navigation professionals. These courses may be offered in a variety of formats and structures.

- **Experiential Learning:** Programs should include experiential learning (e.g., service learning, job shadowing, and/or other forms of experiential learning). Experiential learning should be focused on one or more of the three areas of Health Navigator work (i.e., Community Health, Healthcare Delivery, or Health Insurance). Experiential learning should include a supervised curriculum with learning outcomes and opportunities for reflection.
- **Electives:** The six to nine semester credit hours of elective coursework are designed to provide students and institutions with considerable flexibility in designing programs to meet institutional priorities, local workforce needs, state certification requirements, and bachelor's degree transfer requirements. Local job markets may focus on specific diseases such as diabetes, cancer, cardiovascular disease, or HIV, or defined population such as the elderly, maternal or child health. The Introduction to Health Education and the Public Health Advocacy and Leadership in Action courses are recommended by the Society for Public Health Education for transfer to a bachelor's degree in Health Education. These courses should ideally be available as electives for students who intend to transfer to a Health Education bachelor's degree program. A public health preparedness course should also be offered.

Student Audiences for Introductory Public Health Courses, Associate Degrees and Academic Certificate Programs

Introductory Public Health Courses

Introductory/overview public health and global health courses have been widely offered and extremely well received at a wide range of bachelor's degree granting institutions. The Association of American Colleges and Universities (AAC&U) along with a public health education organization have recommended introductory courses titled "Public Health 101" and "Global Health 101".[12] The Recommendations for Undergraduate Public Health Education provides detailed outlines including learning outcomes, course content, and enduring understandings for these courses which ideally can be used to satisfy general education distribution requirements. Either of these courses can serve as the "overview of public health" course recommended in the Community Colleges and Public Health report.
http://www.aacu.org/sites/default/files/files/PublicHealth/Recommendations_for_Undergraduate_Public_Health_Education.pdf

Many community colleges as well as bachelor's degree granting institutions offer an overview or general education course often called Health and Wellness. These courses generally focus on personal health. The Community Colleges and Public Health report recommends offering Health and Wellness courses which include a population perspective and social determinants of health. These types of personal health with a population perspective courses can service a range of audiences including

- General education distribution courses
- Introductory courses for nursing, allied health, and pre-health professions students
- Foundational course for Public Health: Generalist and Specializations as well as Health Navigator curriculums

Learning outcomes for this type of course are included in the Learning Outcomes section.

The Community Colleges and Public Health report also recommends a course in Health Communications as a third core course as part of both the Public Health: Generalist & Specialization as well as the Health Navigator curriculum. This course is an ideal course offering as part of general education designed to develop skills in written and oral communications as well as web-based competencies. The recommended content outline for this course is included in the Community College and Public Health report. Learning outcomes for the course are included in the Learning Outcomes section of this "Guide".

Public Health: Generalist & Specializations Associate Degree Programs

The Public Health: Generalist & Specializations associate degree program is designed for students who wish to transfer to bachelor's degree programs. The recommendations included in the Community Colleges and Public Health report encourage the development of associate degree programs designed for transfer in the following areas:

- Public Health Generalist
- Health Education
- Health Administration
- Environmental Health

The section on bachelor's degree programs in this Guide documents the rapid growth that has occurred in these bachelor's degree programs over the last decade. These programs all have their own quality assurance mechanism including accreditation in the case of Public Health Generalist, Health Education, and Environmental Health and program certification in the case of Health Administration. In addition, the Health Education and Environmental Health bachelor's degree programs offer graduates the opportunity to take certifying examination.

Health Navigator Programs

The Health Navigator associate degree and academic certificate programs are designed as applied degrees for students who seek employment directly after completion of their degree or program. For those who wish to pursue a bachelor's degree immediately after graduation or in the foreseeable future the Community Colleges and Public Health report recommends the development of associate degree program that articulate with bachelor's degree programs in Health Education as recommended by the Society for Public Health Education.

Health navigation education can be pursued by community college students entering directly from high school. An associate degree including 30 semester hours of general education as part of the 60 semester hour program is recommended for these students.

Academic certificate programs including 30 semester hours of public health and health navigation course work is likely to be of interest to several types of students

- Students pursuing or completing nursing, allied health or social service degrees who are looking to broaden their career options and opportunities
- Students with previous academic degree who are returning to community colleges to gain new skills and broaden their employment options
- Students who are currently working in the health navigation profession but do not have the expected content or process skills

Introductory courses offered as part of general education or health professions education, associate degrees designed for transfer, as well as applied associate degrees and academic certificate programs can attract a large and diverse student body who can purse employment opportunities and career ladders available through public health and health navigation education.

Learning Outcomes
Public Health and Health Navigation Education in Community Colleges

In developing a degree program or academic certificate program it is important to consider both course learning outcomes and program learning outcomes. The aim of program learning outcomes is to provide a framework for the program as a whole which can then guide the development of specific courses and their contributions to the overall program learning outcomes.

The Community Colleges and Public Health report provided content outlines organized around recommended courses for each program. Some but not all of the content outlines were written to in the form of learning outcomes. That is, they provided measureable outcomes using Bloom's taxonomy.

This Guide builds on the course outline approach providing learning outcomes for recommended courses. Learning outcomes are based in large part on the content outlines included in the Community Colleges and Public Health report while providing as much as possible a uniform structure for the learning outcomes. Whenever possible, 14 learning outcomes per course are recommended to correspond with the weeks in a semester.
In developing the learning outcome attention has been paid to the level and type of expectations as reflect in the measurable outcomes based on Bloom's taxonomy.

It is important to note to these learning outcomes can be fulfilled using more than one selection of courses and course titles. For instance schools on the quarter system may want to alter the number of courses and credit hours per course. Programs may want to structure their courses to integrate materials such as providing an overview course followed by higher level specialized course work. Examples of alternative ways of achieving the recommended learning outcomes organized by course will be indicated in the following materials.

Foundational and Core Public Health Course Work

This set of courses is designed for all recommended associate degree and academic certificate programs. The individual courses are also ideal course work as part of general education. The Overview of Public Health and Health Communications course can be integrated into the education of a wide range of health professional including nursing and allied health professionals. The Personal Health with a Population Perspective can substitute for the traditional personal health course taken by a wide spectrum of undergraduates.

The overall aim is to provide students with an introduction to the basic content and skills required for understanding the public health and health care systems and for effectively communicating and continuing to learn about individual health issues as well as health issues that affect larger groups and populations.

Public health programs at the bachelor's degree level are expected to satisfy the Recommended Critical Component Elements of an Undergraduate Major in Public Health of the Association of Schools and Programs of Public Health. This document often referred to as the Critical Component Elements (CCEs) has also been integrated in to the expectations for accreditation of the Council on Education for Public Health (CEPH). The full document is available at http://www.aspph.org/wp-content/uploads/2015/02/UGPH1.pdf. The foundational and core public health course work should together provide an introduction to the ASPPH Critical Component Elements of an Undergraduate Major in Public. Each of these courses should stand on their own enabling them to be taken as part of general education requirements.

The following are learning outcomes for the Foundational and Core Public Health courses:
Public Health Overview-Learning Outcomes
1. Identify eras in the historical development of public health and ways that public health affects literature and the arts, current events, and everyone's daily life.
2. Illustrate the interdisciplinary, cross-cutting or ecological character of public health and the contributions of a range of disciplines and professions to improving health.
3. Explain the basic principles of epidemiology, including rates, risk factors, disease determinants, causation and public health surveillance.
4. Explain how public health assesses the options for intervention to improve the health of a population.
5. Explain how public health can utilize health information and health communications to improve the health of populations.
6. Explain how public health can utilize social and behavioral interventions to improve the health of populations.
7. Explain how public health can utilize health policy and law to improve the health of populations.
8. Explain the impact of the environment and communicable diseases on the health of populations.
9. Explain the burden of chronic diseases on morbidity and mortality and approaches to prevention and early detection.
10. Describe the basic organization of health care and public health systems and the contributions of health professionals.
11. Identify the basic payment mechanisms for providing health services and the basic insurance mechanisms for paying for health services.
12. Identify criteria for evaluating health systems including issues of access, quality, and cost.
13. Identify the roles of public health in addressing the needs of vulnerable populations and health disparities.
14. Identify the roles of public health in disaster prevention and management.

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Health Communications- Learning Outcomes

1. Describe the use of health communications at the individual, group, and community levels to promote or avoid consumption/exposure to goods and products and its impact on health outcomes.
2. Identify key approaches and demonstrate skills needed to identify individuals with reduced health literacy and to assist them in their utilization of the health care and public health services.
3. Demonstrate culturally appropriate communications and the skills needed to provide sensitive and meaningful care and services.
4. Describe risk perception and risk communications as well as basic measures of the magnitude of the risk and measures of the impact of interventions designed to reduce the risk.
5. Describe and illustrate theories of behavior change and persuasion that are most usefully applied in health communication.
6. Describe principles of group/social behavioral change and the use of social marketing, social media and other methods to facilitate behavioral change.
7. Describe basic methods for assisting individuals and families in making desired behavioral changes.
8. Demonstrate basic skills needed for transforming health messages into media vehicles
9. Demonstrate basic skills need to develop a coherent and justifiable digital strategy for interactive health communication.
10. Demonstrate basic skills for managing and evaluating a health communications program.
11. Identify communication skills needed in specific settings: Health care–patient provider communications and the impact of socioeconomic and cultural factors.
12. Identify communications skills needed in specific settings: Schools–health communications as a basis for developing and changing behaviors.
13. Identify communications skills needed in specific settings: Workplace–creating a culture of health which supports wellness programs and policies.
14. Identify communications skills needed for communications with special populations: children, dementia, vision or hearing impaired, etc.

Personal Health with a Population Perspective- Learning Outcomes

1. Identify how an individual's family, neighborhood, friends, community and society all shape health and health choices.
2. Recognize the process of digestion and nutrient absorption and some of the strategic decisions that can be made to improve nutritional choices for individuals, families and communities.
3. Identify the benefits of physical activity and the variety of options available to ensure a healthy active life — for individuals and communities.
4. Describe complementary, alternative and spiritual approaches to health and how they affect health outcomes.

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5. Identify the symptoms, treatment of and prevention strategies for sexually transmitted infections, as well as identify pregnancy prevention and family planning methods and the fundamentals of reproduction and healthy pregnancy.
6. Describe the most common mental health problems- their causes, symptoms, treatment and prevention, as well as the personal and population-level barriers to mental health care.
7. Describe the types of addiction and barriers to treatment.
8. Explain causes of infectious diseases, how they are spread, and what can be done to minimize the likelihood of getting infectious diseases.
9. Describe behaviors to minimize the risks of being injured.
10. Explain the nature and manifestation of violence in our society and the world today.
11. Recognize the importance of the environment, including climate, agricultural hazards, food safety, and air quality to health.
12. Describe how insurance works, and explain the options available to individuals and to governments in establishing sound health care policy.
13. Recognize how global interconnectedness affects individuals and communities and analyze the choices faced by governments in ensuring a healthier world for all.
14. Identify how organizations and policies shape the health of individuals and populations and generate new approaches to advocacy and policy.

Public Health Generalist or for 1st course in a Specialty

The course work recommended in the Community Colleges and Public Health report includes three courses each of which can also serve as the introductory course for a recommended specialization i.e. health education, health administration, or environmental health. Together these three courses can serve as the three required courses for a public health generalist associate degree program.

Public Health Generalist programs in community colleges provide considerable flexibility in selecting course work which may be transferred to bachelor's degree programs in public health. Introductory specialty courses should be structured to be consistent with the ASPPH Critical Component Elements. An example of the way the bachelor's degree programs have structured learning outcomes to achieve the Critical Component Elements is illustrated in the following program learning outcomes developed by the bachelor's degree program at The George Washington University Milken Institute School of Public Health.

- Assess the impact of historical, cultural political, environmental, behavioral, and socio-economic factors on population/community health and health status.
- Describe the organization, financing, and delivery of health services and public health systems.
- Describe the underlying scientific principles relating to public health and health care issues and discuss how these principles inform interventions to improve individual and population health.

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- Critically review multiple types of research, develop an understanding of data and research, and develop and evaluate public health interventions based on available evidence.
- Evaluate policy, behavioral, environmental, and systems options for addressing current public health and health care concerns.
- Communicate public health concepts and analysis clearly and persuasively.
- Use an interdisciplinary/integrative approach to address public health issues.

Public Health Generalist programs in community colleges may choose to accomplish these program learning outcomes at the introductory level with expectations that course work as part of the bachelor's degree are needed to accomplish them at the level of mastery expected from bachelor's degree graduates. Issues of transferability should include coordination or formal articulation with bachelor's degree programs to which a large number of students enrolled in Public Health Generalist programs are likely to transfer.

The following are course learning outcomes for the three courses recommended in the CC&PH report as part of the Public Health Generalist associate degree program:

Introduction to Health Education
1. Describe the importance of health at the individual, group, and community levels, including examples.
2. Define health education, health promotion, and health promotion programs—relate these concepts to each other and how they have evolved.
3. Identify key historical advances, people, and events that have impacted health theory and practice (i.e., Healthy People Objectives).
4. Identify organizations in community and public health, including governmental, quasi-governmental, and nongovernmental.
5. Identify common settings and stakeholders in health promotion programs.
6. Identify common instructional methodologies and techniques for health education and health promotion.
7. Review the dimensions of health and the major factors that influence health at the individual and community levels.
8. Define determinants, risk factors, use of the scientific method in health, traditional and nontraditional medicine as well as identifying groups with health disparities.
9. Define the basics of disease processes and behavioral risk factors.
10. Explain common roles and settings in which health educators practice as well as certifications available in health education and related fields.
11. Review principles of individual and professional ethics.
12. Identify the commonly used intrapersonal level health theories, interpersonal level health theories, and population-level theories.
13. Identify components of and rationale of a logic model and its value in program planning.
14. Explore emerging health education, health promotion, and health promotion practice i.e., innovative programs, trends in disease that are of concern, etc.

Introduction to Health Administration and the U.S. Health System

1. Define major components of in the U.S. health care system.
2. Describe historical U.S. health care institutions.
3. Describe MDs (Allopathic physicians), DOs (Osteopathic physicians), and other doctoral-level health professionals, e.g., DDS, DMD, DNP, DC, DPM, DPT, PharmD, DrPH, DEd, PhD, and their educational processes.
4. Discuss nurses, nursing and nursing education; education in public health, including bachelor's and master's.
5. Define a hospital, medical center, teaching hospital and an academic medical center; principles of licensing, certification, and regulation; governance, hospital ownership; and categories of hospitals.
6. Define and describe primary compared to specialty care; outpatient facilities (physician offices, urgent care centers, FQHC, etc.); different types of physician practices.
7. Define and describe long-term care and types of residents, not just the elderly.
8. Define public health; different types of public health services; public health facilities; public health at the different governmental levels (federal, state, and local) and key organizations: CDC, NIH, WHO, state health departments, etc.
9. Define and describe insurance and health insurance; private insurance compared to social insurance, i.e., Title XVII (Medicare) and Title XIX (Medicaid).
10. Define and discuss vulnerable populations concerning health care services; framework for understanding vulnerable populations.
11. Describe and discuss managed care including examples, e.g., HMO, PPO, POS; characteristics of integrated delivery systems including role of entrepreneurship in health care, teamwork vs. group work, and the importance of diversity.
12. Describe and discuss types of technology in health care (e.g., clinical, administrative); types of IT systems in health care including EMRs/EHRs; regulation and technology (FDA, etc.).
13. Defining cost, access, and quality and the relationships among these three concepts.
14. Describe and discuss the three branches of government; how a law is developed, enacted, and implemented; key laws including HIPAA; and the ACA including health exchanges, navigators, and accountable care organizations.

Principles of Environmental Health

1. Discuss the historical development of environmental health as well as the basic relationships between the physical environment and human health.
2. Discuss approaches to protecting public health and the environment.
3. Define risk assessment and discuss approaches to management of risk.
4. Discuss basic concept of toxicology and health hazards as well as principles of occupational health and hygiene.
5. Discuss the role of heath data and epidemiology in environmental health.
6. Describe approaches to environmental health regulations and compliance.
7. Discuss the impacts of indoor and outdoor air quality on health and potential interventions.
8. Discuss the impacts of water quality on health and potential interventions.
9. Discuss the impacts of food on health and potential interventions.
10. Discuss the impact of solid and hazardous wastes on health and potential interventions
11. Identify common vector-borne diseases and potential interventions.
12. Discuss the impacts of the built environment as well as noise on health and potential interventions.
13. Describe the relationship between energy use and sustainability as well as the relationship between climate change and human health.
14. Discuss the concepts of environmental justice and global health.

Public Health Specialization Courses

In addition to the introductory courses in each specialty area outlined above, each of the three recommended areas of specialization also includes additional course work in the specialty area. These courses were included in the Community Colleges and Public Health report. They were developed in collaboration with academic organizations in each specialty area as follows:

- Health Education: Society for Public Health Education
- Health Administration: Association of University Programs in Health Administration
- Environmental Health: Association of Academic Programs in Environmental health

The following are learning outcomes derived from the recommended course content outlines in the CC&PH report. Accessing and Analyzing Health Information is recommended as part of the Health Navigator curriculum as well as the Health Education curriculum. Learning outcomes for this course are included in the Health Navigator learning outcomes.

Health Education

Public Health Advocacy & Leadership in Action
1. Define and outline the purpose of advocacy in advancing public health education, promotion, policy and social justice; clarify what advocacy is and what it is not; assess risk and rewards (SWOT analysis of advocacy) and overcoming barriers to advocacy.
2. Describe levels of advocacy within an ecological framework addressing the personal and family, local community, state and national voluntary health organizations and professional organization levels.
3. Provide an overview of health policy; illustrate the process for developing public health policies at various levels.
4. Identify an issue, gather the evidence; use epidemiological data to support position; summarize the perspective of opposing interest groups; assess available resources; and outline goals and objectives.
5. Utilize accurate peer and societal norms to formulate a health enhancing message; describe the history of campaigns including how they were initiated, developed, and delivered; create a message that is accurate, research-supported, appealing, and structured.
6. Create letters, media, and internet-based social marketing to initiate community mobilization, lobbying, and networking; adapt health messages and communication techniques to a specific target audience; implement messages and actions at the appropriate time within the advocacy cycle.
7. Implement and evaluate advocacy efforts to include monitoring and evaluating processes and impact; building sustainability, human capital, and fundraising.
8. Define personal integrity and respect, leadership, responsibility, and responsibility to others.
9. Outline various leadership models and demonstrate leadership skills and qualities, such as servant, relational, collaborative; non-profit and organizational leadership, campus organizations; identify issues and set goals; articulate your organizational vision, and management style; interact in teams and groups; plan for change and develop strategies for change; integrate health education code of ethics and public health code of ethics.
10. Prepare others to lead through recruiting, managing expectations, modeling, and leading by example.
11. Identify and demonstrate your leadership style and qualities; utilize a valid leadership inventory; customize your style to the situation around you; document your personal growth.
12. Demonstrate leadership in health policy development and advocacy through championing a cause and engaging in civic action, mobilizing communities for change, and advocating for yourself, your clients, and the profession.
13. Apply basic skills of advocacy and leadership to a health problem.
14. Reflect on the process of become an advocate.

Health Administration-Learning Outcomes

The following content outlines and learning outcomes were developed in collaboration with the Association of University Programs in Health Administration. While not formally endorsed by the Association use of these course content and learning outcomes is expected to facilitate transfer of course work to bachelor's degree programs Health Administration.

Management of Health Organizations

1. Define and discuss health care management, including the roles and functions of the health care manager and the expected competencies.
2. Define and discuss management vs. leadership, models and styles of leadership, and governance of health care organizations.
3. Describe and discuss theories of motivation, intrinsic and extrinsic factors, and strategies for improving employee motivation.
4. Describe and discuss critical thinking and its relationship to organizational behavior including organizational change, communications, and problem solving.
5. Define strategic planning and the process including SWOT analysis and the importance of monitoring and control.
6. Define health care marketing, the marketing processes used by health care managers, and the differences between marketing products and services
7. Define quality, methods for measuring quality, quality improvement tools, and quality improvement agencies, e.g., TJC, AHRQ.
8. Define and describe the types of health information, technology, and their applications including the role of the health care manager in "managing" health care information and the importance of HIPAA and information security.
9. Define and discuss health care expenditures, health care managers' roles in financial management, basic financial concepts and terms including revenue, expenses, capital accounts, receivables, accounts payable, etc., and their relationship including methods for increasing revenue and controlling costs.
10. Discuss the education processes of health care professionals; licensing, certification, and registration; certification processes; management of human resources; managing and working with clinical professionals.
11. Describe teamwork including the stages of team formation, managing teams, and the benefits and cost of teams in health care organizations.
12. Define and discuss cultural competency, including demographics and demographic changes and their impacts on patients and providers with an emphasis on how health care managers can increase cultural awareness.
13. Define and discuss ethics concepts of respect for persons, beneficence, non-maleficence and the concept of biomedical ethics.
14. Discuss law in health care settings; cover legal responsibilities such as informed consent, patient rights, provider responsibilities, HIPAA, etc.; advanced medical directives; defining and recognizing fraud and abuse, plus steps health care managers can take to prevent fraud and abuse.

Health Information Systems

1. Define health information systems and health informatics; provide an overview of current health information technology including hardware and software; differentiate roles of health IS/IT professionals.
2. Define information management; discuss the technology to support information processing
3. and communication tasks relating to public health practice, education, and research; identify and appropriately use terminology relating to health information management.
4. Discuss health IT standards, software applications in health care and public health; discuss the fundamentals of the management of information systems, including systems analysis, databases, and security.
5. Discuss health-related data structures, and enterprise architecture in health care and public health; describe the organizational structure of health IS/IT departments; discuss systems design, networking, and systems architecture.
6. Define and discuss health/biomedical information and data; discuss data completeness and accuracy; define health data structure, content, and standards.
7. Define information and knowledge: the storage, retrieval, and use of data for problem solving and decision making.
8. Identify format and content of the electronic health records; understand various methods of retention and retrieval of health records; discuss the advantages of electronic health records over paper-based and hybrid health records.
9. Compare electronic health records (EHRs) to electronic medical records (EMRs); discuss single organization electronic health records to multiple organization electronic health records.
10. Discuss how to protect health data; demonstrate an understanding of the challenges to maintain information security.
11. Define health care manager's role in privacy and confidentiality of health information systems; explain the components of the HIPAA regulations; identify the eight types of HIPAA electronic transactions; identify legal aspects of electronic health record and release of information.
12. Define clinical information systems; demonstrate an understanding of documentation/charting, computerized provider order entry (CPOE), and medication administration in EHRs.
13. Define decision support systems (DSS); demonstrate how EHRs are used in clinical settings and patient administration.
14. Describe health IS/IT in various administrative functions such as HR, recordkeeping, accounting, finance, compliance, marketing, and regulatory requirements.
15. Describe different methods of capturing and recording data in available EHRs/EMRs and the relationship to reimbursement methodologies.

Environmental Health: Learning Outcomes

The content outlines included in the Community Colleges and Public Health report were developed in collaboration with the Association for Environmental Health Academic Programs (AEHAP). AEHAP has encouraged the development of community colleges programs in environmental health which include adequate science course work to enable students to succeed at the bachelor's degree level.

The Community Colleges and Public Health report recommends that students pursue additional course work in at least two of the following three areas.

- Disease Vectors and Control
- Solid and Hazardous Waste Management
- Food Safety and Sanitation

The Community Colleges and Public Health report includes content outlines for each of these courses. Specific learning outcomes should be developed in collaboration with bachelor's degree program(s) to which a large number of students in environmental health are expected to transfer.

Health Navigation Education

The CC&PH report recommends that Health Navigator associate degree and academic certificate programs include 12 semester credit hours of required course work. The report organized the program content into four three-semester credit hour courses. In addition to the Health Navigator required courses the CC&PH report recommends the Foundational and Core Public Health courses for which learning outcomes are included at the beginning of this Learning Outcomes section.

The following course learning outcomes may be structured in a variety of ways to enable programs to accomplish overall program learning outcomes, to accommodate local needs and state licensing expectations, and to provide flexibility for students with differing content backgrounds.

For instance, an overview course on Health Navigation might be used to introduce content outcomes as well as the accessing and analyzing health information. This course might be used to recruit students into a Health Navigator associate degree or academic certificate program. Therefore, it should introduce most if not all of the following learning outcomes. The process outcomes included in Prevention and Community Health might be structured as a separate course taken near the end of an associate degree or certificate program and including applications such as case studies.

Note that the Prevention and Community Health learning outcomes can be divided into content (1-6) and process outcomes (7-14). The process outcomes apply health navigator responsibilities in healthcare delivery and health insurance and well as prevention and community health.

Learning outcomes for each of these recommended courses are as follows:

Prevention and Community Health
1. Describe and illustrates methods of implementation classified as education/information, motivation/incentives, or obligation/required.
2. Identify social-economic, cultural, and religious impacts on prevention and treatment of disease.
3. Describe risk assessment including measures of the magnitude of the risk and the impact of multiple risk factor interventions.
4. Describe and illustrate applications of prevention through the life-cycle–Infants, children, adolescents, adults, older adults, elderly.
5. Define and illustrate examples of primary prevention, secondary, and tertiary prevention.
6. Describe and illustrate the roles of public health organizations in prevention and community health.
7. Identify and illustrate methods for outreach and engagement.
8. Identify community and individual needs, concerns and assets.
9. Effectively communicating with clients about individual needs, concerns and assets.
10. Describe methods for assisting individuals and their families in making desired behavioral changes.
11. Describe methods for advocating for and coordination of care.
12. Describe and illustrate methods for working as one part of the broader context of public health practice and the social determinants of health.
13. Describe methods for increasing the abilities of communities to care for themselves.
14. Describe and illustrate basic ethics and skills for obtain and maintain trust among member of a community.

Accessing and Analyzing Health Information
1. Describe the process of developing and using evidence-based recommendations.
2. Describe the uses of evidence for diagnosing health problems.
3. Describe the uses and limitations of testing and screening.
4. Describe the uses of evidence for making decisions about possible interventions.
5. Describe the use and advantages of electronic health records as well as legal, security, and privacy issues.
6. Identify types and uses of health information.
7. Identify sources of health information.

8. Describe methods for displaying health information as well as their strengths and limitations.
9. Discuss health literacy as well as tools to improve health literacy.
10. Discuss economic, cultural, social, and issues legal related to health information and health information technology.
11. Identify methods for accessing health information effectively and efficiently in order to investigate a problem.
12. Describe criteria for evaluating the reliability of online health information.
13. Describe the collection and use of major types of public health data.
14. Describe how public health statistics are used to measure the health of populations.

Health Care Delivery
1. Describe the types of U.S. health care institutions, hospitals.
2. Describe the types and roles of health care providers.
3. Describe the scope of health care systems, community health systems, and continuity of care.
4. Describe issue of accessing medical care including first contact care and specialty care, in-patient and outpatient, emergency care, community-based services, palliative care.
5. Describe issue of accessing long-term care and other outpatient/community resources including custodial nursing homes, home health services, community-based services.
6. Describe the roles of public health agencies in health care delivery—licensure, regulation, communicable disease control, disaster planning, environmental protection, safety net roles, etc.
7. Identify common diagnostic process including medical history taking and testing.
8. Identify common types of diseases, including cancers, diabetes, heart disease, strokes, infections, mental illness and diseases altering mental functioning, and communicable diseases.
9. Identify common types of treatments including the process, goals, and general types of side effects, including surgery, medicines, radiation and chemotherapy, physical therapy, alternative approaches.
10. Describe the structure and functions of medical records including the use of electronic health records.
11. Describe principles for communicating with clinicians and other health professionals verbally and in writing.
12. Describe principles of continuity and coordination of care.
13. Describe issues of end of life care and decision making including medical power of attorney, living wills, bioethics review boards.
14. Identify issue of quality and safety of health care including principles of accreditation, certification, licensure, quality assurance and safety, and legal issues

Health Insurance

1. Describe and define basic health insurance/health care financing principles and terminology.
2. Identify and describe the types of U.S health insurance including governmental, employment and retirees, and health insurance available through the Exchanges.
3. Describe the impacts on access and quality of lack of insurance and being underinsured.
4. Describe the impacts of the Affordable Care Act on health insurance in the United States.
5. Identify the essential services as defined in the Affordable Care Act.
6. Describe the options for long term care in the United States.
7. Describe the disability system in the United States.
8. Identify and describe the implications of different types of health insurance payments to providers and their implications for access to care.
9. Describe how health insurance coverage channels the locations and types of health services provided.
10. Describe the types of administrative processes required to receive coverage under the basic types of health insurance.
11. Describe patient rights and responsibilities under health insurance.
12. Describe access to health care in the absence of health insurance.
13. Describe market and social justice philosophies of health care and their implications.
14. Compare and contrast the U.S. health insurance system with systems in other developed countries.

Growth of Bachelor's Degree Programs and Career Opportunities in Public Health and Health Navigation

The Community Colleges and Public Health report recommends two curricular models 1) Public Health: Generalist & Specializations and 2) Health Navigator. The Public Health: Generalist & Specializations model is designed as an associate degree for transfer to bachelor's degree programs. Therefore it is important to understand the growth and availability of bachelor's degree program for public health generalist education as well as for the recommended specializations i.e. health education, health administration and environmental health.

In addition to the availability of information on bachelor's degree programs, data on employment opportunities in public health and related fields is important information for justifying community college programs designed for transfer.

Health Navigator associate degree and academic certificate programs are primarily designed as applied degrees leading to immediate employment after graduation. Issues of availability of entry level employment as well as the potential for advancement are key issues.

The following discusses the growth and availability of bachelor's degree programs in public health and related fields, employment in public health, and employment in the health navigation professions.

Growth of Bachelor's degrees in Public Health and Related Fields

In 2003 the Institute of Medicine recommended that "…all undergraduates have access to education in public health". During the decade after this recommendation was made there was, and continues to be, exponential growth in public health and related degree program at 4-year colleges and universities. This growth has not been seen in 2-year institutions.

The Public Health: Generalist & Specialization model is designed for transfer to bachelor's degree program. Therefore it is important to understand the growth that has occurred and continues to occur in bachelor's degree program in public health and related fields.

Utilizing U.S. Department of Education data the Association of School and Programs of Public Health (ASPPH) has developed a Data Center including interactive graphics illustrating the growth of bachelor's degree graduates over the decade following the Institute of Medicine report. The link to the Data Center is:

https://data.aspph.org/public/visualization_public.cfm?TableauWorkbookName=UGDashboard_QADRAFT_0&TableauViewName=Story1   Look under "How have the degree conferrals grown?" to get an overview of the growth which has occurred.

Growth in Bachelor's degree Education in Public Health and Related Field 2003-2014

From over 300 Colleges and Universities

Graduating Bachelor's degree -Major	2003	2014
General Public Health	472	3,102
Health Education/Behavioral Sciences	347	2,656
Health Services/Public Health Administration and Management	322	2,153
Environmental Health Sciences	264	545
Other	125	1095
Total	**1,420**	**9,551**

Data from U.S. Department of Education- Presented in Association of Schools and Programs of Public Health Data Center -fields of study are selectively combined in the above data and ordered by number of 2003 graduates

https://data.aspph.org/public/visualization_public.cfm?TableauWorkbookName=UGDashboard_QADRAFT_0&TableauViewName=Story1   Look under "How have degree conferrals grown?"

"Where are public health degrees being conferred?" and "Learn More about the Institutions" allows the user to identify specific institution, their number of graduates in each field of study, as well as change over time. Institutions can also be listed by state and identified by size of the institution.

Note this data does not include the large number of minors in public health and related fields many of which are in the process of developing majors. New majors which have not yet graduated any students are not included.

Public Health Employment

The Association of Schools of Public Health report on workforce needs in governmental public health indicated that over 250,000 positions were needed during this decade. http://www.jhsph.edu/news/stories/2008/asph-workforce-report.html

Nearly 110,000 governmental public health workers—23 percent of the current governmental public health workforce were estimated to be eligible for retirement over a four year period. The retirements which slowed down during the recent recession are now believed to have resumed at a rapid pace.

The U.S. Department of Labor provides Occupational Outlooks for only a limited number of specific public health and related job categories. U.S. Department of Labor does indicate the following:

- Medical and Health Service Managers - 23% growth 2012-2022 faster than average

http://www.bls.gov/ooh/management/medical-and-health-services-managers.htm

- Health Educators- 21% growth 2012-2022 faster than average

http://www.bls.gov/ooh/community-and-social-service/health-educators.htm

- Environmental Science and Protection Technicians - 19% growth 2012-2022 faster than average

http://www.bls.gov/ooh/life-physical-and-social-science/environmental-science-and-protection-technicians.htm

Governmental public health represents only a small minority of the employment opportunities open to public health graduates. The following websites provide descriptions of a wide range of potential career in public health and related fields:

http://www.collegefactual.com/majors/health-care-professions/public-health/

http://www.publichealthonline.org/careers/

The following books may be of help to faculty, advisors, and students as they explore careers in public health and related fields:

Seltzer, B. 101 Careers in Public Health, New York, Springer Publishing Company, 2010.

Turnock BJ. Public Health: Career Choices That Make a Difference. Sudbury, MA, Jones and Bartlett Learning 2006.

DeBuono BA, Tilson H. Advancing Healthy Populations: The Pfizer Guide to Careers in Public Health. NewYork, Pfizer Pharmaceuticals Group, 2002.

Health Navigation Professions Employment

The Health Navigation professions include a large number of job titles. There are three general areas of employment which are often identified as Community Health Workers, Patient Navigators, and Health Insurance Navigators. These reflect the three areas of focus recommended for inclusion in the Health Navigator associate degrees and academic certificate programs.

Employment for a wide range of health navigation professions has been growing rapidly in recent years. New funding mechanisms as part of Medicaid, Medicare 30-day hospital re-admission policy, and the Affordable Care Act have dramatically increased interest in developing the types of paid positions which need academic Health Navigator education. These positions usually include salaries in the range expected from associate degree and academic certificate graduates. In addition, potential exists for promotions and salary increases over time. See the following site for salary information including information by location. http://www.simplyhired.com/salaries-k-health-navigator-jobs.html

Community Health Workers are the only Health Navigation employment classification which is currently tracked by the U.S. Department of Labor. The Labor Department's Occupational Outlook estimates that the positions for Community Health Workers will increase 21% from 2012- 2022. http://www.bls.gov/ooh/community-and-social-service/health-educators.htm

Employment opportunities for graduates of health navigator associate degree and academic certificate programs are expected to occur in for-profit and not-for profit health care setting, the health insurance industry, as well as governmental agencies as the local, state and national levels.

Undergraduate Public Health Education Resources and References

Reports, Policy Statements, Guides and Curricular Materials

- Association of Schools and Programs of Public Health (ASPPH) in collaboration with the Association of American Colleges and Universities (AAC&U) have developed Undergraduate Public Health Learning Outcomes designed for all undergraduates at 2-year and 4-year colleges as well as Critical Components Elements of an Undergraduate Major in Public Health. Available at http://www.aspph.org/educate/models/undergraduate-learning-outcomes/
- AAC&U Recommendations for Undergraduate Public Health Education: Core curriculum for 4-year and 2-year colleges available at http://www.aacu.org/sites/default/files/files/PublicHealth/Recommendations_for_Undergraduate_Public_Health_Education.pdf
- Ten Things to Know When Starting an Undergraduate Public Health Program designed for both institutions with and without graduate degree programs in public health. Available at http://www.aspph.org/educate/#tools
- American Public Health Association- Integration of Core Public Health Education into Undergraduate Curricula Policy Statement 200915. Available at
- Healthy People 2020 Objectives for 4-year and 2-year colleges to increase public health education – see Public Health Infrastructure Topic areas available at http://www.apha.org/policies-and-advocacy/public-health-policy-statements/policy-database?q=200915
- ASPPH Data Dashboard Data on Expansion of Undergraduate majors identifying programs and program types Available at https://tableau.aspph.org/views/UGDashboard_01/Story1?:iid=1&:embed=y

National Media and Higher Education Press

- *The Nation's Health*- Undergraduate Public Health Education Expands Nationwide October 2012 http://thenationshealth.aphapublications.org/content/42/8/1.2.full
- *Washington Post*- For a Global Generation, Public Health Is a Hot Field front page September 18, 2008   http://www.washingtonpost.com/wp-dyn/content/article/2008/09/18/AR2008091804145.html?hpid=topnews
- *Inside Higher Education*-For Undergrads, A Shot of Public Health. April 3, 2009 http://www.insidehighered.com/news/2009/04/03/publichealth
- *The Chronicle of Higher Education*-How They Did It: Public Health and 5 College Majors on the Rise August 31, 2009

Selected Publications

- AAC&U. Back to the Pump Handle: Public Health and the Future of Undergraduate Education. 2007. Available at http://www.aacu.org/publications-research/periodicals/back-pump-handle-public-health-and-future-undergraduate-education
- *Journal of Public Health Management and Practice* : Who Will Keep the Public Healthy? The Case for Undergraduate Public Health Education: A Review of Three Programs; Jan-Feb 2008 Bass SB, Guttmacher S, Nezami E
- *Public Health Reports,* Public Health Studies as an Undergraduate Major. Gebo K, Goodyear J, David S, Yager J. November-December 2008.
- *American Journal of Preventive Medicine,* Undergraduate Public Health Education: 2008.
- *Peer Review-* AAC&U-Liberal Education and Undergraduate Public Health Studies: Summer 2009.
- *Public Health Reports -* Advising Undergraduate Public Health Students: A Phased Approach, Arnold LD, Embry ES, Fox C July/Aug 2015 Available at *http://www.publichealthreports.org/issueopen.cfm?articleID=3377*
- *Peer Review-* AAC&U- Albertine S, Petersen D, Plepys C. For the Profession and for All: Toward Liberal Education in Public Heath: Spring 2012.
- Frontiers in Public Health: Special Issue on Undergraduate Public Health Education http://journal.frontiersin.org/ResearchTopic/3071
- Public Health Reports, Characterizing the Growth of the Undergraduate Public Health Major 1992-2012 http://www.publichealthreports.org/userfiles/15_508_PHR130-1_ASPPH.pdf

Community Colleges Publications

- *Journal of Public Health Management and Practice:* A Call to Action: Public Health and Community College Partnerships to Educate the Workforce and Promote Health Equity, Honore P. et. al. November 2008.
- Frontiers in Public Health, Community colleges and public health: an integral part of the continuum of education for public health, Riegelman RK, Wilson C. http://journal.frontiersin.org/article/10.3389/fpubh.2014.00226/full
- Community Colleges and Health Project http://www.league.org/ccph/ final report including Public Health: Generalist & Specializations plus Health Navigator Associate degree and academic certificate programs
- Pedagogy in Health Promotion theme issue on Role of U.S. Community Colleges in Enhancing the Public Health Workforce available March 2016

Educated Citizen and Public Health Listserv

The Educated Citizen and Public Health listserv is hosted by the AAC&U. The listserv is designed to promote communication among all those are active in the emerging interdisciplinary field of public health study for undergraduates**. To sign up for the Educated Citizen and Public Health listserv go to http://list.aacu.org/mailman/listinfo/ecph**

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12. Association of American Colleges and Universities and Association for Teaching Prevention and Research. Recommendations for Undergraduate Public Health Education Available at http://www.aacu.org/sites/default/files/files/PublicHealth/Recommendations_for_Undergraduate_Public_Health_Education.pdf Accessed September 17, 2015.