

SECOND EDITION

INTRODUCTION TO COMMUNITY AND PUBLIC HEALTH

MANOJ SHARMA | PAUL W. BRANSCUM



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**INTRODUCTION TO COMMUNITY
AND PUBLIC HEALTH**

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Manoj Sharma and Paul W. Branscum

Second Edition

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PREFACE

We have great pleasure in presenting the second edition of *Introduction to Community and Public Health* to you. We have been quite pleased with the appreciation and love that the first edition of this book has received from instructors, students, and practitioners. Dr. Ashutosh Atri, who was a co-author in the first edition, is now a busy practicing psychiatrist and will no longer be with us, but his contributions to the first edition have been invaluable.

One of the needs of all students in public health, health education, and related disciplines is to understand the basics of community and public health. Currently, there are very few books on this topic, and none of the existing textbooks covers all the essential areas. This book is designed to primarily prepare students in public health and health education with the basics in all five of the *core areas* of community and public health identified by the Association of Schools of Public Health and Council on Education for Public Health (CEPH): biostatistics, environmental health sciences, epidemiology, health policy and management, and social and behavioral sciences. Our purpose has been to provide a text in the area of community and public health for undergraduate students (BS, BA), graduate students (MS, MA, MPH), and both entry-level and advanced-level practitioners in public health, health education, and health promotion. This book is also useful for medical students learning the basics of community medicine, allied health students, nursing students, counseling students, and students pursuing degree programs in communicative disorders. It is extremely helpful in preparing individuals for the certified in public health (CPH), certified health education specialist (CHES), and master certified health education specialist (MCHES) examinations. We have received excellent feedback on this book from students preparing for these exams and pursuing these degrees, as it provides an overview of all the necessary topics.

In this book, the essentials of community and public health have been emphasized. In the new edition, the chapters have been organized into six units to make it easier for readers to comprehend the encompassing nature of the book. The first unit is the *introduction* (Chapter 1); the second unit is about *biostatistics* in community and public health (Chapters 2 and 3); the third unit is about *epidemiology* in community and public health (Chapters 4 and 5); the fourth unit is about *social and behavioral sciences* in community and public health (Chapters 6–9); the fifth unit is about *environmental issues* in community and public health (Chapters 10–12); and the sixth unit is about *health policy and management* in community and public health (Chapters 13–15).

In the second edition, we have ensured that the introductory aspects of all foundational competencies for public health as identified by the Council on Education for Public Health (CEPH) are covered. Those competencies are mapped in Table P.1.

The second edition updates the text with the latest references and websites to explore. Some existing sections from the first edition have been expanded, such as those on infectious disease epidemiology (Chapter 3), chronic disease epidemiology (Chapter 3), and newer theories (Chapter 8). Some new sections have been added, including:

Table P.1 Mapping of Foundational Competencies in Public Health Education, as Identified by the Council on Education for Public Health (CEPH) and Addressed at an Introductory Level in This Book

#	Foundational Competency	Addressed in Chapter(s)
Profession & Science of Public Health		
1.	Explain public health history, philosophy, and values	1
2.	Identify the core functions of public health and the 10 essential services	1, 13
3.	Explain the role of quantitative and qualitative methods and sciences in describing and assessing a population's health	2, 6
4.	List major causes and trends of morbidity and mortality in the United States or other community relevant to the school or program	2, 3
5.	Discuss the science of primary, secondary, and tertiary prevention in population health, including health promotion, screening, etc.	2, 6
6.	Explain the critical importance of evidence in advancing public health knowledge	6, 8
Factors Related to Human Health		
7.	Explain the effects of environmental factors on a population's health	1, 10–12
8.	Explain the biological and genetic factors that affect a population's health	1, 3
9.	Explain behavioral and psychological factors that affect a population's health	1, 6–8
10.	Explain the social, political, and economic determinants of health and how they contribute to population health and health inequities	1
11.	Explain how globalization affects global burdens of disease	1, 10
12.	Explain an ecological perspective on the connections among human health, animal health, and ecosystem health (e.g., One Health)	1, 6, 10–12
Evidence-Based Approaches to Public Health		
13.	Apply epidemiological methods to the breadth of settings and situations in public health practice	2, 3
14.	Select quantitative and qualitative data collection methods appropriate for a given public health context	2–7
15.	Analyze quantitative and qualitative data using biostatistics, informatics, computer-based programming, and software, as appropriate	4–6
16.	Interpret results of data analysis for public health research, policy, or practice	2–6
Public Health and Health Care Systems		
17.	Discuss the organization, structure, and function of health care, public health, and regulatory systems across national and international settings	13
18.	Discuss the means by which structural bias, social inequities, and racism undermine health and create challenges to achieving health equity at organizational, community, and societal levels	13
Planning & Management to Promote Health		
19.	Assess population needs, assets, and capacities that affect communities' health	6, 7
20.	Apply awareness of cultural values and practices to the design or implementation of public health policies or programs	6, 8, 15
21.	Design a population-based policy, program, project, or intervention	7–10, 14
22.	Explain the basic principles and tools of budget and resource management	14
23.	Select methods to evaluate public health programs	8, 14
Policy in Public Health		
24.	Discuss multiple dimensions of the policymaking process, including the roles of ethics and evidence	9
25.	Propose strategies to identify stakeholders and build coalitions and partnerships for influencing public health outcomes	9
26.	Advocate for political, social, or economic policies and programs that will improve health in diverse populations	9
27.	Evaluate policies for their impact on public health and health equity	14
Leadership		
28.	Apply principles of leadership, governance, and management, which include creating a vision, empowering others, fostering collaboration, and guiding decision making	15
29.	Apply negotiation and mediation skills to address organizational or community challenges	15

Table P.1 Mapping of Foundational Competencies in Public Health Education, as Identified by the Council on Education for Public Health (CEPH) and Addressed at an Introductory Level in This Book (*continued*)

#	Foundational Competency	Addressed in Chapter(s)
Communication		
30.	Select communication strategies for different audiences and sectors	8
31.	Communicate audience-appropriate public health content, both in writing and through oral presentation	8
32.	Describe the importance of cultural competence in communicating public health content	8, 15
Interprofessional Practice		
33.	Perform effectively on interprofessional teams	11–14
Systems Thinking		
34.	Apply systems thinking tools to a public health issue	15

- Genetic diseases (Chapter 3).
- School health programs (Chapter 6).
- Community mental health (Chapter 6).
- Alcohol, tobacco, and other drugs (Chapter 6).
- Designing population-based public health programs for maternal and child health (Chapter 10).
- Designing population-based public health programs for adolescent health (Chapter 10).
- Designing population-based public health programs for the care of adults and the middle-aged (Chapter 10).
- Designing population-based public health programs for the care of older adults (Chapter 10).
- Designing population-based public health programs for racial and ethnic minorities (Chapter 10).
- Non-governmental organizations in the United States (Chapter 13).
- Latest developments with regard to the US health care system (Chapter 13).

In the second edition we have retained the practical features of the first edition which were appreciated and are as follows:

- Use of *simple language* to assist undergraduate and graduate students in health education, health promotion, and public health to develop a thorough understanding of the basics of community and public health.
- Inclusion of student-friendly *pedagogical features* in each chapter, such as chapter objectives, a chapter summary, definitions of key terms, review questions, and websites to explore.
- Inclusion of practical applications in the form of two *skill-building activities* for each chapter that will assist students to master the application of important concepts.
- Inclusion of at least one *focus feature* in each chapter. Each feature describes an interesting discovery, aspect, or application relating to a chapter topic and is designed to foster an interest in that topic and to encourage further reading.

- Inclusion of a *case study* in each chapter and an accompanying set of questions that can be used to focus either classroom discussion or student reflection, and to encourage critical insights on the chapter topics.

An instructor's supplement is available at www.josseybass.com/go/sharma. Additional materials such as videos, podcasts, and readings can be found at www.josseybasspublichealth.com. Comments about this book are invited and can be sent to publichealth@wiley.com.

We hope you will like this comprehensive book and find it a useful resource in pursuing your community and public health goals. This is a book we hope you will keep as a reference throughout your career.

Manoj Sharma
Paul Branscum

ABOUT THE COMPANION WEBSITE

This book is accompanied by a companion website:



www.wiley.com/go/sharma/IntroductiontoCommunityPublicHealth2e

The website includes PowerPoint Slides and Test Banks.

THE AUTHORS

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INTRODUCTION TO COMMUNITY AND PUBLIC HEALTH

This chapter has been designed to give an overview of the field of community and public health. Included in the chapter are basic terms pertaining to community and public health, issues with which the field grapples, factors influencing the health of a community, and descriptions of key agencies in the field. A description of the genesis of community and public health and a timeline of key events in its history are also presented. The chapter concludes with a discussion of current challenges facing community and public health.

Defining Community and Public Health

The constitution of the World Health Organization defines **health** as “a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity” (World Health Organization [WHO], 1947, p. 29). This definition has several shortcomings, such as the fact that health is dynamic and not a state, the dimensions mentioned in the definition are insufficient (the spiritual, political, and economic dimensions are missing), the definition is subjective (making it difficult to measure health as defined here), the definition is idealistic rather than realistic, and the definition considers health to be an end product rather than a means. Another major limitation is that it treats health as a personal or individual-level construct as opposed to a community-level construct. Should health be considered only at the individual level, or does it also have meaning at the community level? The answer to this is clearly that health must be considered at both individual and community levels. Thus a more useful definition of health, given by Sharma (2017, p. 274), is: “a means to achieve desirable goals in life while maintaining a multidimensional (physical, mental, social, political, economic, and spiritual) equilibrium that is operationalized for individuals as well as for communities.” Figure 1.1 shows one of health’s many dimensions. Before we begin defining what community health means, let us first define what community means.

A **community** is a group of individuals who share common interests and characteristics. Often they are living in the same geographical area and have a common cultural and historical heritage. Individuals in a community are bound to each other by social, religious, ethnic, occupational, or other characteristics that they have in common. They usually follow some shared rules. Hunter (1975) has identified three types of community units: (1) units that

LEARNING OBJECTIVES

After reading this chapter you should be able to

- Define basic terms in community and public health.
- Differentiate between *medicine* and *community and public health*.
- Identify issues in community and public health.
- Identify and classify factors affecting community and public health.
- Describe local, state, national, and global organizations in community and public health.
- Trace the historical timeline of community and public health.
- Explain the current challenges confronting community and public health.
- Identify the core functions of public health.
- Explain how globalization affects the global burden of disease.
- Explain One Health.

PUBLIC HEALTH COMPETENCIES ADDRESSED IN THIS CHAPTER

- Explain public health history, philosophy, and values.
- Identify the core functions of public health and the 10 essential services.
- Explain the effects of environmental factors on a population's health.
- Explain the biological and genetic factors that affect a population's health.
- Explain the behavioral and psychological factors that affect a population's health.
- Explain the social, political, and economic determinants of health and how they contribute to population health and health inequities.
- Explain how globalization affects the global burden of disease.
- Explain an ecological perspective on the connections among human health, animal health, and ecosystem health (e.g., One Health).

health

A means to achieve desirable goals in life while maintaining a multidimensional (physical, mental, social, political, economic, and spiritual) equilibrium that is operationalized for individuals as well as for communities.

community

A group of individuals who share common interests and characteristics.

Community health involves three fundamental functions: (1) promotion of good health in a defined group of individuals, (2) protection of good health in a defined group of individuals, and (3) maintenance of good health in a defined group of individuals.

accomplish basic needs for sustenance, (2) units for social interaction, and (3) units of symbolic collective identity. Examples of communities are people living in Cincinnati (common geographical location), African Americans in Cincinnati (common race), Hispanics in Cincinnati (common ethnicity), Mexican Americans in Cincinnati (common national origin), Christians in Cincinnati (common religion), health educators in Cincinnati (common occupation), adolescents in Cincinnati (common age), breast cancer survivors in Cincinnati (common problem), and users of Facebook (common social network, in this instance a cyber community).

Having defined *health* and *community*, we are now ready to define *community health* and *public health*. **Community health** has been defined by Green and Ottoson (1999, p. 4) as “the health status of a community and ... the organized responsibilities of public health, school health, transportation, safety, and other tax-supported functions, with voluntary and private actions to promote and protect the health of local populations identified as communities.” Community health involves three fundamental functions: (1) promotion of good health in a defined group of individuals, (2) protection of good health in a defined group of individuals, and (3) maintenance of good health in a defined group of individuals. Promotion entails health education and the creation of environmental conditions conducive to good health. Figure 1.2 shows an example of promoting health for a group of individuals. Protection of good health entails functions such as water purification, preservation of air quality, environmental sanitation, food hygiene, drug safety, and related activities that reduce or eliminate harmful effects of environmental hazards. Maintenance of good health entails functions to prevent illness, control illness, and maintain maximal functioning for a group of individuals.

Public health was first defined by C.E.A. Winslow (1920, p. 23) as:

[T]he science and art of preventing disease, prolonging life, and promoting physical health and efficiency through organized community efforts for the sanitation of the environment, the control of community infections, the education of the individual in principles of personal hygiene, the organization of medical and nursing service for the early diagnosis and preventive treatment of disease, and the development of the social machinery which will ensure to every individual in the community a standard of living adequate for the maintenance of health, so organizing these benefits as to enable every citizen to realize his birth right of health and longevity.

The Institute of Medicine (1988), in its *Future of Public Health* report, identified three essential parts for a definition of public health. The first part is the mission of public health or a statement about goals and purposes. The report identified the mission of public health as the accomplishment of society's interest in maintaining the conditions for the health of the people. The second part is the substance or subject matter of public health. With regard to the substance of public health, the report identified three factors: (1) organized community effort, (2) prevention of disease, and (3) promotion of health. It also identified epidemiology as the core of public health. The third part is an organizational framework or a description of how public health is different from what public health agencies do. In this context, the report identified that public health encompasses the activities of both governmental and nongovernmental (private and voluntary) organizations and individuals. Thus, public health can be defined as organized community efforts, by the governmental



Figure 1.1 One of the Many Dimensions of Health

Source: Photo courtesy of the Centers for Disease Control and Prevention, ID# 14026, CDC/Amanda Mills, retrieved from <http://phil.cdc.gov/phil/home.asp>



Figure 1.2 Community Health Is about Promoting Health for Groups of Individuals

Source: Photo courtesy of the Centers for Disease Control and Prevention, ID# 11550, CDC/Dawn Arlotta, retrieved from <http://phil.cdc.gov/phil/home.asp>

and nongovernmental sectors, to prevent disease and promote good health within groups of people, from small communities to entire countries. (Figure 1.3 shows an example of treatment during an organized public health effort.) We therefore see that there is not much difference between the terms *community health* and *public health*. However, some people see public health as being government run and funded by tax dollars, and they consider that the key difference between public health and community health.

community health

An effort with three fundamental functions: (1) promotion of good health in a defined group of individuals, (2) protection of good health in a defined group of individuals, and (3) maintenance of good health in a defined group of individuals.

public health

Organized community efforts, by the governmental and nongovernmental sectors, to prevent disease and promote good health within groups of people, from small communities to entire countries.

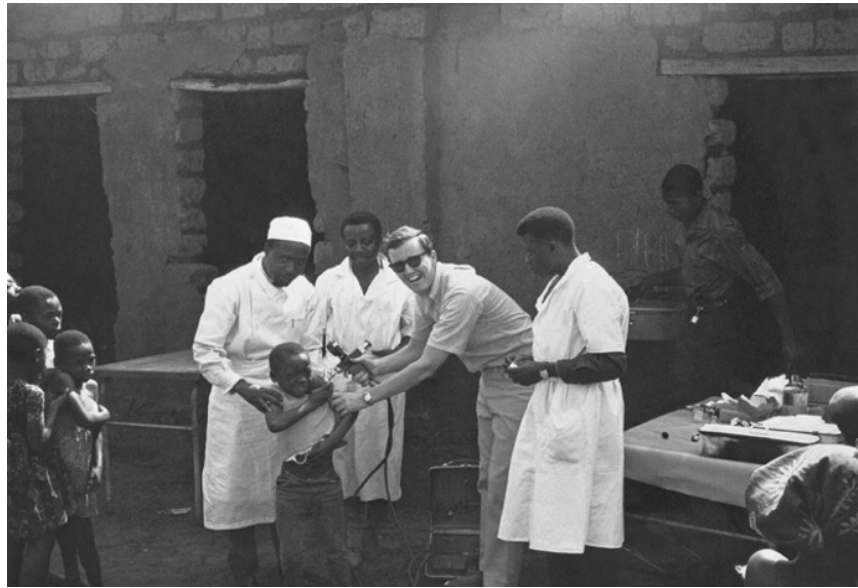


Figure 1.3 A Nigerian Boy Receiving a Smallpox Vaccination in 1967, an Example of an Organized Public Health Effort

Source: Photo courtesy of the Centers for Disease Control and Prevention, ID# 13251, CDC/Dr. William Foege, retrieved from <http://phil.cdc.gov/phil/home.asp>

Public health can be defined as organized community efforts, by both the governmental and nongovernmental sectors, to prevent disease and promote good health within groups of people, from small communities to entire countries.

Basic Terms in Community and Public Health

Several other terms used in community and public health contexts must also be clarified. The first of these is the term *population health*. **Population health** refers to the health status of a group of people who may or may not identify themselves as a community and the efforts and conditions directed toward that group by means that may or may not be organized. The group of people may consist of women, homeless people, or adults, for example. So population health differs from community and public health in that it may not be organized and the people involved may not have an identity as a community, yet, like community and public health, it applies to a group of people as opposed to an individual.

Another two terms that need to be defined are *international health* and *global health*. Paul Basch (1999) has defined **international health** as “a systematic comparison of the factors that affect the health of all human populations.” Merson, Black, and Mills (2006, p. xiv) have defined international public health as “the application of principles of public health to health problems and challenges that affect low and middle income countries and to the complex array of global and local forces that influence them.” Sharma and Atri (2010, p. 6) have defined international health as “the science and art of examining health problems in multiple countries, primarily those that are developing, and finding population-based solutions to their problems.” They have defined **global health** as “the study of health problems and solutions affecting all people of the world” (Sharma & Atri, 2010, p. 6). So both these terms expand the groups addressed by community and public health to multiple nations in the case of international health and all nations in the case of global health. But both international health and global health are also types of community and public health.

Two more terms used in the context of community and public health are *health education* and *health promotion*. **Health education** has been defined by the World Health Organization (1998, p. 4) as “consciously constructed opportunities for learning involving some form of communication designed to improve health literacy, including improving knowledge, and developing life skills which are conducive to individual and community

population health

The health status of a group of people who may or may not identify themselves as a community and the efforts and conditions directed toward that group by means that may or may not be organized.

international health

The science and art of examining health problems in multiple countries, primarily those that are developing, and finding population-based solutions to their problems.

global health

The study of health problems and solutions affecting all people of the world.