

Joan G. Turner  
Katherine H. Chavigny

---

# COMMUNITY HEALTH NURSING



An Epidemiologic Perspective

---

Through the Nursing Process

---



# Community Health Nursing

AN EPIDEMIOLOGIC PERSPECTIVE  
THROUGH THE NURSING PROCESS



Acquisitions/Sponsoring Editor: Nancy Mullins  
Manuscript Editor: Helen Ewan  
Indexer: Catherine Battaglia  
Design Coordinator: Anita Curry  
Cover Design: Anthony Frizano

Designer: Tracy Baldwin  
Production Manager: Kathleen P. Dunn  
Production Coordinator: Kenneth Neimeister  
Compositor: TSI Graphics  
Printer/Binder: R. R. Donnelley Sons Company

Copyright © 1988, by J. B. Lippincott Company. All rights reserved. No part of this book may be used or reproduced in any manner whatsoever without written permission except for brief quotations embodied in critical articles and reviews. Printed in the United States of America. For information write J. B. Lippincott Company, East Washington Square, Philadelphia, Pennsylvania 19105.

3 5 6 4 2

#### **Library of Congress Cataloging-in-Publication Data**

Turner, Joan G.

Community health nursing.

Includes bibliographies and index.

1. Community health nursing. 2. Epidemiology.

I. Chavigny, Katherine H. II. Title. [DNLM: 1. Community Health Nursing.

2. Epidemiologic Methods. 3. Nursing Process. WY 106 T948c]

RT98.T87 1988 610.73'43 87-21432

ISBN 0-397-54658-0

*Any procedure or practice described in this book should be applied by the health-care practitioner under appropriate supervision in accordance with professional standards of care used with regard to the unique circumstances that apply in each practice situation. Care has been taken to confirm the accuracy of information presented and to describe generally accepted practices. However, the authors, editors, and publisher cannot accept any responsibility for errors or omissions or for consequences from application of the information in this book and make no warranty, express or implied, with respect to the contents of the book.*

*Every effort has been made to ensure drug selections and dosages are in accordance with current recommendations and practice. Because of ongoing research, changes in government regulations and the constant flow of information on drug therapy, reactions and interactions, the reader is cautioned to check the package insert for each drug for indications, dosages, warnings and precautions, particularly if the drug is new or infrequently used.*

# Community Health Nursing

*Community  
Health  
Nursing*



NOT FOR RESALE

BB 1 88 1A1034

**Joan G. Turner** RNC, DSN

Associate Professor  
University of Alabama at Birmingham  
School of Nursing  
Birmingham, Alabama

**Katherine H. Chavigny** RN, MSN, PhD, FACE

Associate Professor of Nursing  
University of Portland  
Portland, Oregon  
Director of Nursing Affairs  
American Medical Association  
Chicago, Illinois

Drawings by Stephen Kass  
Chicago, Illinois



J. B. LIPPINCOTT COMPANY

**Philadelphia**

London

Mexico City

New York

St. Louis

São Paulo

Sydney



重医附一院

00163354

**NOT FOR RESALE**

2014年8月18日



**T**his book is written for the undergraduate community health nursing student using an epidemiologic perspective or framework to guide the beginning level staff nurse in community health nursing practice. Archer and Fleshman state that specialized areas of nursing practice may be defined as a synthesis of nursing theory and the theoretical framework of the science or art used for specialization. The model chosen for the specialty area of community health is the public health model consisting of interactive constructs used to preserve the health of aggregates such as levels of prevention of disease for community well-being. The nursing process is used as the basic model for generalist practice in the community. The purpose of the text is to guide the application of public health principles for nursing services to promote the welfare of populations through the use of epidemiologic methods.

Epidemiology brings to community health nursing a dynamic and exciting perspective. The process of epidemiology adds methods of hypothesizing new problem-solving techniques to the nursing process for practice in the community. Epidemiology formulates new relationships and new associations between nursing and public health. Today we live in challenging, provocative times; epidemiology assists nurses to improve practice and meet changing community needs using methods and tools that are held in common with all members of the multidisciplinary team. This common language improves interprofessional communication and trust. At the same time, the unique attributes of nursing as a profession can be maintained and displayed within the framework of epidemiologic methods and theory.

The public health science of epidemiology is not new to nursing, but its use has been sporadic and its power for analyzing problems in public health has remained unexploited by the nursing profession. In the past, however, epidemiology has not been ignored. Exhortations to use epidemiology for delivery of nursing services and to include it in the curriculum for nursing education appeared in the literature as early as the mid 1960s. In 1975, the Pan American Health Organization (PAHO) pointed out that epidemiology had developed brand new approaches, updated for a modern world with complex needs. No longer was the public health science of epidemiology confined to the solving of problems for communicable disease, but it had become an indispensable method of evaluating health care services and investigating cause and the effects of interventions for the prevention and control of chronic diseases. The era of conserving epidemiology for nationwide studies had given way to mini-epidemic investigations and the solving of problems for small groups.

## *Authors' Foreword*

In 1976, a panel of nurse educators, nurse epidemiologists, and nurse administrators met to implement the goals of the PAHO report. The group of experts recommended the application of epidemiologic methods for nursing education. They also supported the use of epidemiologic perspectives for intramural communities, such as infection control in hospitals. Since then, there is an increasing interest in the nursing community in applying epidemiology to nursing practice and to nursing research. In spite of some discussion on the relative merits of epidemiology for undergraduate and graduate nursing education, epidemiology must be seriously considered to meet the increasing need to validate nursing's impact on the health of the community.

In the 1990s, nursing care of the elderly, the chronically ill, and the stable, acutely ill will be delivered in the community by multidisciplinary teams. The escalating epidemic of AIDS will require an understanding of epidemiologic principles. As competition creates an environment of encroachment on the nursing profession, the need to establish the effectiveness of community health nursing services becomes imperative. The use of interprofessionally accepted, quantified methods makes the teaching and application of epidemiology, by and for nurses, a professional necessity. This book has been written to address this need and to guide faculty in presenting the broad principles and language of epidemiology to staff nurses in community health.

The perspective of epidemiology is unique and provides an understanding of the community that is difficult to equal. It provides a framework that requires the utilization of all nursing skills and sciences. Under the auspices of epidemiology, all basic sciences such as microbiology and all the behavioral sciences such as sociology can be integrated. But the epidemiologic perspective is more than this; it promotes a change in attitude and change in the way the world is perceived by the nurse. Within an epidemiologic context, health policy may be viewed as a community intervention. Accurate documentation of nursing observations includes exposures to risk factors not merely for the individual but for the well-being of the community. Case finding is seen within broader implications as possible hazards to the total community or as implications for delivery of nursing services to aggregates. Cases in epidemiology are defined as instances of recidivism, problems of compliance with medical and nursing therapies, or lack of mobility to accomplish the activities of daily living. These outcomes are the concern of nursing; the epidemiologic perspective converts these concerns into community issues for nursing care.

Epidemiology provides a new vision for the role of the community health nurse. It familiarizes the nurse with a common language for communication with other public health disciplines and for clients and patients receiving community care. The epidemiologic perspective provides the nurse with a special orientation to deliver enhanced care to the sick and well for the prevention and control of disease and the promotion of health in populations.

*Community Health Nursing* represents an effort to introduce and elaborate upon the basic scope and nature of contemporary community health nursing practice. When nursing and public health art and science are juxtaposed, the areas of commonality provide a substantial conceptual framework to guide community health nursing. Epidemiologic principles and methods are used to accomplish the goals of public health. The nursing process on the one hand and the epidemiologic method on the other provide an explanatory and predictive basis for inquiry, acquisition of knowledge, and practice.

Although we recognize the vital role that advanced community health practitioners play in health care delivery, this book is intended to help prepare the beginning or entry level nurse to function as a quality health care provider to diverse client populations. When enriched with classroom and clinical applications, this text should provide the serious student with a basic understanding of community health nursing parameters, as well as with knowledgeable approaches to practice derived from epidemiologic orientation.

Perhaps the most unique feature of this book is provided by its subtitle, the epidemiologic approach. The intent is that entry level nurses be competent with quantitative as well as qualitative measures of population well-being. Additionally, as a consumer of research, the bachelor's level nurse should be familiar with research and problem-solving approaches. As depicted in this work, community health nursing at the most basic level requires mastery of specific nursing and public health sciences, a high level of technologic nursing skills, sound nursing judgment, and an appreciation for the interplay between human populations and health phenomena.

Section 1 focuses on the interrelationships of community health, epidemiology, and nursing. Epidemiology as a community health science is discussed, followed by a historical overview of health care. The public health model is followed by the natural history model, and both are presented so that the relationship between public health epidemiology and nursing knowledge can be visualized. For example, epidemiologic concepts embodied in the natural history model are utilized to facilitate conceptualization of the importance of strategic nursing intervention modalities embodied in the levels of prevention.

The emphasis of Section 2 is nursing of groups or population aggregates such as the family and the community. Epidemiologic rates and demographics as quantifications for the well-being of populations are introduced and applied as are various qualification assessment approaches. Sociocultural dynamics of communities are presented in an effort to build upon the student's basic knowledge of sociology, an-

## Preface



thropology, and group behavior. Pica as an example of cultural behavior and kuru as an example of utilization of epidemiologic investigation are discussed to enrich the content on culture.

In Section 3, the delivery of community health services, the structure and organization of community health agencies, and characteristics of quality assurance programs are addressed. Health services research and program evaluation are discussed as guides to ensure delivery of quality nursing services. Various definitions of epidemiology are offered, and guidelines for graphs and tables that are representative of population dynamics are offered.

In Section 4, basic epidemiologic research designs—descriptive, analytic, and intervention—are included. The applications of methods to actual community health problem are made throughout. Contemporary community health nursing roles in extramural and intramural settings such as schools, industry, hospitals, and home health are discussed from a community viewpoint.

Health problems in contemporary populations, such as family violence, substance abuse, and communicable diseases, are explored and applied to community health nursing practice in Section 5. The AIDS phenomenon is presented, both from a public education and primary prevention aspect as well as from a tertiary prevention point of view. Family violence, substance abuse, and the newer communicable diseases are viewed in light of their impact on the family and the community, and nursing interventions based on the levels of prevention are elaborated.

Section 6 focuses on community health nursing services in a changing health care system. Health policy and issues such as care for the growing elderly population and the overall trend toward health care delivery in the home are presented. Discussions such as the home visit versus home care are designed to provoke thought and further exploration of the evolving role of the community health nurse.

The advantages of using an epidemiologic perspective for the nursing of aggregates are summarized as follows:

- Epidemiology provides a framework within which basic sciences and behavioral sciences can be used for community nursing practice.
- The nursing process is extended through application of epidemiologic methods to describe community needs and evaluate nursing services.
- Public health principles of family as the unit of society, prevention and control of disease, and health promotion are activated and quantified through the epidemiologic approach.
- Epidemiology provides an interdisciplinary language to promote interprofessional communication and trust.

- An epidemiologic perspective provides a method of extending the relationship of family problems to community welfare.
- The epidemiologic model promotes understanding of the relationship between the environment and agents that expose susceptible populations at risk of impediments to health.
- Epidemiology provides a time-honored method of quantifying nursing outcomes such as recidivism, lack of compliance, and activities of daily living to promote and improve the quality of nursing care in the community.

Joan G. Turner, RNC, DSN

Katherine H. Chavigny, RN, MSN, PhD, FACE

## ■ *Acknowledgments*

To my students—past, present, and future. Joan G. Turner

To my children, who enrich my life. Katherine H. Chavigny





## SECTION I

### *Interrelationship of Community Health, Epidemiology, and Nursing 1*

#### **1 Historical Overview of Health Care: Origins of Community Health Nursing 3**

Introduction 4

Early History Through the Middle Ages 4

Early Immunization 6

The Industrial Revolution 7

Home Health and Occupational Health in England 7

Developing America 9

The Shattuck Report 10

The Post-Civil War Era 10

Organized Home Health Care in America 12

Public Health Legislation 16

World War II 17

Post World War II 17

1960 to the Present 19

Summary 23

#### **2 Epidemiology: A Community Health Science 25**

Introduction 26

Uses of Epidemiology 26

To Study the Effects of Disease States in Population Over Time and  
Predict Future Health Needs 26

To Diagnose the Health of the Community 27

To Evaluate Health Services 28

To Estimate Individual Risk from Group Experience 29

To Identify Syndromes 30

To Complete the Clinical Picture of Disease so That Prevention Can be  
Accomplished Before the Disease is Irreversible 32

To Search for Cause 33

Epidemiologic Method and the Nursing Process 33

Cholera and the Broad Street Pump—A Classic Epidemiologic  
Investigation 36

A Model for Clinical Practice of Community Health Nursing 40

Concepts of Multidisciplinary Care and the Community 43

The Family as a Concept Within the Community 43

Levels of Prevention 44

Surveillance and Provider Outbreak 45

Summary 47

## Contents

## CONTENTS

### 3 *The Natural History of Disease—A Prevention Model for Community Health Nursing Practice* 51

Introduction 52

Definition 52

Assumptions 53

Assumption One: Health Is a Relative State 53

Assumption Two: Disease Is a Process 54

Assumption Three: Multiple Causation 54

Overview of the Natural History Model 55

Levels of Prevention 57

Primary Prevention 57

General Health Promotion 57

Specific Protection 57

Secondary Prevention: Early Diagnosis, Treatment, and Disability

Limitation 58

Early Diagnosis and Treatment 58

Disability Limitations 58

Tertiary Prevention 59

Host, Environmental Risk Factors, and Agent 59

Host Risk Factors 59

Environmental Risk Factors 60

Agent Factors 60

Chronology of the Natural History Model 62

Stage of Susceptibility 62

Stage of Presymptomatic Disease 63

Stage of Clinical Disease 64

Stage of Disability 64

Summary 65

## SECTION II

### *The Community—The Nursing of Aggregate Groups* 67

#### 4 *Epidemiology and Community Health Nursing* 69

Introduction 70

Public and Community Health Nursing 70

Epidemiology 71

The Characteristics of Epidemiology for Community Health Nursing 73

Rates: The Basic Statistics of Public Health 80

Rates Defined by Time 82

Application to Nursing Practice 84

Rates Defined by the Numerator 84

Rates Defined by the Denominator 85

Summary 88

#### 5 *Family as Client* 91

Introduction 92

Family Defined 92

Characteristics of Family 94



Every Family Has Its Own Structure	96
The Nursing Process Applied to Family	99
Assessment	100
Basic Information About Each Family Member	101
Resources Available to the Family	101
Environmental Considerations	102
Health Status of Each Family Member	103
Family Health Practices	103
Family Lifestyle	103
Summary of Assessment Data and Formulation of the Nursing	
Diagnosis	104
Planning	104
Implementation	105
Evaluation	105
Demographic Overview of the American Family	106
Living Arrangements and Marital Status	108
Larger Proportion of Young Adults Live with Parents	108
Nearly One Third of the Elderly Live Alone	108
Summary	110
<b>6 Community As Client</b>	<b>113</b>
Introduction	114
Nursing Approach to Community	114
Definitions of Community	115
Sources and Types of Data on the Community	116
The Nursing Process Applied to the Community as Client	118
Nursing Assessment	118
Nursing Diagnosis	120
Planning	120
Implementation	121
Evaluation	121
Assessment of the Community Through Epidemiology	123
Information Required for Community Assessment	124
The Target Population (the p.a.r.)	124
Numerator Information	126
Measures on Indices of Community Health	131
Validity of Measures of Health	132
Summary	133
<b>7 Sociocultural Communities</b> <i>Kenny Mallow Williamson, Joan G. Turner, and Katherine H. Chavigny</i>	<b>135</b>
Introduction	136
Culture Defined	136
Cultural Diversity in Nursing Practice	138
Social Class Assessment	138
Cultural Assessment	142
Communication Style	142
Orientation	143

Nutrition	143
Family Relationships	144
Health Benefits	144
Education	145
Religion	145
Pica as a Cultural Phenomenon	146
Kuru	148
Summary	152

## SECTION III

### *Delivery of Community Health Nursing Service in the Community* 155

<b>8 Epidemiology for Nursing Services in the Community</b>	157
Introduction	158
Defining Process	158
Definitions of Epidemiology	159
Graphs as Distributions: Their Use and Interpretation	165
Analysis of a Table	169
Summary	173
<b>9 Structure and Organization of Public Health Agencies</b>	175
Introduction	176
Government Provision of Public Health	176
Role of the Branches of Government in Public Health	176
Federal Versus State and Local Levels of Government	177
Local Level Government Activities in Public Health	179
Governmental Organization of Public Health Services in the United States	180
The Department of Health and Human Services	180
The United States Public Health Service	180
History	180
Health Resources and Services Administration	181
Centers for Disease Control	181
Agency for Toxic Substances and Disease Registry	183
Alcohol, Drug Abuse, and Mental Health Administration	183
The Food and Drug Administration	183
National Institutes of Health	183
Public Health Responsibilities of Other Federal Agencies	184
Department of Defense	184
Department of Agriculture	184
Department of Labor-Occupational Safety and Health Administration	184
Environmental Protection Agency	185
Private Provision of Public Health Services	185
Voluntary Agencies	186



Foundations	187
Professional Associations	188
Summary	188

<b>10 Delivery and Evaluation of Community Nursing Services</b>	191
Introduction	192
Program Evaluation or Estimating the Quality of Nursing Care	192
Epidemiology and Delivery of Nursing Services	193
Quality Assurance, Quality Assessment, and Health Service Research	196
Summary	202

#### SECTION IV

### **Prevention and Control: A Community Health Nursing Responsibility** 205

<b>11 Applied Epidemiology</b>	207
Introduction	208
Epidemiology as a Research Method	208
Applied Epidemiology as a Problem Solving Method	213
Knowledge of the Community	215
Cluster Theory	216
Place	216
Person	216
Scientific Knowledge of the Problem	217
An Epidemiologic Investigation: Toxic Shock Syndrome	220
Summary	231
<b>12 Contemporary Community Health Nursing Roles in Intramural Settings</b>	233
Introduction	234
Commonalities of All Community Health Nursing Roles	234
Client	234
Education Preparation	235
Practice Goals and Philosophical Foundations	235
Practice is Intradisciplinary	235
Practice is Cost Effective	236
The Occupational Health Nurse	236
Certification of Occupational Health Nurses	237
Occupational Health Nursing as a Specialty Practice	237
Leading Causes of Morbidity Among American Workers	238
Demographic Profile of Occupational Health Nurses in the United States	239
School Health Nurse	239
Educational Preparation and Certification	240
School Health Nursing Functions as a Specialty Practice	240
Morbidity in School Populations	240
Cost Considerations in School Health Nursing	241

<i>The Infection Control Nurse</i>	241
<i>Educational Preparation and Certification</i>	243
<i>Infection Control Nursing as a Specialty Practice</i>	243
<i>Demographic Profile of Infection Control Nurses in the United States</i>	243
<i>Morbidity and Mortality Associated with Nosocomial Infections</i>	244
<i>Cost Considerations in Infection Control Nursing Practice</i>	244
<i>Summary</i>	245
<b>13 <i>Contemporary Community Health Nursing Roles Within Extramural Settings</i></b>	247
<i>Introduction</i>	248
<i>Home Health Nurse</i>	248
<i>Licensure and Accreditation of Home Health Care Agencies</i>	251
<i>Cost Considerations in Home Health Care Nursing</i>	252
<i>The Hospice Nurse</i>	253
<i>Accreditation and Licensure of Hospices</i>	255
<i>Cost Considerations Relative to Hospice</i>	256
<i>Communicable Disease Prevention and Control: A New Nursing Role?</i>	256
<i>Summary</i>	257

## SECTION V

### *Clinical Health Problems in Contemporary Populations* 259

<b>14 <i>Family Violence</i></b>	261
<i>Introduction</i>	262
<i>Incidence of Child and Woman Abuse</i>	262
<i>Spouse Violence</i>	264
<i>Violence Toward Children</i>	264
<i>Violence Between Brothers and Sisters</i>	265
<i>Some Host and Geographic Variables in Family Abuse</i>	266
<i>Incestuous Behavior in the Family</i>	267
<i>Alcohol Abuse and Family Violence</i>	268
<i>Application to Community Health Nursing Practice</i>	269
<i>Summary</i>	270
<b>15 <i>Substance Abuse</i></b>	273
<i>Introduction</i>	274
<i>Tobacco Use</i>	274
<i>Alcohol</i>	275
<i>Cocaine</i>	276
<i>Use of Other Drugs</i>	279
<i>Marijuana</i>	280
<i>Solvent and Aerosol Intoxication</i>	282
<i>Phencyclidine</i>	282
<i>Codeine</i>	282
<i>Over-the-Counter Drugs and Household Hallucinogens</i>	283
<i>Drug Use Among Minorities</i>	283
<i>Drug Abuse Among High School Students</i>	284

Prevention Strategies	285
Acquired Immune Deficiency Syndrome: The Drug Connection	286
Application to Community Health Nursing Practice	289
Summary	290

## 16 *Current Communicable Disease Problems* 293

Introduction	294
The New Communicable Diseases	295
Chlamydia Infections	296
Genital Herpes	298
Legionellosis and Pontiac Fever	299
Reye's Syndrome	299
Toxic Shock Syndrome	300
Delta Hepatitis	300
Kawasaki Syndrome	301
Acquired Immune Deficiency Syndrome	301
Summary	306
Immunization	306
Immunization Under Special Circumstances	308
Some Words About Passive Immunization	308
Animal Serums	310
Immune Serum Globulins	311
Antibiotic Resistance	311
Nosocomial Infections	313
Application to Community Health Nursing Practice	314
Summary	316

## SECTION VI

### *Community Health Nursing Services in a Changing Health Care System* 319

## 17 *Epidemiology, Health Policy, and Community Health Nursing* 321

Introduction	322
Defining Health Policy	323
Epidemiology and Health Policy	325
Epidemiologic Approach to Health Policy Analysis	327
Structure	327
Process	329
Outcome	331
Case History in Health Policy	331
Summary	333

## 18 *Care of the Aged in the Community* 337

Introduction	338
Role of Government in Health Care	339
Health Policy for the Elderly Since 1970	341