



Delivering Health Care in America

A Systems Approach

F I F T H E D I T I O N

Leiyu Shi, DrPH, MBA, MPA

Professor, Johns Hopkins School of Public Health
Director, Johns Hopkins Primary Care Policy Center for the Underserved
Johns Hopkins University
Baltimore, Maryland

Douglas A. Singh, PhD, MBA

Associate Professor, School of Business and Economics
Indiana University South Bend
South Bend, Indiana



JONES & BARTLETT
LEARNING

World Headquarters

Jones & Bartlett Learning
5 Wall Street
Burlington, MA 01803
978-443-5000
info@jblearning.com
www.jblearning.com

Jones & Bartlett Learning Canada
6339 Ormindale Way
Mississauga, Ontario L5V 1J2
Canada

Jones & Bartlett Learning International
Barb House, Barb Mews
London W6 7PA
United Kingdom

Jones & Bartlett Learning books and products are available through most bookstores and online booksellers. To contact Jones & Bartlett Learning directly, call 800-832-0034, fax 978-443-8000, or visit our website, www.jblearning.com.

Substantial discounts on bulk quantities of Jones & Bartlett Learning publications are available to corporations, professional associations, and other qualified organizations. For details and specific discount information, contact the special sales department at Jones & Bartlett Learning via the above contact information or send an email to specialsales@jblearning.com.

Copyright © 2012 by Jones & Bartlett Learning, LLC, an Ascend Learning Company

All rights reserved. No part of the material protected by this copyright may be reproduced or utilized in any form, electronic or mechanical, including photocopying, recording, or by any information storage and retrieval system, without written permission from the copyright owner.

This publication is designed to provide accurate and authoritative information in regard to the Subject Matter covered. It is sold with the understanding that the publisher is not engaged in rendering legal, accounting, or other professional service. If legal advice or other expert assistance is required, the service of a competent professional person should be sought.

Production Credits

Publisher: Michael Brown
Editorial Assistant: Teresa Reilly
Associate Editor: Maro Gartside
Production Manager: Tracey McCrea
Senior Marketing Manager: Sophie Fleck
Marketing Manager: Grace Richards
Composition: Cenveo Publishing Services
Cover Design: Kate Ternullo
Cover Image: © Konstantin L/Shutterstock, Inc.
Printing and Binding: Malloy, Inc.
Cover Printing: Malloy, Inc.

Library of Congress Cataloging-in-Publication Data

Shi, Leiyu.

Delivering health care in America : a systems approach / Leiyu Shi, Douglas A. Singh.—5th ed.
p. ; cm.

Includes bibliographical references and index.

ISBN-13: 978-1-4496-2650-1 (pbk.)

ISBN-10: 1-4496-2650-5 (pbk.)

1. Medical care—United States. 2. Medical policy—United States. I. Singh, Douglas A., 1946- II. Title.

[DNLM: 1. Delivery of Health Care—United States. 2. Health Policy—United States. W 84 AA1]

RA395.A3S485 2012

362.10973—dc23

2011018470

6048

Printed in the United States of America

15 14 13 12 11 10 9 8 7 6 5 4 3 2 1



Contents

Preface	ix
List of Exhibits	xiii
List of Figures	xv
List of Tables	xix
List of Abbreviations/Acronyms	xxi
Chapter 1 A Distinctive System of Health Care Delivery	1
Introduction	2
An Overview of the Scope and Size of the System	2
A Broad Description of the System	4
Basic Components of a Health Services Delivery System	5
Uninsured Americans	7
Transition from Traditional Insurance to Managed Care	8
Primary Characteristics of the US Health Care System	8
Trends and Directions	17
Significance for Health Care Practitioners and Policymakers	18
Significance for Health Care Managers	18
Health Care Systems of Other Countries	20
The Systems Framework	28
Summary	30
Test Your Understanding	31
Review Questions	31
PART I System Foundations	
Chapter 2 Beliefs, Values, and Health	39
Introduction	40
Significance for Managers and Policymakers	40
Basic Concepts of Health	41
Risk Factors and Disease	43
Health Promotion and Disease Prevention	46
Public Health	48

Bioterrorism and Disaster Preparedness	50
Determinants of Health	51
Cultural Beliefs and Values	55
Equitable Distribution of Health Care	57
Justice in the US Health Delivery System	61
Integration of Individual and Community Health	63
Measures of Health Status	67
Summary	73
Test Your Understanding	74
Review Questions	75
Chapter 3 The Evolution of Health Services in the United States.	81
Introduction	82
Medical Services in Preindustrial America	83
Medical Services in Postindustrial America	88
Medical Care in the Corporate Era	107
Has the Era of Socialized Medicine Arrived?	110
Summary	111
Test Your Understanding	113
Review Questions	113
PART II System Resources	
Chapter 4 Health Services Professionals	121
Introduction	122
Physicians.	124
Issues in Medical Practice, Training, and Supply	130
International Medical Graduates	136
Dentists.	137
Pharmacists	138
Other Doctoral-Level Health Professionals	139
Nurses.	140
Nonphysician Practitioners	142
Allied Health Professionals	145
Health Services Administrators	148
Summary	149
Test Your Understanding	150
Review Questions	150
Appendix 4-A List of Professional Associations	151
Chapter 5 Medical Technology	159
Introduction	160
What Is Medical Technology?	161

Information Technology and Informatics	161
Innovation, Diffusion, and Utilization of Medical Technology.	167
Managed Care and Technology Diffusion	172
The Government’s Role in Technology Diffusion	173
The Impact of Medical Technology.	177
The Assessment of Medical Technology	182
Current and Future Directions in Health Technology Assessment	186
Summary	189
Test Your Understanding	190
Review Questions	190
Chapter 6 Health Services Financing.	199
Introduction	200
The Role and Scope of Health Services Financing	200
Financing and Cost Control	201
The Insurance Function	203
Private Financing	206
Public Financing	210
Miscellaneous Private and Public Programs	225
The Payment Function	226
National Health Care Expenditures	232
Trends, Problems, and Issues in Insurance and Financing	234
Summary	238
Test Your Understanding	239
Review Questions	240
PART III System Processes	
Chapter 7 Outpatient and Primary Care Services	247
Introduction	248
What Is Outpatient Care?	248
The Scope of Outpatient Services	249
Primary Care	251
Models of Patient-Centered Primary Care	255
Primary Care Providers	256
Growth in Outpatient Services.	257
Reasons for the Growth in Outpatient Services.	258
Types of Outpatient Care Settings and Methods of Delivery	260
Complementary and Alternative Medicine	276
Utilization of Outpatient Services	279
Summary	282
Test Your Understanding	282
Review Questions	283

Chapter 8 Inpatient Facilities and Services	289
Introduction	290
Hospital Transformation in the United States	290
The Expansion Phase: Late 1800s to Mid-1980s	295
The Downsizing Phase: Mid-1980s Onward	296
Some Key Utilization Measures and Operational Concepts	299
Hospital Employment	304
Types of Hospitals	304
Expectations from Nonprofit Hospitals	316
Some Management Concepts	318
Licensure, Certification, and Accreditation	320
The Magnet Recognition Program®	321
Ethical and Legal Issues in Patient Care	322
Summary	324
Test Your Understanding	326
Review Questions	326
Chapter 9 Managed Care and Integrated Organizations	333
Introduction	334
What Is Managed Care?	335
Evolution of Managed Care	337
Growth of Managed Care	340
Efficiencies and Inefficiencies in Managed Care	342
Cost Control Methods in Managed Care	343
Types of Managed Care Organizations	348
Trends in Managed Care	355
Impact on Cost, Access, and Quality	357
Managed Care Backlash, Regulation, and the Aftermath	359
Consolidation, Expansion, Diversification, and Integration	361
Integrated Delivery Systems	362
Accountable Care Organizations	362
Types of Integration	363
Pros and Cons of Integration	367
Summary	368
Test Your Understanding	369
Review Questions	370
Chapter 10 Long-Term Care	377
Introduction	378
The Nature of Long-Term Care	381
Long-Term Care Services	384
The Clients of Long-Term Care	388
Level of Care Continuum	391
Types of Community-Based Long-Term Care Services	392

Institutional Long-Term Care Continuum	399
Specialized Facilities	402
Nursing Home Industry and Patient Demographics	404
Summary	412
Test Your Understanding	412
Review Questions	413
Chapter 11 Health Services for Special Populations	419
Introduction	420
Framework to Study Vulnerable Populations	420
Racial/Ethnic Minorities	422
The Uninsured	434
Children	435
Women	437
Rural Health	440
The Homeless	443
Mental Health	445
The Chronically Ill and Disabled	448
HIV/AIDS	449
Summary	460
Test Your Understanding	461
Review Questions	461
PART IV System Outcomes	
Chapter 12 Cost, Access, and Quality	471
Introduction	472
Cost of Health Care	472
Reasons for Cost Escalation	479
Cost Containment—Regulatory Approaches	485
Cost Containment—Competitive Approaches	491
Access to Care	493
Quality of Care	499
Dimensions of Quality	501
Quality Assurance	503
Quality Assessment	505
Public Reporting of Quality	510
Summary	511
Test Your Understanding	512
Review Questions	512
Chapter 13 Health Policy	519
Introduction	520
What Is Health Policy?	520

Principal Features of US Health Policy 523
The Development of Legislative Health Policy 530
Policy Implementation 533
Critical Policy Issues 534
Summary 538
Test Your Understanding 539
Review Questions 539

PART V System Outlook

Chapter 14 The Future of Health Services Delivery. 543
Introduction 544
Forces of Change 544
Precedents of Health Reform 546
The Future of Health Reform 549
Delivery Infrastructure of the Future 553
Future Workforce Challenges 556
The Future of Long-Term Care 558
Global Threats and International Cooperation 560
New Frontiers in Clinical Technology 561
Evidence-Based Health Care and Beyond 564
Summary 565
Test Your Understanding 566
Review Questions 566

Glossary 571

Index. 595



Preface

The Patient Protection and Affordable Care Act (ACA) of 2010 has taken center stage because of its promise to push the American health care system further into the public domain. Signed into law on March 23, 2010 by President Barack Obama, the ACA of 2010 represents the most sweeping commitment of federal and state tax dollars since the creation of the Medicare and Medicaid programs in 1965. Also unique in the history of American health policy making is the manner in which the “Health Care Reform Bill,” as it was generally called, was passed by a Democratic majority in Congress without a single Republican vote. Moreover, the American people were not informed of the plan’s details. It is quite revealing that one of the chief architects of the bill, Nancy Pelosi, then majority leader in the House of Representatives, stated in a televised speech that the bill had to be passed so the American people could discover what was in it.

Seen as ironic by many, the major provisions of the law are not scheduled to take effect until 2014. In the meantime, the mid-term election held in 2010 has changed the political landscape by giving Republicans the majority in the House of Representatives. Another major election, including the one for the presidency, is scheduled for 2012. In the meantime, over one-half of the US states have joined in lawsuits to overturn

the ACA of 2010, referred to as ObamaCare by its critics. In December 2010, a federal court in Virginia ruled part of the ACA to be unconstitutional. Just over one month later, in January 2011, the US District Court in Florida declared the entire law to be unconstitutional. Not surprising, about one-half of the American public is also opposed to this law as being too far-reaching and too costly. In the past, incrementalism has been the favored American approach to reform the US health care system. Hence, the ACA of 2010 has opened the proverbial Pandora’s box and has aroused public sentiment against a government that is perceived as becoming too large and intrusive. As expected, the Obama Administration has filed legal appeals to have the court decisions rendered in Virginia and Florida overturned by higher courts.

Apart from the legal challenges, the Republicans, who gained control of the House, threatened other measures, such as defunding the ACA’s implementation. No doubt, there will be plenty of political fodder to fuel American passions during the 2012 election, which will also have major implications for the future of US health care. Regardless of the ACA’s final fate, however, the door for health reform has been opened. Assuming that the ACA becomes unimplementable, forces have been set in motion to make at

least some headway toward enabling the uninsured to obtain health insurance.

Conversely, nagging questions remain. Having health insurance (i.e., coverage) and obtaining health care when needed (i.e., access) are two different things. The latter requires an adequate capacity to deliver care when health insurance is extended to millions of additional people. It is uncontested that the United States lacks the capacity to deliver primary care. Retirement of the baby boomers between 2011 and 2030 is another worrisome aspect facing future generations. A true reform of the health care system must address other serious questions: (1) How will a health care system that is lopsided in its focus on medical specialization deal with a mushrooming sector of the population in which the prevention and management of chronic conditions will be of primary importance? (2) How will the nation deal with the impending shortage of qualified workers in just about every area of health care delivery? (3) What can be done to finance long-term care services that over 20% of the US population will start utilizing around 2020 and beyond? (4) Will the nation be able to afford the ongoing development and use of costly new medical technology that may deliver fewer health benefits in relation to its costs? (5) How will a heavily indebted nation deal with the increasing costs of health care?

Other developed nations also face similar dilemmas. Cost control, individual responsibility by following healthy lifestyles and judicious use of health care resources, emphasis on basic health care, and value for the dollar spent should receive much greater emphasis than they have in the past.

Although this book is primarily focused on health care delivery in the United States, the nation is not isolated from global events and the underdeveloped state of health care

delivery in poorer countries. The spread of deadly infections does not recognize national borders; natural disasters appear to be taking a toll on human life and health, with greater frequency and severity without warning; and man-made disasters brought on by terrorist activities can happen anywhere and anytime. Dealing with these threats requires international assistance, cooperation, and joint effort. Hence, public health has taken on a new meaning, both in its extent and scope. Without the involvement of public health, any humanitarian efforts remain incomplete.

New to This Edition

This fifth edition has undergone some major revisions, while maintaining its basic structure and layout that, for almost 15 years, has served quite well in helping readers both at home and overseas understand the complexities of the US health care delivery system. The main thrust of the revisions was to put American health care delivery in the context of current developments in health reform, even though some details will likely change as this major theme continues to evolve. Hence, references to specific provisions of the ACA of 2010 are made in almost all chapters.

As in the past, this edition has been updated throughout with the latest pertinent data, trends, and research findings available at the time the manuscript was prepared. Copious illustrations in the form of examples, facts, figures, tables, and exhibits continue to make the text come alive. Some of the main additions to the text include health care reform in several other countries (Chapter 1); important conceptual frameworks of health determinants and current information on

Healthy People 2020 (Chapter 2); an overview of the mental asylum in its historical context and the transition to community mental health services (Chapter 3); updates on major issues in health care workforce (Chapter 4); high-deductible health plans; the state of employment-based health insurance; the status of Medicare Hospital Insurance and Supplemental Medical Insurance trust funds; a tabulated summary of the main insurance provisions of the ACA of 2010 (Chapter 6); measurement of and value of primary care; models of patient-centered care; and developments in home health care, community health centers, and alternative medicine (Chapter 7); controversies surrounding physician-owned specialty hospitals; the Magnet Recognition Program[®] of the American Nurses Credentialing Center (Chapter 8); quality assessment in managed care; accountable care organizations (Chapter 9); updates on racial/ethnic minorities and vulnerable populations (Chapter 11); updates on clinical practice guidelines; CMS's quality initiatives and quality report cards; and state reporting of quality indicators (Chapter 12); and perspectives on the politics of health reform (Chapter 13). To place potential developments in their current context, Chapter 14 has been rewritten almost in its entirety. The chapter begins with a framework that helps understand major forces of change. It discusses the precedents for the ACA of 2010 and evaluates the future of health reform in the context of major constraints. The chapter also explores strategies for implementing emerging models of medical home, community-oriented primary care, and patient-centered care; the skills necessary to prepare the future workforce; challenges in long-term care; innovations

in technology; international issues; and the emerging role of comparative effectiveness research.

Aside from the changes, the book retains the original systems framework to discuss the components of US health care delivery. It also retains the original 14 chapters as major themes following the systems model. Our aim in this textbook is to continue to meet the needs of both graduate and undergraduate students. We have attempted to make each chapter complete without making it overwhelming for beginners. Instructors, of course, will choose the sections they decide are most appropriate for their courses.

As in the past, we invite comments from our readers. Communications can be directed to either or both authors:

Leiyu Shi
 Department of Health Policy and
 Management
 Bloomberg School of Public Health
 Johns Hopkins University
 624 North Broadway, Room 409
 Baltimore, MD 21205-1996
lshi@jhsph.edu

Douglas A. Singh
 School of Business and Economics
 Indiana University-South Bend
 Wiekamp Hall, Room 2259
 1800 Mishawaka Avenue
 P.O. Box 7111
 South Bend, IN 46634-7111
dsingh@iusb.edu

We appreciate the work of Eunhee Grace Cho and Normalie Barton in providing invaluable assistance in the preparation of selected chapters of this book.



List of Exhibits

- Exhibit 3–1 Groundbreaking Medical Discoveries
- Exhibit 4–1 Definitions of Medical Specialties and Subspecialties
- Exhibit 4–2 Examples of Allied Health Professionals
- Exhibit 6–1 Medicare Part A Financing, Benefits, Deductible, and Copayments for 2011
- Exhibit 6–2 Medicare Part B Financing, Benefits, Deductible, and Coinsurance for 2011
- Exhibit 6–3 Medicare Part D Benefits and Individual Out-of-Pocket Costs for 2011
- Exhibit 6–4 Medicare: Enrolled Population and Expenditures in Selected Years
- Exhibit 6–5 Federally Mandated Services for State Medicaid Programs
- Exhibit 6–6 Medicaid: Population Covered and Expenditures in Selected Years
- Exhibit 6–7 Main Provisions of the Patient Protection and Affordable Care Act of 2010
- Exhibit 11–1 The Vulnerability Framework
- Exhibit 11–2 Predisposing, Enabling, and Need Characteristics of Vulnerability
- Exhibit 12–1 Regulation-Based and Competition-Based Cost-Containment Strategies
- Exhibit 13–1 Preferences of Selected Interest Group
- Exhibit 13–2 Arguments for Enhancing States' Role in Health Policy Making

List of Figures

- Figure 1–1 Basic Health Care Delivery Functions
- Figure 1–2 External Forces Affecting Health Care Delivery
- Figure 1–3 Relationship Between Price, Supply, and Demand Under Free-Market Conditions
- Figure 1–4 Trends and Directions in the Health Care Delivery
- Figure 1–5 The Systems Model and Related Chapters
- Figure 2–1 The Four Dimensions of Holistic Health
- Figure 2–2 The Epidemiology Triangle
- Figure 2–3 The Force Field and Well-Being Paradigms of Health
- Figure 2–4 WHO Commission on Social Determinants of Health Conceptual Framework
- Figure 2–5 Integrated Model for Holistic Health
- Figure 2–6 Action Model to Achieve US *Healthy People 2020* Overarching Goals
- Figure 3–1 Evolution of the US Health Care Delivery System
- Figure 4–1 Ambulatory Care Visits to Physicians According to Physician Specialty, 2007
- Figure 4–2 Supply of US Physicians, Including International Medical Graduates (IMGs) Per 100,000 Population, 1985–2007
- Figure 4–3 Trend of US Primary Care Generalists of Medicine
- Figure 4–4 IMG Physicians As a Proportion of Total Active Physicians
- Figure 5–1 Sources of Funding for Biomedical Research, 2007
- Figure 5–2 Cost Effectiveness and Flat of the Curve
- Figure 6–1 Influence of Financing on the Delivery of Health Services
- Figure 6–2 Sources of US Health Insurance, 2009
- Figure 6–3 Estimated Sources of Financing Medicare, 2010
- Figure 6–4 Percent Distribution of Medicare Payments, 2007
- Figure 6–5 Medicaid Recipients and Medical Vendor Payments According to Basis of Eligibility, 2006 Data
- Figure 6–6 Proportional Distribution of US Private and Public Shares of National Health Expenditures
- Figure 6–7 The Nation’s Health Dollar: 2009
- Figure 7–1 The Coordination Role of Primary Care in Health Care Delivery

- Figure 7–2 Percentage of Total Surgeries Performed in Outpatient Departments of US Community Hospitals, 1980–2005
- Figure 7–3 Growth in the Number of Medical Group Practices
- Figure 7–4 Ambulatory Care Visits in the United States
- Figure 7–5 Medical Procedures by Location
- Figure 7–6 Demographic Characteristics of US Home Health Patients, 2000
- Figure 7–7 Estimated Payments for Home Care by Payment Source, 2009
- Figure 7–8 Medicare Dollar Outlays by Type of Hospice, 2003
- Figure 7–9 Coverage of Patients for Hospice Care at the Time of Admission
- Figure 8–1 Trends in the Number of US Community Hospital Beds per 1,000 Resident Population
- Figure 8–2 The Decline in the Number of US Community Hospitals and Beds
- Figure 8–3 Ratio of US Hospital Outpatients Visits to Inpatient Days (all hospitals), 1980–2008
- Figure 8–4 Trends in Average Length of Stay in Nonfederal Short-Stay Hospitals, Selected Years
- Figure 8–5 Average Lengths of Stay by US Hospital Ownership: 2000–2008
- Figure 8–6 Breakdown of US Community Hospitals by Size, 2008
- Figure 8–7 Change in Occupancy Rates (percent of beds occupied) in US Community Hospitals, 1960–2008 (selected years)
- Figure 8–8 Recent Trends in US Hospital Employment
- Figure 8–9 Proportion of Total US Hospitals by Type of Hospital, 2008
- Figure 8–10 Proportion of Total US Hospital Beds by Type of Hospital, 2008
- Figure 8–11 Breakdown of US Community Hospitals by Types of Ownership, 2008
- Figure 8–12 Expenses per Inpatient Day by US Hospital Size, Community Hospitals, 2007
- Figure 8–13 Hospitals Governance and Operational Structures
- Figure 9–1 Percentage of Enrollment in Managed Care Plans Compared to Traditional Fee-for-Service Plans
- Figure 9–2 Integration of Health Care Delivery Functions Through Managed Care
- Figure 9–3 The Evolution of Managed Care
- Figure 9–4 Growth in the Cost of US Health Insurance (Private Employers), 1980–1995
- Figure 9–5 Care Coordination and Utilization Control Through Gatekeeping
- Figure 9–6 The Case Management Function in Health Services Utilization
- Figure 9–7 Percent of Covered Employees Enrolled in HMO Plans (Selected Years)
- Figure 9–8 Breakdown of HMO Model Types, 2009
- Figure 9–9 US Enrollment in HMOs by Model Type, 1993–2009
- Figure 9–10 The IPA-HMO Model
- Figure 9–11 Percent of Covered Employees Enrolled in PPO Plans (Selected Years)
- Figure 9–12 Percent of Covered Employees Enrolled in POS Plans (Selected Years)
- Figure 9–13 Changes in Enrollment in Job-Based Health Plans, 1996 and 2006
- Figure 9–14 Annual Percent Increase in US Health Insurance Premiums
- Figure 9–15 Organizational Integration Strategies

- Figure 10–1 Respondant-Assessed Health Status for Adults 65 Years and Over (Age Adjusted), 2005 (Percentage Distribution)
- Figure 10–2 People with Multiple Chronic Conditions Are More Likely to Have Activity Limitations
- Figure 10–3 The Number of People with Chronic Conditions
- Figure 10–4 Key Characteristics of a Well-Designed Long-Term Care System
- Figure 10–5 Interlinkages Between Services for Those in Need of Long-Term Care
- Figure 10–6 Growth of Older Population According to Age Groups
- Figure 10–7 Activity Limitations Among Medicare Beneficiaries (Percent Distribution), 2006
- Figure 10–8 The Most Common Types of ADL and IADL Assistance Provided to All Patients Receiving Home Health Care, 2000
- Figure 10–9 Most Frequently Provided Services to All Home Health Care Patients, 2000
- Figure 10–10 Distinctly Certified Units in a Nursing Home
- Figure 10–11 Percentage of Nursing Home Residents with Various Conditions, 2009
- Figure 10–12 Percentage of Nursing Home Residents Receiving Various Medications, 2009
- Figure 10–13 Distribution of Personal Health Care Expenditures
- Figure 10–14 Sources of Funding for Nursing Home Care (Nonhospital Affiliated), 2008
- Figure 10–15 Main Sources of Financing Nursing Home Care (Nonhospital Affiliated Facilities)
- Figure 10–16 Trends in the Distribution of Medicaid Expenditures Among Selected Services
- Figure 11–1 Percentage of US Live Births Weighing Less than 2,500 Grams by Mother’s Detailed Race
- Figure 11–2 Percentage of US Mothers Who Smoked Cigarettes During Pregnancy According to Mother’s Race
- Figure 11–3 Alcohol Consumption by Persons 18 Years of Age and Over
- Figure 11–4 Use of Mammography by Women 18 Years of Age and Over, 2008
- Figure 11–5 US Life Expectancy at Birth, 1970–2006
- Figure 11–6 Age-Adjusted Maternal Mortality Rates
- Figure 11–7 Respondent-Assessed Health Status
- Figure 11–8 Current Cigarette Smoking by Persons 18 Years of Age and Over, Age Adjusted, 2007
- Figure 11–9 Percentage of Female Students of Total Enrollment in Schools for Selected Health Occupations, 2006–2007
- Figure 11–10 Contraceptive Use in the Past Month Among Women 15–44 Years Old, 2002
- Figure 11–11 US AIDS Cases Reported, 1987–2007
- Figure 11–12 US Federal Spending for HIV/AIDS by Category, FY 2011 Budget Request
- Figure 12–1 Average Annual Percentage Growth in National US Health Care Spending During Five-Year Periods, 1960–2005

- Figure 12–2 Annual Percentage Change in CPI and Medical Inflation, 1975–2008
- Figure 12–3 Annual Percentage Change in US National Health Care Expenditures and GDP, 1980–2007
- Figure 12–4 US Health Care Spending as a Percentage of GDP for Selected OECD Countries, 1985 and 2005
- Figure 12–5 Life Expectancy of Americans at Birth, Age 65, and Age 75, Selected Years 1900–2005
- Figure 12–6 Change in US Population Mix Between 1970 and 2007, and Projections for 2030
- Figure 12–7 Increase in US Per Capita Medicare Spending, Selected Years: 1970–2008
- Figure 12–8 The Expanded Behavioral Model
- Figure 12–9 Framework for Access in the Managed Care Context
- Figure 12–10 The Donabedian Model

List of Tables

Table 1–1	The Complexity of Health Care Delivery
Table 1–2	The Continuum of Health Care Services
Table 1–3	Health Care Systems of Selected Industrialized Countries
Table 2–1	Percentage of US Population with Behavioral Risks
Table 2–2	Annual Percent Decline in US Cancer Mortality 1991–2007
Table 2–3	Leading Causes of Death, 2006
Table 2–4	Comparison of Market Justice and Social Justice
Table 2–5	List of <i>Healthy People 2020</i> Topic Areas
Table 2–6	US Life Expectancy at Birth—1999 and Future Projections
Table 4–1	Persons Employed in Health Service Sites (145,362 employed civilians in 2008)
Table 4–2	Active US Physicians, According to Type of Physician and Number per 10,000 Population
Table 4–3	US Physicians, According to Activity and Place of Medical Education, 2004
Table 4–4	Medical Practice Characteristics by Selected Specialty, 1999
Table 4–5	Percentage of Total Enrollment of Students for Selected Health Occupations, 2006–2007
Table 4–6	Mean Annual Compensation of US Physicians by Specialty, May 2009
Table 5–1	Types of Medical Technologies
Table 5–2	Summary of FDA Legislation
Table 6–1	Status of HI and SMI Trust Funds, 2009 (billions of dollars)
Table 6–2	Proportional Medicaid Vendor Payments, Selected Years
Table 6–3	US National Health Expenditures, Selected Years
Table 6–4	Percentage Distribution of US National Health Expenditures, 2009
Table 7–1	Owners, Providers, and Settings for Ambulatory Care Services
Table 7–2	Growth in Female US Resident Population by Age Groups Between 1980 and 2007 (in thousands)
Table 7–3	Selected Organizational Characteristics of US Home Health and Hospice Care Agencies: United States, 2007
Table 7–4	Home Health and Hospice Care Patients Served at the Time of the Interview, by Agency Type and Number of Patients: United States, 2007
Table 7–5	US Physician Characteristics

Table 7–6	Principal Reason for Visit and RVC Code
Table 7–7	Primary Diagnosis Group and ICD-9-CM Code(s)
Table 8–1	US Share of National Expenditures for Hospital Care
Table 8–2	Discharges, Days of Care, and Average Length of Stay per 1,000 Population in Nonfederal Short-Stay Hospitals, 2007
Table 8–3	Changes in Number of US Community Hospitals, Beds, Average Size, and Occupancy Rates
Table 8–4	The Largest US Multihospital Chains, 2008 (Ranked by Staffed Beds)
Table 8–5	US Multihospital Health Care Systems: Number of Hospitals and Beds, 2008 (Included Owned, Leased, Sponsored, and Contract-Managed Hospitals)
Table 10–1	Number and Percentage Distribution of Nursing Homes, Number of Beds and Beds per Home, and Selected Facility Characteristics, 2004
Table 10–2	Ten Largest Nursing Home Chains in the United States
Table 10–3	Percentage of Nursing Homes by Availability of Special Programs, 2004
Table 10–4	Nursing Home Staffing Ratios per Patient per Day (PPD) by Facility Ownership, 2010
Table 11–1	Characteristics of US Mothers by Race/Ethnicity
Table 11–2	Age-Adjusted Death Rates for Selected Causes of Death (1970–2006)
Table 11–3	Infant, Neonatal, and Postneonatal Mortality Rates by Mother’s Race (per 1,000 live births)
Table 11–4	Serum Cholesterol Levels Among Persons 20 Years and Older, 2003–2006
Table 11–5	Vaccinations of Children 19–35 Months of Age for Selected Diseases According to Race, Poverty Status, and Residence in a Metropolitan Statistical Area, 2007 (%)
Table 11–6	Mental Health Organizations (Numbers in Thousands), 2004
Table 11–7	Full-Time Equivalent Patient Care Staff in Mental Health Organizations, 1998
Table 11–8	Reports of All AIDS Cases: All Years Through 2007
Table 11–9	US AIDS Cases Reported Through 2007
Table 11–10	Top and Bottom 10 States for AIDS, According to Cases per 100,000 Population, 2007
Table 12–1	Average Annual Percentage Increase in US National Health Care Spending, 1975–2007
Table 12–2	Total US Health Care Expenditures as a Proportion of GDP and Per Capita Health Care Expenditures (Selected Years, Selected OECD Countries; Per Capita Expenditures in US Dollars)
Table 12–3	Visits to Office-Based Physicians, 2007
Table 12–4	Number of Health Care Visits According to Selected Patient Characteristics, 2007
Table 12–5	Dental Visits in the Past Year Among Persons 18–64 Years of Age, 2007

List of Abbreviations/Acronyms

A

AAA—Area Agencies on Aging
AALL—American Association of Labor Legislation
AAMC—Association of American Medical Colleges
AA/Pis—Asian American and Pacific Islanders
AAs—Asian Americans
ACA—Patient Protection and Affordable Care Act
ACNM—American College of Nurse-Midwives
ACPE—American Council on Pharmaceutical Education
ACS—American College of Surgeons
ADA—American Dental Association
ADA—Americans with Disabilities Act
ADC—adult day care
ADE—adverse drug events
ADL—activities of daily living
ADN—associate’s degree nurse
AFC—adult foster care
AFDC—Aid to Families with Dependent Children
AHA—American Hospital Association
AHRQ—Agency for Healthcare Research and Quality
AIDS—acquired immune deficiency syndrome
ALF—assisted living facility

ALOS—average length of stay
AMA—American Medical Association
amfAR—Foundation for AIDS Research
ANA—American Nurses Association
APCs—ambulatory payment classifications
APN—advanced practice nurse
ARRA—American Recovery and Reinvestment Act
ASPR—Assistant Secretary for Preparedness
AZT—zidovudine

B

BBA—Balanced Budget Act of 1997
BPHC—Bureau of Primary Health Care
BSN—baccalaureate degree nurse
BWC—Biological Weapons Convention

C

CAH—critical access hospital
CAM—complementary and alternative medicine
CARE Act—Comprehensive AIDS Resources Emergency Act
CAT—computerized axial tomography
CBO—Congressional Budget Office
CCIP—Chronic Care Improvement Program
CCRC—continuing care retirement community
CDC—Centers for Disease Control and Prevention
CEO—chief executive officer

CEPH—Council on Education for Public Health
CF—conversion factor
CHAMPUS—TriCare program
CHAMPVA—Civilian Health and Medical Program of the Department of Veterans Affairs
CHC—community health center
CIA—Central Intelligence Agency
CLASS—Community Living Assistance Services and Support
CMGs—case-mix groups
C/MHCs—Community and Migrant Health Centers
CMS—Centers for Medicare & Medicaid Services
CNA—certified nursing assistant
CNM—certified nurse-midwife
CNSs—clinical nurse specialists
COBRA—Consolidated Omnibus Budget Reconciliation Act of 1985
COGME—Council on Graduate Medical Education
CON—certificate-of-need
COPC—community-oriented primary care
COPD—chronic obstructive pulmonary disease
COTA—certified occupational therapy assistant
COTH—Council of Teaching Hospitals and Health Systems
CPI—consumer price index
CPOE—computerized physician order entry
CPT—current procedural terminology
CQI—continuous quality improvement
CRNA—certified registered nurse anesthetist
CT—computed tomography
CVA—cardiovascular accident

D

DC—doctor of chiropractic
DD—developmentally disabled
DDS—Doctor of Dental Surgery

DHHS—Department of Health and Human Services
DHS—Department of Homeland Security
DMD—doctor of dental medicine
DME—durable medical equipment
DoD—Department of Defense
DOs—doctors of osteopathy
DPCs—diagnosis-procedure combinations
DPM—doctor of podiatric medicine
DRA—Deficit Reduction Act of 2005
DRGs—diagnostic-related groups
DSM-IV—Diagnostic and Statistical Manual of Mental Disorders
DTP—diphtheria-tetanus-pertussis

E

EBM—evidence-based medicine
EBRI—Employee Benefit Research Institute
ECG—electrocardiogram
ECU—extended care unit
ED—emergency department
EEG—electroencephalogram
EHRs—electronic health records
EIAs—enzyme immunoassays
ELISA—enzyme-linked immunosorbent assay
EMT—emergency medical technician
EMTALA—Emergency Medical Treatment and Labor Act
ENP—elderly nutrition program
EPA—Environmental Protection Agency
EPO—exclusive provider organization
EPSDT—Early Periodic Screening, Diagnosis, and Treatment program
ERISA—Employee Retirement Income Security Act
ESP—Economic Stabilization Program
ESRD—end-stage renal disease
EUA—emergency use authorization

F

FBI—Federal Bureau of Investigation
FD&C—Federal Food, Drug, and Cosmetic Act

FDA—Food and Drug Administration
 FIW—Federal Interagency Workgroup
 FMAP—Federal Medical Assistance
 Percentage
 FQHC—Federally Qualified Health Center
 FTE—full-time equivalent
 FY—fiscal year

G

GAO—General Accounting Office
 GAT—genome amplification testing
 GATS—General Agreement on Trade in
 Services
 GDP—gross domestic product
 GOAL—National Preparedness Goal
 GPs—general practitioners

H

HAART—highly active antiretroviral
 therapy
 HCBS—home and community based
 services
 HCBW—home and community based
 waiver
 HCFA—Health Care Financing
 Administration
 HCH—Health Care for the Homeless
 HCPP—Health Care Prepayment Plan
 HDHP—high-deductible health plan
 HEDIS—Health Plan Employer Data and
 Information Set
 HHCS—Home and Hospice Care Survey
 HHRG—home health resource group
 HI—hospital insurance
 HIAA—Health Insurance Association of
 America
 Hib—Haemophilus influenzae B
 HIPAA—Health Insurance Portability and
 Accountability Act
 HIT—health information technology
 HIV—human immunodeficiency virus
 HMO—health maintenance organization
 HMO Act—Health Maintenance
 Organization Act

HPSAs—Health Professional Shortage
 Areas
 HPV—human papillomavirus
 HRQL—health-related quality of life
 HRSA—Health Resources and Services
 Administration
 HSAs—health savings accounts
 HSAs—health system agencies
 HSEES—hazardous substances emergency
 event surveillance system
 HSIs—Health Status Indicators
 HTA—health technology assessment
 HUD—Department of Housing and Urban
 Development

I

IADL—instrumental activities of daily
 living
 ICD-9—International Classification of
 Diseases, version 9
 ICDs—implantable cardioverter
 defibrillators
 ICF—intermediate care facility
 ICF/MR—intermediate care facilities for
 mentally retarded
 ICSI IVF—intracytoplasmic sperm
 injection in vitro fertilization
 IDEA—Individuals with Disabilities
 Education Act
 IDS—integrated delivery systems
 IDU—injection drug use
 IFA—immunofluorescence assay
 IHR—International Health Regulations
 IHS—Indian Health Service
 IMGs—international medical graduates
 INS—Immigration and Naturalization
 Service
 IOM—Institute of Medicine
 IPA—independent practice
 association
 IRB—Institutional Review Board
 IRF—inpatient rehabilitation facility
 IS—information systems
 IT—information technology

IUDs—intrauterine devices
IV—intravenous

J

JCAHO—Joint Commission on
Accreditation of Healthcare
Organizations

L

LPN—licensed practical nurse
LTC—long-term care
LTCH—long-term care hospital
LVN—licensed vocational nurse

M

MAC—mycobacterium avium complex
MA-SNP—Medicare Advantage Special
Needs Program
MBA—master of business administration
MCOs—managed care organizations
MDs—doctors of medicine
MDS—minimum data set
MedPAC—Medicare Payment Advisory
Commission
MEPS—Medical Expenditure Panel Survey
MFS—Medicare Fee Schedule
MHA—master of health administration
MHPs—multiskilled health practitioners
MHPH—1996 Mental Health Policy Act
MHS—multihospital system
MHSA—master of health services
administration
MHSS—Military Health Services System
MIPPA—Medicare Improvements for
Patients and Providers Act of 2008
MLP—midlevel provider
MLR—medical loss ratio
MMA—Medicare Prescription Drug,
Improvement, and Modernization Act
MMR—measles-mumps-rubella vaccine
MPA—master of public administration/
affairs
MPFS—Medicare Physician Fee Schedule

MPH—master of public health
MPPRP—Medicare’s Physician Payment
Reform Program
MR/DD—mentally retarded,
developmentally disabled persons
MRHFPP—Medicare Rural Hospital
Flexibility Program
MRI—magnetic resonance imaging
MSA—medical savings account
MSA—metropolitan statistical area
MSO—management services organization
MTFs—medical treatment facilities
MUAs—medically underserved areas

N

NAB—National Association of Boards
of Examiners of Long-Term Care
Administrators
NADSA—National Adult Day Services
Association
NAPBC—National Action Plan on Breast
Cancer
NASA—National Aeronautic and Space
Administration
NAT—nucleic acid testing
NCCAM—National Center for
Complementary and Alternative
Medicine
NCHS—National Center for Health
Statistics
NCMS—New Cooperative Medical Scheme
NCQA—National Committee for Quality
Assurance
NF—nursing facility
NGC—National Guideline Clearinghouse
NHC—neighborhood health center
NHE—national health expenditures
NHHRC—National Health and Hospitals
Reform Commission
NHI—national health insurance
NHS—British National Health Service
NHSC—National Health Service Corps
NHSS—National Health Security Strategy

NIAAA—National Institute of Alcohol Abuse and Alcoholism
 NICE—National Institute for Health and Clinical Excellence
 NIDA—National Institute on Drug Abuse
 NIH—National Institutes of Health
 NIMH—National Institute of Mental Health
 NIMS—National Incident Management System
 NP—nurse practitioner
 NPC—nonphysician clinician
 NPP—nonphysician practitioner
 NRA—Nurse Reinvestment Act of 2002
 NRP—National Response Plan

O

OAM—Office of Alternative Medicine
 OBRA-87—Omnibus Budget Reconciliation Act of 1987
 OBRA-89—Omnibus Budget Reconciliation Act of 1989
 OBRA-93—Omnibus Budget Reconciliation Act of 1993
 OD—doctor of optometry
 OI—opportunistic infections
 OMB—Office of Management and Budget
 OPSS—Outpatient Prospective Payment System
 OSHA—Occupational Safety and Health Administration
 OT—occupational therapist
 OWH—Office on Women’s Health

P

P4P—pay-for-performance
 PA—physician assistant
 PACE—Program of All-Inclusive Care for the Elderly
 PAHP—Pandemic and All-Hazards Preparedness Act
 PASRR—Preadmission Screening and Resident Review

PCCM—primary care case management
 PCGs—primary care groups
 PCIP—Pre-Existing Condition Insurance Plan
 PCM—primary care manager
 PCP—pneumocystis carinii
 PCP—primary care physician
 PCT—primary care trust
 PEPFAR—President’s Emergency Plan for AIDS Relief
 PERS—personal emergency response systems
 PET—positron emission tomography
 PFFS—private fee-for-service
 PharmD—doctor of pharmacy
 PhD—doctor of philosophy
 PHE—public health emergency
 PHI—personal health information
 PHO—physician-hospital organization
 PhRMA—Pharmaceutical Research and Manufacturers of America
 PHS—public health service
 PL 107-205—Nurse Reinvestment Act of 2002
 PMPM—payment per member per month
 PORTS—patient outcomes research teams
 POS—point-of-service plan
 PPD—per-patient day rate
 PPM—physician practice management
 PPOs—preferred provider organizations
 PPS—prospective payment system
 PROs—peer review organizations
 PRWORA—Personal Responsibility and Work Opportunity Reconciliation Act
 PSO—provider-sponsored organization
 PSROs—professional standards review organizations
 PsyD—doctor of psychology
 PTA—physical therapy assistant
 PTCA—percutaneous transluminal coronary angioplasty
 PTs—physical therapists

Q

QALY—quality-adjusted life year
QDWI—Qualified Disabled and Working Individual Program
QI—qualified individual program
QIOs—Quality improvement organizations
QMB—Qualified Medicare Beneficiary program

R

R&D—research and development
RAI—resident assessment instrument
RBRVS—resource-based relative value scales
RFID—radio frequency identification
RICs—rehabilitation impairment categories
RN—registered nurse
RUG-III—Resource Utilization Groups, version 3
RUGs—resource utilization groups
RVUs—relative value units
RWJF—Robert Wood Johnson Foundation

S

SAMHSA—Substance Abuse and Mental Health Services Administration
SARS—severe acute respiratory syndrome
SAV—small area variations
SCHIP—State Children’s Health Insurance Program
SCN—Sentinel Centers Network
SES—socioeconomic status
SHI—socialized health insurance
S/HMO—social health maintenance organization
SIPP—Survey of Income and Program Participation
SLMB—specified low-income Medicare beneficiary
SMI—supplementary medical insurance

SNF—skilled nursing facility
SNS—Strategic National Stockpile
SPECT—single-photon emission computed tomography
SROs—single-room occupancy units
SSI—Supplemental Security Income
STDs—sexually transmitted diseases

T

TAH—total artificial heart
TANF—Temporary Assistance for Needy Families
TCU—transitional care unit
TEFRA—Tax Equity and Fiscal Responsibility Act
TFL—TriCare for Life
TPA—third-party administrator
TQM—total quality management

U

UCR—usual, customary, and reasonable
UR—utilization review

V

VA—Department of Veterans Affairs
VERA—Veterans Equitable Resource Allocation
VHA—Veterans Health Administration
VISN—Veterans Integrated Service Network
VNA—Visiting Nurses Association
VPS—volume performance standard

W

WHO—World Health Organization
WHOCDH—WHO Commission on Social Determinants of Health
WIC—Women, Infants, and Children