Delivering Health Care in America
A SYSTEMS APPROACH SEVENTH EDITION

Leiyu Shi, DrPH, MBA, MPA
Professor, Bloomberg School of Public Health
Director, Johns Hopkins Primary Care Policy Center
Johns Hopkins University
Baltimore, Maryland

Douglas A. Singh, PhD, MBA
Associate Professor Emeritus of Management
School of Business and Economics
Indiana University, South Bend
South Bend, Indiana
# Contents

Preface ....................................................... vii  
List of Exhibits ........................................ xi  
List of Figures ........................................... xii  
List of Tables ............................................ xv  
List of Abbreviations/Acronyms ..................... xvii  

**Chapter 1 An Overview of U.S. 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 Care Delivery System ..................... 5  
Insurance and Health Care Reform .................................. 7  
Role of Managed Care .................................... 9  
Major Characteristics of the U.S. Health Care System ................. 10  
Trends and Directions ................................... 18  
Significance for Health Care Practitioners ............................. 19  
Significance for Health Care Managers ............................ 20  
Health Care Systems of Other Countries ............................ 22  
Global Health Challenges and Reform ............................... 33  
The Systems Framework .................................. 34  
Summary ................................................... 37  
Test Your Understanding .................................... 39  
References .................................................. 38  

**PART I System Foundations** ................................ 43  

**Chapter 2 Beliefs, Values, and Health** ............................. 45  
Introduction .............................................. 46  
Significance for Managers and Policymakers .......................... 46  
Basic Concepts of Health .................................. 47  
Quality of Life ........................................... 49  
Risk Factors and Disease ................................... 49  
Health Promotion and Disease Prevention ............................ 53  
Disease Prevention Under the Affordable Care Act .................... 54  
Public Health ............................................ 56  
Health Protection and Preparedness in the United States ............ 60  
Determinants of Health .................................... 62  
Measures Related to Health .................................. 65  
Anthro-Cultural Beliefs and Values .................................. 72  
Integration of Individual and Population Health ....................... 79  
Summary ................................................... 85  
Test Your Understanding .................................... 86  
References .................................................. 88  

**Chapter 3 The Evolution of Health Services in the United States** ................. 95  
Introduction .............................................. 96  
Medical Services in the Preindustrial Era ......................... 97
With this Seventh Edition, we celebrate 20 years of serving instructors, students, policymakers, and others, both at home and overseas, with up-to-date information on the dynamic U.S. health care delivery system. Much has changed, and much will continue to change in the future, as the nation grapples with critical issues of access, cost, and quality. Indeed, much of the developing and developed world will also be contending with similar issues.

People in the United States, in particular, have just gotten a taste of a far-reaching health care reform through President Barack Obama’s signature Affordable Care Act (ACA), nicknamed “Obamacare.” To date, this law has produced mixed results that are documented in this new edition.

At the time this edition went to press, we were left with promises of another reform under the slogan “Repeal and replace Obamacare,” a move championed by President Donald Trump, who had made it one of the centerpieces of his presidential campaign. Much remains to be seen as to how this promise will play out.

On May 4, 2017, the U.S. House of Representatives passed the American Health Care Act (AHCA) by a vote of 217 to 213, with Republican support. The bill is likely to undergo significant changes in the U.S. Senate. Hence, what the new law may eventually look like was unknown at the time this manuscript went to press. As was the case with the ACA, for which the Democratic Party played an exclusive role in its passage, contentious debates, partisanship, and deal making among both Republicans and Democrats have marked the progress in moving the new law through Congress.

Although we have chosen to sidestep any premature speculation about the fate of the ACA and the shape of its replacement, wherever possible, we have presented trends and facts that support certain conclusions. Mainly, experiences and outcomes under the ACA have been highlighted in this edition.

On his first day in office in January 2017, President Trump signed an executive order to “waive, defer, grant exemptions from, or delay the implementation of any provision or requirement of the [Affordable Care] Act that would impose a fiscal burden on any State or a cost, fee, tax, penalty, or regulatory burden on individuals, families, health care providers, health insurers, patients, recipients of health care services, purchasers of health insurance, or makers of medical devices, products, or medications.” This executive order effectively repealed small portions of the ACA that deal with taxation and fees.

Going forward, the issues of universal coverage and affordability of insurance and health care will be critical. Under the ACA, approximately 27 million people remained uninsured, even though the uninsurance rate in the United States dropped from 13.3% to 10.9% between 2013 and 2016. The majority of the newly insured individuals were covered under Medicaid, the nation’s safety net health insurance program for the poor.

Another thorny issue will be how to provide health care for the millions of illegal immigrants who obtain services mainly through hospital emergency departments, and through charitable sources to some extent. Is there a better, more cost-effective way to address their needs?
The affordability of health insurance in the non-employment-based private market was severely eroded under the ACA, mainly for those who did not qualify for federal subsidies to buy insurance. The reason for the rate hikes in this segment was that few young and healthy people enrolled in health care plans under the ACA. Consequently, for many people, premium costs rose to unaffordable levels in 2016. People who really needed to use health care enrolled in much larger numbers than healthier individuals. Such an adverse selection prompted the chief executive of Aetna Insurance, Mark Bertolini, to remark that the marketplace for individual health insurance coverage was in a “death spiral.” Some large insurance companies either pulled out of the government-sponsored health care exchanges or were planning to do so because of financial losses sustained under the ACA.

New to This Edition

This edition continues to reference some of the main features of the ACA wherever it was important to provide contextual discussions from historical and policy perspectives. Several chapters cover the main provisions of the 21st Century Cures Act, which, after a long delay, was finally passed by Congress and signed by President Obama in December 2016.

As in the past, this text 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. Following is a list of the main additions and revisions:

Chapter 1
- Updates the impact of the Affordable Care Act (ACA)

Chapter 2
- Health insurance under the ACA
- Evaluation of progress made toward the Healthy People 2020 goals
- Information on global pandemics and infectious diseases

Chapter 3
- Expanded section: Reform of mental health care
- Complete revision of the section: Era of health care reform

Chapter 4
- Major issues related to the health care workforce
- Updated information on nonphysician providers

Chapter 5
- New section: Electronic health records and quality of care
- Global trends in biomedical research and a new table on R&D expenditures
- New section: Drugs from overseas
- New section: Health care reform and medical technology

Chapter 6
- New section: Private coverage and cost under the Affordable Care Act
- New section: Medicaid experiences under the ACA
Preface ix

Chapter 10
- New section: Recent policies for community-based services

Chapter 11
- Updated information on vulnerable subpopulations
- Expanded coverage on chronically ill patients

Chapter 12
- Current issues in health care costs, access, and quality
- Pay-for-performance in health care
- Quality initiatives in both the public and private sectors

Chapter 13
- Current critical policy challenges
- Future health policy issues in both the United States and abroad

Chapter 14
- Almost all sections have been completely updated
- New section: No single payer
- New section: Reforming the reform
- New section: Universal coverage and access
- New section: Toward population health

As in the previous editions, our aim 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.
Preface

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
lshi2@jhu.edu

Douglas A. Singh
dsingh@iusb.edu

We appreciate the work of Hailun Liang and Megha Parikh in providing assistance in the preparation of selected chapters of this text.
List of Exhibits

Exhibit 3-1  Evolution of the U.S. Health Care Delivery System  97
Exhibit 3-2  Groundbreaking Medical Discoveries  104
Exhibit 4-1  Definitions of Medical Specialties and Subspecialties  142
Exhibit 4-2  Examples of Allied Health Professionals  161
Exhibit 6-1  Key Differences Between a Health Reimbursement Arrangement and a Health Savings Account  227
Exhibit 6-2  Medicare Part A Financing, Benefits, Deductible, and Copayments for 2017  235
Exhibit 6-3  Medicare Part B Financing, Benefits, Deductible, and Coinsurance for 2017  237
Exhibit 6-4  Medicare Part D Benefits and Individual Out-of-Pocket Costs for 2017  239
Exhibit 9-1  The Evolution of Managed Care  364
Exhibit 11-1  The Vulnerability Framework  436
Exhibit 11-2  Predisposing, Enabling, and Need Characteristics of Vulnerability  437
Exhibit 12-1  Regulation-Based and Competition-Based Cost-Containment Strategies  503
Exhibit 13-1  Key Health Care Concerns of Selected Interest Groups  544
Exhibit 13-2  Arguments for Enhancing States’ Role in Health Policy Making  547
List of Figures

Figure 1-1 Basic health care delivery functions. 6
Figure 1-2 External forces affecting health care delivery. 10
Figure 1-3 Relationship between price, supply, and demand under free-market conditions. 12
Figure 1-4 Trends and directions in health care delivery. 18
Figure 1-5 The systems model and related chapters. 35
Figure 2-1 The four dimensions of holistic health. 48
Figure 2-2 The Epidemiology Triangle. 50
Figure 2-3 WHO Commission on Social Determinants of Health conceptual framework. 65
Figure 2-4 Integrated model for holistic health. 81
Figure 2-5 Action model to achieve U.S. Healthy People 2020 overarching goals. 82
Figure 4-1 Ambulatory care visits to physicians according to physician specialty, 2012. 145
Figure 4-2 Supply of U.S. physicians, including international medical graduates (IMGs), per 100,000 population, 1985–2013. 148
Figure 4-3 Trend in U.S. primary care generalists of medicine. 150
Figure 4-4 IMG physicians as a proportion of total active physicians. 152

Figure 6-1 Influence of financing on the delivery of health services. 220
Figure 6-2 Health insurance status of the total U.S. population, 2015. 222
Figure 6-3 Sources of Medicare financing, 2015. 240
Figure 6-4 Medicare spending for services, 2015. 241
Figure 6-5 Medicaid spending for services, 2014. 244
Figure 6-6 Proportional distribution of U.S. private and public shares of national health expenditures. 257
Figure 6-7 The U.S. health dollar, 2015. 258
Figure 7-1 The coordination role of primary care in health care delivery. 274
Figure 7-2 Percentage of total surgeries performed in outpatient departments of U.S. community hospitals, 1980–2013. 281
Figure 7-3 Growth in the number of medical group practices in the United States. 283
Figure 7-4 Ambulatory care visits in the United States. 284
Figure 7-5 Medical procedures by location. 285
Figure 7-6 Demographic characteristics of U.S. home health patients, 2013. 291
Figure 7-7  Estimated payments for home care by payment source, 2014. 291
Figure 7-8  Types of hospice agencies, 2014. 295
Figure 7-9  Coverage of patients for hospice care at the time of admission, 2014. 296
Figure 8-1  Trends in the number of U.S. community hospital beds per 1,000 resident population. 322
Figure 8-2  The decline in the number of U.S. community hospitals and beds. 322
Figure 8-3  Ratio of hospital outpatient visits to inpatient days for all U.S. hospitals, 1980–2013 (selected years). 323
Figure 8-4  Trends in average length of stay in nonfederal short-stay hospitals, selected years. 327
Figure 8-5  Average lengths of stay by U.S. hospital ownership, selected years. 328
Figure 8-6  Breakdown of U.S. community hospitals by size, 2013. 329
Figure 8-7  Change in occupancy rates in U.S. community hospitals, 1960–2013 (selected years). 329
Figure 8-8  Proportion of total U.S. hospitals by type of hospital, 2014. 332
Figure 8-9  Breakdown of U.S. community hospitals by type of ownership, 2013. 334
Figure 8-10  Hospital governance and operational structures. 345
Figure 8-11  Percentage of worker enrollment in health plans, selected years. 360
Figure 8-12  Integration of health care delivery functions through managed care. 362
Figure 9-3  Growth in the cost of U.S. health insurance (private employers), 1980–1995. 367
Figure 9-4  Care coordination and utilization control through gatekeeping. 370
Figure 9-5  Case management function in care coordination. 371
Figure 9-6  Percentage of covered employees enrolled in HMO plans, selected years. 375
Figure 9-7  The IPA-HMO model. 377
Figure 9-8  Percentage of covered employees enrolled in PPO plans, selected years. 378
Figure 9-9  Percentage of covered employees enrolled in POS plans, selected years. 379
Figure 9-10  Share of managed care enrollments in employer-based health plans, 2016. 379
Figure 9-11  Organizational integration strategies. 386
Figure 9-12  People with multiple chronic conditions are more likely to have activity limitations. 401
Figure 9-13  Medicare enrollees age 65 and older with functional limitations according to where they live, 2009. 401
Figure 9-14  Key characteristics of a well-designed long-term care system. 404
Figure 9-15  Range of services for individuals in need of long-term care. 410
Figure 9-16  Users of long-term care by age group. 411
Figure 9-17  Most frequently provided services to home health patients. 415
Figure 9-18  Sources of payment for home health care, 2014. 416
Figure 9-19  Changes in the percentages of nursing home residents with...
<table>
<thead>
<tr>
<th>Figure</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>10-9</td>
<td>Distinctly certified units in a nursing home.</td>
</tr>
<tr>
<td>10-10</td>
<td>Sources of financing nursing home care, 2014.</td>
</tr>
<tr>
<td>11-1</td>
<td>Percentage of U.S. live births weighing less than 2,500 grams by mother's detailed race.</td>
</tr>
<tr>
<td>11-2</td>
<td>Percentage of U.S. mothers who smoked cigarettes during pregnancy according to mother's race.</td>
</tr>
<tr>
<td>11-3</td>
<td>Alcohol consumption by persons 18 years of age and older.</td>
</tr>
<tr>
<td>11-4</td>
<td>Use of mammography by women 40 years of age and older, 2013.</td>
</tr>
<tr>
<td>11-6</td>
<td>Age-adjusted maternal mortality rates.</td>
</tr>
<tr>
<td>11-7</td>
<td>Respondent-assessed health status.</td>
</tr>
<tr>
<td>11-8</td>
<td>Current cigarette smoking by persons 18 years of age and older, age adjusted, 2014.</td>
</tr>
<tr>
<td>12-2</td>
<td>Annual percentage change in CPI and medical inflation, 1975–2014.</td>
</tr>
<tr>
<td>12-5</td>
<td>Life expectancy of Americans at birth, age 65, and age 75, 1900–2014 (selected years).</td>
</tr>
<tr>
<td>12-6</td>
<td>Change in U.S. population mix between 1970 and 2014, and projections for 2030.</td>
</tr>
<tr>
<td>12-7</td>
<td>Increase in U.S. per capita Medicare spending, 1970–2014 (selected years).</td>
</tr>
<tr>
<td>12-8</td>
<td>Framework for access in the managed care context.</td>
</tr>
<tr>
<td>12-9</td>
<td>The Donabedian model.</td>
</tr>
</tbody>
</table>
List of Tables

Table 1-1 The Complexity of Health Care Delivery 3
Table 1-2 The Continuum of Health Care Services 17
Table 2-1 Percentage of U.S. Population with Behavioral Risks 51
Table 2-2 Annual Percentage Decline in U.S. Cancer Mortality, 1991–2013 55
Table 2-3 Leading Causes of Death, 2014 58
Table 2-4 U.S. Life Expectancy at Birth—2002, 2007, and 2014 66
Table 2-5 Comparison of Market Justice and Social Justice 77
Table 2-6 Healthy People 2020 Topic Areas 83
Table 4-1 Persons Employed in Health Service Sites 139
Table 4-2 Active U.S. Physicians According to Type of Physician and Number per 10,000 Population 140
Table 4-3 U.S. Physicians According to Activity and Place of Medical Education, 2013 143
Table 4-4 Mean Annual Compensation for U.S. Physicians by Specialty, May 2016 (in Dollars) 151
Table 4-5 Percentage of Total Enrollment of Students in Programs for Selected Health Occupations, by Race, 2008–2009 152
Table 5-1 Examples of Medical Technologies 178
Table 5-2 MRI Units Available per 1,000,000 Population in Selected Countries, 2014 187
Table 5-3 Global Biomedical R&D Expenditures in Selected Regions, 2007 and 2012 191
Table 5-4 Summary of FDA Legislation 193
Table 6-1 Trends in Employment-Based Health Insurance, Selected Years 229
Table 6-2 Medicare: Enrolled Population and Expenditures in Selected Years 240
Table 6-3 Status of HI and SMI Trust Funds (Billions of Dollars), 2012–2015 241
Table 6-4 U.S. National Health Expenditures in Selected Years 255
Table 6-5 Percentage Distribution of U.S. National Health Expenditures, 2010 and 2015 256
Table 7-1 Owners, Providers, and Settings for Ambulatory Care Services 271
Table 7-2 Growth in Female U.S. Resident Population by Age Groups Between 1980 and 2014 (in Thousands) 287
Table 7-3 Selected Organizational Characteristics of U.S. Home Health and Hospice Care Agencies in the United States, 2014 292
Table 7-4 Home Health and Hospice Care Patients Served at the Time of the Interview, by Agency Type and Number of
<table>
<thead>
<tr>
<th>Table</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Table 7-5</td>
<td>U.S. Physician Characteristics, 2013</td>
<td>302</td>
</tr>
<tr>
<td>Table 7-6</td>
<td>Principal Reason for Visiting a Physician</td>
<td>304</td>
</tr>
<tr>
<td>Table 7-7</td>
<td>Primary Diagnosis Group</td>
<td>305</td>
</tr>
<tr>
<td>Table 8-1</td>
<td>Share of Personal Health Expenditures Used for Hospital Care</td>
<td>324</td>
</tr>
<tr>
<td>Table 8-2</td>
<td>Discharges, Average Length of Stay, and Average Cost per Stay in U.S. Community Hospitals, 2012</td>
<td>325</td>
</tr>
<tr>
<td>Table 8-3</td>
<td>Inpatient Hospital Utilization: Comparative Data for Selected OECD Countries, 2012 (or Nearest Year)</td>
<td>328</td>
</tr>
<tr>
<td>Table 8-4</td>
<td>Cost per Inpatient Day in Selected Countries, 2012</td>
<td>331</td>
</tr>
<tr>
<td>Table 8-5</td>
<td>Changes in Number of U.S. Hospitals, Beds, Average Size, and Occupancy Rates</td>
<td>334</td>
</tr>
<tr>
<td>Table 8-6</td>
<td>The Largest U.S. Multihospital Chains, 2014</td>
<td>335</td>
</tr>
<tr>
<td>Table 10-1</td>
<td>Trends in Number of Long-Term Care Facilities, Beds/ Resident Capacity, and Prices, Selected Years</td>
<td>427</td>
</tr>
<tr>
<td>Table 11-1</td>
<td>Characteristics of U.S. Mothers by Race/Ethnicity</td>
<td>439</td>
</tr>
<tr>
<td>Table 11-2</td>
<td>Age-Adjusted Death Rates for Selected Causes of Death, 1970–2014</td>
<td>442</td>
</tr>
<tr>
<td>Table 11-3</td>
<td>Infant, Neonatal, and Post-neonatal Mortality Rates by Mother's Race (per 1,000 Live Births)</td>
<td>446</td>
</tr>
<tr>
<td>Table 11-4</td>
<td>Selected Health Risks Among Persons 20 Years and Older, 2011–2014</td>
<td>447</td>
</tr>
<tr>
<td>Table 11-5</td>
<td>Vaccinations of Children 19–35 Months of Age for Selected Diseases According to Race, Poverty Status, and Residence in a Metropolitan Statistical Area (MSA), 2014 (%)</td>
<td>453</td>
</tr>
<tr>
<td>Table 11-6</td>
<td>Mental Health Organizations, 2010</td>
<td>466</td>
</tr>
<tr>
<td>Table 11-7</td>
<td>Mental Health Providers by Discipline, Selected Years</td>
<td>468</td>
</tr>
<tr>
<td>Table 11-8</td>
<td>AIDS Cases Reported in the United States, 2010–2014 Cumulative and 2014</td>
<td>471</td>
</tr>
<tr>
<td>Table 12-1</td>
<td>Average Annual Percentage Increase in U.S. National Health Care Spending, 1975–2014</td>
<td>490</td>
</tr>
<tr>
<td>Table 12-2</td>
<td>Total U.S. Health Care Expenditures as a Proportion of GDP and per Capita Health Care Expenditures (Selected Years, Selected OECD Countries; per Capita Expenditures in U.S. Dollars)</td>
<td>492</td>
</tr>
<tr>
<td>Table 12-3</td>
<td>Visits to Office-Based Physicians, 2012</td>
<td>515</td>
</tr>
<tr>
<td>Table 12-4</td>
<td>Number of Health Care Visits According to Selected Patient Characteristics, 2014</td>
<td>515</td>
</tr>
<tr>
<td>Table 12-5</td>
<td>Dental Visits in the Past Year Among Persons 18–64 Years of Age, 2014</td>
<td>516</td>
</tr>
</tbody>
</table>
**List of Abbreviations/Acronyms**

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>AALL</td>
<td>American Association of Labor Legislation</td>
</tr>
<tr>
<td>AAMC</td>
<td>Association of American Medical Colleges</td>
</tr>
<tr>
<td>AA/PIs</td>
<td>Asian Americans and Pacific Islanders</td>
</tr>
<tr>
<td>AAs</td>
<td>Asian Americans</td>
</tr>
<tr>
<td>ACA</td>
<td>Affordable Care Act</td>
</tr>
<tr>
<td>ACNM</td>
<td>American College of Nurse-Midwives</td>
</tr>
<tr>
<td>ACO</td>
<td>accountable care organization</td>
</tr>
<tr>
<td>ACS</td>
<td>American College of Surgeons</td>
</tr>
<tr>
<td>ADA</td>
<td>American Dental Association</td>
</tr>
<tr>
<td>ADC</td>
<td>adult day care</td>
</tr>
<tr>
<td>ADLs</td>
<td>activities of daily living</td>
</tr>
<tr>
<td>ADN</td>
<td>associate's degree nurse</td>
</tr>
<tr>
<td>AFC</td>
<td>adult foster care</td>
</tr>
<tr>
<td>AHA</td>
<td>American Hospital Association</td>
</tr>
<tr>
<td>AHRQ</td>
<td>Agency for Healthcare Research and Quality</td>
</tr>
<tr>
<td>AIANs</td>
<td>American Indians and Alaska Natives</td>
</tr>
<tr>
<td>AIDS</td>
<td>acquired immunodeficiency syndrome</td>
</tr>
<tr>
<td>ALF</td>
<td>assisted living facility</td>
</tr>
<tr>
<td>ALOS</td>
<td>average length of stay</td>
</tr>
<tr>
<td>AMA</td>
<td>American Medical Association</td>
</tr>
<tr>
<td>AMDA</td>
<td>American Medical Directors Association</td>
</tr>
<tr>
<td>ANA</td>
<td>American Nurses Association</td>
</tr>
<tr>
<td>APCs</td>
<td>ambulatory payment classifications</td>
</tr>
<tr>
<td>APN</td>
<td>advanced practice nurse</td>
</tr>
<tr>
<td>ARRA</td>
<td>American Recovery and Reinvestment Act</td>
</tr>
<tr>
<td>ASPR</td>
<td>Assistant Secretary for Preparedness and Response</td>
</tr>
<tr>
<td>BBA</td>
<td>Balanced Budget Act</td>
</tr>
<tr>
<td>BPCI</td>
<td>bundled payments for care improvement</td>
</tr>
<tr>
<td>BSN</td>
<td>baccalaureate degree in nursing</td>
</tr>
<tr>
<td>BWC</td>
<td>Biological and Toxin Weapons Convention</td>
</tr>
<tr>
<td>CAH</td>
<td>critical access hospital</td>
</tr>
<tr>
<td>CAM</td>
<td>complementary and alternative medicine</td>
</tr>
<tr>
<td>CBO</td>
<td>Congressional Budget Office</td>
</tr>
<tr>
<td>CCAH</td>
<td>continuing care at home</td>
</tr>
<tr>
<td>CCRC</td>
<td>continuing care retirement center/community</td>
</tr>
<tr>
<td>CDR</td>
<td>Centers for Disease Control and Prevention</td>
</tr>
<tr>
<td>CDSS</td>
<td>clinical decision support system</td>
</tr>
<tr>
<td>CEO</td>
<td>chief executive officer</td>
</tr>
<tr>
<td>CEPH</td>
<td>Council on Education for Public Health</td>
</tr>
<tr>
<td>CER</td>
<td>comparative effectiveness research</td>
</tr>
<tr>
<td>CF</td>
<td>conversion factor</td>
</tr>
<tr>
<td>CHAMPVA</td>
<td>Civilian Health and Medical Program of the Department of Veterans Affairs</td>
</tr>
<tr>
<td>CHC</td>
<td>community health center</td>
</tr>
<tr>
<td>CHIP</td>
<td>Children's Health Insurance Program</td>
</tr>
</tbody>
</table>
CMGs—case-mix groups
C/MHCs—community and migrant health centers
CMS—Centers for Medicare and Medicaid Services
CNA—certified nursing assistant
CNM—certified nurse-midwife
CNS—clinical nurse specialist
COBRA—Consolidated Omnibus Budget Reconciliation Act
CON—certificate of need
COPC—community-oriented primary care
COTA—certified occupational therapy assistant
COTH—Council of Teaching Hospitals and Health Systems
CPI—consumer price index
CPOE—computerized provider order entry
CPT—Current Procedural Terminology
CQI—continuous quality improvement
CRNA—certified registered nurse anesthetist
CT—computed tomography

DSM-5—Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition
DTP—diphtheria/tetanus/pertussis (vaccine)

EBM—evidence-based medicine
EBRI—Employee Benefit Research Institute
ECG—electrocardiogram
ECU—extended care unit
ED—emergency department
EHRs—electronic health records
EMT—emergency medical technician
EMTALA—Emergency Medical Treatment and Active Labor Act
ENP—Elderly Nutrition Program
ERISA—Employee Retirement Income Security Act
ESRD—end-stage renal disease

FD&C Act—Federal Food, Drug, and Cosmetic Act
FD&A—Food and Drug Administration
FMAP—Federal Medical Assistance Percentage
FPL—federal poverty level
FY—fiscal year

GAO—General Accounting Office
GDP—gross domestic product
GP—general practitioner
HAART—highly active antiretroviral therapy
HCBS—home- and community-based services
HCBW—home- and community-based waiver
HCH—Health Care for the Homeless
HCPCS—Healthcare Common Procedures Coding System
HDHP—high-deductible health plan
HDHP/SO—high-deductible health plan with a savings option
HEDIS—Healthcare Effectiveness Data and Information Set
HHRG—home health resource group
HI—hospital insurance
HIAA—Health Insurance Association of America
Hib—Haemophilus influenzae serotype b
HIO—health information organization
HIPAA—Health Insurance Portability and Accountability Act
HIT—health information technology
HITECH—Health Information Technology for Economic and Clinical Health Act
HIV—human immunodeficiency virus
HMO—health maintenance organization
HMO Act—Health Maintenance Organization Act
HPSAs—health professional shortage areas
HPV—human papillomavirus
HRA—health reimbursement arrangement
HRQOL—health-related quality of life
HRSA—Health Resources and Services Administration
HSA—health savings account
HTA—health technology assessment

HUD—U.S. Department of Housing and Urban Development

IADLs—instrumental activities of daily living
ICF—intermediate care facility
ICF/IID—intermediate care facilities for individuals with intellectual disabilities
ICF/MR—intermediate care facilities for the mentally retarded
ID—intellectual disability
IDD—intellectual/developmental disability
IDEA—Individuals with Disabilities Education Act
IDS—integrated delivery systems
IDU—injection drug use
IHR—International Health Regulations
IHS—Indian Health Service
IME—Indirect Medical Education
IMGs—international medical graduates
IOM—Institute of Medicine
IPA—independent practice association
IRB—institutional review board
IRF—inpatient rehabilitation facility
IRMAA—Income-Related Monthly Adjustment Amount
IRS—Internal Revenue Service
IS—information systems
IT—information technology
IV—intravenous

LPCN—licensed practical nurse
LTC—long-term care
LTCH—long-term care hospital
LVN—licensed vocational nurse
MA—Medicare Advantage
MA-PD—Medicare Advantage Prescription Drug Plan
MA-SNP—Medicare Advantage Special Needs Plan
MACPAC—Medicaid and CHIP Payment and Access Commission
MACRA—Medicare Access and CHIP Reauthorization Act
MBA—Master of Business Administration
MCOs—managed care organizations
MD—Doctor of Medicine
MDS—Minimum Data Set
MedPAC—Medicare Payment Advisory Commission
MEPS—Medical Expenditure Panel Survey
MERS—Middle East respiratory syndrome
MFP—Money Follows the Person
MHA—Master of Health Administration
MHS—multihospital system
MHSA—Master of Health Services Administration
MIPS—Merit-based Incentive Payment System
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
MRHFP—Medicare Rural Hospital Flexibility Program
MRI—magnetic resonance imaging
MSA—metropolitan statistical area
MS-DRGs—Medicare severity diagnosis-related groups
MSO—management services organization
MSSP—Medicare Shared Savings Program
MUAs—medically underserved areas

NAB—National Association of Boards of Examiners of Long-Term Care Administrators
NAPBC—National Action Plan on Breast Cancer
NCCAM—National Center for Complementary and Alternative Medicine
NCCIH—National Center for Complementary and Integrative Health
NCHS—National Center for Health Statistics
NCQA—National Committee for Quality Assurance
NF—nursing facility
NGC—National Guideline Clearinghouse
NHI—national health insurance
NHE—national health expenditures
NHS—national health system
NHSC—National Health Service Corps
NICE—National Institute for Health and Clinical Excellence
NIH—National Institutes of Health
NIMH—National Institute of Mental Health
NP—nurse practitioner
NPP—nonphysician practitioner
NRP—National Response Plan
OAM—Office of Alternative Medicine
OBRA—Omnibus Budget Reconciliation Act
OD—Doctor of Optometry
OI—opportunistic infection
OPPS—Outpatient Prospective Payment System
OT—occupational therapist
OWH—Office on Women's Health
List of Abbreviations/Acronyms

Q
QALY—quality-adjusted life year
QI—quality indicator
QIO—quality improvement organization

R
R&D—research and development
RBRVS—resource-based relative value scales
RN—registered nurse
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
SES—socioeconomic status
SGR—sustainable growth rate
SHI—socialized health insurance
SMI—supplementary medical insurance
SNF—skilled nursing facility
SPECT—single-photon emission computed tomography
SSI—Supplemental Security Income
STD—sexually transmitted disease

T
TAH—total artificial heart
TANF—Temporary Assistance for Needy Families
TCU—transitional care unit
List of Abbreviations/Acronyms

TEFRA—Tax Equity and Fiscal Responsibility Act
TPA—third-party administrator
TQM—total quality management

VHA—Veterans Health Administration
VISN—Veterans Integrated Service Network

WHO—World Health Organization
WIC—Special Supplemental Nutrition Program for Women, Infants, and Children

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

VA—Department of Veterans Affairs
VBP—Value-Based Purchasing