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Health Care in California

A Policy Assessment

DANA P. GOLDMAN ■ ELIZABETH A. McGLYNN

RAND HEALTH

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A joint publication by RAND Health and the Communications Institute

PREFACE

In 2002, the United States spent approximately 15 percent of its gross domestic product on health care, making health care the largest single sector of the U.S. economy. But Americans are not much healthier than citizens in other nations. *The World Health Report 2000* (http://w3.whosea.org/healthreport/main.htm) ranked the United States 37th on overall health performance among 191 countries. Its health-ranking peers were Costa Rica, Slovenia, and Cuba.

More than 43 million Americans are uninsured—about 17 percent of Americans under 65. In California, the numbers are even more sobering. In 2002, 6.4 million Californians were uninsured—about 20 percent of the state's 31.6 million residents under 65. And as elsewhere in the country, California residents receive only half of the care recommended by medical experts and documented in scientific studies.

Addressing the health care challenges facing the state will require thoughtful, factual analysis. Recognizing this need, California Assembly Members Joe Nation (D-San Rafael) and Keith Richman, M.D. (R-Northridge) have led a bipartisan effort to develop resources and programs for leaders at all levels and to promote constructive dialogue among leaders from all points of view.

As part of that effort, RAND Health, a division of the RAND Corporation, has joined with the Communications Institute to produce a series of conferences intended to give community leaders, policymakers, journalists, business executives, and government and labor officials a factual basis for discussion and decisionmaking. Presented at venues across the state, the conferences also draw on resources of the state's major academic institutions including the University of California, Los Angeles; California State University, Fresno, Central Valley Health Policy Institute; the University of California, Berkeley, School of Public Health/Center for Health Research; Stanford University Medical School; and the University of California, San Francisco, School of Medicine.

This chart book, *Health Care in California: A Policy Assessment*, documents the factual core of these conferences. In compiling it, the authors have drawn on the most recent data available and have used time series data wherever possible to give a comprehensive view of the health care sector and how it has evolved. As such, it should be of interest to both state and national leaders as they pursue innovative and sustainable approaches to improving the health care system.

Much of the RAND work described in this book was conducted in RAND's Health Economics Research Program and in the Center for Research on Quality in Health Care. More information about this research can be found on the RAND Health web site at www.rand.org/health.

RAND has developed two clinically based systems for assessing quality of care. The Quality Assessment (QA) Tools—developed over the last decade with funding from the Health Care Financing Administration (now the Centers for Medicare & Medicaid Services), the Agency for Healthcare Research and Quality, the California HealthCare Foundation, and the Robert Wood Johnson Foundation—is a comprehensive system for assessing quality of care for children and adults. ACOVE™ (Assessing Care of Vulnerable Elders)—developed as part of RAND's strategic relationship with Pfizer—is a quality-of-care assessment system for the elderly who are at high risk of functional decline. These systems are the basis of RAND's quality assessment research reported here.

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Executive Vice President
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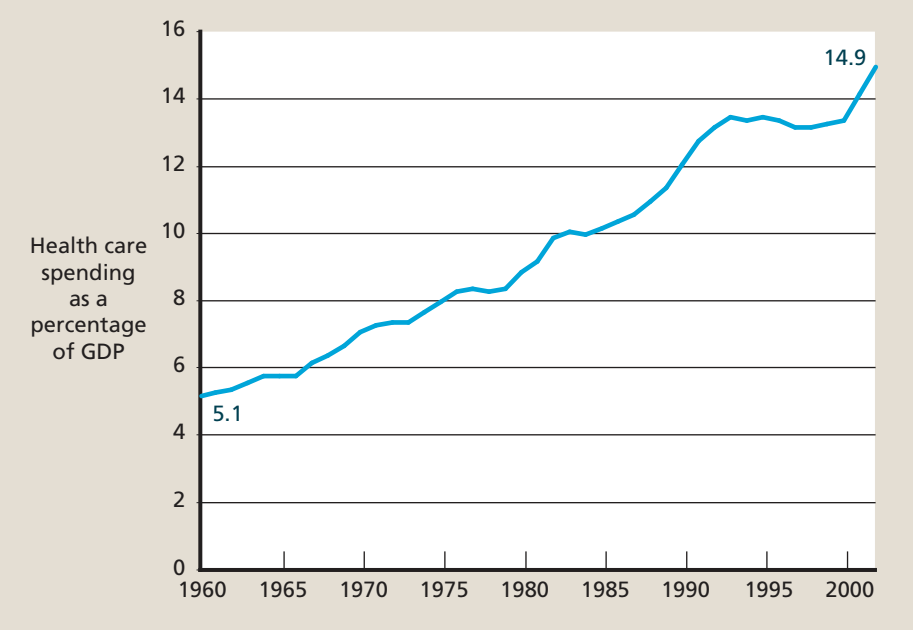
Health Care Spending as a Share of U.S. Economic Output Has Been Rising Steadily

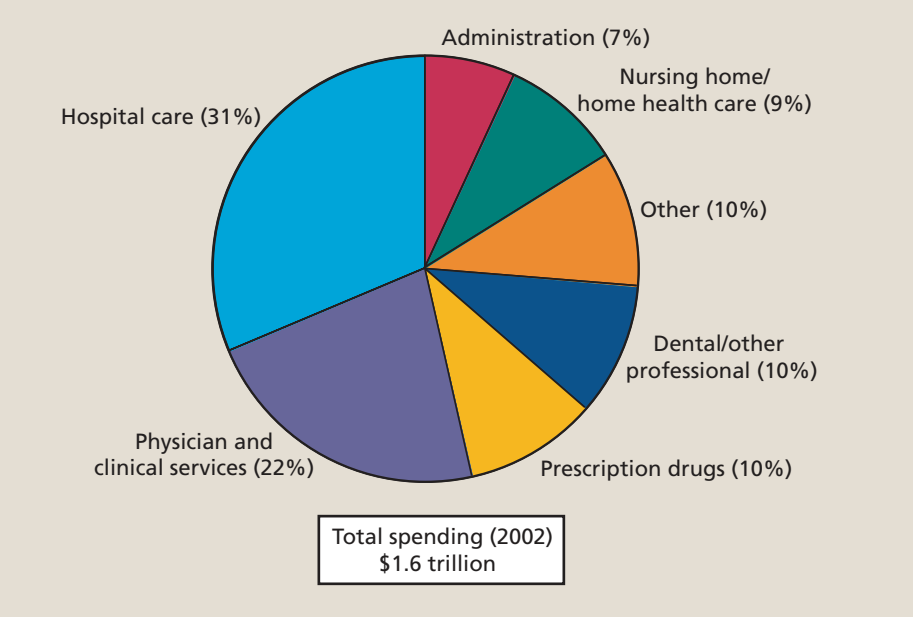
Source: Centers for Medicare & Medicaid Services, 2004.



- National health care spending as a percentage of U.S. gross domestic product (GDP)—the total spending on goods and services in the United States—has been rising steadily over the past 40 years. In 1960, it accounted for slightly more than 5 percent of the total. By 2002, health care spending was about 15 percent of GDP
- Real health care spending (measured in 2002 dollars using the GDP deflator) rose from $108 billion in 1960 to $1.6 trillion in 2002, a 15-fold increase

We Spend More Than One-Half of Our Health Care Dollars on Hospital and Physician Services

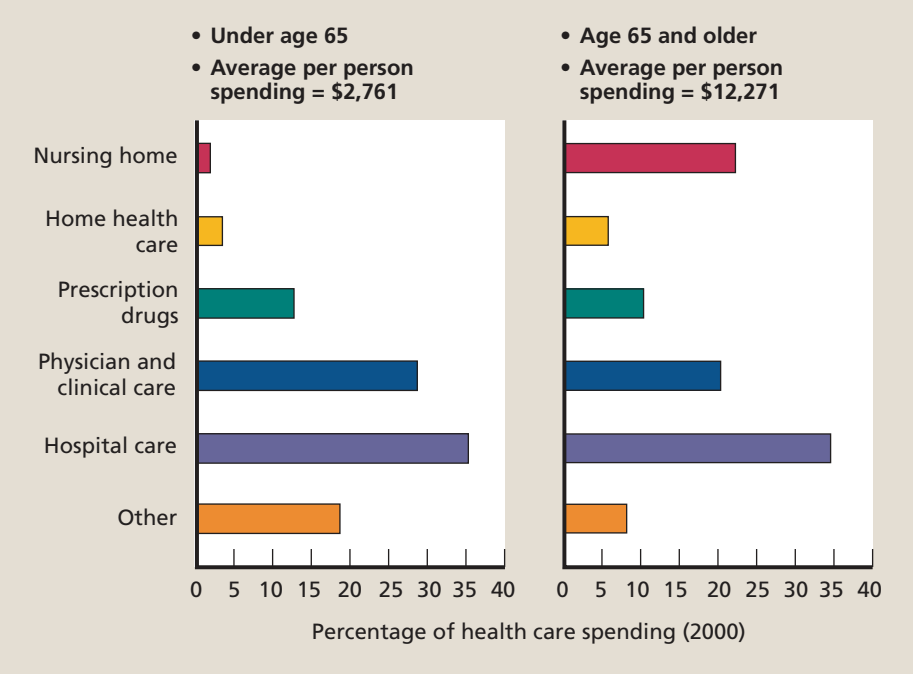
Source: California HealthCare Foundation, 2004a.



- In 2002, 53 cents of every health care dollar was spent on hospital and physician services
- Nursing home/home health care and prescription drugs each accounted for about 10 cents of each dollar spent

The Elderly Spend Much More on Health Care, and the Services They Buy Are Different

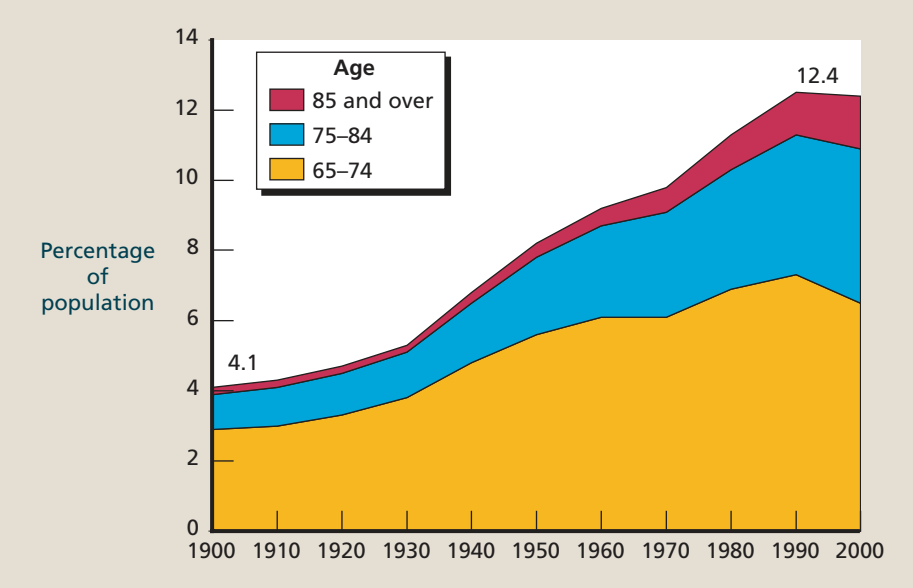
Source: Meara, White, and Cutler, 2004, Exhibit 4.



- People 65 and over spend much more on health care—about four times more than those under 65
- Both groups spend the majority of their health care dollars on hospital care and physician services: 64 percent for those under 65, 54 percent for those 65 and over
- The elderly spend a higher fraction of their health care dollar on nursing home care: Twenty-two percent versus 2 percent for people under 65

The Elderly Are a Rising Share of the U.S. Population

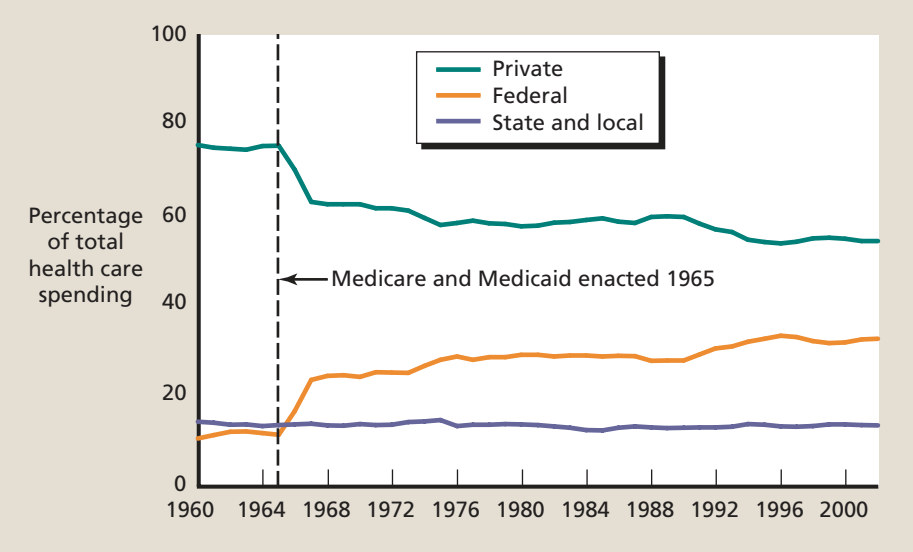
Source: Hobbs and Stoops, 2002.



- The elderly spend much more on health care. Thus, demographic trends pose a major challenge for cost containment
- In 1900, people 65 and older constituted slightly more than 4 percent of the U.S. total population of 76 million. By mid-century their share had doubled to more than 8 percent
- By 2000, those 65 and over accounted for more than 12 percent of the total U.S. population of 281 million
- Of particular significance for health care costs is the rapidly growing group of the oldest old—defined as 85 or older. In 1999, this group spent nearly two and a half times more than those in the 65–74 age group ($16,171 per person versus $6,918) (Centers for Medicare & Medicaid Services, 1999)

The Federal Share of Total Health Care Spending Has Been Rising Steadily

Source: Centers for Medicare & Medicaid Services, 2004.



- The federal share of total spending jumped sharply after the creation of Medicare and Medicaid, rising from about 10 percent in 1964 to nearly 25 percent after their enactment in 1965*
- Since then, the federal share has continued to rise. In 2002, the federal government paid 32 of every 100 dollars spent on health care
- Health care spending from private sources has fallen since 1960, from about 75 percent at the beginning of the period to about 55 percent in 2002
- Over the same period, state and local contributions have remained basically unchanged at about 12 percent of total health care spending

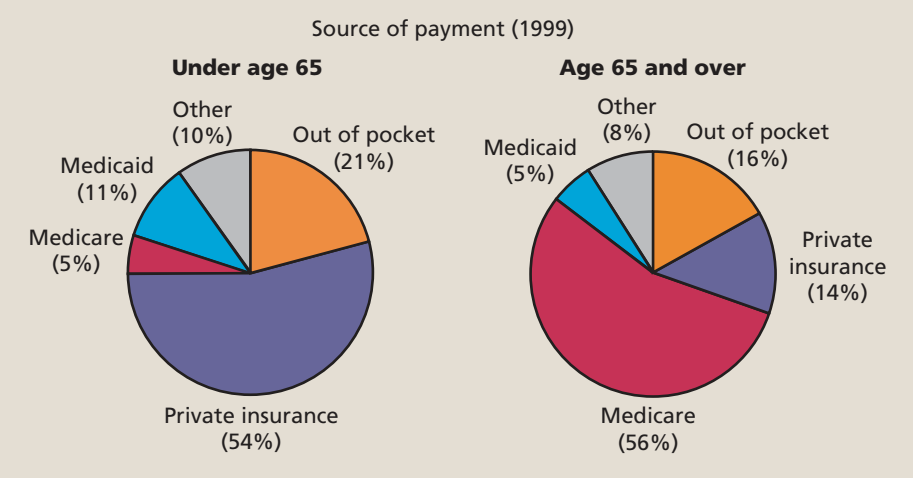
* People 65 and over who are eligible for Social Security are automatically enrolled, without a premium, in Medicare Part A, which covers hospital costs. They can pay a monthly premium to enroll in Medicare Part B, which covers outpatient care. Generally Medicare does not pay for long-term care. It does cover some disabled individuals under 65.

A Medicare drug benefit (Medicare Part D) begins January 2006; until then, there is an interim Medicare-endorsed drug discount card and transitional assistance program.

Medicaid provides care for the indigent who are younger than 65. It is a jointly funded federal-state program. The federal government sets certain requirements for all Medicaid programs, but the states have some latitude in implementing the program. In California, the Medicaid program is called Medi-Cal. In June of 2003, Medi-Cal covered 6.4 million low-income children, adults, blind, disabled, and elderly individuals in California (California HealthCare Foundation, 2004b).

Medicare Is the Dominant Payer for the Elderly, Private Insurance for Those Under 65

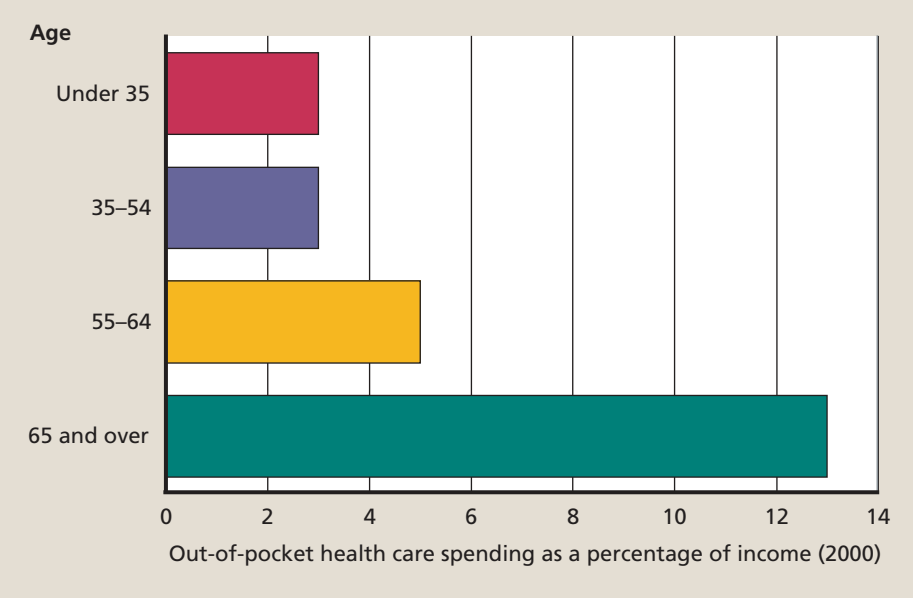
Source: Olin and Machlin, 2003.



- We can expect the federal government to continue to play a predominant role in the financing of health care, since Medicare pays for 56 percent of the elderly's health care bills and the nation's elderly population is growing as a share of the total population
- Together, Medicaid and Medicare account for more than 60 percent of health care expenditures for those 65 and over. Private insurance accounts for only 14 percent
- For those under 65, the payment pattern is nearly a mirror image. Private insurance accounts for 54 percent of the total, while Medicaid and Medicare constitute only 16 percent

The Elderly Spend a Larger Share of Income on Health Care Services

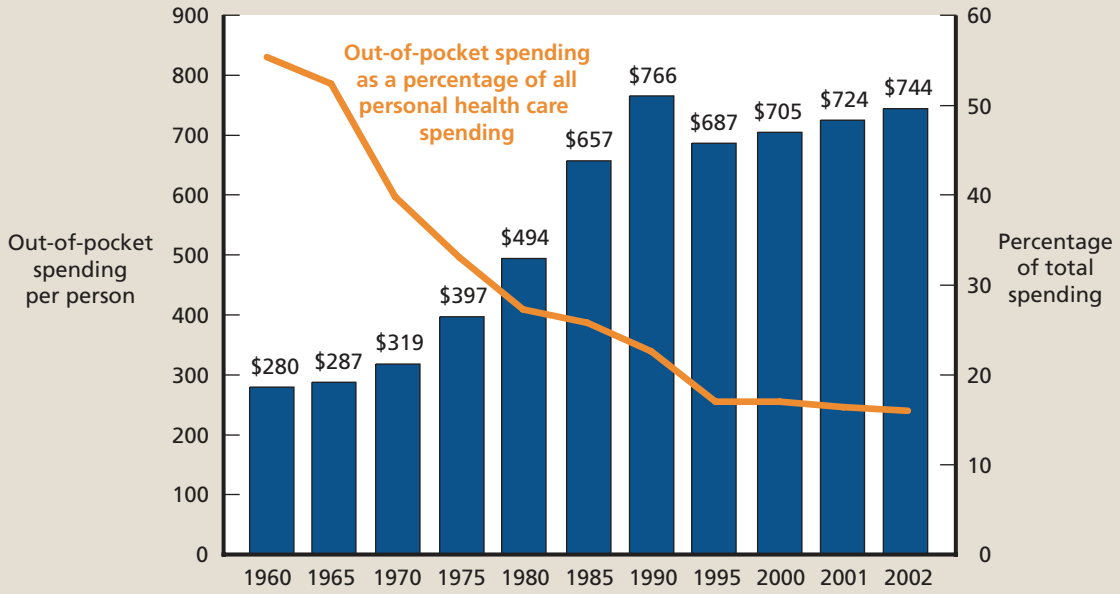
Source: Centers for Medicare & Medicaid Services, 2003.



- The elderly use a larger proportion of their income on health care services—more than double the proportion used by those under 65
- Possible reasons are that the elderly are in frailer health and use more services such as prescription drugs and long-term care, which are not covered by insurance

The Share of Health Care Paid Out-of-Pocket Is Falling

Source: Centers for Medicare & Medicaid Services, 2004.

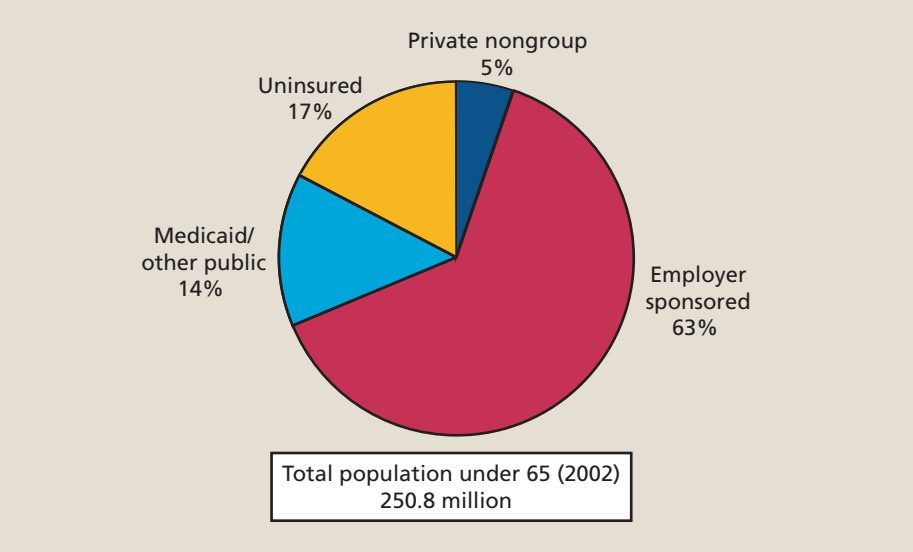


Note: Adjusted to constant 2002 dollars with GDP deflator.

- Out-of-pocket expenditures (the share of health care spending that consumers must pay out of their own pockets) as a share of all personal health care spending fell over three decades until the mid-1990s, and they are now steady at about 15 percent
- Real out-of-pocket health care spending, excluding insurance premiums, was about $744 per person, per year in 2002, up from $280 in 1960

Most of the Nonelderly Receive Their Health Care Coverage from Their Employer

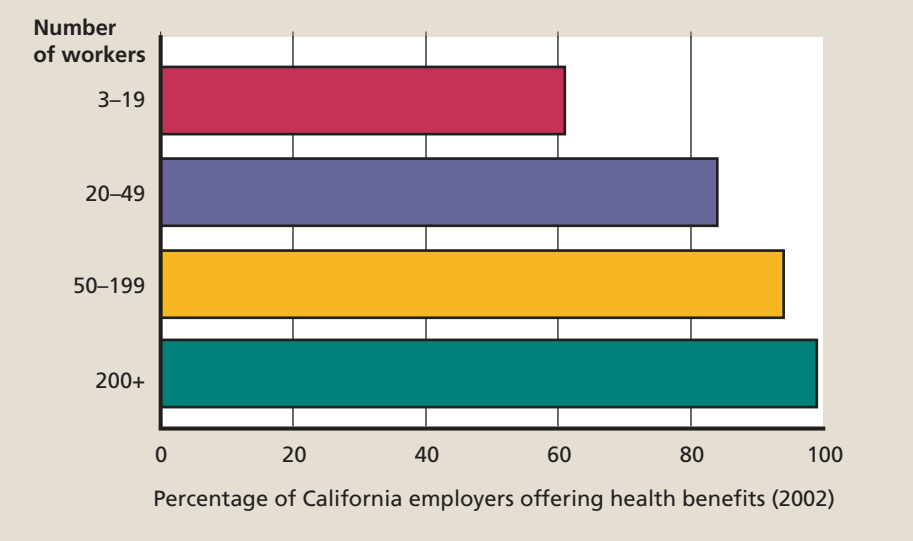
Source: Kaiser Commission on Medicaid and the Uninsured, 2003a.



- The predominant source of health insurance for the nonelderly is their employer
- Employers offer insurance through the workplace because of the tax advantages of doing so, the increase in worker productivity that results from improved health, or because a health benefit allows them to recruit and retain high-quality workers. Employers also offer a convenient way to pool risks—that is, spread health care costs across both healthy and sick employees

Large Firms Almost Always Offer Health Insurance; Smaller Firms Often Do Not

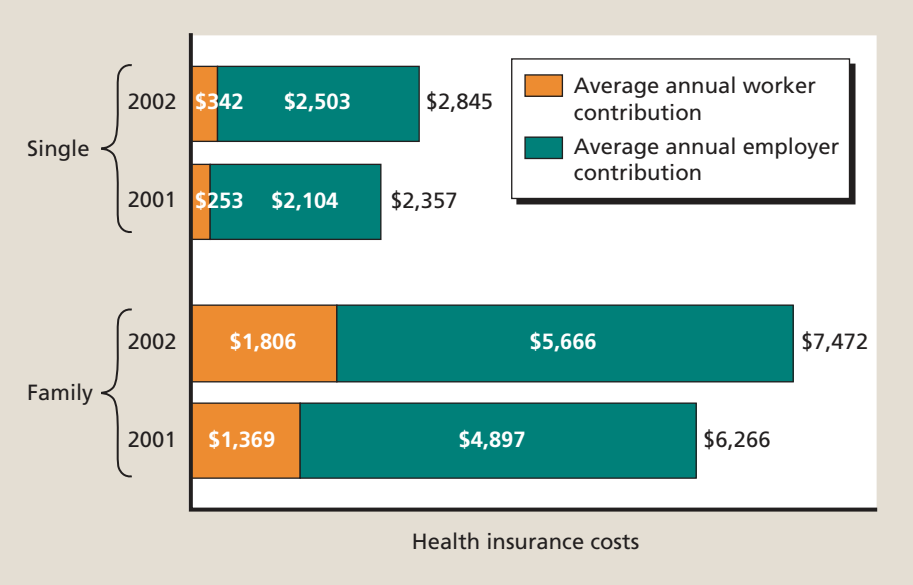
Source: The Henry J. Kaiser Family Foundation and Health Research and Educational Trust, 2003b.



- In 2002, about two-thirds of California firms offered health insurance to their employees. The size of the firm is a major factor in whether the employer offers insurance
- About 29 percent of California workers were employed in firms with fewer than 50 employees in 2002 (Agency for Healthcare Research and Quality, 2004). These firms are least likely to offer health benefits
- Almost all firms with 50 or more workers offer health insurance to their employees. Such firms employed 9.1 million people in California in 2002 (Agency for Healthcare Research and Quality, 2004)

Workers in California Pay About 25 Percent of Their Health Insurance Premiums

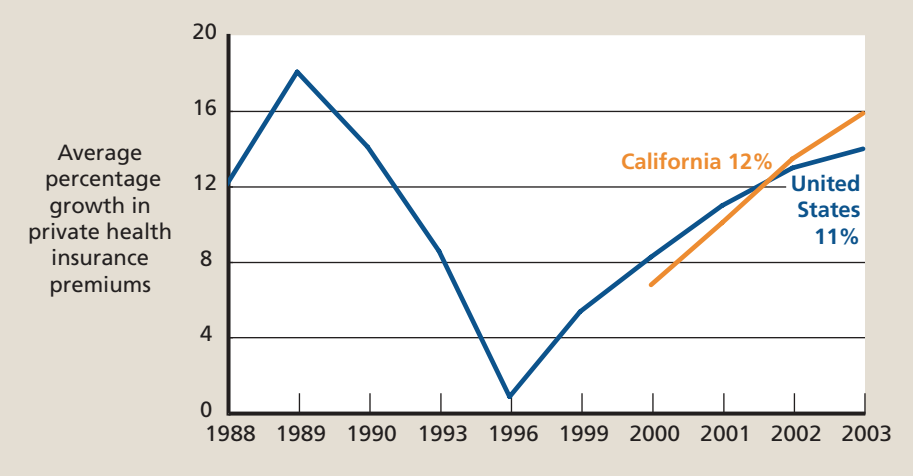
Source: The Henry J. Kaiser Family Foundation and Health Research and Educational Trust, 2003b.



- In 2002, health insurance for single workers cost $2,845, up 21 percent from the previous year. Workers contributed 12 percent of the total cost, about the same as in 2001
- Insurance for a family of four also increased, rising from $6,266 in 2001 to $7,472 in 2002, an increase of 19 percent
- Worker contributions for family insurance increased 32 percent between 2001 and 2002. In 2002, each worker paid about 25 percent of the total premium
- The share of the premium paid by employees nationwide is similar to the share paid by California workers (California HealthCare Foundation, 2004a)

Health Insurance Premiums Are Rising Rapidly Nationwide and Even Faster in California

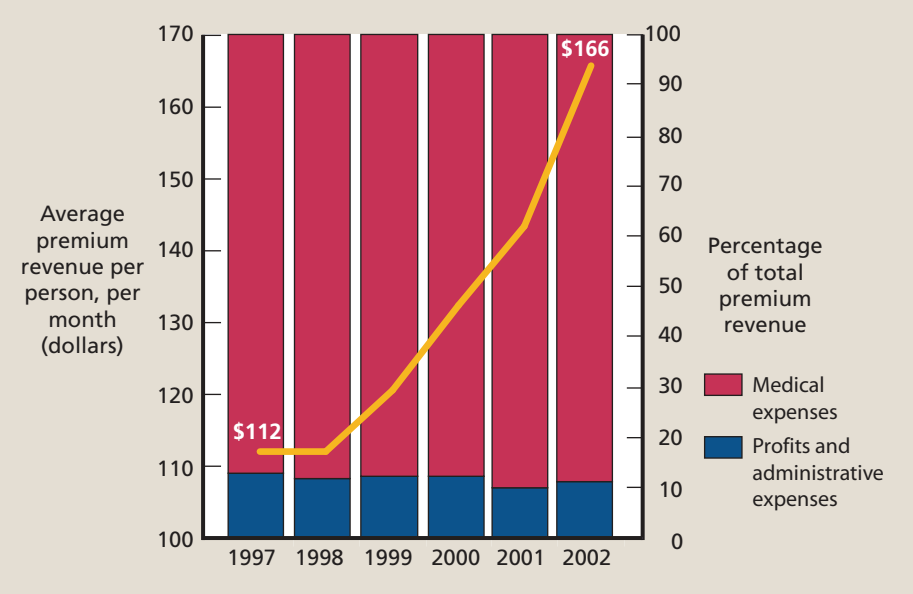
Source: The Henry J. Kaiser Family Foundation and Health Research and Educational Trust, 2003a and 2004.



- Since 1988, the annual nationwide increase in private health insurance has fluctuated quite a bit but has averaged about 11 percent
- The growth rate peaked at 18 percent in 1989, then slid quickly over the next several years. In part, this may reflect competitive trends: Health maintenance organizations (HMOs) gained a larger share of the health insurance market and implemented a variety of strategies for promoting cost control, including gatekeepers and prior approval for certain procedures. HMOs also used their market power to negotiate lower prices from hospitals, physicians, and other service providers
- The rate of increase for California insurance premiums shows a similar pattern. In 2000, the first year for which data are available, the average annual growth rate for private health insurance premiums was about 7 percent. By 2003, the rate had risen to 12 percent

HMO Premiums Are Rising in California, but Profits Are Not

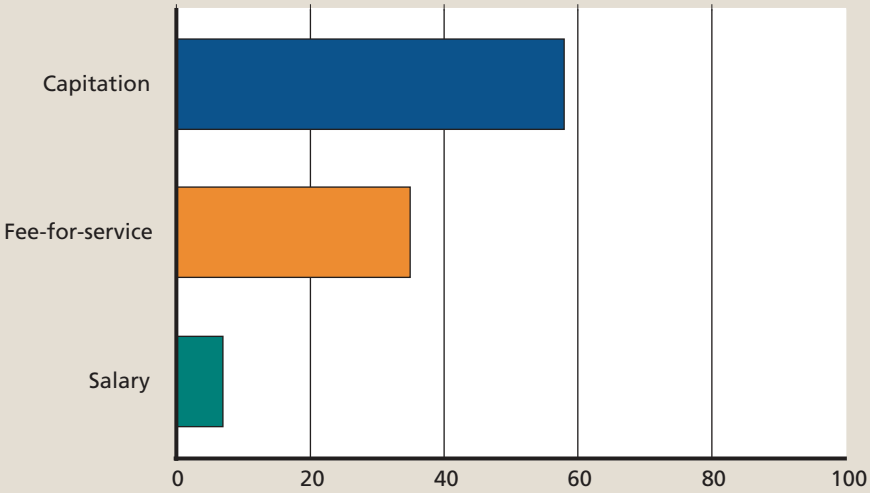
Source: Baumgarten, 2004.



- One possible reason for increased health insurance premiums could be that insurers are making more money. However, for California HMOs, which cover about 50 percent of the market (Kaiser Family Foundation, 2004), this does not appear to be the case
- HMO premiums have been rising quite sharply, from $112 per month, per person in 1997 to $166 in 2002, an increase of nearly 50 percent
- However, HMOs are also providing more services. As a result, their gross profitability has remained basically flat since 1997 at 10–12 percent. For example, in 1997, 88 cents of every premium dollar went toward medical expenses, while the remaining 12 cents went toward profits and administrative expenses. In 2002, the comparable numbers are 89 cents versus 11 cents

Capitation Is the Dominant Form of HMO Reimbursement to Physician Groups

Source: Newhouse, 2002.

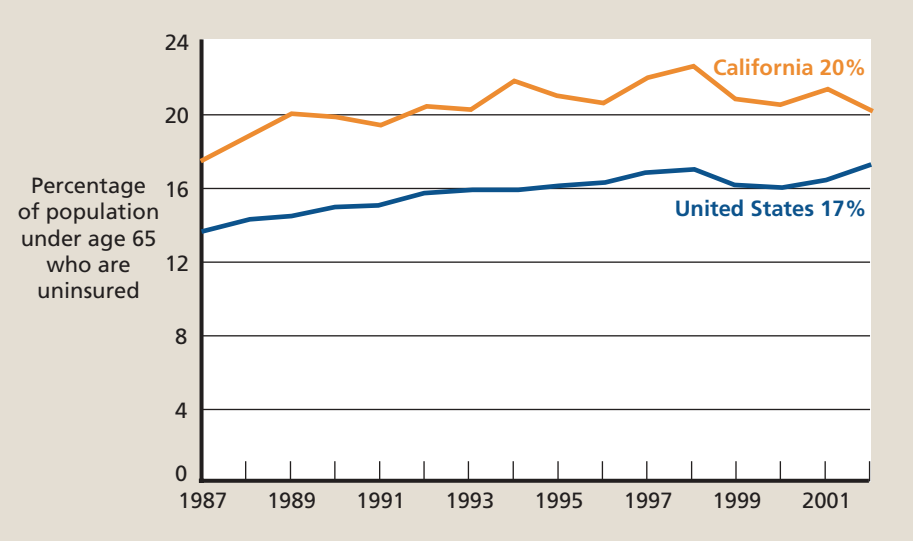


Notes: Numbers are weighted by plan enrollment; 1 percent reported no dominant type of payment.

- Physician groups who contract with HMOs face incentives to control costs and utilization
- Most HMO enrollees (58 percent) have physicians who are reimbursed using capitation—that is, the physician is paid a fixed amount per enrollee regardless of the services provided

The Uninsured Population Is Rising Nationwide; California Has a Larger Proportion of Uninsured

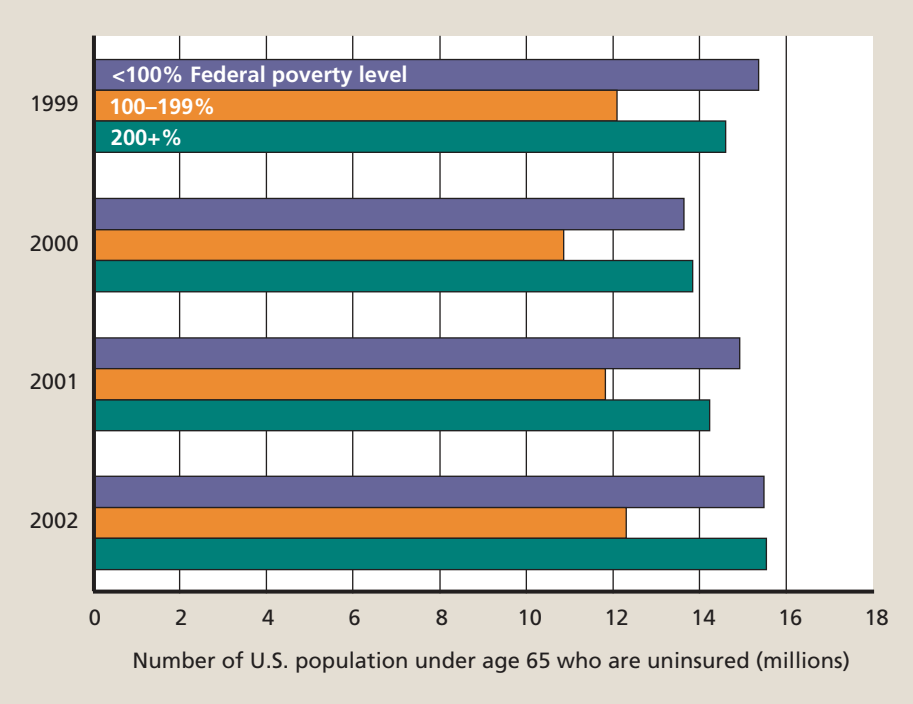
Source: California HealthCare Foundation, 2004c.



- The percentage of the nonelderly—defined as those under age 65—who are uninsured has risen nationwide since 1987 from about 13 percent to 17 percent in 2002
- But the proportion of the population who are uninsured in California is greater. In 2002, 6.4 million Californians—about 20 percent of the state's 31.6 million residents under 65—were uninsured

Over One-Third of the Uninsured Nationwide Earn More Than 200 Percent of the Federal Poverty Level

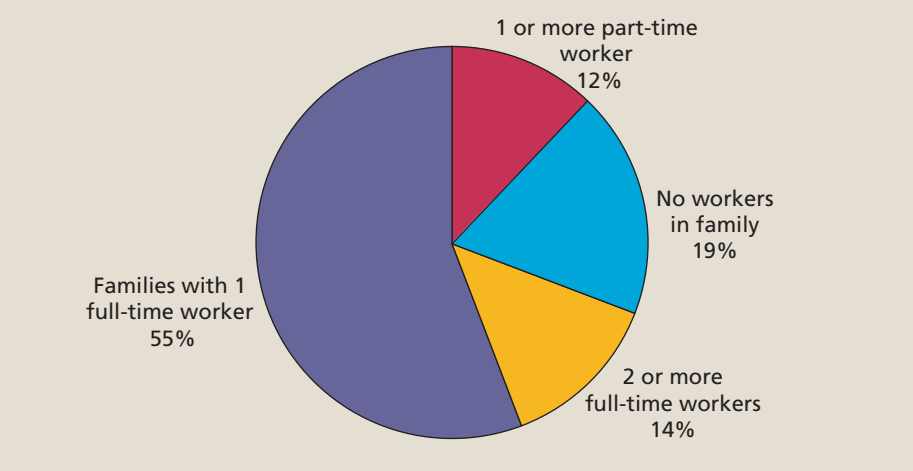
Source: The Kaiser Commission on Medicaid and the Uninsured, 2000, 2002, 2003a, and 2003b.



- Many people believe that the uninsured are poor, unemployed, and elderly. The next three charts demonstrate that this image is not completely accurate
- Nationwide, over one-third of the uninsured earn more than 200 percent of the federal poverty level—$14,348 for a family of three
- The distribution in California is very similar. In 2001–2002, 34 percent of the state's uninsured earned more than 200 percent of the federal poverty level (Kaiser Family Foundation, 2004)

Most of the Uninsured Live in Families with at Least One Worker

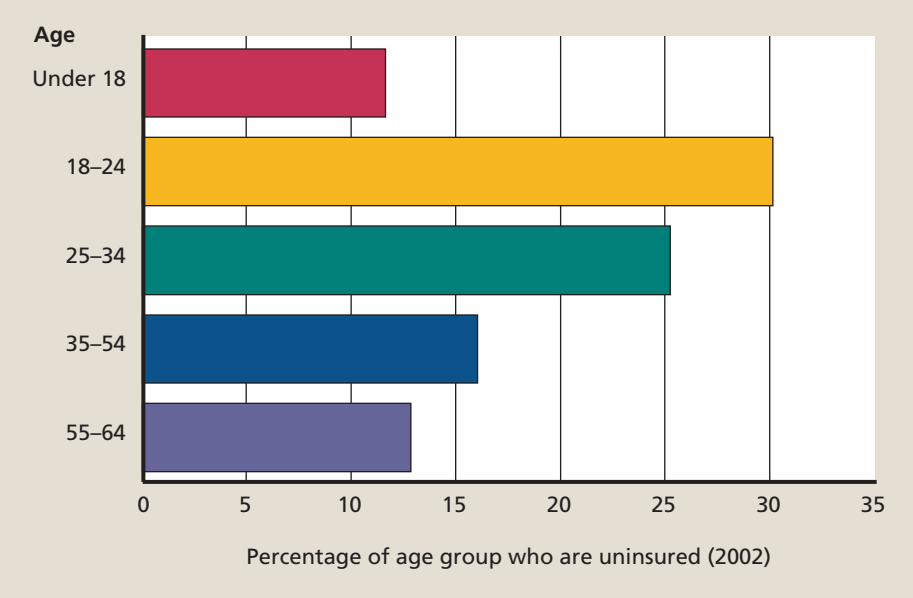
Source: Kaiser Commission on Medicaid and the Uninsured, 2003a.



- In 2002, 70 percent of the uninsured lived in a family with at least one full-time worker
- Fewer than 20 percent lived in families where no one works

Young Adults Are Most Likely to Be Uninsured

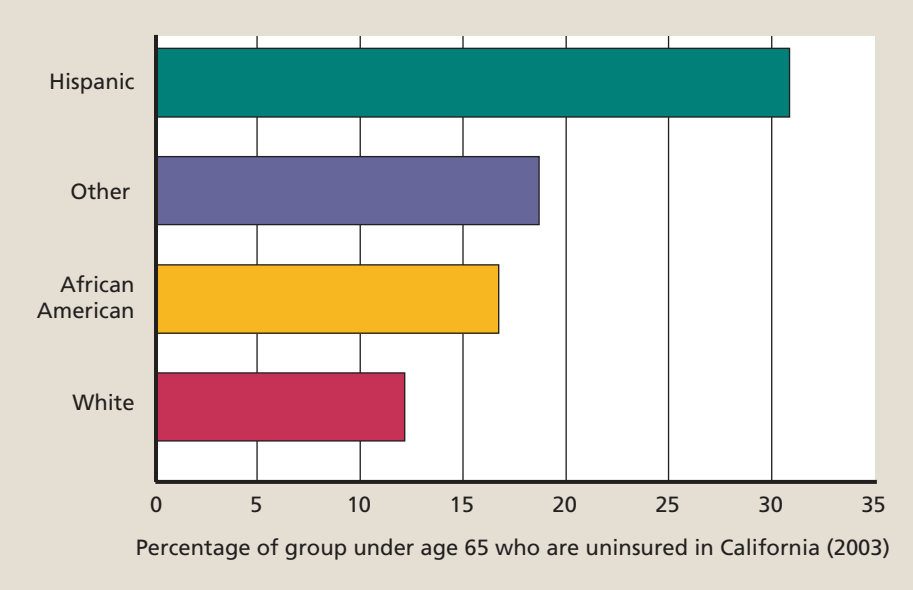
Source: Institute of Medicine, 2004.



- The young and the near elderly—those under 18 and those 55–64—are least likely to be uninsured
- Medicaid provides coverage for many children
- Individuals ages 55–64 have lower labor force participation rates than other working age groups, but they are also more likely to purchase health insurance directly from an insurance company (Fronstin, 2004)

In California, Hispanics Are More Likely Than Other Groups to Be Uninsured

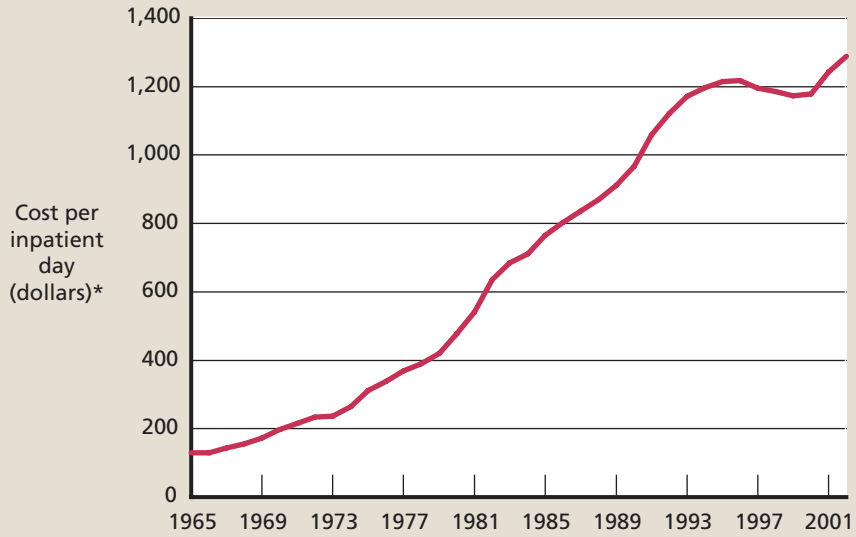
Source: California HealthCare Foundation, 2004c.



- In California, some groups are more likely than others to be uninsured
- In 2003, Hispanic residents of California were almost three times more likely than whites to be uninsured, and nearly twice as likely as African Americans

The Price of a Day in the Hospital Rose Tenfold over the Past 40 Years

Source: American Hospital Association, 1983 and 2004.

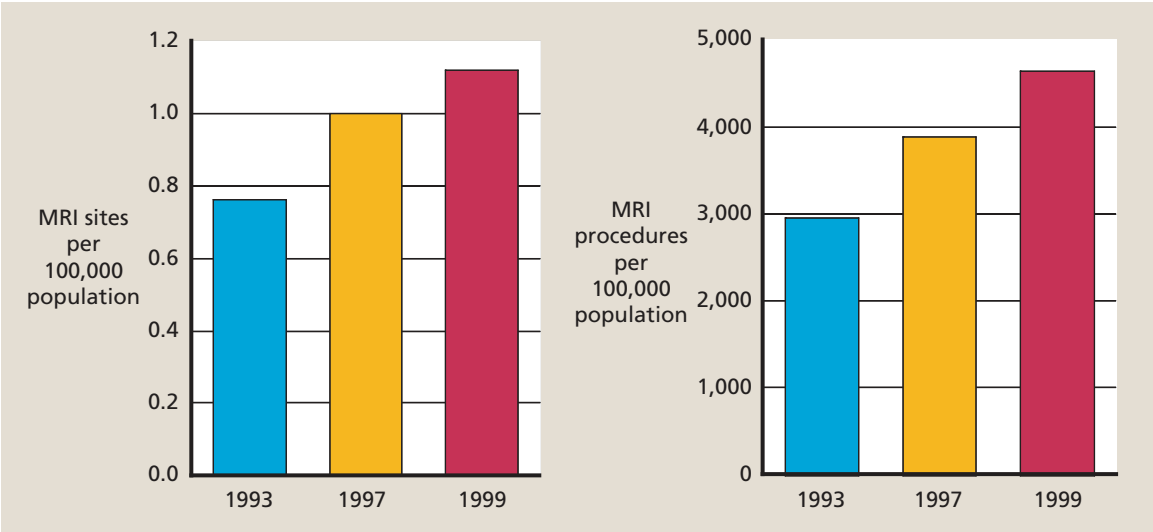


*Includes total nonfederal "short-term general" and "other special" hospitals.
Note: Adjusted to constant 2002 dollars with GDP deflator.

- The cost trend for a day in the hospital illustrates the steady increase in the price of health care services in the United States over the past four decades
- In 1965, the real cost per hospital day was about $128. In 2002, the cost had risen to $1,289—a tenfold increase. Much of this increase reflects that we are delivering more technologically advanced care in the hospital

The Number of MRI Machines and MRI Procedures Has Increased

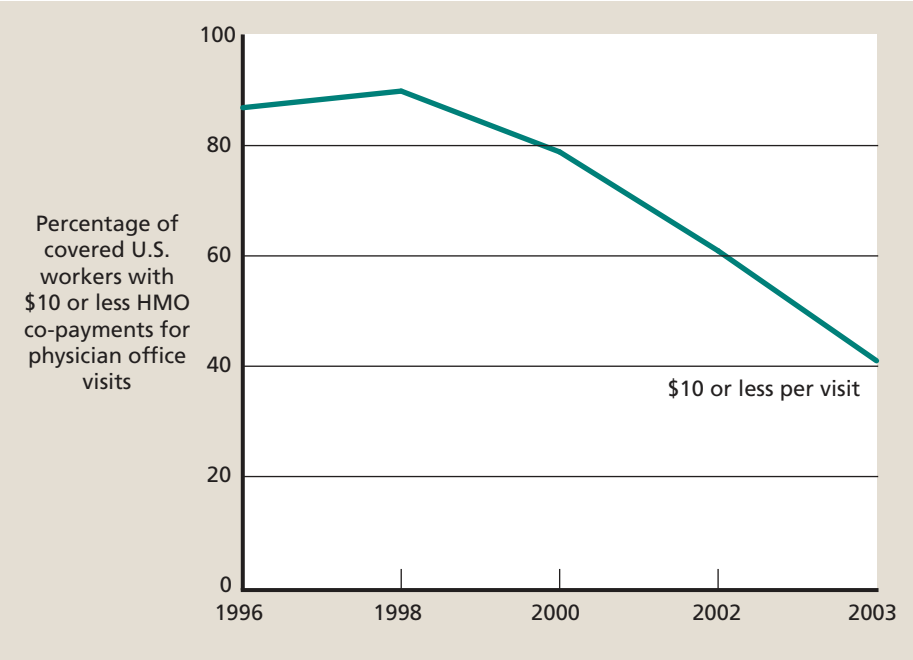
Source: Baker and Atlas, 2004.



- One source of rising health care costs is the use of more expensive technology. The increasing use of magnetic resonance imaging (MRI) technology illustrates this trend. MRIs are used in a variety of diagnostic applications
- In the early 1990s, MRI machines were still relatively scarce. There was less than one MRI site for every 100,000 persons in the United States. Six years later, the number of sites for every 100,000 persons had increased by about 50 percent
- The number of MRI procedures increased proportionately. In 1993, there were about 2,900 procedures per 100,000 persons. Six years later, the rate increased by more than 50 percent to 4,600 procedures

Employees Enrolled in HMOs Are Facing Higher Co-Payments for Physician Office Visits

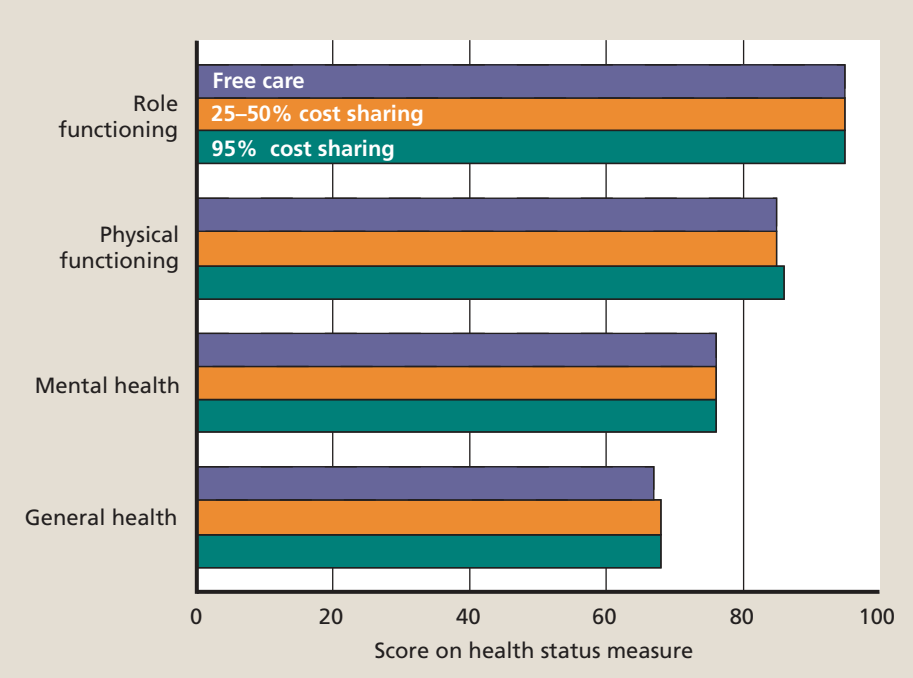
Source: The Henry J. Kaiser Family Foundation and Health Research and Educational Trust, 2003a, Exhibit 7.7.



- In 2003, almost all covered employees enrolled in HMOs were required to make co-payments for physician office visits with preferred health care providers (physicians approved by the HMO). The amount of co-payment has been increasing
- In 1996, 87 percent of employees had co-payments of $10 or less
- By 2003, average co-payments had increased, and only 41 percent of employees faced that level of cost sharing
- A flat $10 co-payment was once the most common type—61 percent of workers had such a payment in 1998. In 2003, only about one-third of workers had a $10 co-payment
- The shifting of costs from insurers to patients is also reflected in the trend for deductibles—the amount that patients must pay out of their own pockets before insurance benefits begin. In 2003, the average deductible for preferred provider services in preferred provider organization plans was $275, up from $175 in 2000

Cost Sharing Has No Effect on Functioning or General Health

Source: Newhouse and the Insurance Experiment Group, 1993.

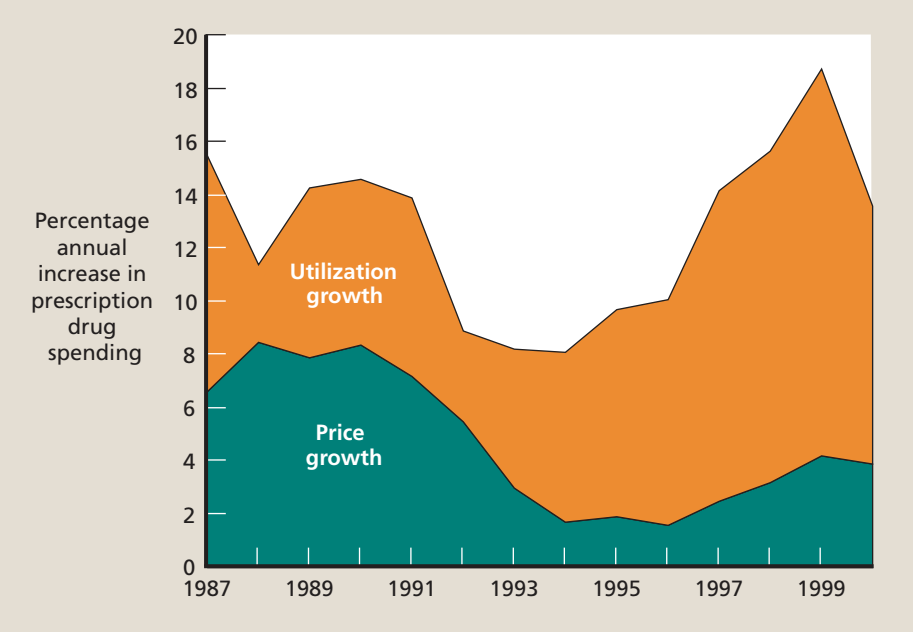


- For people with insurance, does cost sharing affect health? The RAND Health Insurance Experiment,* a large multiyear study, examined how different levels of cost sharing—ranging from none to 95 percent—affected both use of health care and health care outcomes
- Cost sharing consistently reduced spending. Patients didn't find lower prices for treatment; they sought treatment less often
- Those who had free care spent an average of 50 percent more per person per year than those with the highest level of cost sharing ($1,019 versus $700). Even mild cost sharing—25 percent—reduced average per-person spending from $1,019 to $826
- Cost sharing had few adverse health effects. There were no significant differences between those with free care and those with cost sharing on any general health measures, such as people's ability to function in their usual daily roles, physical functioning (e.g., self-care and mobility), mental health, or general health
- However, people with certain conditions might do better with less cost sharing. At the end of the study, those with free care had better blood pressure control, corrected vision, and oral health. With the advent of more-effective medications, these results raise the question about how cost sharing for prescription drugs affects outcomes

* The RAND Health Insurance Experiment, a 15-year (1971–1986) multimillion-dollar effort, was funded by the Department of Health, Education, and Welfare (now the Department of Health and Human Services).

Prescription Drug Expenditures Have Been Rising at Double-Digit Rates

Source: Berndt, 2001.



- Prescription drugs are an increasingly important component of modern health care treatment. Drug spending has been rising at double-digit rates since the mid-1980s. However, the composition of that growth has shifted
- From 1987 to 1993, about one-half of the annual increase in prescription drug spending was due to higher prices. However, over the past ten years, about 80 percent of the increase is due to higher drug use per capita

Prescription Drugs Are a Rising Share of Health Care Expenditures

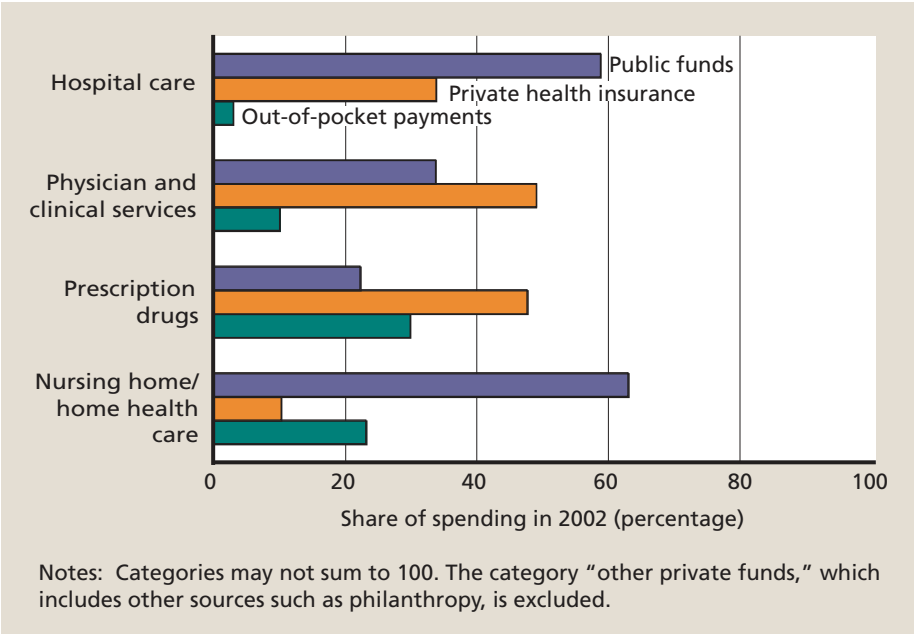
Source: California HealthCare Foundation, 2004a.

Category	Spending distribution 1982	2001	2002	Growth ('02 versus '01) Billions	Percentage
National Health Expenditures	**100%**	**100%**	**100%**	**$132**	**9%**
Hospital care	42%	31%	31%	$ 42	9%
Physician and clinical services	19%	22%	22%	$ 24	8%
Dental/other professional	8%	10%	10%	$ 13	9%
Nursing home/ home health care	8%	9%	9%	$ 6	5%
Prescription drugs	5%	10%	10%	$ 22	15%
Administration	5%	6%	7%	$ 15	16%
Other	13%	10%	10%	$ 10	7%

- Over the last two decades, spending on hospital care has fallen as a percentage of total health care expenditures but spending on prescription drugs is an increasing share
- Between 1982 and 2002, hospital care dropped from 42 percent of total expenditures to 31 percent. Recent increases in hospital costs of $42 billion suggest some of the cost-cutting gains during the 1980s and 1990s will not continue
- Over the same period, expenditures on prescription drugs as a share of total expenditures doubled, rising from 5 percent to 10 percent. Total expenditures on prescription drugs grew by $22 billion between 2001 and 2002, a 15 percent increase

Private Insurance Is the Predominant Payer for Prescription Drugs

Source: Centers for Medicare & Medicaid Services, 2004.

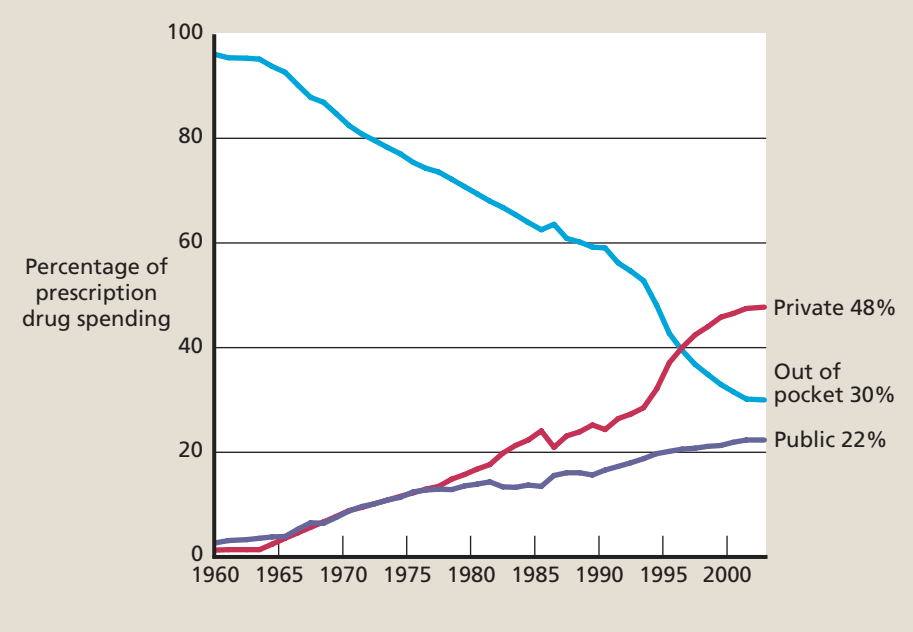


Notes: Categories may not sum to 100. The category "other private funds," which includes other sources such as philanthropy, is excluded.

- Private insurance picks up the largest share of the cost for prescription drugs and physician services—about one-half in each case
- About two-thirds of health care provided in hospitals and nursing homes is paid for by public sources, which is not surprising since Medicare and Medicaid are the predominant payers for the elderly

The Share Paid Out-of-Pocket for Prescription Drugs Has Fallen

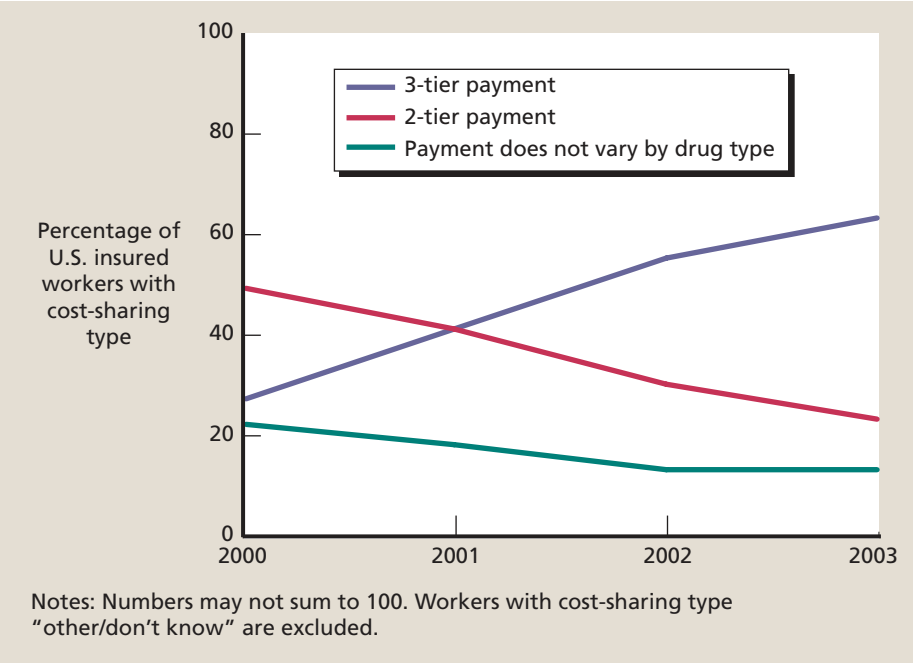
Source: Centers for Medicare & Medicaid Services, 2004.



- Private insurers now cover about one-half of all spending for prescription drugs. That reflects a major change over the past four decades
- In 1960, the out-of-pocket share of drug expenditures was close to 100 percent, while the private share was essentially zero
- As firms began to add prescription drugs to benefit packages for their employees, the out-of-pocket share of drug expenditures fell
- Public funding for drugs has also risen steadily since 1960

The Share of Workers Facing Three-Tier Co-Payments for Prescription Drugs Has Increased

Source: The Henry J. Kaiser Family Foundation and Health Research and Educational Trust, 2003a, Exhibit 9.1.

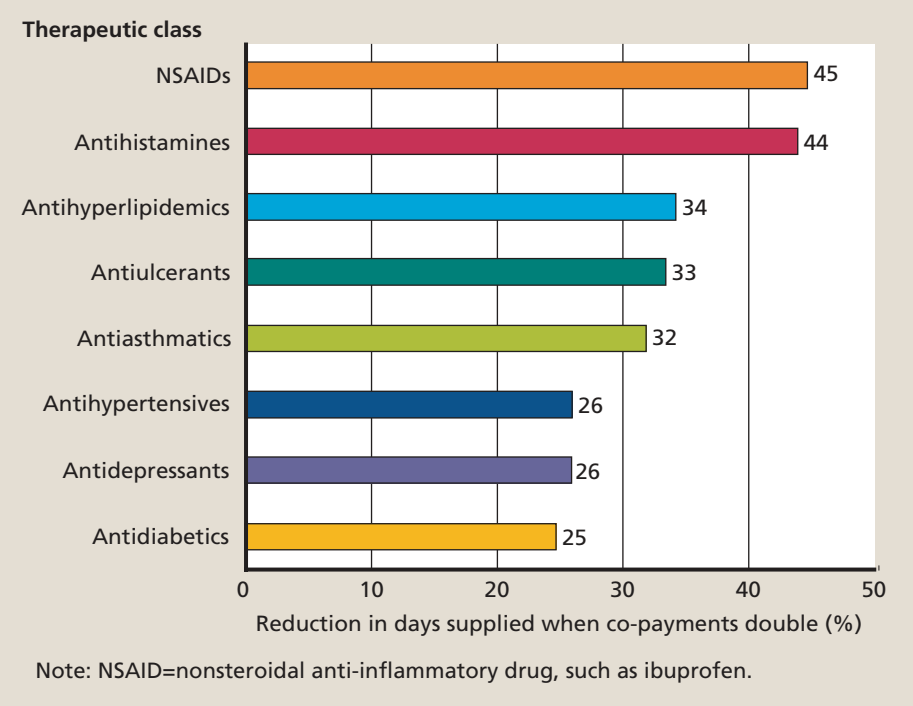


Notes: Numbers may not sum to 100. Workers with cost-sharing type "other/don't know" are excluded.

- Although private insurers are paying for an increasing share of overall prescription drug spending, they are shifting a larger share of the costs to patients
- Three-tier pharmacy benefits are now the most prevalent. Under this arrangement, an employee faces one level of co-payment for generic drugs, a higher co-payment for "preferred drugs" (for example, brand-name drugs with no generic substitutes), and an even higher co-payment for nonpreferred drugs (for example, brand-name drugs that have generic substitutes)
- Two-tier arrangements, in which employees have lower co-payments for generic drugs, and payment that does not vary by drug type have both declined
- The size of co-payments has been increasing. Between 2000 and 2003, the average co-payment for preferred drugs in a three-tier arrangement rose from $13 to $19. The average co-payment for nonpreferred drugs rose from $17 to $29

Co-Payments Can Have a Large Effect on Service Use—Including Prescription Drugs

Source: Goldman et al., 2004.



Note: NSAID=nonsteroidal anti-inflammatory drug, such as ibuprofen.

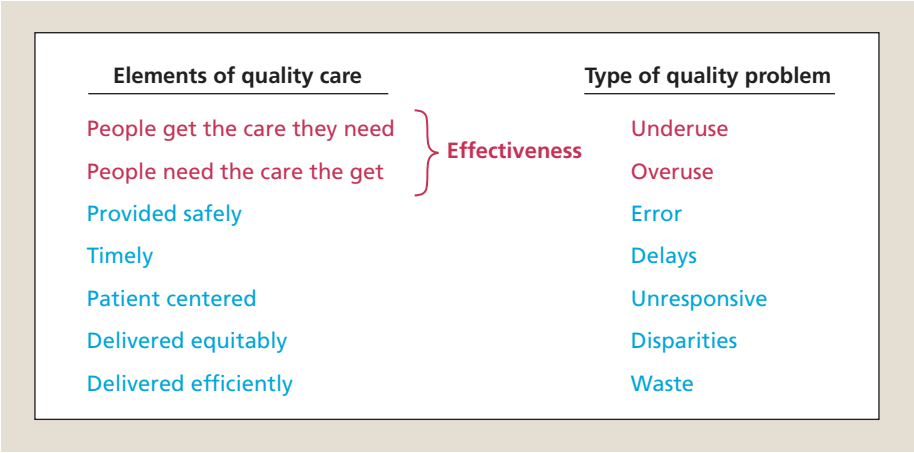
- Doubling patients' co-payments for drugs can reduce their use of the most common classes of medications by 25 to 45 percent
- The patients most sensitive to price changes are those who are taking medications but are not receiving regular care for their conditions
- Even the chronically ill who are receiving routine care cut their drug use between 8 percent and 23 percent when their co-payments are doubled

Quality of Care

Elizabeth A. McGlynn

The Multiple Dimensions of Quality

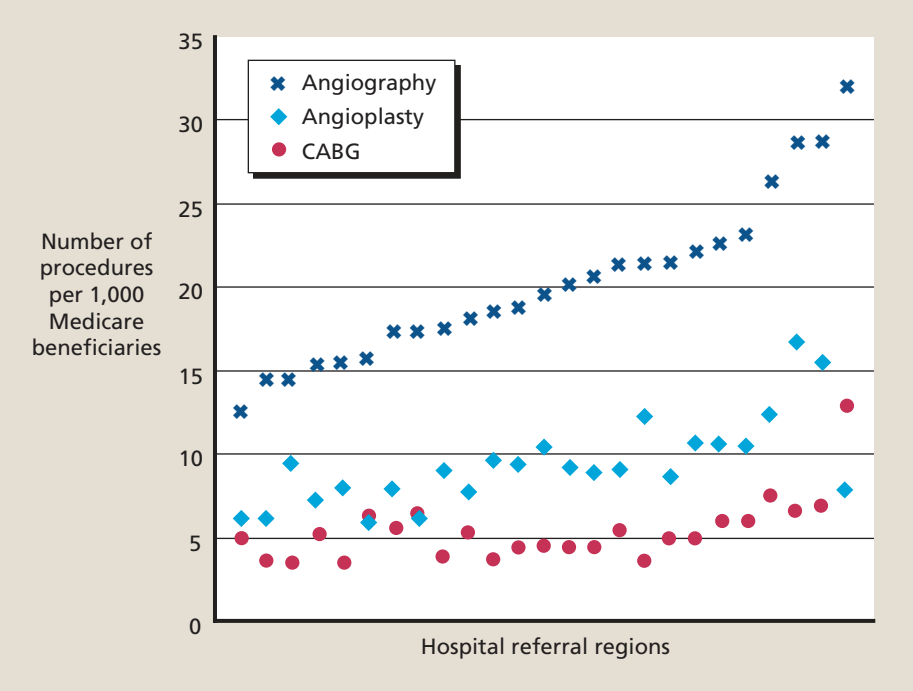
Source: Institute of Medicine, 2001.



- The Institute of Medicine (IOM) has defined quality of care as a multidimensional concept
- People should get the *care they need*; when they don't, we call it underuse. This problem occurs when health care interventions that are known to improve people's health are not provided to those who could benefit
- People should *need the care* they receive; when they don't, we call it overuse. This problem occurs when people receive health care interventions that are not expected to improve their health or may even be harmful
- Taken together, these two elements characterize care that is effective
- Care should be provided *safely*. When it isn't, we refer to the problem as medical error
- Care should be provided in a *timely manner*, which means that patients do not experience unreasonable or unacceptable delays
- Care should be *patient centered*. When it isn't, patients experience the health care system as unresponsive to their needs and preferences
- Care should be delivered *equitably*. When it isn't, we observe differences in who receives appropriate or effective care that are not related to health needs. These differences are called disparities
- Care should be delivered *efficiently*. When it isn't, we find that the health care system is wasting resources
- We will explore each dimension of the IOM's definition. Because this definition represents a relatively new way of thinking about quality of care, there is more research available on effectiveness, and that is where we begin our discussion

Rates of Common Cardiac Procedures Vary Widely in California (1999)

Source: *The Dartmouth Atlas of Health Care*, 2004.

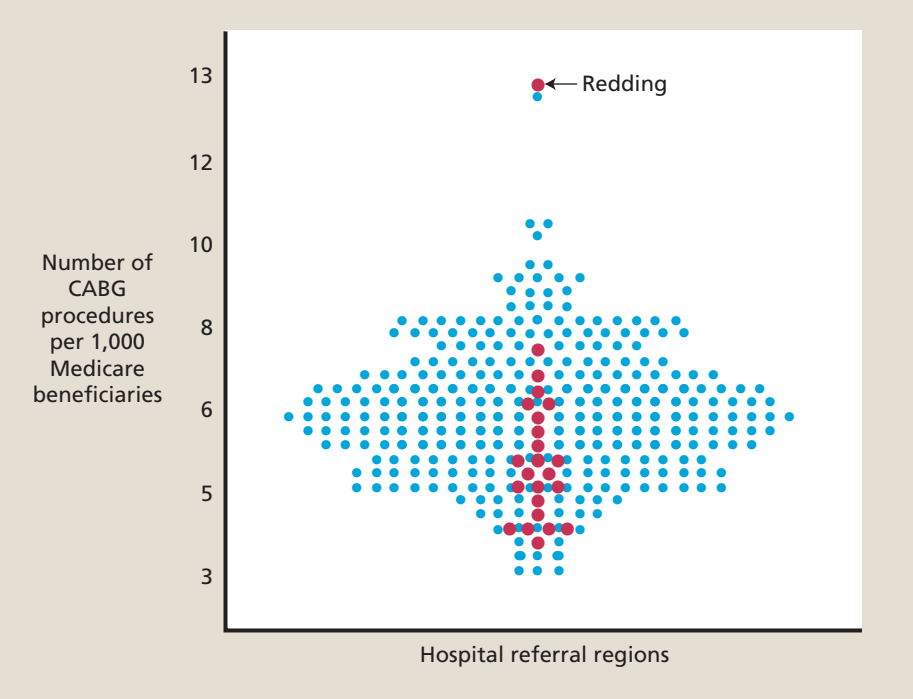


- Work first published in the early 1970s identified substantial variation in the rates at which different surgical and diagnostic procedures were used and patients were admitted to hospitals
- This variation is not related to the health care needs of the population
- For example, three common cardiac procedures have different rates of use in hospital referral regions* across California:
  - Coronary angiography rates range from 12.6 per 1,000 Medicare beneficiaries in San Luis Obispo to 32 per 1,000 in Redding
  - Percutaneous transluminal coronary angioplasty rates range from 5.9 per 1,000 in Modesto to 16.7 in Napa
  - Coronary artery bypass graft (CABG) surgery rates range from 3.5 per 1,000 Medicare beneficiaries in Alameda and San Francisco to 12.9 per 1,000 in Redding

* Hospital referral regions represent regional health care markets for tertiary medical care.

Variation in California Cardiac Bypass Surgery Rates Mirrors Rates Nationwide

Source: *The Dartmouth Atlas of Health Care*, 2004.

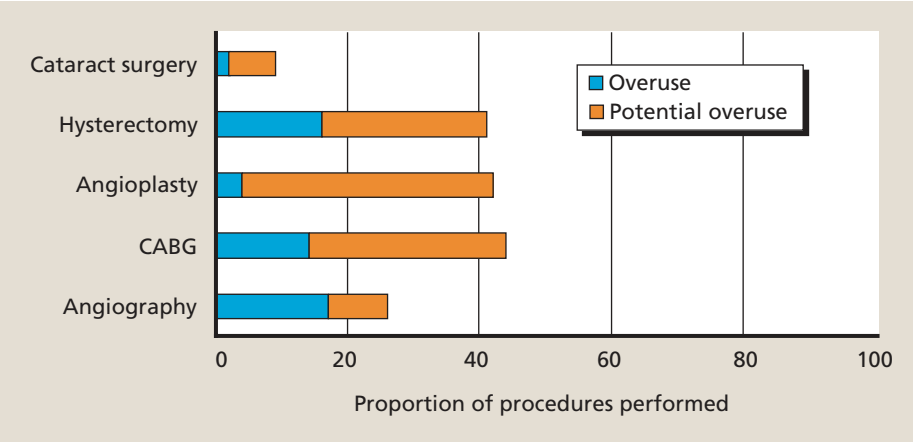


- The variation in rates of coronary artery bypass graft (CABG) surgery found in California mirrored those found in the United States as a whole. The *blue* dots show the rates of CABG per 1,000 Medicare enrollees in each hospital referral region* in the United States. The *red* dots show the same information for California
- However, as this chart demonstrates, without the experience in Redding, the variability in California would be smaller
- Identification of substantial variation in rates of service delivery led to research on the underlying causes

* Hospital referral regions represent regional health care markets for tertiary medical care.

About One-Third of Common Surgical Procedures May Not Benefit Patients

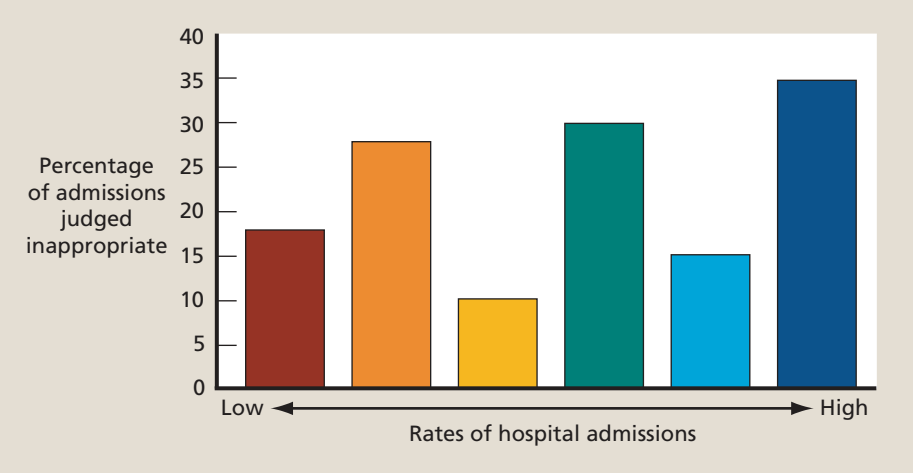
Sources: Bernstein et al., 1993; Winslow et al., 1988; Chassin et al., 1987; Hilborne et al., 1993; Tobacman et al., 1996.



- Several RAND studies conducted in the 1980s and early 1990s investigated whether patients who received common surgical procedures would be expected to have experienced significant health benefits from them
- On average, about one-third of procedures were provided for reasons that were not supported by clinical research and may be harmful to patients
- The proportion of procedures performed for inappropriate (overuse) or equivocal (potential overuse) reasons ranged in these studies from 9 percent (cataract surgery) to 44 percent (coronary artery bypass graft [CABG] surgery)
- We have no current information either nationally or for California on the appropriateness with which common surgical or diagnostic procedures are used

Variation in Inappropriateness of Hospital Admission Is Not Related to Admission Rates

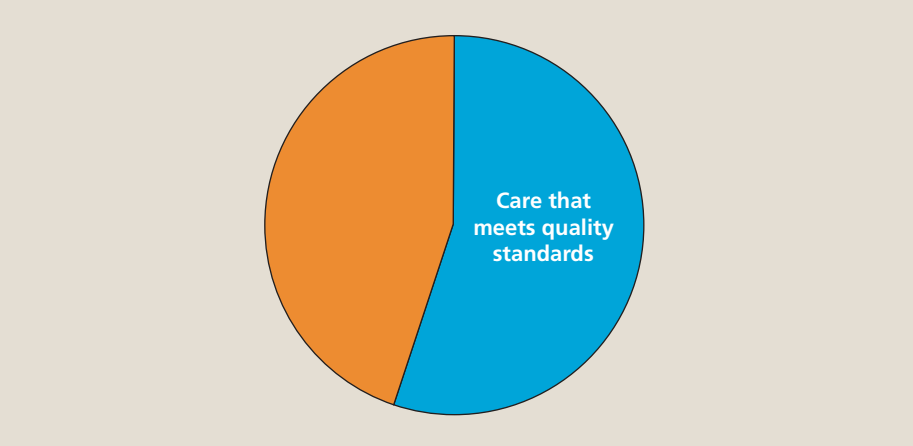
Source: Siu et al., 1986.



- Multiple studies have failed to find a relationship between the rates at which a health care service is used and the proportion of services that are provided for clinically acceptable reasons
- For example, findings from RAND's Health Insurance Experiment illustrated here show that the proportion of hospitalizations judged to be for inappropriate reasons ranged from 10–35 percent. The study sites are ordered from the communities with the lowest rates of hospital admission (left) to the highest rates (right). There is no relationship between admission rates in these communities and the proportion of inappropriate admissions

Overall, About One-Half of Recommended Care Is Received

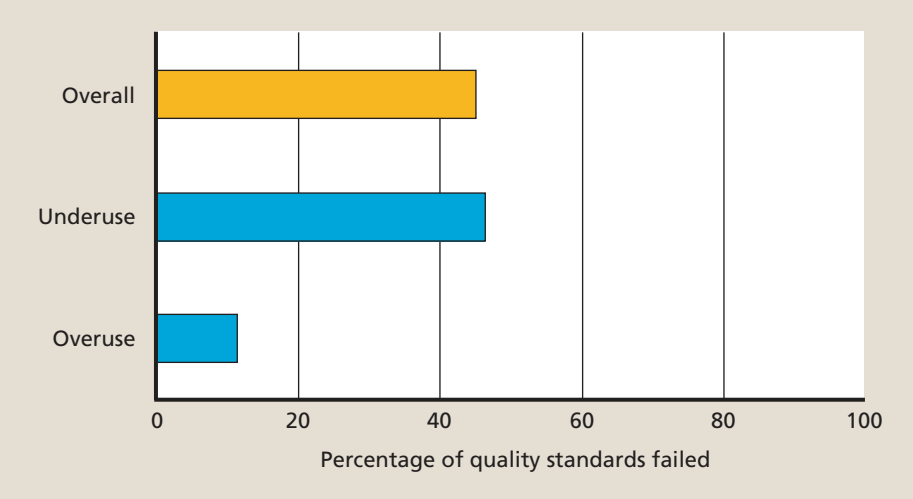
Source: McGlynn et al., 2003.



- In the only national study conducted on quality of care, RAND found that American adults were receiving about one-half of recommended medical services—that is, services shown in the scientific literature to be effective in specific circumstances and agreed upon by medical experts
- This study used RAND's Quality Assessment (QA) Tools system, a comprehensive method for assessing quality that includes 439 measures of effectiveness for 30 acute and chronic health problems of adults as well as the leading preventive health care interventions

Underuse Is a Greater Problem Than Overuse

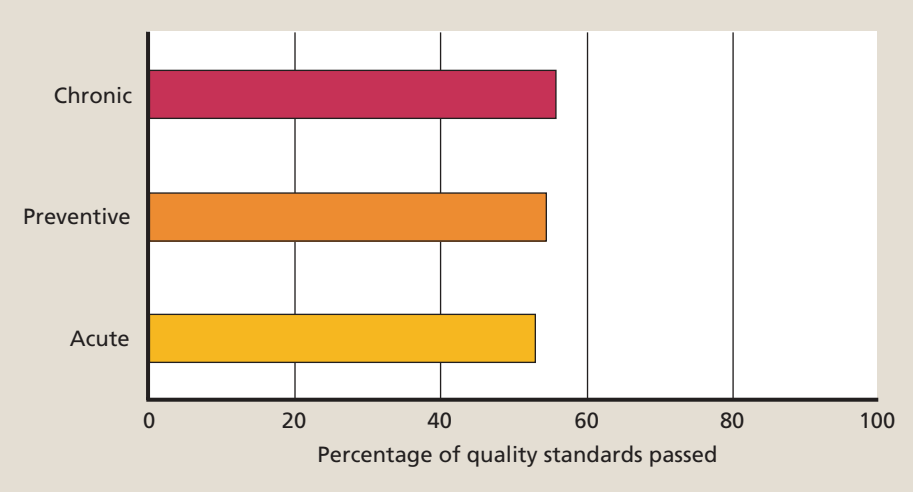
Source: McGlynn et al., 2003.



- RAND's national study found that failure to deliver needed services (underuse) occurred more often than delivering services that were not needed or harmful (overuse)
- Patients failed to receive needed services 46 percent of the time
- Patients received services they did not need 11 percent of the time. This rate of overuse is consistent with previous findings about the rates of use for surgical procedures that were clearly inappropriate but may underrepresent the total rates of overuse in the population

There Is Substantial Room for Improvement Across All Types of Care

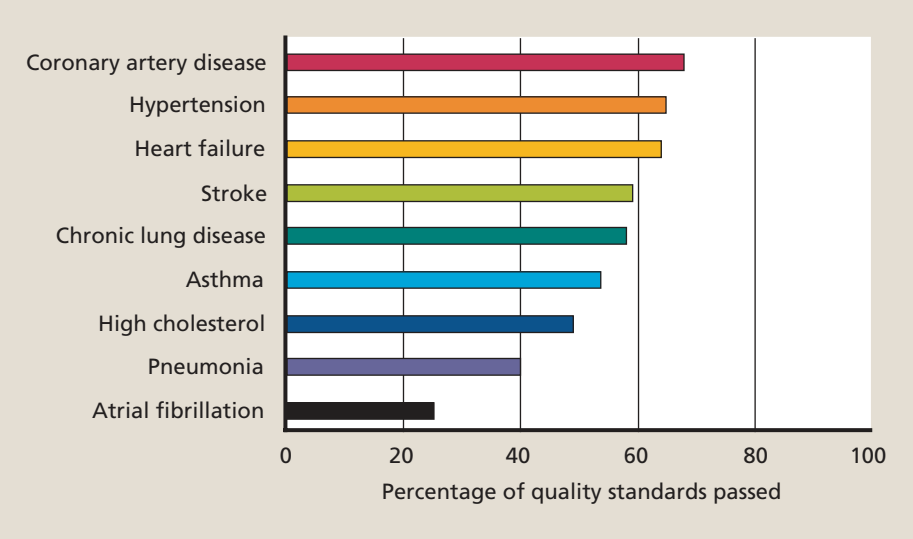
Source: McGlynn et al., 2003.



- RAND's national study found deficits in quality of care across all types of care—chronic, preventive, and acute
- Recommended care for managing chronic conditions (e.g., diabetes and hypertension) was provided 56 percent of the time
- Preventive care (e.g., flu shots, mammograms and smoking cessation counseling) met quality standards 55 percent of the time
- Recommended care for acute health problems (e.g., pneumonia and urinary tract infections) was provided 54 percent of the time

Quality of Care for Heart and Lung Problems Varies Widely

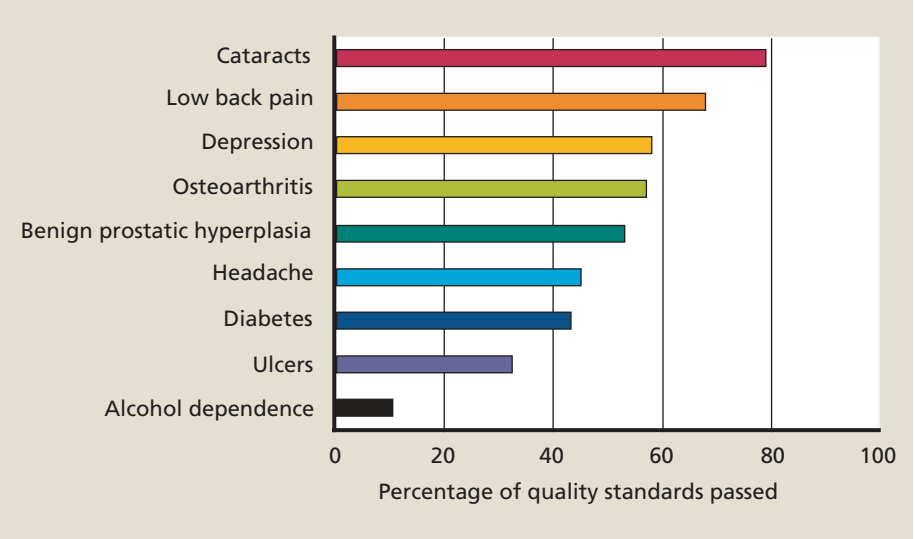
Source: McGlynn et al., 2003.



- RAND found wide variation in the proportion of recommended care provided for some specific conditions
- For example, recommended care for heart and lung problems ranged from 25 percent for atrial fibrillation (irregular heart rate) to 68 percent for coronary artery disease

Significant Variation Exists in Management of Adults' General Medical Problems

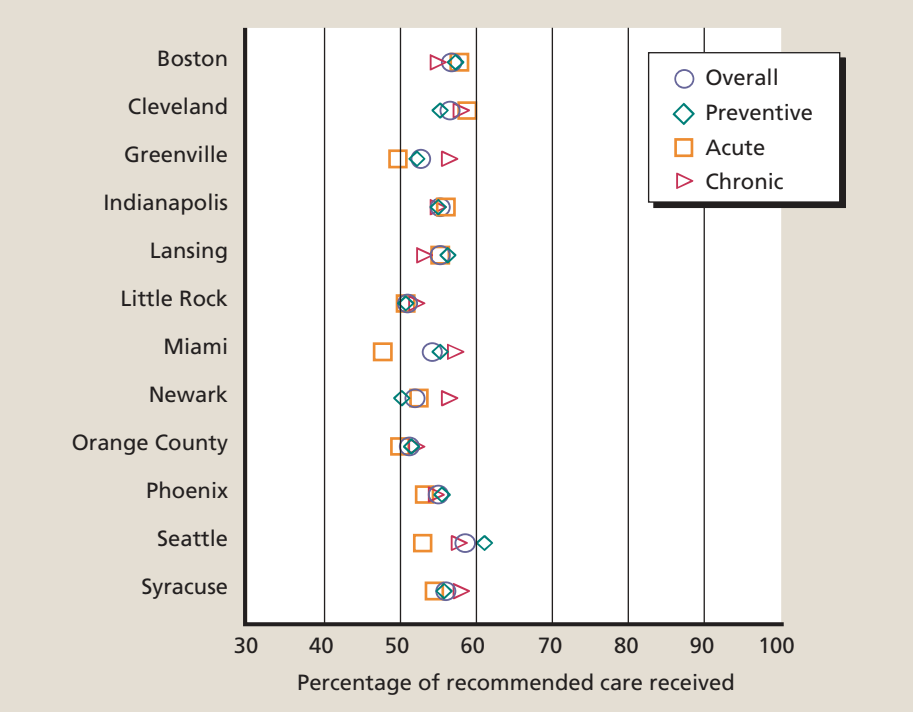
Source: McGlynn et al., 2003.



- RAND found wide variability in the quality of care provided to patients with other common medical problems ranging from 11 percent for alcohol dependence to 79 percent for cataracts
- The poor quality of care delivered to persons with diabetes is especially troubling because it is associated with significantly increased risk of death and disability
- The performance rates for both depression and alcohol dependence were limited to persons who had one of these diagnoses noted in their medical chart. We know from other work (and this is supported in RAND's national study) that many people with these problems are not identified or diagnosed—so the quality deficit is actually much greater in these two areas

Remarkably Little Variation Is Found Across Major Metropolitan Areas

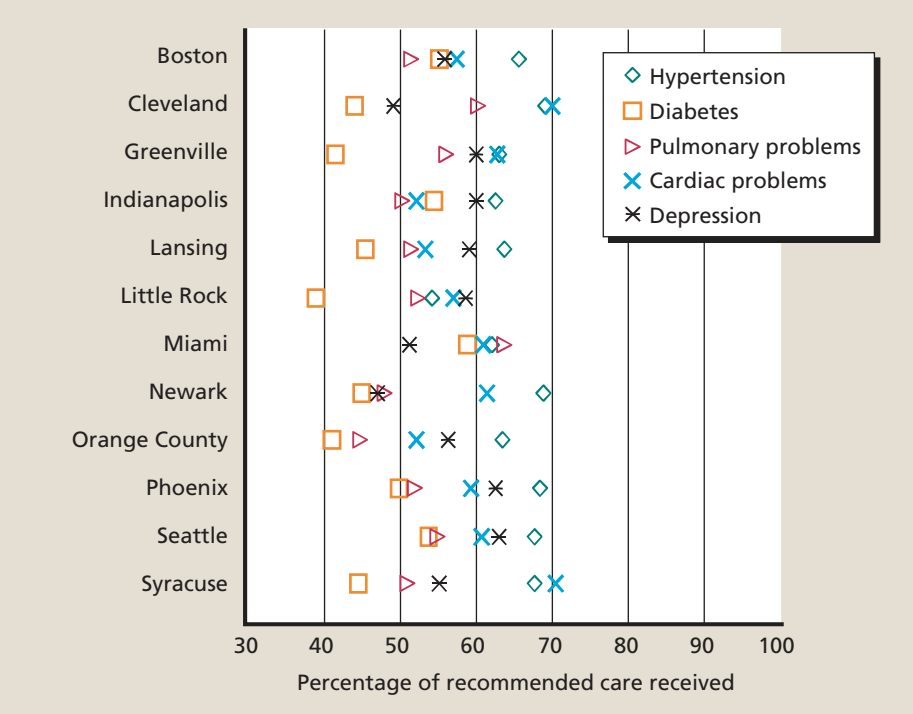
Source: Kerr et al., 2004.



- RAND's national study also examined the quality of care provided in 12 major metropolitan areas (described in Kerr et al., 2004). RAND found remarkably little variation in the percentage of recommended care that people received in these areas
- Overall, the proportion of residents receiving recommended services ranged from 51 percent in Orange County, California, and Little Rock to 59 percent in Seattle
- The proportion of residents receiving needed preventive services ranged from 50 percent in Newark to 61 percent in Seattle
- The proportion of residents receiving needed acute care services ranged from 48 percent in Miami to 59 percent in Cleveland
- The proportion of residents receiving needed care for chronic health problems ranged from 52 percent in Orange County to 58 percent in Cleveland and Syracuse

Quality for Selected Chronic Conditions Varies by Community

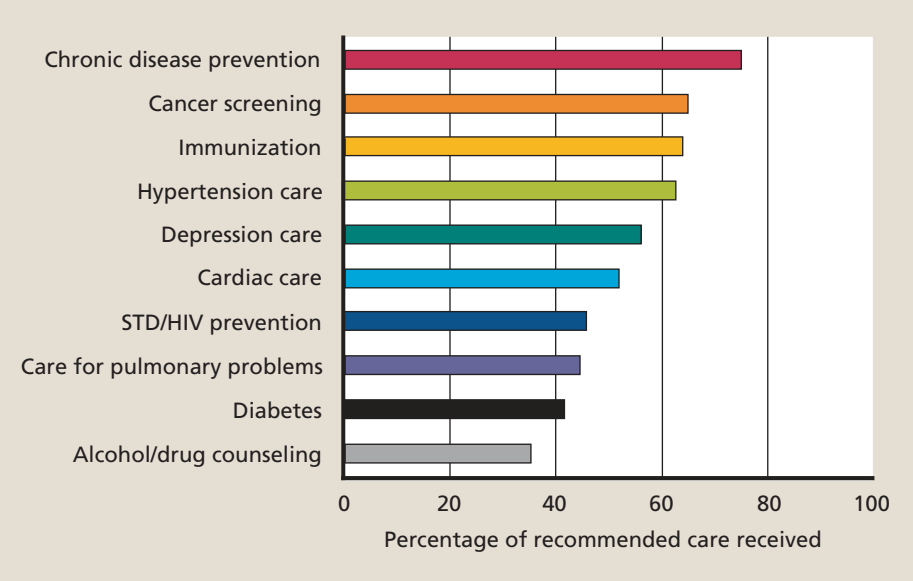
Source: Kerr et al., 2004.



- The 12 metropolitan areas in the study had similar overall rates of recommended care for chronic conditions. However, there were some differences across communities
- Care for diabetes ranged from 39 percent in Little Rock to 59 percent in Miami
- Care for depression ranged from 47 percent in Newark to 63 percent in Seattle
- Care for hypertension ranged from 54 percent in Little Rock to 69 percent in Cleveland
- Care for cardiac problems ranged from 52 percent in Indianapolis and Orange County to 70 percent in Syracuse
- Care for pulmonary problems ranged from 45 percent in Orange County to 64 percent in Miami
- No community was consistently best or worst in the provision of recommended services

Quality Varies for Selected Health Problems in Orange County

Source: Kerr et al., 2004.



- This chart provides a more detailed look at the pattern of care for Orange County
- The largest gap in delivery of recommended services is for alcohol and drug counseling
- The area with the best demonstrated performance is screening to identify persons with chronic diseases at an early stage (e.g., blood pressure screening)
- Profiles such as this would be valuable for every community in California as a way to focus quality improvement efforts

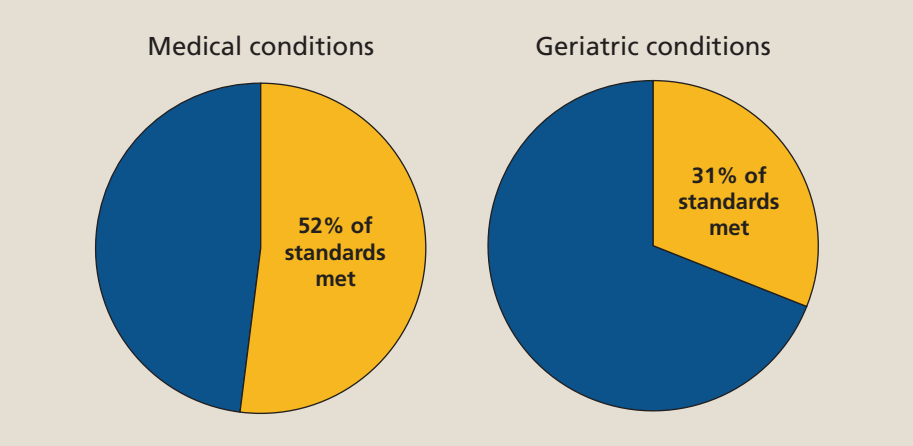
What Are the Consequences of Poor Quality?

Condition	What we found	Estimated preventable complications/deaths (annual)
Diabetes	Blood sugar not measured for 40%; 24% uncontrolled	2,500 blind; 29,000 kidney failure
Hypertension	Blood pressure uncontrolled in 58%	68,000 deaths
Heart attack	39–55% did not receive needed medications	37,000 deaths
Pneumonia	36% no vaccine	10,000 deaths
Colon cancer	62% not screened	9,600 deaths

- The deficits in care documented in RAND's national study pose serious threats to the health of the American public and translate into thousands of preventable complications and deaths per year
- People with diabetes received only 45 percent of the care they needed. Blood sugar was not measured in the two years of the study in 40 percent of patients with diabetes. One-quarter of those with their blood sugar measured demonstrated poor control, which can lead to kidney failure, blindness, and amputation of limbs
- Patients with hypertension received less than 65 percent of recommended care. Uncontrolled blood pressure is associated with increased risk for heart disease and stroke and has been estimated to cause 68,000 preventable deaths annually (Woolf, 1999)
- People with coronary artery disease received 68 percent of recommended care, but just 45 percent of heart attack patients received beta blockers and 61 percent got aspirin. This gap has been estimated to cause 37,000 preventable deaths annually (Woolf, 1999)
- Fewer than two-thirds of elderly Americans were vaccinated against pneumonia. Nearly 10,000 deaths from pneumonia could be prevented annually through proper vaccinations (Woolf, 1999)
- Just 38 percent of adults over age 50 were screened for colorectal cancer. Routine tests and appropriate follow-up could prevent 9,600 deaths a year (Woolf, 1999)

Care for Geriatric Conditions Is Poorer Than Care for General Medical Conditions

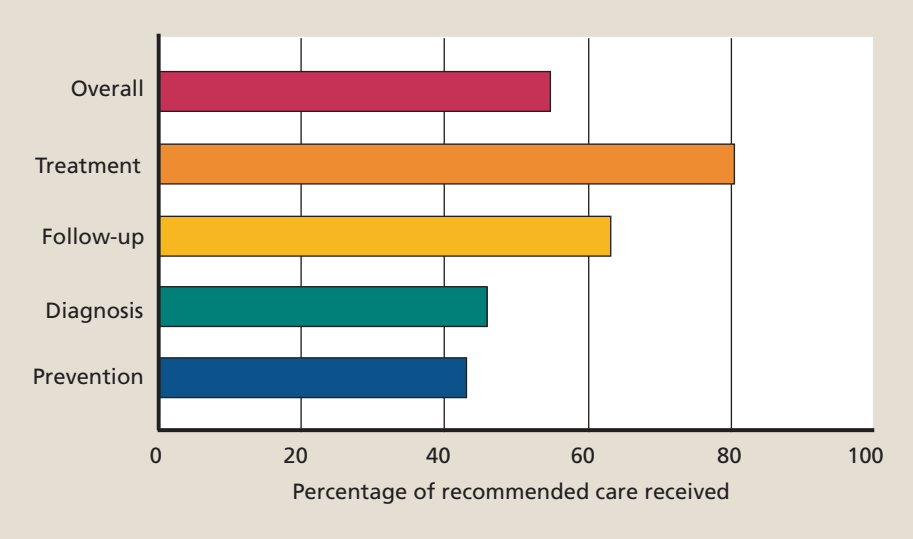
Source: Wenger et al., 2003.



- RAND's national assessment of quality described the epidemiology for the country. Other RAND quality assessment efforts using the ACOVE™ (Assessing Care of Vulnerable Elders) quality measurement system have focused on individuals 65 or over who are at increased risk for functional decline or death
- The study findings for this subset of the population were the same as for the national study: Overall, vulnerable elders received about one-half of recommended care, as measured by the percentage of time that providers met standards for quality care
- Adherence to standards of care was even poorer for geriatric conditions. For example, RAND found that recommended care was provided 31 percent of the time for geriatric conditions such as dementia, urinary incontinence, and falls, which affect primarily the elderly. This finding is particularly troublesome given that early attention to geriatric conditions such as falls and gait disorders may avoid functional decline and even death

Quality of Preventive Care for the Elderly Is the Poorest

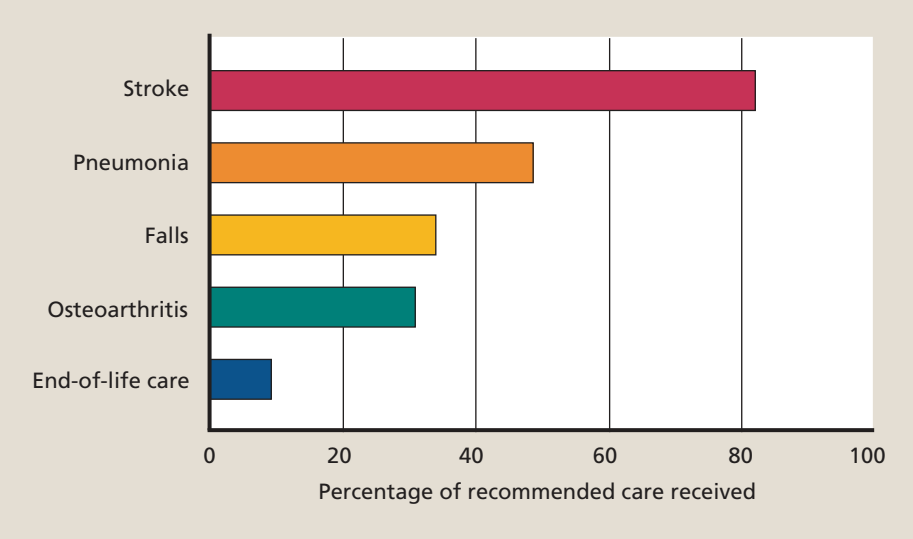
Source: Wenger et al., 2003.



- The percentage of quality standards met varies for different types of care
- Standards were met least often for preventive care—43 percent of the time. Standards met for diagnosis were only slightly higher at 46 percent
- Standards were met most often for treatment (80 percent)
- This difference might be explained by the nature of the U.S. health care system, which reimburses providers for time spent performing procedures and prescribing medications, but not for time spent taking thorough histories or providing preventive counseling
- Researchers also found that providers administered proper care to patients with conditions that needed immediate treatment (acute conditions) far more frequently than to those with chronic health problems—83 percent of the time versus 51 percent

Quality of Care for the Elderly Varied by Condition

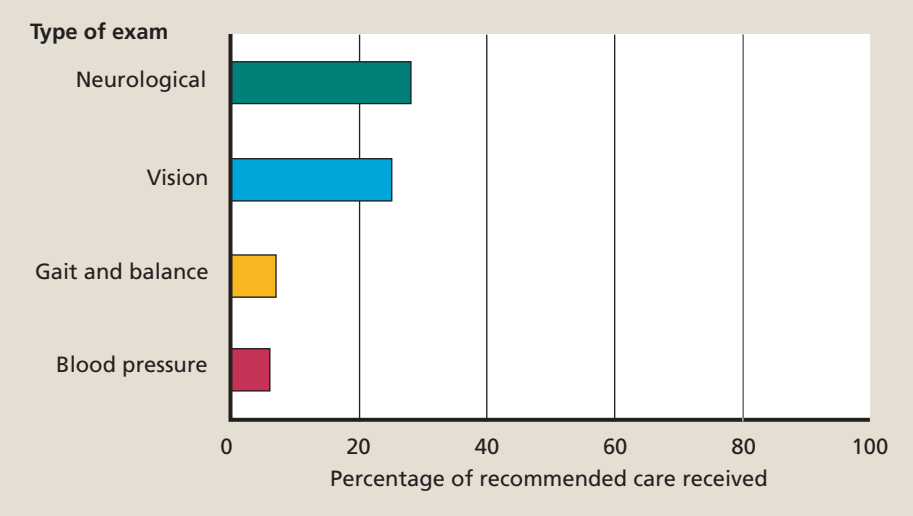
Source: Wenger et al., 2003.



- As was the case in the national assessment, quality of care for the elderly varied widely by condition
- Quality standards were met in treatment for stroke 82 percent of the time. In contrast, standards were met in end-of-life care only 9 percent of the time

Vulnerable Elders Do Not Receive Recommended Care After a Fall

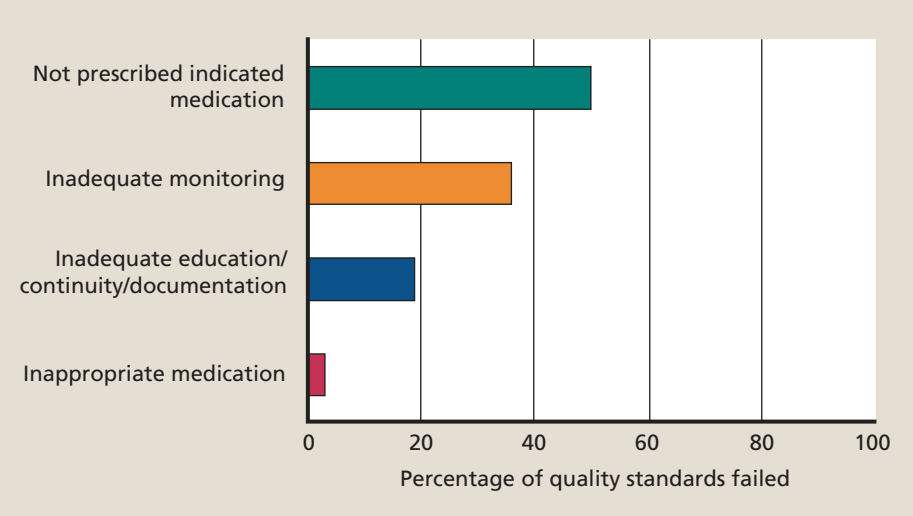
Source: Rubenstein et al., 2004.



- The standards of care used by RAND represent the basics of good medical care rather than focusing on only new or high-technology services. For example, standards of care for falls require that a physician examine a vulnerable elder who has fallen to determine the reason for the fall and to identify problems that may be treatable so the patient will be less likely to fall again
- But RAND found that elderly patients who had fallen were getting only a fraction of the care they should have received. For example, only 6 percent of patients were evaluated for blood pressure standing and lying, 7 percent had a gait and balance examination, and about one-quarter had a vision or neurological examination
- Such exams are necessary to identify patients who are weak and need physical therapy or patients with conditions such as Parkinson's disease who need specific medication treatment

Medication Management for Vulnerable Elders Is Poor

Source: Higashi et al., 2004.



- Despite concerns about inappropriate use of medication, RAND has found that among the vulnerable elderly, the greatest problems with medication management are failure to prescribe needed medications and failure to monitor patients' response to (or side effects from) the medications that are prescribed
- This underscores the importance of comprehensive evaluations of quality problems—so that priorities can be set across the broad range of quality issues

The Multiple Dimensions of Quality

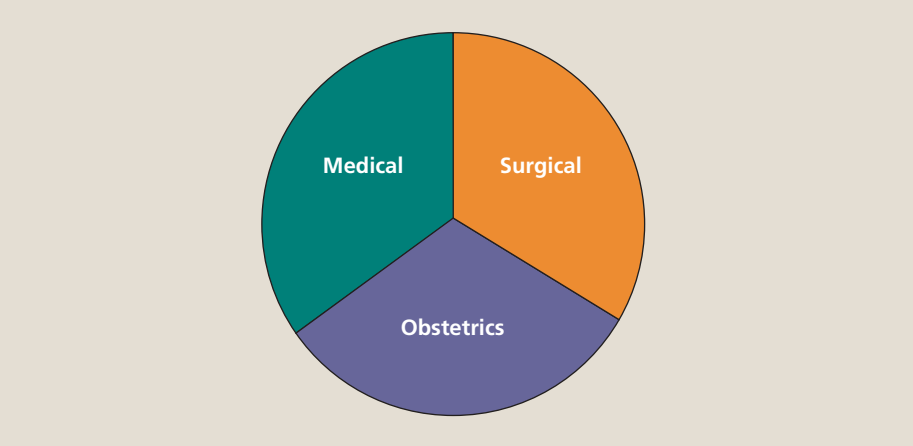
Source: Institute of Medicine, 2001.

Elements of quality care	Type of quality problem
People get the care they need	Underuse
People need the care the get	Overuse
Provided safely	Error
Timely	Delays
Patient centered	Unresponsive
Delivered equitably	Disparities
Delivered efficiently	Waste

- We have been focusing on the effectiveness of care. We now turn our attention to the other five dimensions of quality defined by the Institute of Medicine: safety, timeliness, patient centeredness, equity, and efficiency.

Problems with Patient Safety Occur in All Types of Hospitalizations

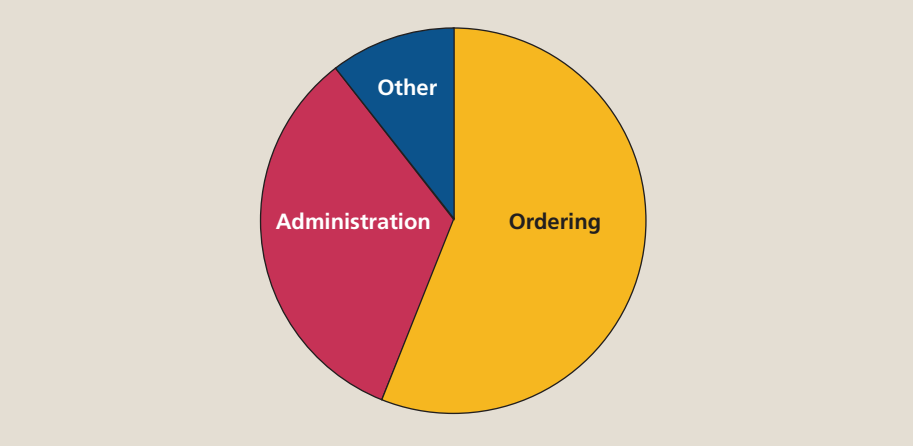
Source: Agency for Healthcare Research and Quality, 2004.



- The Institute of Medicine focused national attention on quality problems related to medical errors in its recent report *To Err Is Human* (Kohn, Corrigan, and Donaldson, 2000)
- The Agency for Healthcare Research and Quality has found that 1.12 million problems with patient safety occurred in 1.07 million hospitalizations—about one per hospitalization
- The problems were distributed relatively equally across the three major types of hospitalizations:
  - 34 percent in surgical admissions
  - 31 percent in obstetrics admissions
  - 35 percent in medical admissions
- Other studies have found that 45–48 percent of adverse events are attributable to surgical admissions (Leape et al., 1991; Thomas et al., 2000)
- About 17 percent of adverse events in surgery were the result of negligence (Leape et al., 1991; Thomas et al., 2000)

Preventable Adverse Events Occur Most Often in Ordering and Administration of Drugs

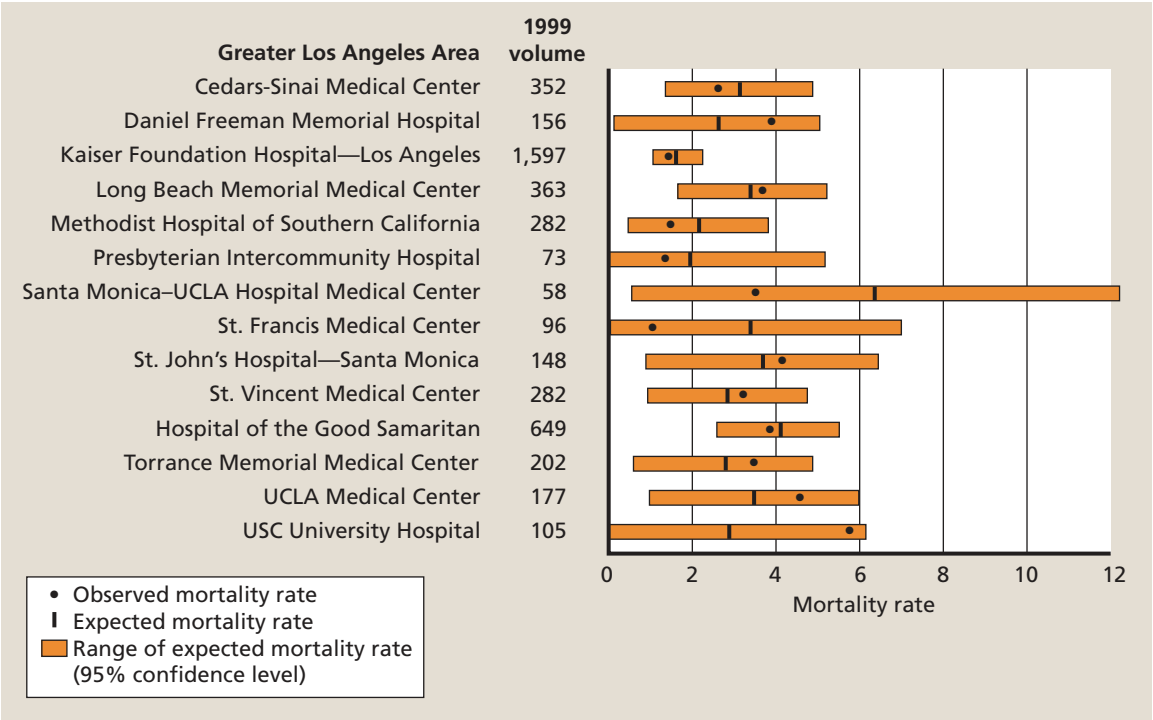
Source: Bates et al., 1995.



- A study of the sources of preventable adverse drug events found that 56 percent occurred at the time a medication was ordered and 34 percent when the drug was administered
- Errors were more likely to be intercepted by computerized systems if they occurred earlier in the process (48 percent of ordering errors were preventable compared to 0 percent of administration errors)

Expected Mortality Rate Can Be Compared with the Rate Observed

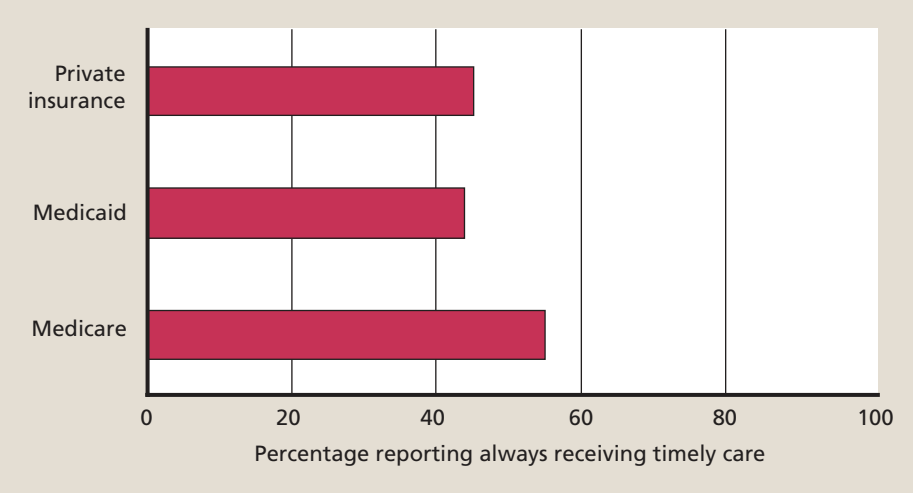
Source: California CABG Mortality Reporting Program, 2003.



- The Office of Statewide Health Planning and Development and the Pacific Business Group on Health established a voluntary statewide reporting program to collect and publicly report mortality data from California hospitals for coronary artery bypass graft (CABG)
- This chart compares the expected mortality rate for CABG—that is, the number of patients one would expect to die following surgery, given the severity of their illness—and the actual mortality rate for hospitals in the Greater Los Angeles Area in calendar year 1999 that participated in the program
- None of these hospitals had a significant difference between the expected mortality rate and the actual rate—in either direction. That is, the hospitals did not perform either better or worse than one would expect, given the kind of patients they treat
- Public reporting of quality data is one way to make the public more aware of, and concerned about, quality issues and to give providers an incentive to provide quality care

Medicare Beneficiaries Report Least Problems with Receiving Timely Care

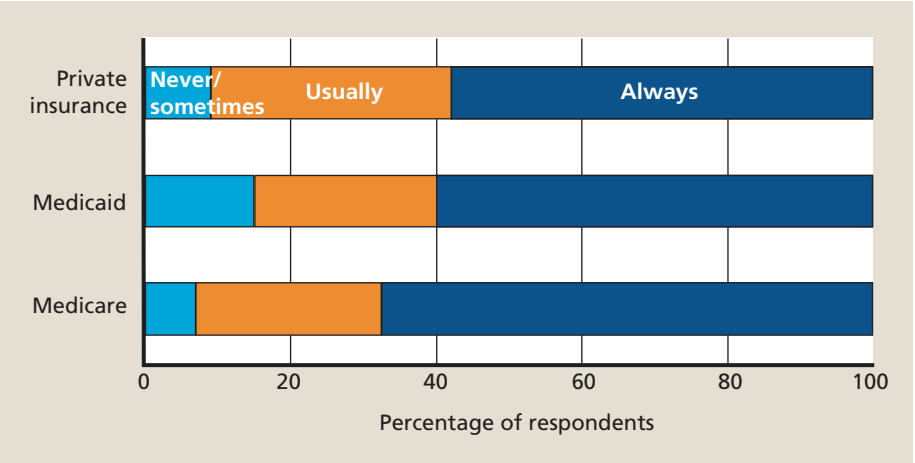
Source: *The National CAHPS® Benchmarking Database*, 2002–2003.



- Quality care is also timely and patient centered. A standardized national survey known as CAHPS® (originally, Consumer Assessment of Health Plans) gathers annual data about aspects of consumer experiences with obtaining medical care, including these two dimensions
- CAHPS data show that Medicare beneficiaries were significantly more likely than individuals covered by Medicaid or private insurance to report that they always got the care they needed (appointments, treatments, and seeing a doctor when scheduled) in a timely manner

Medicare Beneficiaries Give Their Personal Physicians High Ratings for Communication

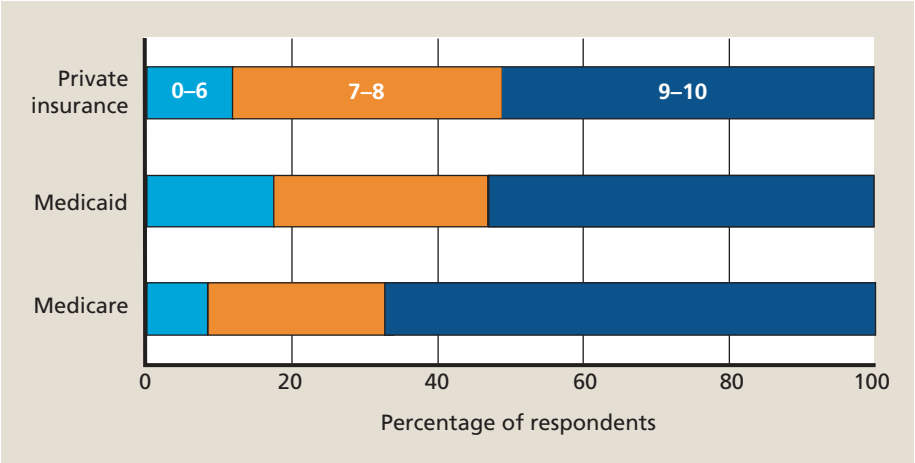
Source: *The National CAHPS® Benchmarking Database*, 2002–2003.



- One dimension of patient-centered care that CAHPS measures is a physician's ability to communicate with his or her patients. Patients rated how often (*never or sometimes, usually,* or *always*) physicians communicated well
- Medicare beneficiaries were more likely than other patient groups to give their physicians high marks on communication

Medicare Beneficiaries Rate Their Overall Health Care Higher

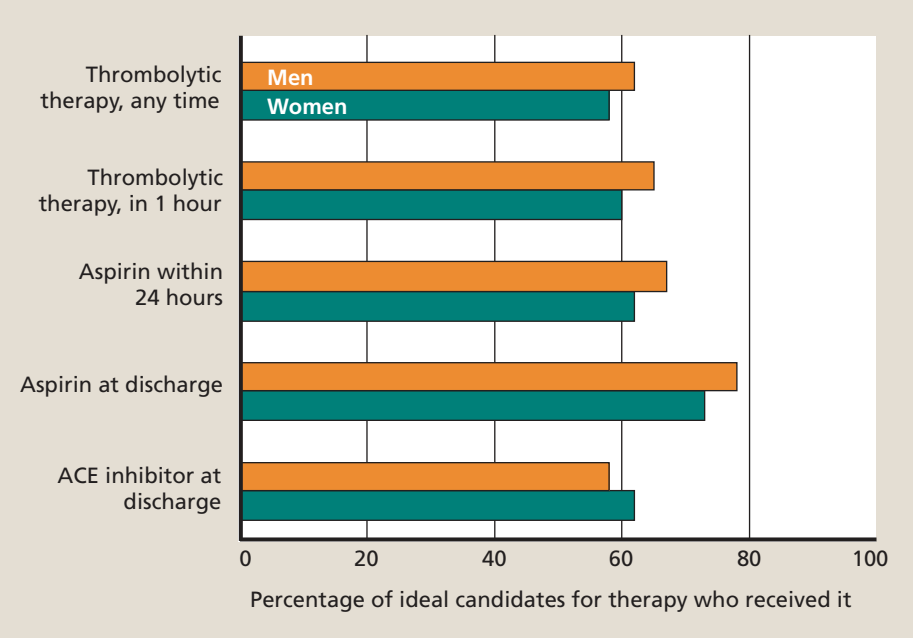
Source: *The National CAHPS® Benchmarking Database*, 2002–2003.



- The CAHPS survey asks patients to rate their overall care, on a ten-point scale, where zero is the worst possible and ten is best possible
- Medicare beneficiaries were more likely than other groups to rate their overall care as a 9 or 10

Women Are Less Likely to Get Effective Drug Therapies for Heart Attacks

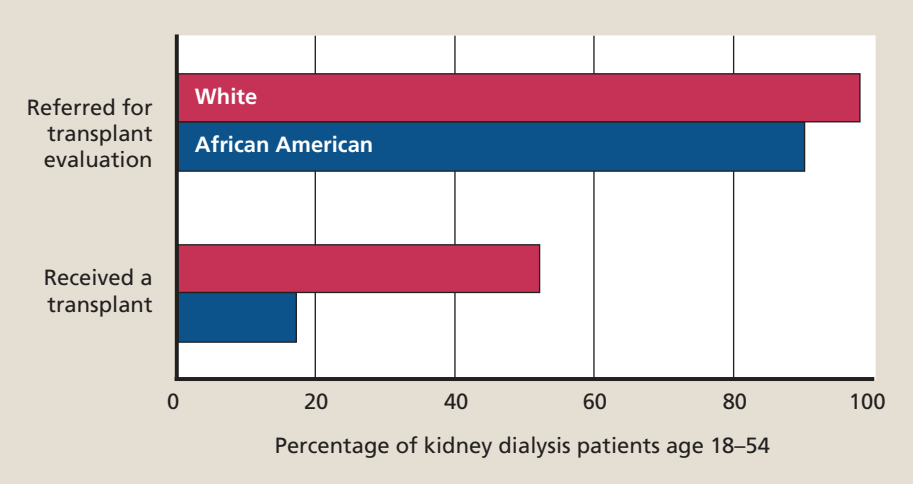
Source: Gan et al., 2000.



- Many studies have identified disparities in care between men and women and between different ethnic or socioeconomic groups
- For example, data from 1994–1995 show disparities in care between men and women who have had heart attacks
- Female Medicare patients hospitalized for heart attacks were less likely than men to receive drug therapies known to be effective in improving survival
- They were also less likely to receive time-sensitive therapies on a timely basis

African Americans Are Less Likely to Have Access to Kidney Transplants

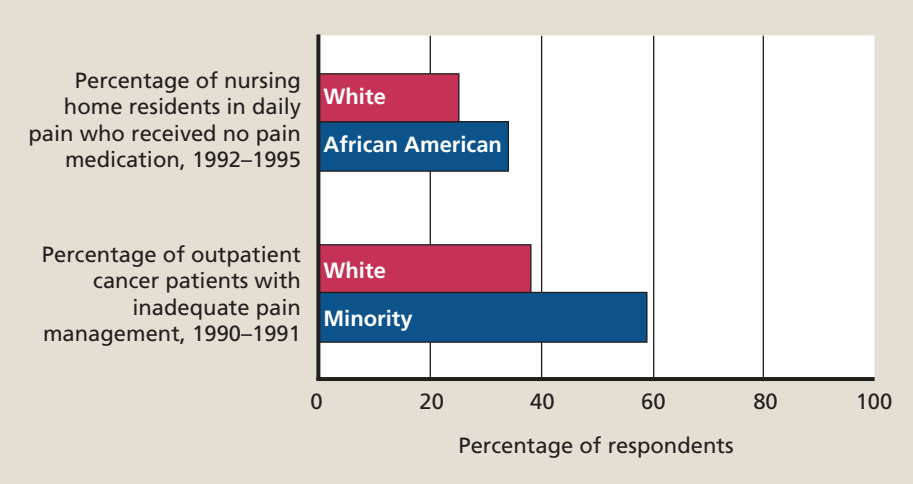
Source: Ayanian et al., 1999; Epstein et al., 2000.



- Almost all end-stage renal disease (ESRD) patients have Medicare coverage, which should minimize disparities in financial access to care
- But among ESRD patients age 18–54 who started kidney dialysis, African Americans were less likely than white patients to be referred for evaluation or to receive a kidney transplant
- African Americans were also less likely to be placed on a waiting list for a transplant
- There were no differences between men and women in access to kidney transplants

Minority Patients Are Less Likely to Receive Adequate Cancer Pain Management

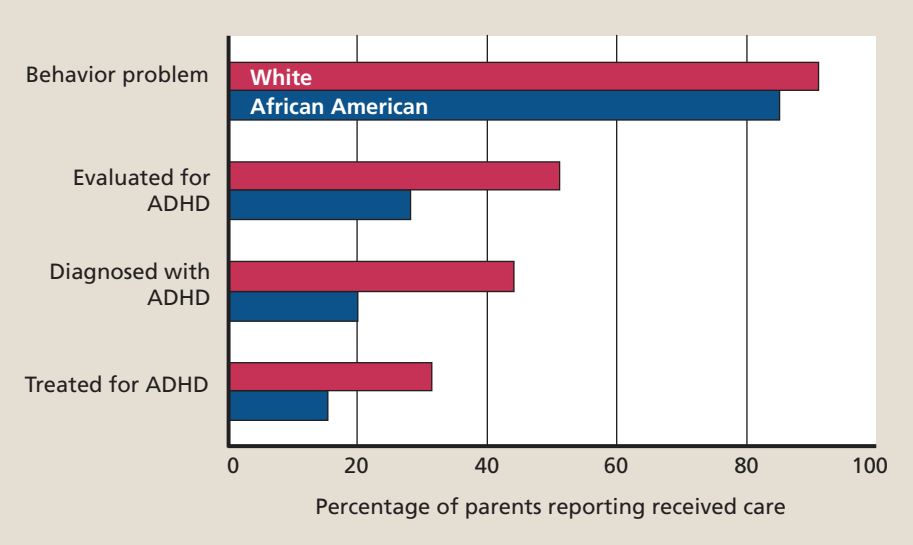
Sources: Bernabei et al., 1998; Cleeland et al., 1994.



- Two studies in the last decade found that many cancer patients did not receive adequate medication for their pain
- Among elderly nursing home residents who reported being in daily pain, 34 percent of African Americans and 25 percent of white residents did not receive any pain medication (Bernabei et al., 1998)
- Among cancer patients visiting 54 outpatient clinics, 59 percent of minority patients and 38 percent of white patients had inadequate pain management (Cleeland et al., 1994)
- The overall level of inadequate pain management among cancer patients is troubling; the greater inadequacy among minorities is even more disturbing

African American Children Are Less Likely Than Whites to Be Diagnosed and Treated for ADHD

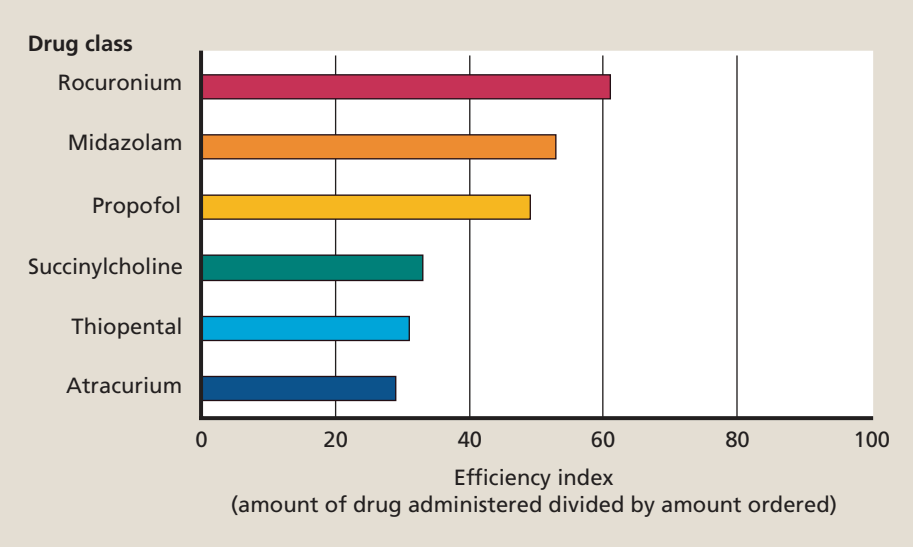
Source: Bussing et al., 2003.



- In 1998, most elementary school children with symptoms of attention-deficit/hyperactivity disorder (ADHD) were recognized by their parents as having behavior problems
- White children were more likely than African American children to have been professionally evaluated and subsequently diagnosed and treated for ADHD
- Boys were also more likely than girls to be diagnosed and treated

Use of Anesthesia Drugs Demonstrates One Type of System Inefficiency

Source: Gillerman and Browning, 2000.



- One dimension of waste in the health care system is supplies that are ordered and not used, particularly when those supplies cannot be reused
- Use of six high-volume or high-cost anesthesia drugs was studied over a one-year period in one hospital. The authors compared the amount of medication ordered to the amount that was actually administered
- The total cost of unadministered drugs was $165,667 or 26 percent of what was spent on all drugs in the anesthesia department
- The main reason for waste was disposal of syringes that were full or partially full
- We have no national or California-specific estimates of the amount of health care spending that can be attributed to waste

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