CHAPTER

Assessing the need for change

CHAPTER

Assessing the need for change

edicare has provided millions of people with access to acute medical care, extending beneficiaries' lives while improving their health status and quality of life. Medicare's payments to health care providers also have financed substantial growth in the nation's health care capacity, the adoption of new technologies, and other improvements in medical practice. Ongoing changes in the demographic characteristics of the enrolled population, medical technology, and care delivery, however, have magnified the importance of limitations in Medicare's benefit design, such as its uneven cost sharing provisions, omission of coverage for outpatient prescription drugs, and lack of incentives for care coordination and management. Medicare beneficiaries who have not obtained additional insurance now face financial incentives to avoid certain products, services, and settings for care and are exposed to the risk of potentially high out-of-pocket spending in the event of serious injury or illness. Most beneficiaries obtain some type of supplemental coverage, but coverage is often costly and in many instances only partly effective in addressing the limitations of Medicare's benefit package. As a result, many who have supplemental coverage still face large financial risks for health care products and services that Medicare does not cover and incentives that may dissuade them from using the most clinically appropriate care. Moreover, demographic trends and continuing rapid changes in technology are likely to exacerbate these problems.

In this chapter

- Medicare's benefit design
- Do Medicare's benefits ensure access to care and financial protection?
- Do Medicare's benefits promote efficient care delivery?
- Conclusion

The Congress created Medicare in 1965 to ensure that people age 65 and older—and later those who are disabled or have endstage renal disease—would have access to affordable health care. Before Medicare's enactment, many elderly people faced serious financial barriers to obtaining needed health services. Hospital care, for example, was becoming prohibitively expensive. Among elderly couples in which one member had a hospital stay, 20 percent incurred long-term debt to pay the hospital bill (U.S. Congress 1964). People without health insurance were significantly less likely to be hospitalized than those with insurance. At the same time, insurance was costly or unavailable for many elderly people. The average cost of private health insurance was estimated to be 13–20 percent of elderly couples' median incomes (National Academy of Social Insurance 1999). Only about onehalf of all people age 65 or older had health insurance; the proportion was less than one-third for people over age 75 and those with chronic conditions (U.S. Congress 1964). Moreover, many insurance policies available to the elderly provided only limited coverage, were expensive, or both (Blumenthal et al. 1988).

Medicare's benefits were intended to ensure beneficiaries' access to the same types of medical care then available to working Americans through employersponsored health insurance. Access to health care and financial protection from the costs of illness were, and remain, intertwined policy goals. Medicare accomplished both goals by providing beneficiaries with covered benefits similar to those offered in traditional health insurance, which reduced their costs of using covered services and helped insulate them and their families from the risk of impoverishment associated with serious illness or injury.

Medicare's benefit structure, however, also reflects policymakers' decisions about how to balance access to care and

financial protection for beneficiaries on the one hand against the financial burden on taxpayers and beneficiaries on the other. Efficiency-meeting Medicare's goals for financial protection and access to care without imposing unnecessary burdens on the beneficiaries and taxpayers who finance program benefits—has always been an important third goal. Thus, the concept of efficiency is critical to assessing Medicare's benefit design: To what extent does the current benefit structure—the services that are covered, and the portion of their cost Medicare pays—promote access to high-quality, clinically appropriate health care at the lowest cost?

Total spending in 2002 for health care services—other than long-term care—on behalf of Medicare beneficiaries will amount to \$446 billion. Medicare program spending for benefits and administration will account for about \$262 billion or roughly three-fifths of the total; the rest will come from other public or private third-party payers through supplemental insurance or other coverage and from beneficiaries' direct spending for health services and supplies.¹

In this report, the Medicare Payment Advisory Commission (MedPAC) examines how well Medicare's benefit design has worked in meeting policymakers' goals; how changes in the population, medical technology and practice, and private insurance may affect Medicare's performance in coming years; and options policymakers might consider to improve program performance in the future. We make no recommendations.

We begin this chapter by describing Medicare's benefit design and how its covered benefits have changed over time. Next we look at trends in medical technology and care delivery and in the beneficiary population that are likely to foster continuing rapid growth in the number of beneficiaries and health care spending per person, thereby making efficient service production and use ever

more important. Finally, we examine how Medicare's benefit design coupled with the additional insurance coverage most beneficiaries obtain has affected their access to care, out-of-pocket spending, and incentives to use services judiciously. Chapter 2 then considers how beneficiaries get additional coverage and emerging changes in the sources of coverage that may affect beneficiaries' abilities to address limitations in Medicare's benefit design in the future.

Chapter 3 illustrates a range of options that policymakers might consider in thinking about changing Medicare's benefit package. Options include changes in Medicare's cost-sharing provisions, incremental additions to the benefit package, and more extensive reforms that would create a more comprehensive benefit package. We assess these options based on how they might affect Medicare's performance in ensuring beneficiaries' access to care, financial protection, and efficiency in using health care resources. Some options are designed to accommodate the scarcity of federal budget resources and could be implemented in ways that would hold program spending at about the level that would be expected under current law. These options address the question: "Could changes in Medicare's benefit structure improve beneficiaries' access to appropriate care and financial security without increasing Medicare program costs?" Other options might substantially increase program spending although total spending from all sources for health care services on beneficiaries' behalf would remain unchanged. These options address the question: "Could structural changes to Medicare's benefits improve beneficiaries' access to care and financial security without increasing total health care spending?"

In examining the strengths and limitations of Medicare's benefits and potential improvements, we separate questions of benefit design from the closely related

¹ Our estimate of calendar year 2002 program spending was produced by the Actuarial Research Corporation based on projections from the 2002 Annual Reports of the Boards of Trustees of the Hospital Insurance and Supplementary Medical Insurance Trust Funds. Compared with our estimate, the Congressional Budget Office has estimated lower total program spending of \$248 billion for fiscal year 2002 (Crippen 2002).

issues of payment policy and program financing. Although the latter issues are of great importance, we do not address them in this report.

Because the vast majority of beneficiaries are enrolled in the traditional fee-forservice program, we rely heavily on their experience in evaluating how Medicare's benefits have performed in ensuring access to care and financial protection. We do not address the important question of how a revised benefit package might be delivered to beneficiaries-whether through a single government-operated Medicare program, privately-owned insurance plans, or some marriage of the two. Regardless of which direction Medicare reform might take, benefit revisions would be equally necessary to promote efficient use of health care services.

Medicare's benefit design

The Medicare benefit package is generally limited to acute care services that are needed for the diagnosis or treatment of illness or injury.² Medicare beneficiaries may receive covered services in the traditional program or they may enroll in a private health insurance plan under the Medicare+Choice (M+C) program. Traditional Medicare covers health care services—furnished on a fee-for-service basis—through its two parts, the Hospital Insurance and Supplementary Medical Insurance programs, known as Parts A and B, respectively (Table 1-1). People who receive Social Security cash benefits on the basis of age or disability are automatically entitled to Part A benefits, including hospitalization, short-term care in skilled nursing facilities, postinstitutional home care, and hospice services.³ Part B enrollment is voluntary, although the vast majority of beneficiaries choose to enroll and pay a monthly



Medicare benefits and cost-sharing requirements, 2002

| Services | Beneficiary cost sharing |
|----------|--------------------------|

Part A

Inpatient hospital (up to 90 days per benefit period plus 60 lifetime reserve days)

Days 1–60: fully covered
Days 61–90: \$203 per day

60 lifetime reserve days: \$406 per day

\$812 for the first stay in a benefit period

Skilled nursing facility (up to 100 days per benefit period) Days 1–20: fully covered
Days 21–100: \$101.50 per day

Hospice care for terminally ill beneficiaries

Nominal coinsurance for drugs and respite care

Part B

Premium

\$54 per month

Deductible

\$100 annually

Physician and other medical services (including supplies, durable medical equipment, and physical and speech therapy) 20 percent of Medicare-approved amount

Outpatient hospital care

20 percent of 1996 national median charge

updated to 2000

Ambulatory surgical services

20 percent of Medicare-approved amount

Laboratory services

None

Outpatient mental health services

50 percent of Medicare-approved amount

Preventive services

20 percent of Medicare-approved amount (none for Pap smear, pneumococcal vaccine, flu shot,

prostate specific antigen (PSA) test)

Both Part A and B

Home health care for homebound beneficiaries needing skilled care

None

Note: These benefits and cost-sharing requirements apply to traditional Medicare. Medicare+Choice plans can deviate from these requirements, but they must cover the same services, cost sharing cannot be higher on average, and the Centers for Medicare & Medicaid Services must approve each plan's cost-sharing and benefit package. A benefit period is defined as beginning when a patient is admitted to the hospital for inpatient care and ending when the beneficiary has been out of the hospital or skilled nursing facility for 60 consecutive days.

Source: Centers for Medicare & Medicaid Services 2002.

² Section 1862(a)(1)(A) of the Social Security Act prohibits Medicare payment for items or services that are "not reasonable and necessary for the diagnosis or treatment of illness or injury or to improve the functioning of a malformed body member."

³ People who have end-stage renal disease (kidney failure), receive Railroad Retirement benefits, or have worked more than a minimum period in Medicare-covered employment also are automatically entitled to Part A benefits; others may obtain coverage by paying a monthly premium. Part A entitlement normally begins after a 24-month waiting period for those who receive cash benefits based on disability.

premium (\$54 in 2002). Part B covers physicians' and other practitioners' services, outpatient hospital and other outpatient facility services, home care not covered under Part A, and a variety of other services, such as diagnostic tests, durable medical equipment, ambulance services, and limited preventive services.

Under the M+C program (Part C), beneficiaries living in certain areas may receive Medicare benefits by enrolling with participating private plans, such as health maintenance organizations or preferred provider organizations. Private plans must cover the same services covered in the traditional program, but the cost-sharing requirements may differ as long as they are at least actuarially equivalent—the average projected costsharing liability per person must be the same or smaller. Beneficiaries who enroll in M+C plans also may receive other benefits, such as reduced cost-sharing requirements or some coverage for outpatient prescription drugs or other products and services not covered by traditional Medicare.

Medicare benefits are financed primarily by payroll taxes, general tax revenues, and beneficiary premiums. In addition, beneficiaries are responsible for paying a portion of the cost for most covered services in the form of deductibles and coinsurance.

Evolution of the benefit package

Although the basic benefit design has remained essentially unchanged since Medicare's inception, its covered benefits have been revised repeatedly through legislation, regulatory interpretations, judicial decisions, and coverage determinations by the Centers for Medicare & Medicaid Services (CMS) and its contractors. These revisions have substantially expanded Medicare's covered services, adding new technologies

and procedures, more post-acute care, and other benefits such as selected preventive services and hospice care for those at the end of life. However, the traditional program has never covered some important health care products and services.

Adding new technologies and procedures

Over the past 35 years, CMS and its contractors have routinely expanded Medicare's covered benefits by reviewing and approving thousands of requests for coverage of new diagnostic and therapeutic technologies and procedures. Although some coverage decisions are made through a formal rule-making process, most are made by fiscal intermediaries and carriers, Medicare's contractors for claims processing (Strongin 2001). Prominent coverage additions have included:

- major surgical procedures, such as coronary artery bypass surgery, kidney, heart, and lung transplants, and knee and hip replacements, and
- less invasive diagnostic tests and procedures that can now be performed in outpatient settings, such as computed tomography and magnetic resonance imaging scans, ocular lens implants, arthroscopic procedures to repair injury and restore physical function, and laparoscopic procedures, which have replaced many invasive abdominal procedures.

These coverage expansions have enabled a growing number of Medicare beneficiaries, including the oldest and most frail, to have access to many of the improvements in care made available by advances in medical science and technology.

Expanding post-acute care

Medicare's benefits also reflect a major expansion of coverage for post-acute care services, especially home health services and care in skilled nursing facilities (SNFs).⁴ Initially, beneficiaries were required to have a three-day hospital stay before becoming eligible for home health services and they were limited to 100 visits per year. The Omnibus Budget Reconciliation Act of 1980 removed these restrictions. The home health benefit was further expanded in the late 1980s in Duggan v. Bowen, which challenged CMS restrictions on eligibility. This decision redefined "part-time and intermittent" care, making more people eligible for home health care and enabling those eligible to receive more services. To be eligible for home care now, beneficiaries must be homebound—unable to leave their homes frequently or for extended periods of time-and must need skilled care on a part-time or intermittent basis. Once these criteria are met, however, beneficiaries can receive skilled nursing, therapy, medical social, and aide services without limit.

In part because of these changes, the proportion of beneficiaries using home care rose from 4.9 percent in 1988 to 9.2 percent in 1995 (Kenney and Moon 1997). During the same period, the annual number of visits per user increased from 24 to 80, largely reflecting growth in visits among those needing care for extended periods. For example, beneficiaries with more than 200 visits per year accounted for 60 percent of the growth in home health spending between 1991 and 1994 (Feder et al. 2000).⁵

Although Medicare's coverage of SNF care is explicitly limited, its role in financing nursing home care has grown. SNF care is only covered after a three-day hospital stay, beneficiaries must demonstrate improvement in functional status to continue receiving benefits, and

⁴ Although Medicare does not cover long-term or custodial care, some post-acute care benefits—such as home health and skilled nursing facility services—are used by patients who have both post-acute and long-term care needs, raising difficult questions about when covered acute care stops and long-term care begins.

⁵ Recent changes in payment policy may have altered these trends. In 2000, CMS implemented a per episode prospective payment system for home health care that gives providers financial incentives to limit the quantity and cost of services furnished during a 60-day episode of care. Beneficiaries still may receive multiple treatment episodes, however, as long as they meet the eligibility criteria.

coverage is limited to 100 days per benefit period.⁶ For most beneficiaries, a SNF stay allows additional recuperative time before they return home. However, about 30 percent of beneficiaries in SNFs continue to stay in a nursing facility after they exhaust the Medicare benefit. In 1995, Medicare financed 13 percent of nursing home care, compared with just 2 percent in 1985. Medicare's expanded role reflects growth in the volume of covered SNF stays and changes in the types of people using SNF care. By 1995, more SNF stays were for relatively short, post-hospital care and people using SNF services were older, on average, than in the past (Feder et al. 2000).

Adding other benefits

The Congress has expanded Medicare benefits in other important ways. Adding entitlement in 1972 for people under age 65 who have end-stage renal disease (ESRD) expanded benefits to include long-term kidney dialysis and kidney transplants.7 The Congress first added preventive services in 1980, beginning with coverage of the pneumococcal pneumonia vaccine; a number of other preventive services were added in the Balanced Budget Act of 1997 (see Appendix A). The hospice care benefit was added in 1982 and coverage for certain oral anti-cancer drugs was added in 1993. The Congress also expanded coverage for mental health services in the late 1980s, lifting a cap on annual payments per beneficiary for these services and allowing social workers and psychologists to receive Medicare payment for covered services. Coverage for partial hospitalization for mental health care was expanded to include services provided in community mental health centers in 1990, although patients must meet restrictive criteria to receive this benefit.

Assessing Medicare's benefit design

Our objective in assessing Medicare's benefit design is to determine the extent to which the scope and structure of covered benefits have affected the program's ability to meets its goals thus far and might affect program performance in the future. Changes in technology and medical practice and in the beneficiary population are likely to present significant challenges in coming decades by altering:

- the kinds of services available,
- the settings in which services can be furnished,
- the kinds of patients likely to benefit from them, and
- the nature of beneficiaries' medical care needs.

After briefly reviewing how changes in science and technology may affect the Medicare program and its beneficiaries, we examine important trends in the makeup of the beneficiary population. Against this backdrop, we provide an overview of the types of medical care products and services for which Medicare does not pay and how these omissions may affect beneficiaries' access to care and out-of-pocket spending.

Changes in medical technology and practice

It is difficult to overemphasize the role advances in science and technology have played in expanding medical capabilities and changing the number of beneficiaries able to benefit from them, the volume of services used, and the settings in which services are furnished. Some new technologies have replaced older, less effective ones, while others have represented entirely new products and services. In many instances, both kinds of

improvements have changed the way health care is delivered by allowing serious conditions to be managed outside of the hospital. Outpatient treatment generally costs less per treatment than inpatient care. Nonetheless, many new technologies have raised total spending by making it possible to treat more beneficiaries, including many who previously were too frail or ill to be suitable candidates.

Some advances that have added new services—heart, heart-lung, bone marrow and kidney transplants, for instance—have been extremely expensive, involving hospital stays that cost tens of thousands or even hundreds of thousands of dollars. In many cases, these new technologies—transplants are again a good example, as is cardiac care—have created new demands for ongoing ambulatory maintenance care, often involving costly pharmaceuticals and lengthy rehabilitation therapy.

The shift of care from inpatient to ambulatory settings and the rapid growth in ambulatory service volume also have raised the relative importance of Medicare's coverage for products and services that are key inputs to ambulatory care. Important inputs include physician services, hospital outpatient care, and outpatient prescription drugs.

Other new technologies may eventually reduce spending for Medicare and its beneficiaries. For example, cataract surgery is less invasive, safer, and less expensive than it was two decades ago (Shapiro et al. 1999). Some new technologies also can prevent complications or deterioration in function, leading to a reduced need for acute care services over time.

Forecasting the effects of future advances in technology is always speculative.

Nevertheless, it is reasonable to assume that future rates of innovation will be at

⁶ Benefit periods begin when patients are admitted to the hospital for inpatient care and end when they have been out of the hospital or a skilled nursing facility for 60 consecutive days

⁷ ESRD is a chronic illness that entails permanent kidney failure. Patients who have this illness will die if they do not receive ongoing kidney dialysis or a kidney transplant.

⁸ Chernew et al. have provided a useful overview of research describing the relationship between technology and cost growth (Chernew et al. 1998).

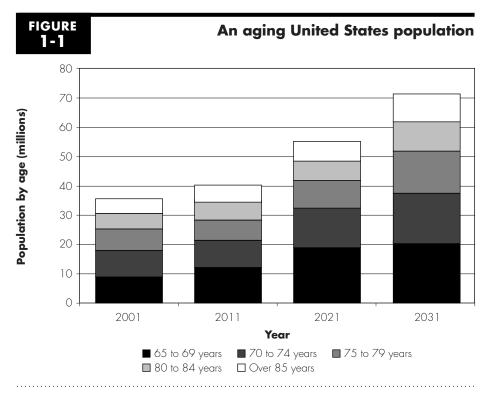
least as rapid as those of recent years. In addition, the relative importance of ambulatory care and new pharmaceutical agents in treatment and spending probably will continue to increase. These trends would only heighten the importance of the limitations in Medicare's benefit design.

Population trends

Several strong demographic trends will likely raise total spending for care and change the composition of future service demand, giving policymakers further reason to focus attention on Medicare's benefit design. One trend is the increase in the Medicare population; another is the increase in the oldest part of that population. In addition, the under-65 disabled Medicare population has been increasing rapidly, while the rate of disability among the elderly has been decreasing—a trend with potentially important ramifications for the program.

The older population in America is growing rapidly—a trend expected to continue for at least the next three decades as the baby boom generation ages (Figure 1-1). Today, one in eight Americans is over the age of 65. In 2030, the over-65 population will have doubled, reaching 70 million people or about 20 percent of the total population.

The over-65 population is also living longer; a person reaching the age of 65 in 2000 can expect to live almost four years longer than someone who reached 65 in 1960. Life expectancy for men at age 65 is now over 16 years; for women, it is over 19 years. In fact, the fastest-growing segment of the older population is those 85 or older: This group now numbers over 4.2 million and it is expected to reach nearly 9 million by 2030. This trend could lead to a significant increase in the demand for nursing homes or other sources of long-term care (Health Care



Source: Projections of the resident population by age, sex, and Hispanic origin: 1999 to 2100, U.S. Census Bureau, Washington, D.C.

Financing Administration 1998). Although only about 11 persons per thousand age 65 to 75 live in nursing homes, the rate is more than 190 per thousand for those over age 85 (National Center for Health Statistics 1999).

The effects of these changes on the burden of illness among beneficiaries and spending for health care will depend on the complex interactions of several trends. As people live longer, they are more likely to develop chronic diseases and conditions. Between 1984 and 1995, the prevalence of arthritis, heart disease, cancer, diabetes, and stroke all increased among people age 70 or older (Figure 1-2). Among the elderly, the most common illnesses are arthritis, hypertension (high blood pressure) and heart disease, while the most common impairments are hearing, orthopedic, and

visual. According to one estimate, nearly 90 percent of beneficiaries cope with at least one chronic condition and 70 percent cope with more than one (Hoffman et al. 1996). 10

The impact of chronic conditions on beneficiaries' health and functional status varies, however. For some, chronic conditions require more attention, but are not particularly restrictive; for others they are debilitating, resulting in functional limitations as measured by limitations in activities of daily living (ADLs) or Instrumental Activities of Daily Living (IADLs).¹¹ Over time, we would expect spending for care to increase because chronic conditions often progress and many people who are able to cope with their chronic conditions will later in life be in greater need of assistance with daily activities and require more medical care.

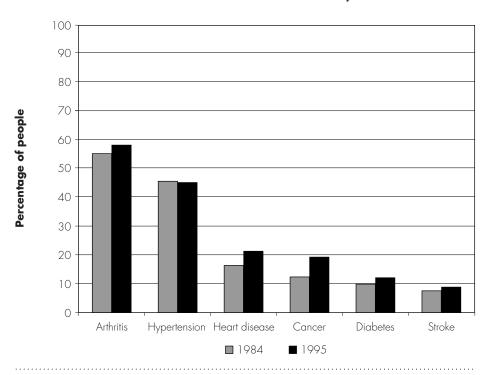
⁹ The baby boom generation includes people born between 1946 and 1964 (Schrammel 1998).

¹⁰ Chronic conditions include diseases such as diabetes or hypertension and impairments such as paralysis or loss of vision.

¹¹ ADLs include eating, getting in and out of bed, getting around inside, dressing, bathing, and toileting. IADLs include heavy housework, light housework, laundry, preparing meals, shopping for groceries, getting around outside, traveling, managing money, and using a telephone.

FIGURE 1-2

Percentage of people age 70 or older who reported having selected conditions, 1984 and 1995



Source: Federal Interagency Forum on Aging-Related Statistics 2000.

An opposite trend has been a decline in the rate of disability associated with chronic disease (Manton et al. 1997). In 1999, only 19 percent of the elderly were receiving help with ADLs or IADLs, compared with 24 percent in 1984 (Cutler 2001). Reasons for this decline can only be surmised at this point, but may include:

- medical care improvements, such as joint replacement, cataract surgery, and pharmacotherapy,
- healthier lifestyles, such as a decline in smoking, and
- increased use of assistive devices, such as walkers, canes, and handrails (Cutler 2001).

How these countervailing trends will affect spending is uncertain. The decline in disability rates among the elderly has led some analysts to conclude that better prevention and management of chronic illness has resulted in a compression of morbidity and disability into the last few months or years of life for some people. Other research, however, suggests that some medical advances, including breakthrough therapies for illnesses with high fatality rates, can also increase the number of years and the proportion of years of life with disability. ¹²

The under-65 disabled Medicare population also has been increasing rapidly. Medicare began providing health care services to disabled people in 1973; enrollment rose from 2.2 million people in 1975—about 1 percent of the U.S. population—to 5.6 million in 2000—about 2 percent of the population (Health Care Financing Administration 2001). The growth of the disabled population has been even greater than that of the elderly

population and is projected to reach 8.8 million in 2017 (Health Care Financing Administration 1998). Among disabled beneficiaries (excluding ESRD patients), 63 percent have physical disabilities such as back and joint problems and cardiovascular disease, while the remaining 37 percent have mental disorders. Those with mental health problems account for a disproportionate amount of Medicare spending (Foote and Hogan 2001). Given the increase in the disabled population, the question of how well the Medicare benefit design serves this population, particularly those with mental disorders, is of growing concern.

Products and services that are not covered

Medicare's traditional program has never covered certain products and services that are widely used in diagnosis and treatment (Table 1-2, p. 10). Medicare also has provided limited coverage for care coordination and management and mental health services. These benefit limitations may be important sources of financial liability for some beneficiaries, raising concerns about their access to clinically appropriate care. Their impact probably varies, however, with beneficiaries' health status and other characteristics (see text box, p. 11).

Lack of a prescription drug benefit affects almost all beneficiaries. Pharmaceuticals are becoming a more important part of medical care, particularly for the elderly, who often need multiple drugs for a variety of medical conditions and annually fill almost twice as many prescriptions as do people ages 45-64 (Agency for Healthcare Research and Quality 2001). Pharmaceutical therapies are now used to control chronic conditions and prevent acute episodes or their recurrence. Conditions for which pharmacotherapy is of particular importance include diabetes, high cholesterol, heart disease, and mental illness. Projections based on 1995 data from the Medicare Current Beneficiary Survey (MCBS) suggest that in 1999 about 86 percent of Medicare

¹² The compression of morbidity thesis is discussed in Fries (2002); other studies that have examined the compression of morbidity in aging populations include Nusselder et al. (1996) and Doblhammer and Kytir (2001).

1-2

Products and services traditional Medicare does not cover, 2002

Outpatient prescription drugs (with limited exceptions)

Routine or annual physical exams

Hearing exams and hearing aids

Routine eye care and most eyeglasses

Dental care and dentures (in most cases)

Screening tests (except for those specifically identified by Medicare)

Routine foot care (with limited exceptions)

Orthopedic shoes

Vaccinations (except for those specifically identified by Medicare)

Custodial care (help with bathing, dressing, using the bathroom, and eating) at home or in a nursing home

Acupuncture

Cosmetic surgery

Health care received while traveling outside of the United States (except in limited cases)

Note: Medicare covers drugs not usually self-administered, oral anti-cancer drugs, drugs used following an organ transplant, erythropoietin for beneficiaries on dialysis, and injectable drugs used for treatment of postmenopausal osteoporosis. Screening tests covered by Medicare include bone mass measurement for some atrisk beneficiaries; colorectal cancer screening; glucose monitors, test strips, and lancets for all diabetics; diabetes self-management training for at-risk diabetics; glaucoma screening for at-risk enrollees; mammograms; Pap tests and pelvic exams (including clinical breast exams) for all women; and prostate cancer screening for all men age 50 and over. Vaccinations covered by Medicare include those for flu, pneumococcal pneumonia, and hepatitis B (for those at medium to high risk).

Source: Centers for Medicare & Medicaid Services 2002.

beneficiaries would have had some drug expenditures, paid either out of pocket or through insurance coverage; about 32 percent would have had expenses of more than \$1,000, and 6 percent more than \$3,000 (Gluck 1999).

Assistive devices such as eyeglasses and hearing aids can increase mobility, promote independent living, and help prevent injury (Cassel et al. 1999). These products and related services as well as dental care, however, are not covered by traditional Medicare. The costs of these products and services (particularly eyeglasses and hearing aids) can easily amount to hundreds or thousands of dollars.

Some preventive services also are not covered. Because preventive services are broadly excluded from Medicare

coverage, adding coverage for specific services requires new legislation. The Congress has enacted coverage for a number of preventive services, including screening for colorectal, cervical, breast, and prostate cancer. However, Medicare does not cover some preventive services that are recommended by the U.S. Preventive Services Task Force and covers some that it has not recommended (see Appendix A).

Many factors besides insurance coverage may influence beneficiaries' use of preventive services (see text box, p. 12). Nonetheless, lack of coverage and Medicare's cost-sharing provisions may be associated with underuse of preventive services by some beneficiaries. Before Medicare started covering flu shots and mammography, for example, beneficiaries who had no additional coverage were less

likely to receive these services than those enrolled in managed care, those who had supplemental insurance, or those receiving Medicaid benefits. Some evidence suggests that these differences narrowed after Medicare began covering these services (Carrasquillo et al. 2001).

Traditional Medicare's benefits and payment policies also do not promote extensive care coordination and management across multiple providers and sites of care. ¹³ Effective coordination may be essential to furnishing high quality care for beneficiaries who have complex medical problems. ¹⁴ In 1999, the average beneficiary with one or more chronic conditions was seen by eight different physicians (Anderson and Knickman 2001).

Medicare—like most employer-sponsored and individual market health insurance plans—faces difficult barriers to promoting care coordination and management:

- Medicare's benefits and payment policies follow an acute care, fee-forservice model that focuses on individual services furnished on a discrete service-by-service basis rather than episodes of illness.
- The medical care delivery system is highly fragmented by setting and specialty, with few mechanisms or financial incentives for providers to follow patients with multiple problems across all settings in which they receive services.
- The acute-care orientation of Medicare benefits limits coverage of custodial care and other assistive or supportive services that often may (or should) support beneficiaries' medical care.

Medicare's limited benefits for mental health care also reflect the dichotomy that prevails in the wider insurance market in which coverage of mental health services

¹³ Medicare pays for physicians' coordination activities in its payment for some services. For example, payments for evaluation and management visits are intended to include preparation for the visit, such as reviewing the chart, the exam itself, and any follow-up activities such as coordination with other providers.

¹⁴ In the M+C program, managed care plans may coordinate services to varying degrees in response to the monthly capitation payments they receive.

The effects of Medicare's benefit limitations depend on beneficiaries' characteristics

The importance of different types of coverage or gaps in coverage—prescription drugs, preventive services, protection from cost-sharing—differs among beneficiaries. To illustrate this, it may be useful to think of the beneficiary population as divided into three groups by health status. The first consists of those who are basically healthy except for episodes of acute illness; they need assured access to care and protection against catastrophic costs. The second group includes beneficiaries with serious chronic conditions who are at significant risk of further deterioration and may represent significant future costs to the program. They may need ongoing care with close coordination among providers to make sure the care they receive is appropriate and its delivery is efficient. The third segment includes beneficiaries who are terminally ill and nearing the end of life. Hospice and palliative care are

of particular importance to them. Beneficiaries may move into different groups at different times in their lives.

As the baby boomers move into the Medicare population, if the trend toward decreasing disability among the elderly continues, the size of the first, healthy group of beneficiaries will increase significantly. Benefits designed to maintain the health of this group will become more important for the Medicare program. Thus, increased understanding of and use of preventive services might be most relevant to this group. Advances in prescription drugs are also relevant for this group. Coverage of new therapeutic agents may be particularly important to beneficiaries with serious health problems and people who are terminally ill. Better coordination of services would likely have a greater impact on those with chronic illness or those who are seriously and terminally ill. ■

is generally more restrictive than that for other forms of health care. Some elements of Medicare's mental health coverage. such as that for hospital inpatient care, may actually be relatively generous compared with employer-sponsored insurance benefits, but Medicare's overall coverage for mental health care remains more restrictive than its benefits for other types of illness. When Medicare was established in 1965, mental health care was more likely to be delivered in the inpatient than the outpatient setting because outpatient therapies were not seen as effective and few pharmaceutical treatments were available (Lave and Goldman 1990; Department of Health and

Human Services 1999). Medicare covered inpatient psychiatric care delivered in general hospitals on the same terms as all inpatient medical care. The Congress placed a 190-day lifetime limit on care delivered in free-standing psychiatric hospitals. This restriction was intended to limit Medicare's responsibility for long-term custodial care for beneficiaries with mental disorders, a service traditionally provided by state mental hospitals (Frank 2000). 16

In 2002, treatment protocols for many types of mental illness focus on managing patient care outside of the hospital, with drug treatment and case management services. Many effective drug treatments have been developed in the past 10 years. Research has shown that many disorders—such as depression, substance abuse, and schizophrenia—can be treated effectively with outpatient pharmacologic and psychosocial interventions. For example, treatment for depression among the elderly achieves response rates of 60 to 80 percent (Department of Health and Human Services 1999).

Medicare does not pay for the drugs that beneficiaries may need, however, and limits payment for outpatient psychotherapy as well. By law, Medicare payment for many mental health services is set at 62.5 percent of the fee schedule amount. Because Medicare pays only 80 percent of that amount (80 percent of 62.5 percent), beneficiaries face a copayment of 50 percent for outpatient psychotherapy services.

Do Medicare's benefits ensure access to care and financial protection?

By many measures, the Medicare program has been tremendously successful. It has provided millions of elderly and disabled beneficiaries access to state-of-the-art medical care generally similar to that available to the employed, insured population (see text box, p. 14). Nearly all people 65 years of age or older have health insurance, compared with about 50 percent in 1965. Greater access to treatment and improved technology, particularly for heart disease and stroke, have reduced morbidity and disability and helped people live longer.

Beneficiaries' support for the program is overwhelming, even among those with generally negative views of the federal government (National Academy of Social Insurance 1999). Surveys show that almost all beneficiaries are satisfied or

¹⁵ Beneficiaries are subject to the deductible, copayment, benefit period, and lifetime reserve provisions that apply to any hospital inpatient care.

¹⁶ This restriction may cause problems for beneficiaries in psychiatric hospitals who reach the 190-day lifetime limit and must find another way to pay for their care, be discharged, or transfer to a general hospital. Between 1965 and 1990, however, only 17,000 beneficiaries reached the lifetime limit, suggesting that the restriction has not had a pervasive impact on access to care (Lave and Goldman 1990).

Use may not follow coverage for some preventive services

eneficiaries' use of preventive services is not always closely tied to Medicare coverage. Medicare beneficiaries obtain some preventive services even when they are not covered. For example, although periodic physical and gynecological exams were not covered (Pap smears and pelvic exams were not added until July 2001), over 85 percent of elderly beneficiaries reported a routine checkup in the preceding two years (Janes et al. 1999). Similarly, cholesterol measurement was not covered, but over 85 percent of elderly beneficiaries reported a blood cholesterol check in the preceding five years. In contrast, beneficiaries do not use some preventive services even when they are covered. For instance, fewer than half of all men reported ever having received a proctoscopy or

sigmoidoscopy and less than one-third of the elderly reported a fecal occult blood test within the past 2 years.

Factors besides insurance coverage that affect use of preventive services include education, age, and the availability of information (Kenkel 2000, Greene et al. 2001). These factors also affect service use among Medicare beneficiaries. For example, those with a grade-school education had significantly lower use rates for all services, compared with those for beneficiaries with higher education levels. Beneficiaries age 65 to 74 had higher use rates for mammograms and Pap smears and lower rates for flu vaccinations and eye exams than other age groups. Beneficiaries in health maintenance organizations had significantly higher rates for all services (Greene et al. 2001). ■

very satisfied with the availability of medical care and the overall quality of their care (MedPAC 2000). Although physicians need not accept Medicare beneficiaries, nearly all do; in 2000, nearly 500,000 physicians billed Medicare for their services.¹⁷

Access

Medicare benefits have helped millions of beneficiaries gain access to state-of-the-art health care. The benefit package has expanded to encompass a burgeoning array of diagnostic and therapeutic technologies and procedures that significantly extend life and enhance functional capacity. The rates at which beneficiaries have had surgery to restore or increase function and enhance quality of life—for instance, coronary angioplasty, coronary artery bypass graft

(CABG), or knee replacements—have risen dramatically over the past three decades, demonstrating that enrollees have fully shared in the benefits of improvements in medical science (Lubitz et al. 2001). In fact, many important advances in medical technology have been of particular value to older Medicare beneficiaries (Cutler and McClellan 2001). In 1986, people age 65 or older were about as likely to have coronary angioplasty or CABG procedures as people ages 45-64. By 1998, those 65 or older were about twice as likely as people ages 45-64 to have angioplasty or a CABG. Similarly, the rate of knee replacements has risen steeply among beneficiaries ages 65 to 74, and the highest rate of hip replacement surgery is among those over age 75 (Lubitz et al. 2001).

On more general access measures, few beneficiaries report problems in obtaining care. In studies conducted over the past five years, we found that 8 to 11 percent of beneficiaries living in the community (not institutionalized) reported that they had delayed getting care because of cost; only 3 to 4 percent reported that they had trouble getting care (MedPAC 2000, Physician Payment Review Commission 1997). A new analysis based on the 1999 MCBS showed similar results: 6 percent reported delaying care because of cost, and less than 4 percent reported trouble getting care (Table 1-3).

Beneficiaries also appear to have better access to care, on average, than many younger adults (ages 18–64) who are not eligible for Medicare. For example:

- They are less likely to avoid getting care because of financial barriers (National Center for Health Statistics, 2002).
- Those who need urgent care because of illness or injury are more likely to get care as soon as they want it (Agency for Healthcare Research and Quality 2002).
- Those who want to make an appointment with a health care provider are more likely to get one as soon as they want it (Agency for Healthcare Research and Quality 2002).

Medicare has been successful in ensuring access to care for most beneficiaries, but less so for some people who are in poor health, have low incomes, or lack supplemental insurance coverage.

Disabled beneficiaries under age 65 were more than twice as likely to report trouble getting care in 1999 compared with all beneficiaries; over 18 percent reported delaying care because of cost. Similarly, 17 percent of beneficiaries in poor health said they had delayed care because of cost in 1999, and over 10 percent reported trouble getting care. Low-income

¹⁷ The number of physicians providing services (billing Medicare) increased by 6.7 percent—from 460,700 in 1995 to 491,547 in 2000. Although overall Medicare enrollment rose 5.3 percent during this period, enrollment in traditional Medicare declined from 34.5 million to 32.8 million.

TABLE 1-3

Self-reported access to care for community-dwelling beneficiaries, by selected characteristics, 1999

| Characteristics | Had trouble getting care | Delayed care due to cost | No usual source of care |
|------------------------|--------------------------------|--------------------------------|-------------------------------|
| All beneficiaries | 3.4% | 6.0% | 5.4% |
| Age | | | |
| Under 65 (disabled) | 8.7 | 18.3 | 7.0 |
| 65–69 | 3.1 | 5.5 | 5.7 |
| 70–74 | 2.6 | 4.3 | 5.4 |
| 75–79 | 2.9 | 4.4 | 5.0 |
| 80–84 | 2.4 | 3.5 | 4.4 |
| 85+ | 1.9 | 3.1 | 5.5 |
| Health status | | | |
| Excellent/very good | 2.0 | 3.2 | 6.6 |
| Good/fair | 3.4 | 6.7 | 4.6 |
| Poor | 10.4 | 17.2 | 4.4 |
| Poverty status | | | |
| At or below poverty | 5.0 | 8.9 | 8.1 |
| 100 to 125% of poverty | 4.3 | 10.1 | 5.6 |
| 125 to 200% of poverty | 3.7 | 8.3 | 6.5 |
| 200 to 400% of poverty | 2.9 | 4.3 | 4.5 |
| Above 400% of poverty | 2.1 | 1.7 | 3.5 |
| Residence | | | |
| Urban | 3.6 | 5.3 | 5.4 |
| Rural | 2.5 | 8.3 | 5.4 |
| Supplemental insurance | | | |
| Yes | 3.2 | 5.3 | 4.9 |
| No | 8.5 | 20.1 | 16.9 |

Note: Sample of 10,718 consists of community-dwelling beneficiaries in 1999. Poverty status is based on individual income for single people and joint income with spouse for married people. Poverty level in 1999 was \$7,990 if living alone and \$10,075 if living with a spouse. Urban includes beneficiaries living in metropolitan statistical areas (MSAs). Rural includes beneficiaries living outside MSAs. Supplemental insurance = yes indicates a beneficiary has private-sector or public-sector supplemental coverage.

Source: MedPAC analysis of 1999 Medicare Current Beneficiary Survey Access to Care and Cost and Use files.

beneficiaries—those with incomes less than 200 percent of the federal poverty standard—were more likely than those with higher incomes to report problems obtaining care or delaying care because of cost. Beneficiaries who lack supplemental insurance also report serious access problems. For instance, about 20 percent reported delaying care because of cost in 1999.

Some evidence suggests that barriers to care coordination associated with Medicare's acute care, fee-for-service orientation may impede access to high-quality care. This problem is not unique to Medicare. Recent surveys show that fewer than half of all U.S. patients with hypertension, depression, diabetes, or asthma are receiving appropriate treatment (Wagner et al. 2001). Another national survey found that 16 percent of those with chronic illness received contradictory information from different health care providers (Anderson and Knickman 2001).

The effects of poor care coordination may be more serious for Medicare beneficiaries than for other people because of the high prevalence of chronic illness in the aged population. The adverse effects of these care deficiencies can be measured in a number of ways. One study found that about 13 percent of beneficiaries with 5 or more chronic conditions were hospitalized with a condition that could have been avoided with appropriate ambulatory care (Anderson and Knickman 2001). Another study found that 30 percent of beneficiaries, many of whom had chronic conditions, were not getting the follow-up care they needed (Foote and Hogan 2001).

Finally, Medicare beneficiaries are apparently having difficulty in obtaining needed mental health services. 18 Despite the availability of proven treatments, one recent analysis found that of those beneficiaries over 65 who needed treatment, 63 percent did not receive it (Goplerud 2002). The likelihood of people with mental health conditions receiving services was significantly lower if they were Medicare beneficiaries, compared with those who had employment-based insurance or Medicaid coverage. Even excluding people with severe cognitive impairments, current estimates suggest that about 20 percent of people over age 55—and a higher proportion of disabled beneficiaries—have a diagnosable mental

¹⁸ A report by the U.S. Surgeon General attributes this large unmet need to patient barriers (reluctance to discuss psychological problems) provider barriers (difficulty in diagnosing and treating mental illness) and health care system barriers (payment and coverage policies) (Department of Health and Human Services, 1999).

Comparing Medicare's benefits to those offered to employees in group plans

edicare's benefits were originally modeled after those commonly included in employer-sponsored group plans in the mid-1960s. Consequently, the coverage generally offered in today's employer-sponsored plans might be considered a reasonable standard of comparison for current Medicare benefits.

Over time, the two sets of benefits have diverged in important ways. Medicare has retained the distinction between Part A (inpatient hospital and facility care) and Part B (physician and other care). Employer-sponsored group policies have shed this distinction, developing combined plans with combined deductibles.

Employers generally offer health insurance to attract and retain staff. Many large employers offer their workers a choice among several types of insurance plans. The choice usually includes some type of managed care plan—such as a health maintenance organization (HMO) or preferred provider organization (PPO)—in addition to, or increasingly instead of, the traditional indemnity plans that were the model for Medicare. In 2001, only 7 percent of employees were enrolled in indemnity plans, 48 percent were in PPO plans, and the remaining 45 percent were evenly split between HMOs and point-ofservice plans (Gold 2002).

Many employer-sponsored plans also offer benefits that are not covered by Medicare, such as:

- · outpatient prescription drugs,
- · certain preventive services, and
- protection against high expenses (catastrophic coverage).

These plans often introduce some management of service use, limitations on the network of providers the plans agree to pay, or differential copayments among tiers of providers and tiers of products (such as prescription drugs included in, or excluded from, plans' formularies). As with the Medicare benefit package, however, employer group plans focus primarily on acute medical care, offer limited coverage for mental health services, and do not focus heavily on care management.

Medicare and employer group plans cover populations with different characteristics and health care needs. Aged and disabled people are much more likely to have complex chronic care needs than the working population. In contrast, working people are often much more concerned with health issues related to raising children. Thus, it is uncertain to what extent a benefit package designed for working people with dependents offers a good model for Medicare.

disorder during a given year (Department of Health and Human Services 1999), but only 4 percent of beneficiaries used an outpatient mental health service in 1992 (Rosenbach and Ammering 1997).

Financial protection

Medicare beneficiaries need substantial protection from the cost of acute illness to ensure access to clinically appropriate care and to insulate them and their

families from the risk of impoverishment associated with serious illness. This protection is especially important because spending for all health care services—other than long-term care—is highly variable among beneficiaries (Figure 1-3). On average, annual health care spending for the 10 percent of beneficiaries with the lowest expenses in 1999 was \$124, compared with \$39,000 for those in the top 10 percent of the spending distribution.

Medicare provides considerable financial protection to its enrollees; most would be much worse off without its benefits. On average, beneficiaries consumed \$7,500 in health care services in 1999, of which Medicare covered 58 percent (Table 1-4). Moreover, Medicare covered a substantially larger share of the total for beneficiaries with the highest spending (Figure 1-4, p. 16). For instance, on average, Medicare covered about 73 percent of the total for the 10 percent of beneficiaries with the highest total spending.

Nevertheless, Medicare's benefit designwith substantial cost sharing for many covered services and no coverage for some important health care products and services—leaves beneficiaries at risk for large out-of-pocket expenses (scanlon 2001). For example, in 1999, the 27 percent of total spending that Medicare did not cover for beneficiaries with the highest total spending averaged \$11,000 per person. The potential for high out-ofpocket spending would be a serious problem if it reduced beneficiaries' abilities to seek needed care, comply with care recommendations, or forced them to forgo or cut back on other necessities.

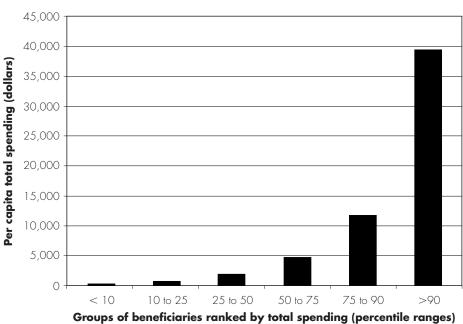
Limiting financial risk through additional coverage

About 90 percent of Medicare beneficiaries obtain some type of additional coverage that protects them—to varying degrees—from the potential consequences of traditional Medicare's coverage limits. Supplements have been

¹⁹ These estimates of per capita spending differ in three ways from the aggregate estimates presented earlier (and in Chapter 2): they are for 1999 rather than 2002; they reflect spending by non-institutionalized beneficiaries enrolled in the traditional program, while the aggregate numbers include people in institutions and those enrolled in the M+C program; they exclude administrative costs that are included in the aggregate figures.

FIGURE 1-3

Per capita total spending on health services, 1999



Note: Sample of 9,674 consists of community-dwelling beneficiaries who participated in traditional Medicare in 1999. The vertical bars represent per capita total spending (excluding long-term care) for each group. For example, the <10 group illustrates per capita total spending for the 10 percent of beneficiaries with the lowest total spending. Likewise, the >90 group illustrates per capita total spending for the 10 percent of beneficiaries with the highest total spending. Total spending includes spending by all sources of payment on all acute-care services received by beneficiaries.

Source: MedPAC analysis of Medicare Current Beneficiary Survey, Cost and Use file, 1999.

available since Medicare was implemented in 1966, when it looked quite similar to the private sector insurance packages offered to the general population (Atherly 2001). Beneficiaries may obtain supplemental coverage for a variety of reasons. Many—particularly those with relatively low incomes—may prefer the known cost of a premium to the unknown costs that may be associated with an unexpected illness, and even to the predictable costs of routine medical services (Vistnes and Banthin 1997). Also, large employers in certain industries historically have been generous with retiree coverage, reflecting collective bargaining agreements, tax advantages for employers and retirees, and other factors. Moreover, as non-covered services have accounted for a growing share of beneficiaries' health care, obtaining additional coverage has become more important as one means of limiting financial risk.

Sources of additional coverage include supplements sponsored by former or current employers, individually purchased Medigap plans, Medicaid coverage provided for low-income individuals, or additional benefits offered by some M+C or other Medicare managed care plans. About 33 percent of all Medicare beneficiaries have employer-sponsored supplemental insurance. Most have it as a

retirement benefit; about 70 percent have it because of their own employment and the remaining 30 percent are covered spouses (Gold and Mittler 2001) (Figure 1-5, p. 17).²⁰

Medigap—private health insurance specifically designed to wrap around Medicare's benefit design—is the second most common form of additional coverage. Twenty-seven percent of beneficiaries had Medigap policies in 1999. All policies issued since 1992, except those sold in certain states, have been limited to 10 standard benefit packages (see Chapter 2).

State Medicaid programs provide additional coverage for certain lowincome, sick, and disabled Medicare beneficiaries—about 11 percent of community-dwelling beneficiaries in

TABLE 1-4

-4 Spending on health services for Medicare beneficiaries, by source of payment, 1999

| Source | Amount per capita | Percent of total |
|-----------------------|----------------------|---------------------|
| Medicare | \$4,370 | 58% |
| Supplemental payers | 1,984 | 26 |
| Beneficiaries' direct | | |
| spending | 1,158 | 15 |
| Total | 7,512 | 100 |

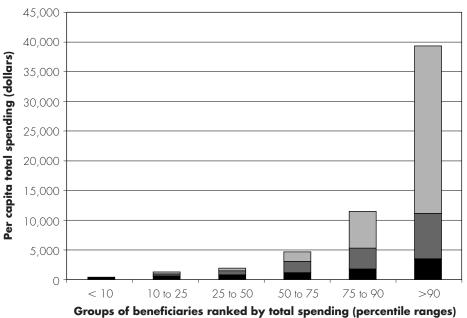
Note: Sample of 9,647 consists of community-dwelling beneficiaries who participated in traditional Medicare in 1999. Supplemental payers include all public and private sources of supplemental coverage. Beneficiaries' direct spending includes their out-of-pocket spending on covered and non-covered acute care services but excludes premiums and long-term care services. Percentages do not sum to 100 because of rounding.

Source: MedPAC analysis of Medicare Current Beneficiary Survey, Cost and Use file, 1999.

The percentages presented here come from MedPAC analysis of the 1999 MCBS Cost and Use file and include only community-dwelling individuals. Other analyses based on the MCBS Access to Care file have yielded higher estimates for the proportion of beneficiaries without additional coverage (i.e., Laschober et al. 2002). Part of the difference is that the Access to Care file provides a point-in-time snapshot while our analysis of the Cost and Use file assigned people to the coverage they had for at least 6 months of the year. Estimates from these sources also differ because insurance status in the Cost and Use file can be checked against data on paid claims, while estimates from the Access to Care file rely on beneficiaries' statements about their insurance status.

FIGURE 1-4

Per capita total spending on health services, by source of payment, 1999



■ Medicare ■ Supplemental payers ■ Direct spending

Note: Sample of 9,674 consists of community-dwelling beneficiaries who participated in traditional Medicare in 1999. The vertical bars represent per capita total spending (excluding long-term care), divided into three sources of payment, for each group. For example, the <10 group illustrates per capita total spending for the 10 percent of beneficiaries with the lowest total spending. Likewise, the >90 group illustrates per capita total spending for the 10 percent of beneficiaries with the highest total spending. Total spending includes spending by all sources of payment on all acute-care services received by beneficiaries. Supplemental payers includes all public and private sources of supplemental coverage. Direct spending includes beneficiaries' out-of-pocket spending on covered and non-covered acute care services but excludes premiums and long-term care services.

Source: MedPAC analysis of Medicare Current Beneficiary Survey, Cost and Use file, 1999.

1999.²¹ People with full dual eligibility receive Medicare benefits, coverage of Medicare cost-sharing, and full Medicaid benefits, including some health care products and services—notably prescription drugs—not covered by Medicare. Other Medicaid programs pay for Medicare premiums and/or cost sharing for services covered by Medicare.²²

Medicare managed care plans may offer reduced cost sharing requirements or other benefits beyond those covered in the traditional program, such as some coverage for outpatient prescription drugs. Medicare's managed care options consist primarily of private managed care plans that participate in the M+C program, but also include a few private fee-for-service

plans, several plans paid on a cost basis, and those participating in various demonstration projects. About 18 percent of Medicare beneficiaries were enrolled in some form of Medicare managed care in 1999, although this share has declined to about 15 percent in 2002.²³

Other sources of additional coverage, held by about 2 percent of beneficiaries, include benefits obtained through the Department of Veterans Affairs or the TRICARE program for military retirees (see Appendix B).²⁴

About 12 percent of Medicare beneficiaries had more than one source of additional coverage in 1998:

- Five percent had retiree health coverage and were also enrolled in Medicare managed care plans; these people represent about one-third of all Medicare managed care enrollees.
- Four percent were enrolled in Medicare managed care and also reported Medigap coverage; they may maintain duplicate coverage for fear of losing access to Medicare managed care (Gold and Mittler 2001).
- Three percent were enrolled in Medicaid and also had other coverage, most likely Medicare managed care. Medicare beneficiaries fully eligible for Medicaid were less likely to have other sources of additional coverage, probably because Medicaid generally provides sufficient protection.
- Four percent of beneficiaries had both Medigap and employersponsored coverage.

²¹ A much larger share of institutionalized beneficiaries are also in Medicaid. When they are included in the distribution, about 17 percent of Medicare beneficiaries received some benefits from Medicaid in 1997 (Clark and Hulbert 1998).

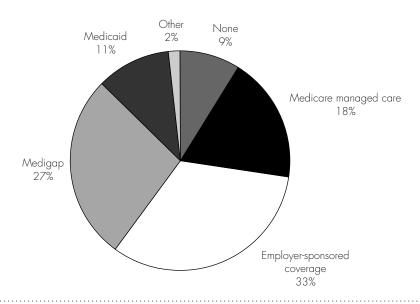
²² The Qualified Medicare Beneficiary program pays for Medicare's premiums, deductibles, and coinsurance for beneficiaries whose incomes are below 100 percent of the federal poverty level and who have limited assets. The Specified Low-income Medicare Beneficiary program pays for the Medicare Part B premium for beneficiaries with incomes between 100 and 120 percent of the federal poverty level. Temporary programs (the Qualified Individual 1 and 2 programs, and the Qualified Disabled and Working Individual program) offer some payments toward the Part B premium for other low-income beneficiaries.

²³ The data for 1999 on the distribution of beneficiaries among sources of supplemental coverage are the latest available.

²⁴ TRICARE is the name of this program in law, not an acronym.

FIGURE 1-5

Sources of additional health coverage for Medicare beneficiaries, 1999



Note: Sample of 11,859 consists of community-dwelling Medicare beneficiaries in 1999. Medigap includes those with both Medigap and employer-sponsored coverage, as well as those with only Medigap coverage.

Source: Medicare Current Beneficiary Survey, Cost and Use file, 1999.

Some beneficiaries have no additional coverage. In 1999, about 9 percent of beneficiaries had no additional coverage for at least 6 months and were therefore responsible for Medicare's full cost sharing requirements, as well as the costs of non-covered services. About one-half reported that they could not afford coverage; only 15 percent reported that they did not need it because they were never sick or they thought that Medicare was sufficient (Gold and Mittler 2001). Medicare beneficiaries who lack additional insurance differ in a number of respects from those who have coverage:

 They are more likely to be under age 65 and entitled to Medicare benefits because of disability or ESRD; many of these people lack additional coverage because they do not have the same federally guaranteed access to Medigap as do the elderly.

- beneficiaries with incomes; beneficiaries with incomes below the federal poverty standard are at least three times more likely to lack additional insurance than those with incomes over 200 percent of the standard (13 percent compared with 3 to 4 percent). About 15 percent of those who have incomes between 100 and 125 percent of the poverty standard—and do not qualify for Medicaid in many states—lack additional insurance.
- They are more likely to live in a rural area than an urban one.
- They are more likely to have low educational attainment (Pourat et al. 2000).

Out-of-pocket spending

Although the vast majority of beneficiaries obtain some type of additional insurance, they still face

potentially large out-of-pocket spending (Figure 1-6, p. 18). This spending includes their direct spending on services—or the associated cost sharing—and their payments for insurance premiums, including those for Medicare Part B and any amounts for additional insurance. Both direct spending and premium expenses represent potential financial burdens for beneficiaries, but they generally have different implications. Direct spending for services often entails financial risk, especially when it is associated with unexpected illness, including the need to use savings or other resources in unplanned ways and the possibility of taking on debt. In contrast, premium payments are predictable and can be budgeted with little uncertainty.

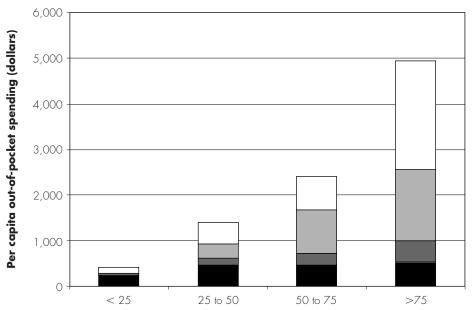
Medicare beneficiaries who have low outof-pocket spending generally fit one of two profiles. The first group includes relatively young and healthy people, between ages 65 and 74, for instance, and disabled beneficiaries with stable conditions who use few services. Within this group are people who have only Medicare coverage and those who have additional coverage, but do not have to pay the associated premiums. The second group includes people with comprehensive supplemental coverage, including beneficiaries eligible for Medicaid and relatively high-income people with good employer-sponsored coverage. In contrast, people who have high out-of-pocket spending pay more for supplemental coverage and non-covered services; they tend to be older, use many services, have relatively high incomes, and are more likely to have supplemental coverage, primarily Medigap.

Beneficiaries' out-of-pocket spending for covered and non-covered services tends to persist over several years, although for different reasons. Spending patterns for covered services reflect the program's focus on acute-care benefits. When beneficiaries at any age experience acute illness or acute flare-ups of chronic conditions, Medicare spends large

²⁵ The federal poverty standard in 1999 was \$7,990 for an individual living alone and \$10,075 for a person living with a spouse. Less than one-half of beneficiaries with incomes below the poverty standard have Medicaid benefits; some do not meet other eligibility criteria, while others do not apply for benefits (see Chapter 2).

FIGURE 1-6

Composition of out-of-pocket spending, by out-of-pocket spending level, 1999



Groups of beneficiaries ranked by out-of-pocket spending (percentile ranges)

□ Non-covered services□ Supplemental premiums

■ Cost sharing■ Part B premiums

Note: Sample of 9,647 consists of community-dwelling beneficiaries who participated in traditional Medicare in 1999. Out-of-pocket spending includes beneficiaries' direct spending in four categories: the Part B premium, cost sharing for covered services, supplemental premiums, and non-covered services. The vertical bars represent per capita out-of-pocket spending, divided into the four categories, for each group. For example, the <25 group illustrates per capita out-of-pocket spending for the 25 percent of beneficiaries with the lowest out-of-pocket spending. Likewise, the >75 group illustrates per capita out-of-pocket spending for the 25 percent of beneficiaries with the highest out-of-pocket spending.

Source: MedPAC analysis of Medicare Current Beneficiary Survey, Cost and Use file, 1999.

amounts for covered inpatient and outpatient care. Although people with high Medicare spending in one year also tend to have higher-than-average program spending in subsequent years, high mortality rates for heavy users of care tend to limit the duration of high spending (Garber et al. 1997). The focus here is on acute care services, but other research has shown that when long-term care is taken into consideration, spending for noncovered services also shows some persistence, particularly among the very old, who often use non-covered long-term care for extended periods toward the end of life (Spillman and Lubitz 2000).

Supplemental insurance and outof-pocket spending

Per capita out-of-pocket spending varies widely among groups with different types of supplemental coverage (Figure 1-7).²⁶ These spending differences primarily reflect differences in premium payments for supplemental coverage and direct payments for non-covered services. As might be expected, the roughly 4 million people who qualify for Medicaid benefits have relatively small out-of-pocket spending and most of what they spend goes for services that are not covered by Medicare or Medicaid. About 10 million

people buy Medigap policies to reduce their exposure to out-of-pocket expenses for health services. On average, these beneficiaries annually spend about \$1,200 for non-covered services and about \$1,400 for supplemental insurance premiums. Even those who have employer-sponsored supplemental insurance, which usually provides generous benefits, still have relatively high spending for non-covered services. These findings raise questions about the extent to which beneficiaries can successfully use supplemental coverage—which is often costly—to address the limitations of Medicare's benefits.

Out-of-pocket spending and risk of impoverishment

High out-of-pocket spending may push some Medicare beneficiaries into poverty. About 18 percent of beneficiaries have incomes below national poverty standards and 28 percent have incomes below 125 percent of poverty. Our analysis shows that about 11 percent with total incomes above poverty have out-of-pocket spending large enough to push them into poverty. Those with incomes just above the poverty line (100 to 110 percent) clearly have a much greater likelihood of falling into poverty than those with higher incomes. Nevertheless, substantial proportions of beneficiaries with higher incomes, including those with supplemental coverage, appear to be at risk. This raises questions about how well Medicare's benefits—and those of supplemental insurance policies—protect beneficiaries from the financial consequences of serious illness.

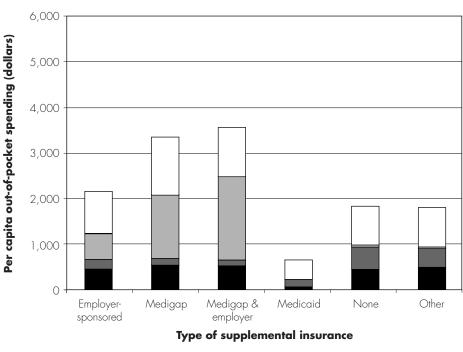
The trend in Medicare's financial protection for beneficiaries

Beneficiaries' annual out-of-pocket spending for health services has been rising. In 1999 dollars (adjusted for inflation), per capita out-of-pocket spending increased from \$1,921 in 1993 to \$2,296 in 1999. Most of this growth reflects rising premiums for supplemental coverage and increases in beneficiaries' direct spending for non-covered services,

Average total health care spending per capita in 1999 varied relatively little (\$7,650 to \$8,200) among beneficiaries with different types of supplemental coverage. In contrast, spending averaged about \$4,600 for people who have only Medicare coverage.

FIGURE 1-7

Composition of out-of-pocket spending, by type of supplemental insurance, 1999



■ Non-covered services

■ Cost sharing

■ Supplemental premiums ■ Part B premiums

Sample of 9,647 consists of community-dwelling beneficiaries who participated in traditional Medicare in 1999 Beneficiaries in the other category have benefits obtained through the Department of Veterans Affairs or the TRICARE program for military retirees. Out-of-pocket spending includes beneficiaries' direct spending in four categories: the Part B premium, cost sharing for covered services, supplemental premiums, and non-covered

Source: MedPAC analysis of Medicare Current Beneficiary Survey, Cost and Use file, 1999.

such as outpatient prescription drugs, dental care, or hearing aids. Per capita out-of-pocket spending on supplemental premiums increased from \$597 in 1993 to \$715 in 1999, while direct spending on non-covered services rose from \$692 to \$945.

Do Medicare's benefits promote efficient care delivery?

Medicare's benefit design affects the prices beneficiaries face when they use health care services, thereby potentially influencing their decisions—or those of providers who act as their agents-about whether to seek care and what mix of services to use. The benefit design affects service prices through two features:

- the structure of the cost sharing requirements, particularly the extent to which Medicare covers varying proportions of costs for different types of services, leaving beneficiaries responsible for the remainder, and
- the exclusion of clinically important products and services, leaving beneficiaries responsible for the full amount of providers' fees or charges.

We cited many of the implications of excluding clinically important services in earlier discussions of the services Medicare does not cover and the effects of

Medicare's benefit design on beneficiaries' access to care and out-ofpocket spending. In addition to the risk that some beneficiaries may find it necessary to delay getting care because of cost, the lack of coverage for important services may lead to less effective care if beneficiaries are less likely to comply with care recommendations that involve using uncovered services.

Some recent research suggests that lack of coverage for outpatient prescription drugs may lead to underuse of effective care modalities. One study, for instance, found that beneficiaries who lack drug coverage received 2.4 percent fewer prescriptions in 1998 than in 1997, while those with coverage received 9 percent more (Poisal and Murray 2001). Another compared prescription drug use among Medicare beneficiaries with coronary heart disease by type of health insurance. Using 1997 data from the MCBS, the authors found that beneficiaries who lacked supplemental drug coverage had larger drug expenditures and lower use rates for statins, drugs that improve patient survival (Federman et al. 2001). A third study found that beneficiaries who lack drug coverage are less likely to use antihypertensives, and those who do purchase these drugs buy fewer tablets annually (Blustein 2000).

The structure of Medicare's cost-sharing requirements

Medicare's cost-sharing provisions also vary considerably among covered services and these variations may lead to inefficient choices by beneficiaries and providers. For example, the deductibles for Parts A and B may create inappropriate incentives. Insurance theory suggests that random, non-discretionary events should be covered more fully than events that are within the insured person's discretion. In Medicare, however, the Part A hospital inpatient deductible is large (\$812 in 2002), while that for physician services or other ambulatory care under Part B is small (\$100) even though inpatient care is generally believed to be less discretionary and more difficult to predict than ambulatory care. Further, the

low Part B deductible provides little incentive to use covered services judiciously.²⁷ The high hospital inpatient deductible, however, may contribute to beneficiaries' perceived need for supplemental insurance.

The structure of Medicare's coinsurance and copayment requirements is inconsistent across services, which may foster inefficiencies. Medicare has high copayment requirements for days 60-90 for hospital inpatient stays, yet stays of this length almost certainly reflect unusually serious acute illnesses, which are not likely to be discretionary. Conversely, home health services, the first 20 days of skilled nursing home care, and laboratory services have no cost sharing. As we discuss in Chapter 3, cost-sharing provisions should be structured to reduce potential barriers to care and the costs of administration while maintaining incentives to avoid inappropriate use of services (including incentives to favor some settings over others).

In some cases, Medicare's cost-sharing provisions appear to merit reexamination. For instance, the coinsurance liability for hospital outpatient services is substantially higher—at almost 50 percent—than the coinsurance that applies for ambulatory surgery centers or physicians' offices. These discrepancies could inappropriately affect patients' or providers' decisions about the setting for care, with decisions reflecting the relative levels of cost sharing requirements rather than clinical considerations. The high (50 percent) copayment for outpatient mental health services and similar coinsurance for outpatient hospital services may create barriers to the appropriate use of these services.

The existence of multiple options for supplementing Medicare raises several concerns about incentives and system efficiency. First, multiple forms of insurance generate additional administrative costs if each Medicare bill entails two or more claims. Second, the form that supplements have taken, particularly the standardized options for Medigap required by law, may provide complete, or "first-dollar" coverage, so that beneficiaries do not have to pay any portion of the deductible or coinsurance out of pocket when they use covered services. In some instances, when decisions to seek care are discretionary, this could lead beneficiaries to seek care or providers to order services that may be of marginal value.

The design of supplemental options poses barriers to efficient market competition. Beneficiaries must navigate complicated insurance provisions, few retirees can influence the benefits offered by their former employers, and Medigap benefits are standardized by law. Most Medigap options cover cost sharing for Medicarecovered services, and only a small number of these policies include coverage for outpatient prescription drugs or preventive care (see Appendix B). Some benefits available in employer-sponsored plans or through M+C plans (such as expanded coverage of prescription drugs, particular types of drugs, or mental health or dental services) might be of greater value than others to individuals, based on their specific health care needs. Beneficiaries must choose among what may appear to them to be arbitrary, incomplete sets of benefit options. It may be difficult, or even impossible, for beneficiaries to put together packages of Medicare and one or more forms of supplementation that optimize coverage across all benefit categories. Allowing beneficiaries to customize their benefits based on their health care needs also could foster risk

selection, potentially making supplemental insurance unaffordable for those with greater needs.

Conclusion

Although Medicare has succeeded for the most part in ensuring access to care and financial protection from the cost of serious illness, the structure of Medicare's benefits and cost sharing is uneven across services, creating incentives that could dissuade beneficiaries and practitioners from choosing the most clinically effective care options. For the same reasons, Medicare works better or worse for beneficiaries depending on the nature of their illnesses. Equally important, beneficiaries and taxpayers face rising financial demands resulting from greater longevity, improvements in medical capabilities, and rising costs for medical services. Because Medicare's benefit design is not comprehensive, beneficiaries rely on assorted combinations of supplemental insurance coverage, benefits from other federal and state programs, and out-of-pocket spending in addition to Medicare. Even with this added coverage, beneficiaries' out-of-pocket costs, particularly for services not covered by Medicare and supplemental insurance, have been increasing, which for some population groups may result in reduced access to care or impoverishment. In the following chapters, we examine the issues surrounding Medicare supplementation in greater detail, then explore options for changing Medicare's benefit design to address the problems we have identified in access and financial protection.

²⁷ At \$100, the Part B deductible is unchanged since it was raised in 1991 and only about one-half as high as ambulatory care deductibles commonly required by preferred provider organizations for services furnished by favored (in-network) providers (Gold 2002).

References

Agency for Healthcare Research and Quality, Department of Health and Human Services. Medical Expenditure Panel Survey Statistical Brief #02, Access and experiences regarding medical care: Fall 2000. Rockville (MD), AHRQ. 2002.

Agency for Healthcare Research and Quality, Department of Health and Human Services. Medical Expenditure Panel Survey household component analytical tool, MEPSnet/HC. Rockville (MD), AHRQ. December 2001. Available at http://www.meps.ahrq.gov/mepsnet/hc/mepsnethc.asp; last accessed April 2002.

Anderson G, Knickman JR. Changing the chronic care system to meet people's needs, Health Affairs. November/December 2001, Vol. 20, No. 6, p. 146–160.

Atherly A. Supplemental insurance: Medicare's accidental stepchild, Medical Care Research and Review. June 2001, Vol. 58, No. 2, p. 131–161.

Blumenthal D, Schlesinger M, Drumheller PB. Reviewing the promise: Medicare & its reform. New York (NY), Oxford University Press. 1988.

Blustein J. Drug coverage and drug purchases by Medicare beneficiaries with hypertension, Health Affairs. March/April 2000, Vol. 9, No. 2, p. 219–30.

Carrasquillo O, Lantigua RA, Shea S. Preventive services among Medicare beneficiaries with supplemental coverage versus HMO enrollees, Medicaid recipients, and elders with no additional coverage, Medical Care. June 2001, Vol. 39, No. 6, p. 616–626.

Cassel CK, Besdine RW, Seigel LC. Restructuring Medicare for the next century: what will beneficiaries really need? Health Affairs. January/February 1999, Vol. 18, No. 1, p. 118–131.

Census Bureau. Projections of the resident population by age, sex, race, and Hispanic origin: 1999 to 2100. Washington (DC), Census Bureau. January 13, 2000.

Centers for Medicare & Medicaid Services, Department of Health and Human Services. Medicare & You, 2002, No. CMS-10050. Baltimore (MD), CMS. September 2001.

Chernew ME, Hirth RA, Sonnad SS, Ermann R, Fendrick AM. Managed care, Medicare technology, and health care cost growth: a review of the evidence, Medicare Care Research and Review. September 1998, Vol. 55, No. 3, p. 259–288.

Clark WD, Hulbert M. Research issues: dually eligible Medicare and Medicaid beneficiaries: challenges and opportunities, Health Care Financing Review. Winter 1998, Vol. 20, No. 2, p. 1–10.

Crippen DL, director, Congressional Budget Office. Projections of Medicare and prescription drug spending. Written testimony before the U.S. Senate, Finance Committee. March 7, 2002.

Cutler DM. Declining disability among the elderly, Health Affairs. November/December 2001, Vol. 20, No. 6, p. 11–27.

Cutler DM, McClellan M. Is technological change in medicine worth it? Health Affairs. September/October 2001, Vol. 20 , No. 5, p. 11–29.

Department of Health and Human Services. Mental health: a report of the Surgeon General. Rockville (MD), DHHS. 1999.

Doblhammer G, Kytir J. Compression or expansion of morbidity? Trends in healthy-life expectancy of the elderly Austrian population between 1978 and 1998, Social Science and Medicine. February 2001, Vol. 5, No. 3, p. 385–391.

Feder J, Komisar HL, Niefeld M. Long-term care in the United States: an overview, Health Affairs. May/June 2000, Vol. 19, No. 3, p. 40–56.

Federal Interagency Forum on Aging-Related Statistics. Older Americans 2000: key indicators of well-being. Washington (DC), U.S. Government Printing Office. August 2000.

Federman AD, Adams AS, Ross-Degnan D, Soumerai SB, Ayananian JZ. Supplemental insurance and the use of effective cardiovascular drugs among elderly Medicare beneficiaries with coronary heart disease, Journal of the American Medical Association. October 10, 2001, Vol. 286, No. 14, p. 1762–1763.

Foote SM, Hogan C. Disability profile and health care costs of Medicare beneficiaries under age sixty-five, Health Affairs. November/December 2001, Vol. 20, No. 6, p. 242–253.

Frank RG. The creation of Medicare and Medicaid: the emergence of insurance and markets for mental health services, Psychiatric Services. April 2000, Vol. 51, No. 4, p. 465–468.

Fries JF. Aging, natural death, and the compression of morbidity, Bulletin of the World Health Organization. 2002, Vol. 80, No. 3, p. 245–50.

Garber AM, MaCurdy TE, McClellan MC. Persistence of Medicare expenditures among elderly beneficiaries. Working paper #6249. Cambridge (MA), National Bureau of Economic Research. October 1997.

Gluck ME. A Medicare prescription drug benefit, National Academy of Social Insurance. Medicare Brief No. 1. April 1999. Available at http://www.nasi.org/publications 2763/publications_show.htm?doc_id=52818.

Gold M. Trends in medical coverage that active workers receive from employers: implications for reforming the Medicare benefit package. Washington (DC), Mathematica Policy Research, Inc. April 2002.

Gold M, Mittler J. The structure of supplemental insurance for Medicare beneficiaries, Operational Insights No. 3: Monitoring Medicare+Choice. Washington (DC), Mathematica Policy Research, Inc. June 2001.

Goplerud E. Substance Abuse and Mental Health Services Administration, Department of Health and Human Services. Communication with MedPAC staff. April 2002.

Greene J, Blustein J, Laflamme KA. Use of preventive care services, beneficiary characteristics, and Medicare HMO performance, Health Care Financing Review. Summer 2001, Vol. 22, No. 4, p. 141–153.

Health Care Financing Administration, Department of Health and Human Services. 2001 HCFA statistics, No. 03427. Baltimore (MD), HCFA. July 2001.

Health Care Financing Administration, Department of Health and Human Services. Profile of Medicare: chartbook. Baltimore (MD), HCFA. 1998.

Hoffman C, Rice D, Sung HY. Persons with chronic conditions: their prevalence and cost, Journal of the American Medical Association. November 13, 1996, Vol. 276, No. 18, p. 1473–1479.

Janes GR, Blackman DK, Bolen JC, et al. Surveillance for use of preventive health-care services by older adults, 1995–1997, Morbidity and Mortality Weekly Report. December 17, 1999, Vol. 48, No. 8, p. 51–88.

Kenkel DS. Prevention. In Culyer AJ, Newhouse JP (eds.). Handbook of health economics. Vol. 1B. Amsterdam: The Netherlands, Elsevier, 2000, p. 1677–1720.

Kenney G, Moon M, the Urban Institute. Reining in the growth in home health services under Medicare. Washington (DC), The Urban Institute. May 1997.

Laschober MA, Kitchman M, Neuman P, Stabic AA. Trends in Medicare supplemental insurance and prescription drug coverage, 1996–1999, Health Affairs. February 27, 2002. Available at http://www.healthaffairs.org/WebExclusives/Laschober_Web_Excl_022702.htm.

Lave JR, Goldman HH. Medicare financing for mental health care, Health Affairs. Spring 1990, Vol. 9, No. 1, p.19–30.

Lubitz J, Greenberg LG, Gorina Y, Wartzman L, Gibson, D. Three decades of health care use by the elderly, Health Affairs. March/April 2001, Vol. 20, No. 2, p. 19–32.

Manton KG, Corder L, Stallard E. Chronic disability trends in elderly United States populations: 1982–1994, Proceedings of the National Academy of Sciences USA. March 18, 1997, Vol. 94, No. 6, p. 2593–2598.

Medicare Payment Advisory Commission. Report to the Congress: Medicare payment policy. Washington (DC), MedPAC. March 2000.

National Academy of Social Insurance. Medicare and the American social contract. Final report of the Study Panel on Medicare's Larger Social Role. Washington (DC), NASI. February 1999.

National Center for Health Statistics, Department of Health and Human Services. Early release of selected estimates from the National Health Interview Survey (NHIS), obtaining needed medical care, data tables for figures 3.1–3.3. Available at www.cdc.gov/nchs/about/major/nhis/released200202/figures03_1-3_3.htm; last accessed April 2002.

Nusselder WJ, van der Velden K, van Sonsbeek JL, Lenoir ME, van den Bos GA. The elimination of selected chronic diseases in a population: the compression and expansion of morbidity, American Journal of Public Health. February 1996, Vol. 86, No. 2, p. 187–94.

Physician Payment Review Commission. Annual report to the Congress 1997. Washington (DC), PPRC. 1997.

Poisal JA, Murray L. Growing differences between Medicare beneficiaries with and without drug coverage, Health Affairs. March/April 2001, Vol. 20, No. 2, p. 74–85.

Pourat N, Rice T, Kominsky G, Snyder RE. Socioeconomic differences in Medicare supplemental coverage, Health Affairs. September/October 2000, Vol. 19, No. 5, p. 186–196.

Rosenbach ML, Ammering CJ. Trends in Medicare Part B mental health utilization and expenditures: 1987–92, Health Care Financing Review. Spring 1997, Vol. 18, No. 3, p. 19–42.

Scanlon, WJ, General Accounting Office. Cost-sharing policies problematic for beneficiaries and program, written testimony before U.S. House of Representatives, Committee on Ways and Means, Subcommittee on Health. May 9, 2001.

Schrammel K. Labor market success of young adults from two generations, Monthly Labor Review. February 1998, Vol. 121, No. 2, p. 3–9.

Shapiro I, Shapiro MD, Wilcox DW. Measuring the value of cataract surgery. NBER-CRIW conference on health care prices. Revised March 1999. Available at: http://www.econ.lsa.umich.edu/~shapiro/criw-rv2.pdf; last accessed May 2002.

Spillman BC, Lubitz J. The effect of longevity on spending for acute and long-term care services, New England Journal of Medicine. May 11, 2000, Vol. 342, No. 10, p. 1409–1415.

Strongin R. Medicare coverage: lessons from the past, questions for the future. Washington (DC), National Health Policy Forum. August 2001.

U.S. Congress, House of Representatives, Committee on Ways and Means. Medical care for the aged, materials submitted for the published record of the hearing on H.R. 3920. Washington (DC), U.S. Congress. 1964.

Vistnes J, Banthin J. The demand for Medicare supplemental insurance benefits: the role of attitudes toward medical care and risk, Inquiry. 1997, Vol. 34, No. 4, p. 311–324.

Wagner EH, Austin BT, Davis C, Hindmarsh M, Schaefer J, Bonomi A. Improving chronic illness care: translating evidence into action, Health Affairs. November/December 2001, Vol. 20, No. 6, p. 64–78.