Health Care For the Uninsured

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Internal Medicine Grand Rounds
The University of Texas
Southwestern Medical Center
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This is to acknowledge that Lynne Kirk, M.D. has not disclosed any financial interests or other relationships with commercial concerns related directly to this program. Dr. Kirk will be discussing off-label uses for medications in her presentation.

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Dr. Kirk's interests include clinical prevention, medical education, and health policy.

Case

> MM is a 27 year-old healthy male living on the west coast who developed abdominal pain with nausea and vomiting. This progressed over the next 48 hours and became localized to the right lower quadrant, accompanied by fever. Early on the morning of the third day of symptoms his abdominal pain became much worse. At 6 AM (CST) that morning he called his stepmother, an internist in Dallas, to seek medical advice. He was a part time graduate student working on a master's degree in education and taught most days as a substitute teacher in the local independent school district. He did not qualify for student health insurance because he was a part time student. He did not qualify for insurance through the school district because he was not a full time employee. He had been insured under his parents' policy until he was 25, and he was no longer eligible for such coverage.
>
> His stepmother advised him to go to the Emergency Department at the local University Hospital immediately rather than wait until the free clinic opened, as he had hoped to do. He was found to have a perforated appendix and peritonitis and taken immediately to surgery. He subsequently developed *Clostridium difficile* colitis secondary to antibiotic therapy and was hospitalized for a total of ten days. The bill for his medical care was $42,000. He contacted the hospital and asked whether the bill could be adjusted to that which they would receive from managed care. They agreed to this and he paid off the $14,000 over the next year with assistance from his family.

Health care brings us significant personal benefits in terms of our health, longevity, and quality of life. Over the past three decades prodigious research output has been applied to greatly expand the range of health care interventions and improved health care worldwide. Over the same period of time, in the face of these remarkable advances, a substantial and growing number of Americans encounter significant barriers in accessing this excellent health care because they lack health insurance. This lack of access has adverse consequences for these people and their families, the communities in which they live, the economy, and the country. While health insurance alone is neither necessary nor sufficient to obtain optimal health care, it remains one of the most important factors in obtaining access to health services.

How to increase the number of persons with health insurance and how to best care for those without health insurance have long been debated at local, state, and national levels. In this election year, health care has been identified as an important policy issue for many voters. As we ready ourselves to enter the voting booth, this is a propitious time to review what we know about the uninsured and potential solutions to this national problem.

Medicare covers nearly all people age 65 and older in the United States. This older population will not be covered in this discussion. It will focus on uninsured people, defined as persons with no health insurance and no assistance in paying for health care beyond what is available through charity and safety-net institutions (those providers that deliver a significant amount of health care to uninsured, Medicaid, and other lower income patients). This discussion will not address the many problems of underinsurance affecting people who have insurance that offers incomplete coverage, resulting in problems with accessing and paying for their health care.

How much do we spend on Health Care?

The quality of the health care system in the United States is world renowned and wealthy individuals from other countries frequently come here to receive their care. Health care in the U.S. certainly is the most expensive. Per capita health care spending in our country at $4887 per person is the highest of the thirty countries tracked by the Organization for Economic Cooperation and Development [1] (OECD). The Institute of Medicine (IOM) has compared health care spending and selected health care outcomes in the U.S. with other developed countries over the past several years (Table 1). [2] These data indicate that despite our level of health care spending some of our population's health care outcomes are below those of other developed countries. There are many factors that contribute to these differences in outcome. Lack of health insurance by a significant portion of our population is one of these factors.

TABLE 1 Health Care System Indicators in Selected Countries, 1997-2000

Country	1 Total Health Spending as a Percent of GDP 2000	2 Health Spending Per Capita in U.S. Dollars 2000	3 Infant Mortality Rate, Deaths per 1,000 Live Births 2000	4 Disability-Adjusted Life Expectancy in Years 1997-1999	5 % Total Population Publicly Covered 2000
United States	**13.0**	**4,631**	**6.9**	**70.0**	**86**
Australia	8.3	2,211	5.2	73.2	100
Canada	9.1	2,535	5.3	72.0	100
Denmark	8.3	2,420	5.3	69.4	100
Finland	6.6	1,664	3.8	70.5	100
France	9.5	2,349	4.6	73.1	99.8
Germany	10.6	2,748	4.4	70.4	92.2
Italy	8.1	2,032	4.5	72.7	100
Japan	7.8	2,012	3.2	74.5	100
Norway	7.8	2,362	3.8	71.7	100
Sweden	NA	NA	3.4	73.0	100
Switzerland	10.7	3,222	4.9	72.5	100
United Kingdom	7.3	1,762	5.6	71.7	100

SOURCES: (Columns 1,2,3,5: OECD, 2002; column 4: WHO, 2000).

Health care spending in this country is approximately $1.5 trillion dollars per year (2002) and accounts for 13.9 percent of our Gross Domestic Product (GDP), compared to a median of 8.1 percent in the other countries. The portion of GDP spent on health care has remained fairly stable through the 1990's after significant increases in the previous 2 decades. (Figure 1)

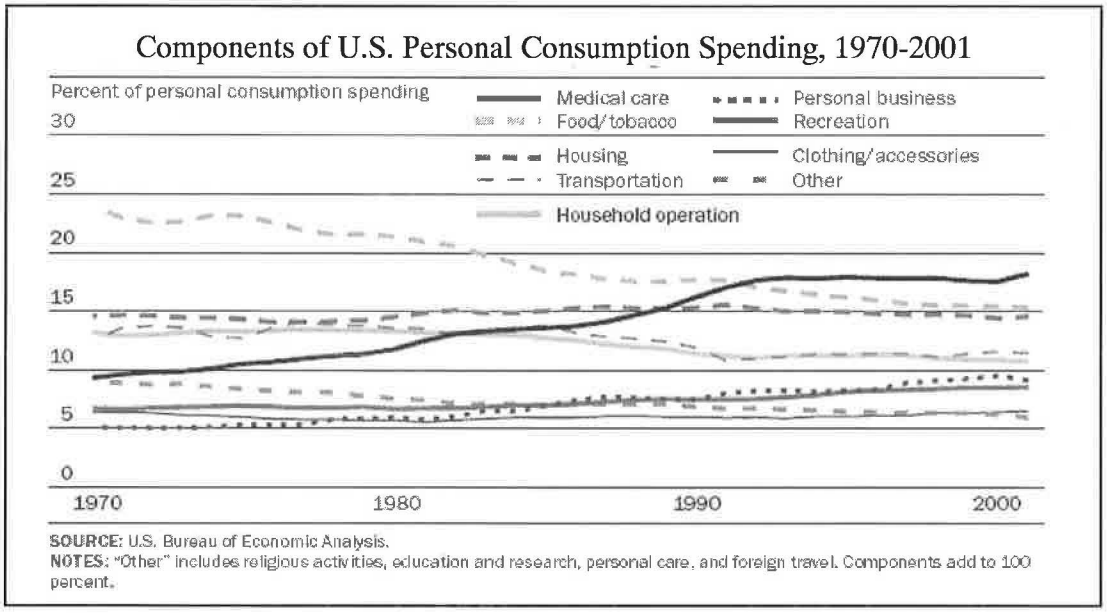

Figure 1

The increased costs of health care in the U.S. are due to several factors. Health care in our country has a more complex administrative system that is more costly than other countries. Health care is labor intensive and health care provider labor costs are higher in the United States than many other countries. The increased cost of pharmaceuticals in the U.S. compared to other countries has acquired a lot of recent attention from the press. Health policymakers in other countries are more likely to set limits on access to care based on cost-effectiveness, leading to a rationing of health care.

There are advantages and disadvantages to the high proportion of GDP going to health care in this country. On the positive side, health care contributes significantly to the economy, especially in creating jobs in our labor-intensive industry. For those who can afford it, access to high technology health care services is perceived as improving health and quality of life. Overall it is assumed that current levels of health care spending are economically sustainable on a macroeconomic level. It has not yet reached a point where other areas of industry in the GDP suffer significantly due to health care spending. Economists worry whether this level of health care spending is sustainable politically, in that a large portion of health care spending is from public dollars.

While sustainable at a macroeconomic level, increased health care costs have a significant impact at the individual level. These lead to less affordable health insurance premiums, which decrease the ability of employers, especially small businesses, to offer employer-based health insurance and less ability of workers to afford their portion of health insurance costs when offered. The total premium for an average employer-based health insurance policy for a family was $8800 in 2003, with cost usually split between employer and employee. [3]

How Insurance Works

Health insurance meets multiple needs for the people who have it. These include health promotion and disease prevention, obtaining needed health care, and protection against financial risk from high health care costs. This reduction in financial risk is accomplished by pooling premiums from a diverse group of insured persons, spreading the financial risk among people with varying health care needs. In fact, over the past three decades, ten percent of the insured population has consumed 70 percent of health care expenditures in this country. (Table 2) [4]

TABLE 2 Distribution of Health Expenditures for the U.S. Population, By Magnitude of Expenditures, Selected Years 1928-1996

Percent of U.S. population ranked by expenditures	1928	1963	1970	1977	1980	1987 charges	1987 payments	1996 payments
Top 1 percent	–	17%	26%	27%	29%	30%	28%	27%
Top 2 percent	–	–	35	38	39	41	39	38
Top 5 percent	52%	43	50	55	55	58	56	55
Top 10 percent	–	59	66	70	70	72	70	69
Top 30 percent	93	–	88	90	90	91	90	90
Top 50 percent	–	95	96	97	96	97	97	97

SOURCES: Data for 1928 are from I.S. Falk, M.C. Klem, and N. Sinai, *The Incidence of Illness and Receipt of Medical Care among Representative Families* (Chicago: University of Chicago Press, 1933); data for 1963 are from R. Andersen, J. Lion, and O.W. Anderson, *Two Decades of Health Services: Social Survey Trends in Use and Expenditures* (Cambridge, Mass.: Ballinger, 1976). Data for 1970 are from the National Center for Health Services Research tabulations of the 1970 Center for Health Administration Studies (CHAS)/NORC survey; for 1977, from the 1977 National Medical Care Expenditure Survey (NMCES); for 1980, from the National Medical Care Utilization and Expenditure Survey (NMCUES); for 1987, from the 1987 National Medical Expenditure Survey (NMES); and for 1996, from the 1996 Medical Expenditure Panel Survey (MEPS).

Thus health insurance serves the functions of both financing routine care and reducing financial risk for extreme costs. Without the protections afforded by health insurance, a simple medical condition can constitute a significant financial liability. According to the Commonwealth Fund, more than one-quarter of families in which one or more members were uninsured had to "change their way of life significantly" to pay medical bills. This figure rose to 40 percent when all family members were uninsured. [5] Half of those who were uninsured and had medical bills reported that they struggled to pay for expenses such as food and rent, while the vast majority (70 percent) said they were forced to deplete their savings to pay medical bills. [5]

Owning health insurance is voluntary in the United States. There is no guarantee for people under the age of 65 that they will be eligible for, able to afford, or able to stay enrolled in a health insurance plan. Employers offer health insurance to attract and retain workers and to decrease health related declines in productivity among these workers. Federal tax policies provide incentives but no mandate for employers to offer health insurance coverage. Employers can choose whether to offer health insurance and to which members of their workforce it is offered. They can also choose whether and how

much to subsidize premiums for their workers. The workers can choose whether to accept the health insurance.[2]

How do people gain and lose health insurance?

About two-thirds (64.2 % in 2002) of people under the age of 65 in the United States are insured by employer-based health insurance.[2 6] These include workers, their spouses and their eligible children. Another seven percent of the population under 65 is covered by individual or family policies they have purchased from the private, non-group insurance market. An additional 15 percent are covered by public health insurance, primarily Medicaid (10.4%), military-based plans such as Tricare CHAMPVA (2.8%), and Medicare for disabled persons under 65 (2.3%). The portion of the population uninsured in 2002 was 17.3%. (Figure 2)

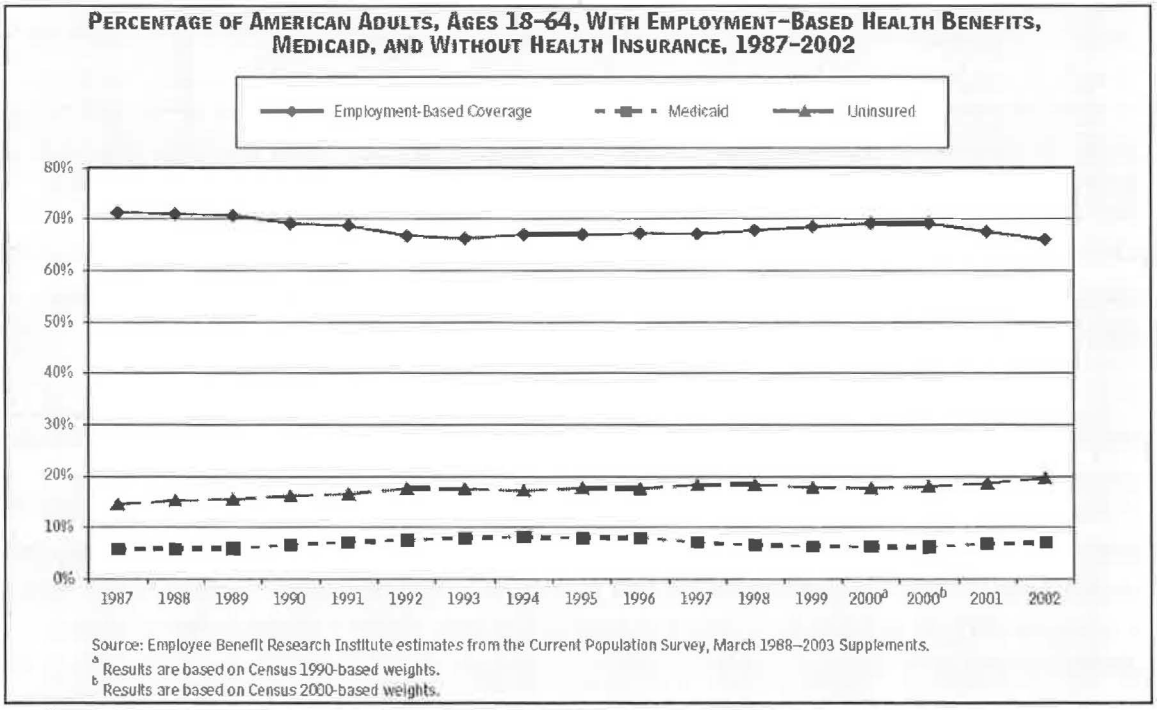

Figure 2.

Many transitions in life will affect one's ability to have health insurance. Loss of a job that offered health care coverage is probably the most frequent reason for loss of coverage. Changes in family situations, such as divorce from or death of a spouse through whom one had benefits or reaching the age where one is no longer eligible for coverage under a parent's policy, are common reasons for loss of health coverage. People may no longer be eligible for Medicaid because of an increase in income or they reached an age where they or their children are no longer eligible.

The company with whom one has individual insurance or whom a worker's employer offers employer-based insurance may go out of business or change eligibility excluding one from coverage. Individual cost of the insurance may rise, so one can no longer afford it, even if still eligible for coverage.

How Many Americans lack Health Insurance?

Both the number of uninsured and the proportion of the population without health insurance have increased significantly since these data began being measured in 1987. Variations in the number lacking health insurance are caused by several different factors. The percentage covered by employment-based health benefits varies with the health of the economy, employment, and the business sectors employing workers. Public coverage, such as Medicaid, varies based on federal legislation and the health of state budgets. The number of people covered by Tricare or CHAMPVA is related to the size of the military.

Estimates of the number of uninsured vary depending on the definitions of health insurance and the time lacking such insurance. The most quoted source is the Current Population Survey (CPS), conducted by the U.S. Census Bureau each year. [2 7] One statistic they report is the approximate number of people in the United States who remained uninsured for an entire year. They gather these data in a survey conducted in March of each year in which they ask if the respondent was covered by health insurance at any time over the previous year. [8] The data are reported in September of the following year. During 2002, this was estimated as 43.3 million people. They estimate that 81.8 million people were uninsured at some time in 2002-2003 and that two-thirds of these (53.4 million) were uninsured for at least 6 months. [9]

Since these data rely on responses to a recall question, it is felt that some respondents may answer regarding their insurance status at the time of the interview, thus overestimating the actual number of persons lacking health insurance for the entire year. Other data sets, the Survey of Income and Program Participation (SIPP) and the Medical Expenditure Panel Survey (MEPS) (conducted by the Agency for Health Care Research and Quality (AHRQ)) assess more precise information on the length of time without coverage. [8] When analyzing a two-year time period (1996-97), MEPS data found that 80.2 million people lacked health insurance at any time and 23.5 million lacked it for the entire time. [10] The Congressional Budget Office has estimated from these data sets that approximately 21 million to 31 million Americans lack health insurance for an entire year. [11]

Who are the Uninsured?

Many factors affect whether an individual has health insurance or not. The Employee Benefit Research Institute analysis of the March 2003 Current Population Survey outlines those areas which are most likely to affect the presence of health insurance. [2] These include geographic location, citizenship, employment, industry, firm size, occupation, hours of work, income, race and ethnic origin, family type, and age. The states with the highest proportion of uninsured are generally in the south central United States (Figure 3), where most states have at least 20% of the population uninsured. Employment, income, citizenship, and race and ethnic group all probably contribute to these differences.

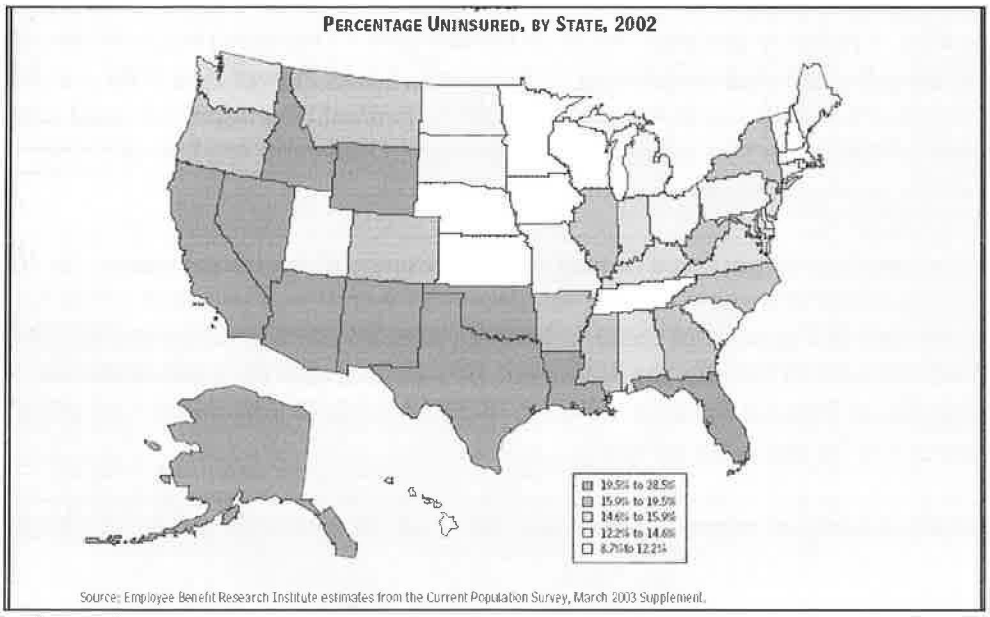

Figure 3.

Citizenship is a significant factor predicting health insurance coverage. Overall, more than 45 percent of the noncitizen population was uninsured compared with 14.9 percent of citizens. In Texas 62 percent of the noncitizen population was uninsured in 2002, compared to 28 percent of the overall state population (the highest of the 50 states). Noncitizens are more likely to work in low paying jobs and small firms or to be unemployed. Even though noncitizens have a high risk of having no health insurance, in total, citizens account for approximately 80 percent of uninsured persons. Since the largest proportion of Americans is covered by employer-based health insurance, unemployment increases the likelihood of uninsurance. However, 83 percent of the uninsured in 2002 lived in families headed by workers. The factor that accounts for the largest proportion of these workers not having insurance is not having it offered to them by their employer. [6] (Figure 4)

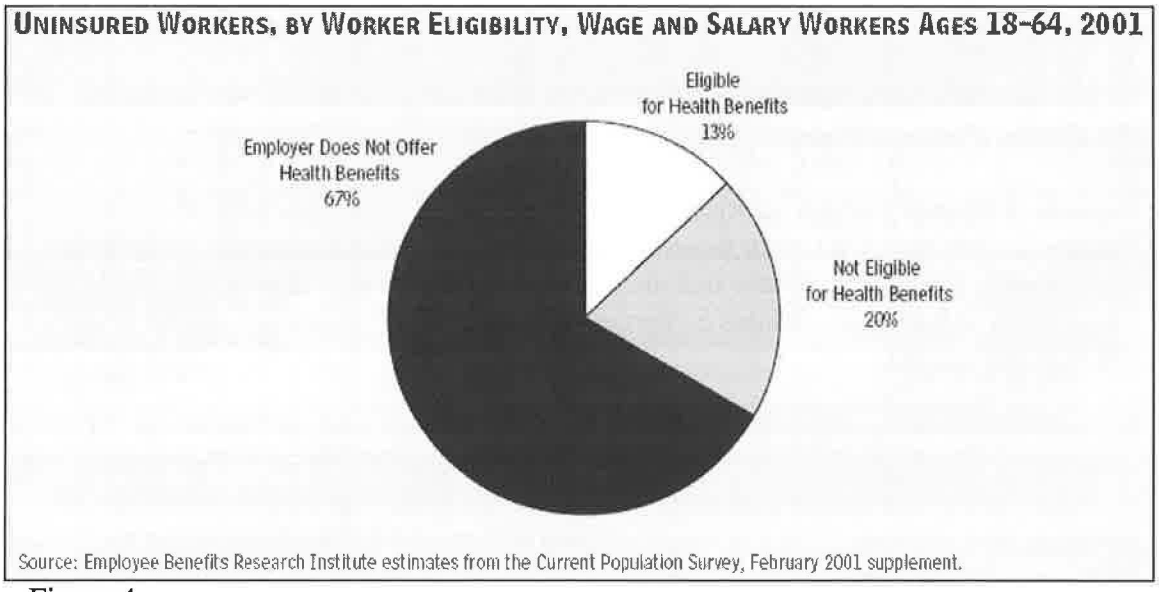

Figure 4.

The industries less likely to offer insurance include agriculture, forestry, fishing, mining, construction, wholesale and retail trade or service jobs. Uninsured workers are more likely to be self-employed or working in firms with fewer (fewer than 100) employees. Over 26 percent of self-employed workers and 34 percent of workers in small firms were uninsured compared to 18.1 percent of all workers. Uninsured workers are more likely to be in service sector occupations or blue-collar jobs.

Family income has a significant impact on the presence of health insurance. In 2002, 36.4 percent of the uninsured were in families with incomes of less than $20,000. At the same time, only 8.5 percent of those in families with incomes greater than $50,000 were uninsured. (Figure 5) Besides the proportion of income required to purchase health insurance, lower income workers are more likely to work in jobs that do not offer health insurance, or to be part-time workers.

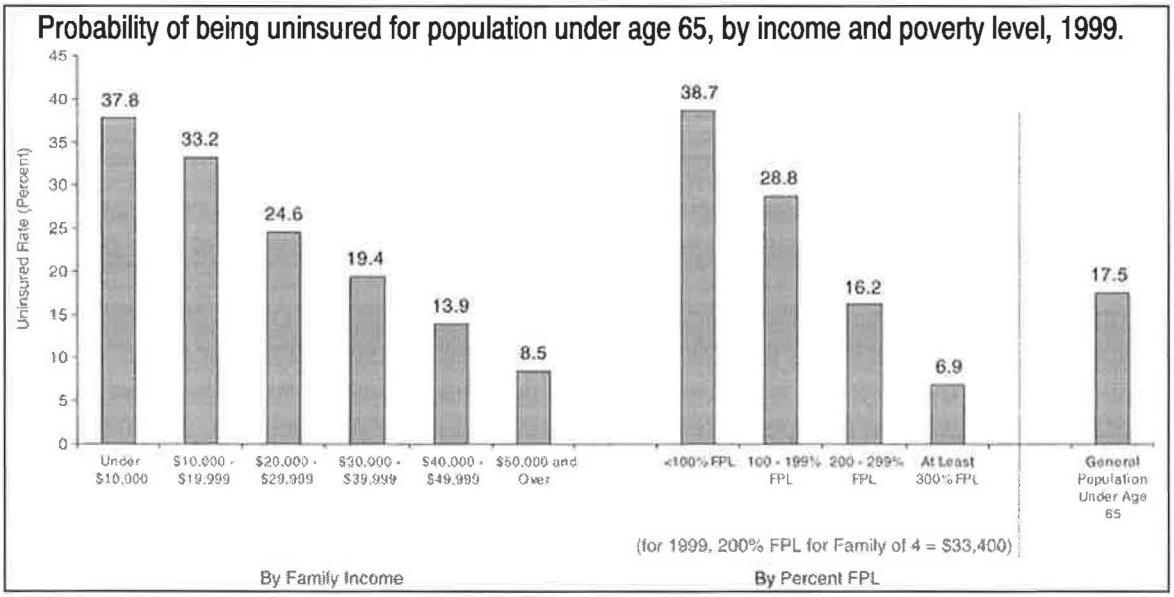

Figure 5.

Health care coverage is also affected by marital status. Single individuals and single-parent families are less likely to have health insurance. Some of this is related to income in that married couples are likely to both work, increasing income to buy insurance and the chance of access to employer-based insurance.

Persons of Hispanic origin are least likely to have health insurance, with 34.1 percent lacking it. Several of the other factors affecting lack of insurance are over-represented in the Hispanic population. These include, non-citizenship, lower income, and working for small firms or part time. Whites comprise 48 percent of the uninsured and 66 percent of the U.S. population.

Persons age 55-64 are least likely to be uninsured (12.2 percent) and those ages 21-24 are most likely to be uninsured (33.9 percent) in 2002. (Figure 6) There are several reasons younger persons are more likely to be uninsured. They may no longer be eligible for coverage by a working parent's policy, or they may have lost Medicaid or State Children's Health Insurance Program (SCHIP) coverage at age 18. They may not think it

is worth the money to purchase health insurance, assuming that they will remain in good health. They may also be ineligible because of waiting periods or entry-level jobs.

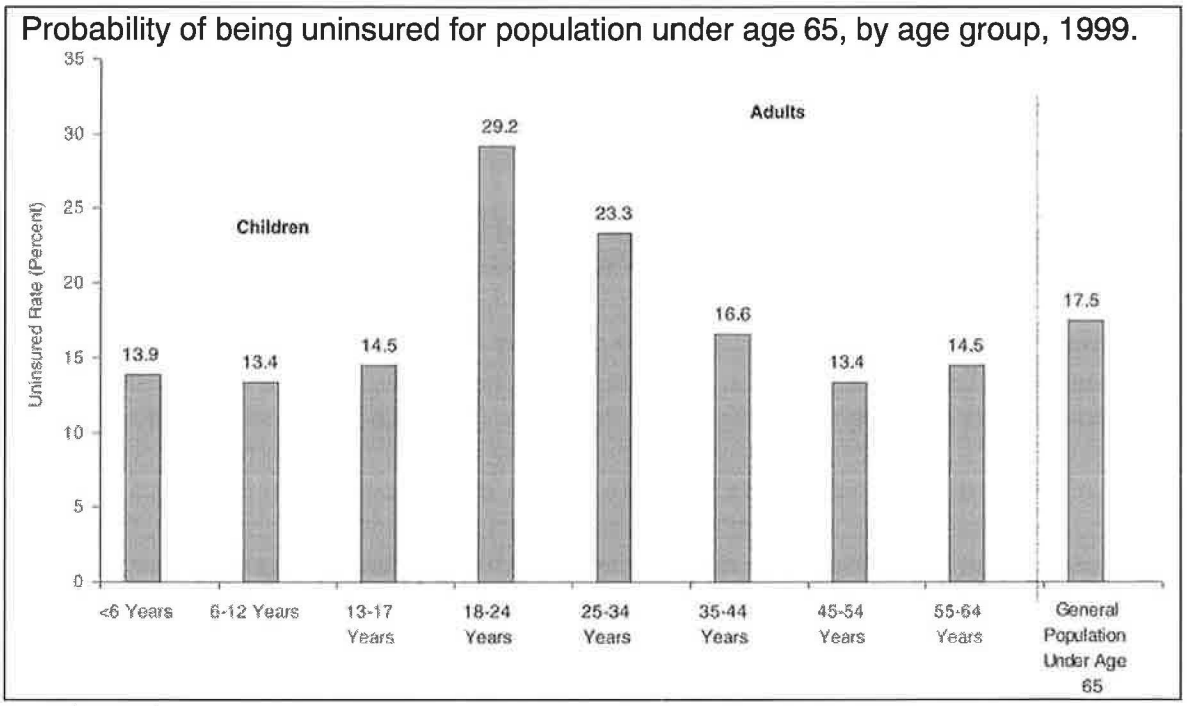

Figure 6.

The IOM (2001) carried out a multivariate analysis of factors predicting lack of health insurance in an attempt to identify those most predictive. [12] They found that socioeconomic, demographic, and geographic characteristics all have significant independent effects on the likelihood that a person will be uninsured. However differences in likelihood of uninsurance still persist when all known factors are taken into account. They did conclude that one has the best chance of having health insurance by being in a family where a family member has full-time, full-year employment and an annual income at least greater than 200 percent of Federal Poverty Level ($37,700 for a family of four in 2004).

Effects of Lack of Health Insurance on Health

Measuring the independent effect of lacking health insurance is difficult. Almost all studies of uninsured persons are observational and many characteristics associated with health insurance status, such as income, education, race and ethnicity, and health behaviors, are also associated with differences in health care outcomes.[13] Using observational data carries the risk that unidentified factors other than insurance contribute to the results. There are several other limitations of observational studies. The definitions of "health insurance" may vary, and the presence or absence of health insurance may be defined at one point in time, but may change for individuals over the course of time that their health outcomes are measured. Presence of health insurance may correlate with better health status. People with poorer health status may be unable to work and therefore not have access to employer-based health insurance. They may also be less likely to have coverage because of pre-existing health conditions.

Despite these limitations, most of these data come from large population studies utilizing a number of broad, publicly sponsored databases. The size, comprehensiveness, and length of follow-up of persons registered in these databases increases the likelihood that the differences in outcomes are due to lack of health insurance and reduces the chance that there are significant biases. And in most cases the investigators attempt to control for obvious factors other than health insurance that may affect the outcome.

Persons without insurance are less likely to have any physician visit within a year, have fewer visits annually, and are less likely to have a regular source of care. [14 15 16 17 18 19] Uninsured adults are more than three times as likely as either privately or publicly insured adults to lack a regular source of care (35 percent compared with 11 percent). [20]

Uninsured adults are less likely than adults with any type of health insurance to receive preventive and screening services. [13] If they do receive these services, they are less likely to receive them at the recommended time intervals. Although public and private health insurance plans have been increasing the numbers of preventive and screening services they offer, all of the recommended services are not always included in insurance coverage. Despite this, insured adults are more likely to receive these services, probably because having health insurance makes them more likely to have a regular source of health care, which is independently associated with receiving preventive services. [21 22 23 24] This is especially true for higher cost screening services, such as mammograms. [21 22 25] The length of time without health insurance also affects preventive services. Those without insurance for a year or longer are less likely to receive the services recommended by the U.S. Preventive Services Task Force than those uninsured for less than a year. [26]

Socioeconomic status, race and ethnicity have been shown to be associated with disparities in preventive health services. [27] This is especially true for decreased screening mammograms in African-American women and colorectal cancer screening in African-American men. These disparities are reduced significantly by health insurance, but are not totally ameliorated. [24]

The Institute of Medicine [13] has summarized studies comparing the outcomes of those with health insurance and the uninsured for breast, cervical, colorectal, and prostate cancer and melanoma. These data are mainly from population-based studies using large cancer registries. The studies on breast cancer grouped women with Medicaid with those without insurance and compared them to women who had private insurance. [28 29 30 31] The data from the registries did not indicate whether the women with Medicaid acquired this coverage prior to or after their breast cancer diagnosis. The women with Medicaid or no insurance were much more likely to be diagnosed with regional or late-stage cancer. These women also had a risk of death over 40 percent higher than privately insured women, even when adjusted for stage of disease at diagnosis. In one of these populations, uninsured women were less likely than women with private coverage to receive breast-conserving surgery, despite similar stage at diagnosis and comorbidities. [31]

Uninsured women are more likely than those with private insurance to have a late-stage diagnosis for invasive cervical cancer. [32] The outcome for women with Medicaid with cervical cancer was similar to that for privately insured women. Uninsured patients with colorectal cancer are more likely to be diagnosed at a later stage than those with health

insurance and have a greater risk of dying, even after adjusting for stage at diagnosis and treatment modality. [29] [33] Multivariable analysis adjusting for sociodemographic factors, smoking status and comorbidities found that the increase in late-stage diagnoses in uninsured patients remained.

Uninsured men with prostate cancer are more likely to have late-stage diagnosis and risk of death regardless of stage, and a decrease in health–related quality of life after their diagnosis compared to men insured either privately or publicly. [29] [34] Uninsured and Medicaid patients with melanoma are more likely to be diagnosed at a later stage of the disease. [29] Overall, uninsured persons die sooner, on average, than insured persons with several types of malignancies. This is largely due to delays in diagnosis. However in some instances, this earlier mortality persists even when controlled for stage of diagnosis.

There are several common chronic diseases for which evidence-based studies have demonstrated improved outcomes from appropriate care. These include diabetes, cardiovascular disease, end-stage renal disease, and HIV infection. The Institute of Medicine [13] reviewed several studies comparing outcomes of uninsured patients to insured patients with these diseases. They found that uninsured patients are less likely to receive appropriate care for these diseases and are more likely to have worse clinical outcomes than insured patients. The effective management of most of these diseases requires periodic health care services and active involvement from the patient in modifying their behavior, monitoring their condition, and adhering to prescribed treatment regimens. [35] [36] Health insurance is important in enhancing opportunities to have a regular source of care for chronic illness. Uninsured persons are less likely to have a regular source of health care and more likely to identify the emergency department as their most frequent source of care. [37] [38] [39] [40] They are more likely to be hospitalized for conditions that might have been avoided with timely ambulatory care. It is estimated that up to 23,000 admissions for diabetes could be avoided, saving as much as $84 million in direct hospital costs. [41]

Adults with diabetes are almost as likely to lack health insurance (12 percent) as the general population (15 percent). [42] Diabetics without health insurance are less likely to receive the evidence-based standard of care for their disease, resulting in worse control of blood sugar and increased likelihood of complications from the disease. [43] Type II diabetics not on insulin are less likely to self-monitor blood glucose or have had a foot exam or a dilated eye exam within the previous year. [44] Diabetics using insulin are also less likely to have had foot or dilated eye exams if they have no health insurance. The likelihood of lacking appropriate care for diabetes increases with the length of time without insurance. [26] (Figure 7)

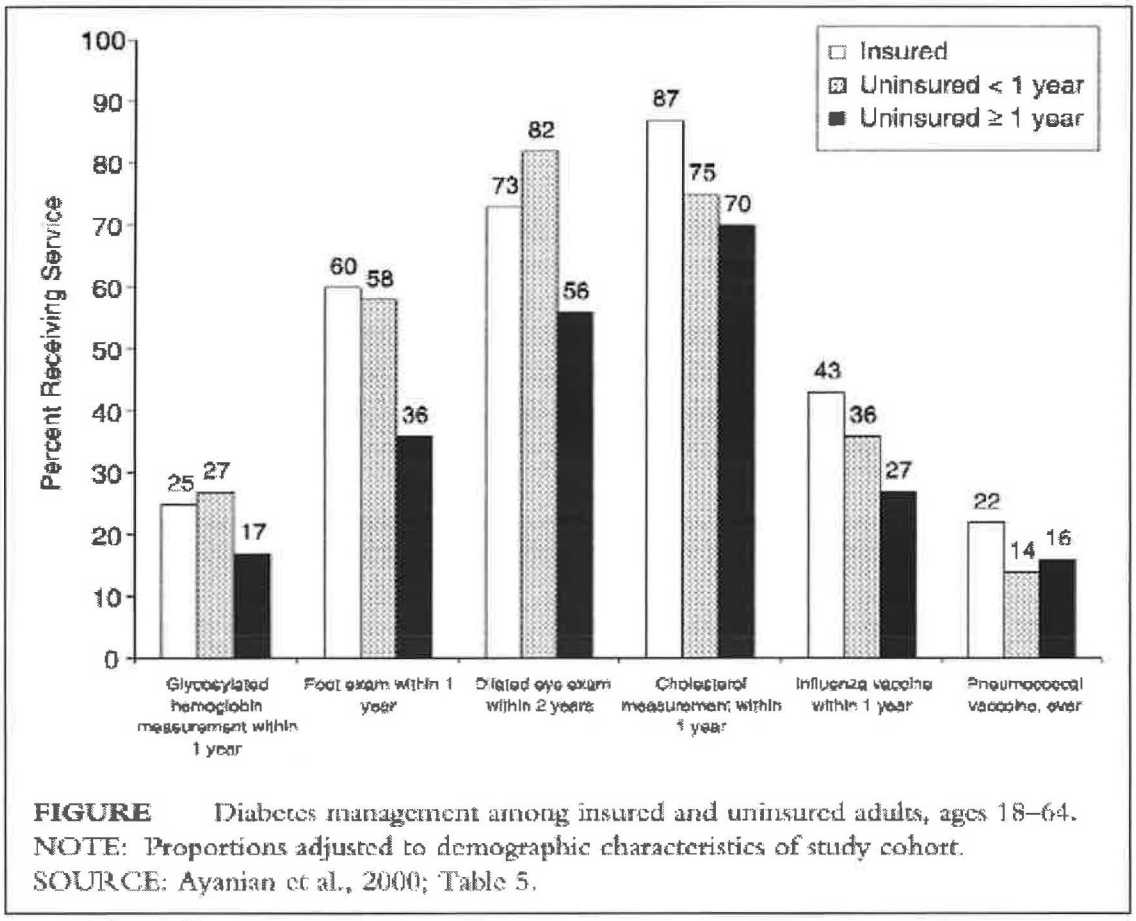

FIGURE Diabetes management among insured and uninsured adults, ages 18–64.
NOTE: Proportions adjusted to demographic characteristics of study cohort.
SOURCE: Ayanian et al., 2000; Table 5.

Figure 7.

Uninsured persons are less likely to receive screening for risk factors for cardiovascular disease such as hypertension and high cholesterol at the recommended frequencies. [26] For patients with hypertension, insurance coverage is associated with improved blood pressure control, regardless of socioeconomic status. [45 46 47] Uninsured persons with hypertension are less likely to be taking antihypertensive medications than insured persons [48] and are less likely to have had their blood pressure checked within the past year. [49] Similarly, uninsured patients diagnosed with high cholesterol are less likely to be taking medications than their counterparts with insurance. [49]

Uninsured patients with end-stage renal disease begin dialysis later than insured persons and have poorer clinical measures of their condition when they begin dialysis. Using the Medicare end-stage renal disease (ESRD) database, investigators are able to obtain detailed information about patients entering the program. Uninsured patients are more likely to have significant anemia and hypoalbuminemia prior to the initiation of dialysis and less likely to have received erythropoetin. [50 51]

The Institute of Medicine reviewed several analyses of care for persons with HIV infection based on longitudinal surveys evaluating care for such patients. [13] Uninsured patients are more likely to have a later diagnosis of HIV and once diagnosed less likely to receive highly effective drug therapy and more likely to have this therapy initiated later in the disease. [52 53 54] Access to a public clinic for HIV increases the likelihood of

uninsured patients receiving effective drug therapy. [55] Uninsured patients are more likely to discontinue highly active antiretroviral therapy (HAART) than are insured patients. [56]

Many studies over the past twenty years have compared hospital care received by uninsured patients to that received by those who are uninsured. [13] In a study of almost 600,000 hospital records, Hadley and colleagues found that uninsured patients were more likely to die during hospitalization, even when adjusted for the patient's condition on admission to the hospital. [57] Uninsured patients were less likely to receive some high cost procedures, such as endoscopy, cardiac catheterization and coronary revascularization. [57 58 59 60 61 62] Uninsured patients also had shorter lengths of stay when hospitalized with diagnoses for which length of stay is more discretionary.

Investigators in two studies have followed cohorts of patients for several years to determine the effect of lack of health insurance on mortality. [13 63 64] They have found that in almost all gender/race cohorts, lack of insurance increased mortality by 20 to 50 percent, even when controlling for other factors affecting mortality risk. One of the studies found no difference in mortality between insured and uninsured African-American women, but differences in all other cohorts. [64] A more recent study focused on the near-elderly, persons ages 55 to 64 years. [65] The risks of having major health problems and incurring significant medical expense increase in this population. Overall they found that mortality was significantly higher for uninsured adults in this age group (hazard ratio: 1.83; 95 percent confidence interval: 1.46, 2.29; $p<.001$). In stratified analysis, lack of health insurance was associated with significantly increased mortality in white adults in the lowest income quarter and in all adults with diabetes, hypertension, or heart disease.

It has been estimated that lack of health insurance leads to the death of 18,000 adults ages 25 to 64 each year—making it the sixth-leading cause of death in this age group, ahead of HIV/AIDS or diabetes. [66] The authors of the recent study on the near-elderly project that with the growth of the population in that age range, lack of insurance may contribute to as many as 13,000 deaths annually in persons age 55 to 64. [65]

TABLE 3 Estimated excess deaths among uninsured adults 25-64 for 2000

Age	U.S. Population 2000 (millions)	Uninsured Population 2000 (millions)	Percent Uninsured (within age group)	Deaths per Million 1999 (estimated)	Total Deaths Estimated for 2000 Population	Uninsured Excess Deaths Estimated for 2000 Population
25-34	37.440	7.926	(21)	1,083	40,548	1,930
35-44	44.780	6.938	(15)	1,992	89,202	3,431
45-54	38.040	4.571	(12)	4,273	162,545	4,734
55-64	23.784	3.248	(14)	10,219	243,049	8,219
Total	144.044	22.683	(16)	3,717	535,344	18,314

One large randomized trial of health insurance has been conducted. The RAND Corporation randomized persons to health insurance plans from 1975 to 1982. [67 68] This study did not contain a group with no insurance, but did have a group with a high deductible and no coverage for routine care. Persons with any type of cost sharing had fewer doctor visits, fewer hospitalizations and poorer control of blood pressure. Other

outcomes did not differ among groups in the relatively short three to five years they were followed. This study showed the sensitivity of health care utilization to any out-of-pocket costs, especially among lower income individuals. These conclusions can be extrapolated to the uninsured.

Thus, a large number of studies conclude that having health insurance is associated with better health outcomes and receipt of more appropriate care across a range of preventive, chronic, and acute care services. Uninsured persons are much more likely to forgo needed care. They receive health care that is less adequate and appropriate than that received by persons who are insured by public or private insurance plans. They also have poorer clinical outcomes and poorer overall health than do adults with private health insurance. In the words of groups who advocate for health care for the uninsured "the uninsured live sicker and die quicker" (sic). Adults with chronic conditions and those in the 55 to 64 age groups are likely to benefit the most from health insurance coverage because of their high probability of needing health care services. Increased coverage in all age groups would likely reduce some of the racial and ethnic disparities in the utilization of health care services and in health care outcomes.

Costs of the Uninsured

To appropriately assess the financial impact of the various options for expanding access to health insurance, we must understand the current costs of caring for the uninsured. [69] The lack of access to needed care for uninsured Americans results in more acute medical problems, emergency care, and hospitalizations. [70] This leads to increased costs in several areas. The health care system incurs direct costs for treating the uninsured. The costs of some of this uncompensated care are passed on to the insured by cost shifting and higher health insurance premiums (which result in higher costs of consumer goods), or paid by taxpayers through taxes to finance public hospitals and public insurance programs. [70] There are also costs to individuals and families, in terms of financial security and well being. Businesses experience reduced employee health, attendance, and productivity in uninsured workers. Society has costs in terms of public health and general productivity.[71]

According to Hadley, total medical care received by the uninsured in 2001, was $98.9 billion. Of this total, about one-third was paid out of pocket by the uninsured. Another $35 billion was care that was not paid for out-of-pocket or by a public or private source. In 2001, the total dollar value of care received by an uninsured individual was about half that received on average by privately insured individuals. [72]

Hospitals deliver about $24 billion of uncompensated care to the uninsured in 2001, making them the largest source of uncompensated care. [72] The cost borne by hospitals for caring for the uninsured is also an internal medicine issue, since the majority of hospital care received by the uninsured is provided by internists. Emergency medicine physicians are also disproportionately affected by care for the uninsured. One out of six uninsured persons who report having a regular source of health care, identify the emergency department as that source of care.[73] Between 1996-97 and 2000-01, emergency department visits by uninsured patients increased by about 10 percent, despite little change in the number of uninsured. [74] Visits to the emergency department by the uninsured are less likely to be true emergencies, with over 31 percent of such visits

considered non-urgent. [74] The cost of treating patients is higher in the emergency department than in other outpatient settings, thus the increasing reliance of the uninsured on emergency departments for non-urgent care has economic implications. [74] Hospital emergency rooms also usually do not offer a continuum of care for a patient once discharged. [75] Clinics and community health care centers, including the Veteran's Administration and Indian Health Service, provided about $7.1 billion in uncompensated care received by the uninsured in 2001.[72]

Physicians employed by hospitals or clinics provided about $5.1 billion in uncompensated care to the uninsured in 2001. This includes donated time and forgone profits. Hospitals receive a substantial amount of public assistance for caring for the uninsured, which physicians do not. Physicians, on the other hand, account for more than half of the private subsidies that underwrite the cost of uncompensated care. [72] Over two-thirds of internists treat uninsured patients who are unable to pay the physician's usual fee. [76]

Care from charitable physicians and the safety net are not substitutes for health insurance.[77] Physicians express concern that they are unable to provide uninsured patients the same quality of and continuity of care that insured patients receive, because of difficulty accessing ancillary diagnostic and treatment services for these patients. [76] Changes in the structure and financing of the health care system have reduced the ability to cross-subsidize free care to uninsured patients. As a result, there has been a decline in the number of physicians who are able to offer charity care, from 76.3 percent in 1997 to 71.5 percent in 2001. Those who continue to offer such care are able to spend less time doing so.[75]

Governments finance the bulk of the uncompensated care received by the uninsured, spending about $30 billion in 2001 on payments and programs to serve the uninsured. This figure includes grants, direct care programs, tax appropriations, and Medicare and Medicaid payments for the uninsured. Total government spending on the uninsured is considerably less than spending on Medicare ($247 billion), Medicaid ($226 billion), and tax subsidies for private insurance ($138 billion). [72]

The federal government provided the majority of total government spending on the uninsured, or about $19.9 billion. This is primarily through Disproportionate Share Hospital (DSH), Upper Payment Limit (UPL), and Indirect Medical Education (IME) payments to hospitals through Medicare and Medicaid, and through the Veteran's Administration (VA).[72] State and local governments spent $10.7 billion on payments and programs to serve the uninsured, directed primarily to hospitals through tax appropriations and indigent care programs. [72] As the cost of health care in general rises, local governments often have to take resources out of other programs to provide medical care for the uninsured. These changes affect both the uninsured and the insured in those communities.[78]

TABLE 4 Sources of Funding Available for Uncompensated Care of the Uninsured, In Billions of 2001 Dollars

Provider and funding source	Private sources	Government spending			Total available for uncompensated care
		Federal	State/local	Total	
Hospitals	$2.3-4.6	$14.2	$9.4	$23.6	$25.9-28.2
Clinics	0.13	5.69	1.29	6.98	7.11
Physicians	5.10	--[a]	--[a]	--[a]	5.10
Total	7.5-9.8	19.9	10.7	30.6	38.1-40.4

SOURCE: Hadley J, Holahan J. How Much Medical Care Do the Uninsured Use, and who pays for it? Health Affairs Web Exclusive. 12 February 2003.
[a] Not applicable.

These figures suggest that at least a portion of the current cost of covering the uninsured is potentially available from existing sources to transfer to new government efforts to extend coverage to the uninsured and create a more efficient health care system.[72] Functional limitations brought on by poor health can adversely affect workforce productivity and carry economic costs. A Kaiser Commission report on the uninsured, notes that the combination of less ability to work and lower productivity resulting from poor health has been estimated to reduce earnings by between 10-28%, depending on race and gender, over a ten-year period. [79]

The uninsured affect employers bear through lost employee productivity, employee turnover, and employee absenteeism due to poor health. Healthier workers are generally more productive, earn higher wages, and are less likely to be absent from work because of illness. A one-year improvement in a country's life expectancy translates into a four percent improvement in gross domestic product (GDP).[80] Thus, increased expenditures on improving health might be justified purely on the grounds of their impact on labor productivity.

Employers pay federal taxes that help pay for programs that cover the greatest share of hospital costs for the uninsured. They also bear the cost of the uninsured through higher costs of employer-based health insurance. Employers and managed care companies paid $1.5 billion to $3 billion through higher rates to cover part of the $24 billion hospitals spent caring for patients who could not pay their bills in 2001. [81]

Medicare, Social Security Disability Insurance, and the social justice system have higher budgetary costs than they would if the entire U.S. population had health insurance coverage prior to the age of 65. [82] It is nearly impossible to determine the exact impact of uninsurance on the budget of public programs. For example, individuals with chronic diseases such as diabetes or poorly controlled hypertension due to irregular or no medical attention enter the Medicare program with more comorbidities and worse health status than those whose conditions have been treated over time, making them a larger cost to the Medicare program. [82]

The health of communities is also adversely affected by the uninsured. The competing demands for public dollars for health services for the uninsured can affect population-

based resources for the community. [83] For example, population-level disease surveillance is reduced in communities with large uninsured populations since the uninsured are less likely than those with coverage to have a regular health care provider. [83] As a result, providers may have less opportunity to identify the earliest signs of an outbreak, which hinders both detection and containment efforts. This could be especially serious in the case of a bioterrorist attack, and equally threaten the insured and uninsured. [84]

Although this paper focuses on uninsured adults, children in poor health miss more school and have lower cognitive development than their healthy counterparts. Lower educational attainment due to poor childhood health contributes to lower wages and lower labor force participation, which increases the likelihood of not being insured as an adult, thereby increasing one's odds of continued poor health as an adult. [79] A cycle is created which results in increased costs to the individual, the health system, and society as a whole.

The IOM [83] has developed a conceptual framework for the impact of the uninsured on the communities in which they live. Their framework builds on a behavioral model of access to health services. [85 86] It focuses on the economic, financial, and coverage–related factors that affect health care service outcomes and their impact on communities. (Figure 8)

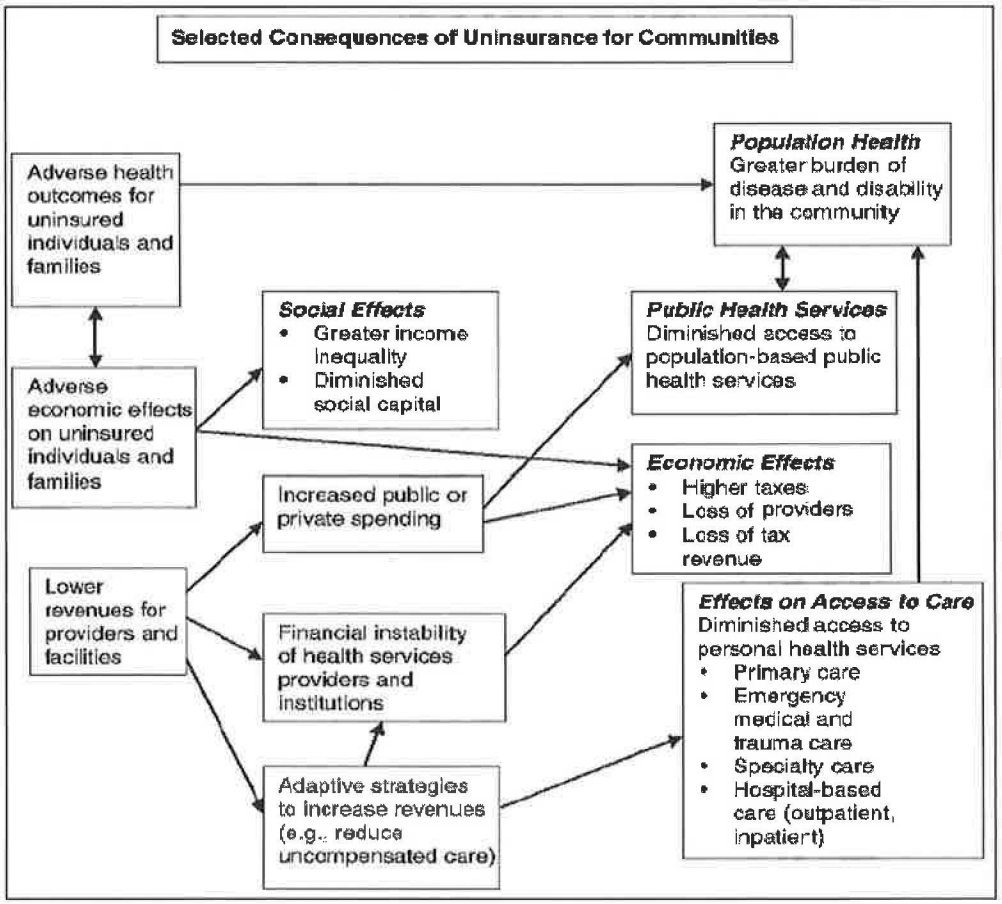

Figure 8.

The value of extending health insurance coverage to all Americans requires an understanding of the alternative—the cost of leaving over 15 percent of the population uninsured for all or part of the year. Inadequate preventive care and delayed treatment among the uninsured yields substantial societal costs in terms of reduced life expectancy, lower workforce productivity, diminished educational attainment, imperiled public health, and the financial burden shouldered by uninsured individuals and communities.

It is estimated that the uninsured would use about $34 to $69 billion (in 2001 dollars) in additional medical care if they were fully insured, contributing an additional 3 to 6 percent to total U.S. health care spending. An increase in medical spending of this range would increase health care's share of gross domestic product (GDP) by less than one percentage point.[87] The IOM estimates the benefit of incremental health coverage ($1,645 to $3,280/person) to be higher than the estimated incremental service costs ($1,004 to $1,866/person), resulting in a cost-benefit ratio of at least one for most values within each range. [87] Thus, health insurance has significant potential health, social, and economic benefits.

History of Health Care Coverage in the U.S.

In the late nineteenth century in Europe, social insurance programs, which included health insurance and limited prepaid medical services, were available to members of some fraternal or mutual benefits societies. [2] [88] In the early 1900s in the United States, health insurance coverage was rare, and health care was largely purchased out of pocket or by barter or provided as charity. Efforts to extend health insurance coverage more broadly began around the time of World War I. [89] At the time, the country was experiencing rapid industrial and urban growth with large numbers of low wage workers. The American Association for Labor Legislation began advocating for mandatory workplace-based sickness insurance, modeled after recently created state workmen's compensation programs. [89] This insurance plan limited eligibility to employees who earned low incomes. They assumed the poor could receive charity care and higher earning workers could pay for their own care. Proposals for such insurance were introduced into numerous state legislatures, but by 1920 all such bills had been defeated.

The Social Security Act was passed in 1935. In the 1930's and 1940's several federal proposals were introduced to provide broad health coverage not tied to income. These proposals were supported by organized labor, but were opposed by many groups including physician professional organizations, particularly the American Medical Association (AMA).

Consumer demand for health insurance grew and private plans, such as Blue Cross hospitalization and Blue Shield physician plans grew rapidly. [90] [91] These plans were used by industries to provide employer-based health insurance to their workers. By 1960, 16.7 percent of the population was covered by private health insurance. Some public officials began exploring how to expand Social Security to provide health coverage, especially for costly hospitalizations, to those over 65 who were less likely to have employer-based insurance. In 1965, the 89th Congress passed authorization for Medicare and Medicaid as amendments to the Social Security Act. [92] [93]

Originally these plans were modeled after private coverage and were largely fee for service with few limits on reimbursement for physician and hospital care. Over the next several years, health care spending and inflation grew significantly. [89] By 1980 health insurance coverage reached a high level with only 15 percent (29.6 million people) of the population under age 65 uninsured. [94] Spending on health from 1970 to 1980 had grown from $69 billion to $230 billion and from 7.2 percent of GDP to 9.4 percent. [89] Health insurance premiums and deductibles were increasing and federal officials began capitation and limiting fees in an attempt to contain costs.

There have been several federal initiatives to extend health care coverage over the past two decades. [2] In the latter half of the 1980's Medicaid was expanded to include more pregnant women, infants and children. Additional federal funds were made available for Medicaid. More flexibility for state-initiated plans using waivers was allowed. States continue to vary in their eligibility for Medicaid, and the recent deficits in state budgets have decreased the number covered. In response to a need to cover more low-income children, the State Children's Health Insurance Program (SCHIP) was authorized in 1997. During 2002, approximately 5.3 million children were enrolled in SCHIP. [95]

In addition to some expansion of federal programs to targeted populations, the federal government has passed legislation regulating employer-based health care coverage. These have largely been aimed at improving the portability and continuity of employer-based coverage. [2] The Consolidated Omnibus Budget Reconciliation Act of 1985 (COBRA) allows workers to continue to participate in their health employer's group insurance for up to 18 months after leaving their job. The Health Insurance Portability and Accountability Act of 1996 (HIPAA) allows some workers to purchase coverage after they are no longer eligible for COBRA benefits and restricts the waiting periods for preexisting conditions for workers who switch health plans. [96]

Several states have initiated measures to both extend public coverage and regulate employer-based health insurance. The success of these efforts has been variable and have most recently been hampered by downturns in state budgets. Some communities have also initiated efforts to broaden coverage locally to uninsured residents. [2]

Methods to extend health care coverage

The problem of uninsurance has many potential solutions. There are advantages and disadvantages to each of these, with varying levels of support among a wide variety of interest groups and political leaders. Since the largest portion of the uninsured is low income, all efforts will necessarily require additional health care dollars. These will generally need to be new dollars, although there is a potential for some cost shifting within current health care expenditures. There are four general strategies for expanding coverage to the uninsured. [97]

Tax Credits-Tax credits that can be used only to purchase health insurance have been proposed for lower wage workers. These credits could be used to purchase coverage under their employer, if eligible, individual private health insurance or coverage by a public insurance pool, i.e. Medicaid, Medicare, or SCHIP. The tax credit would begin at the family income above which the family is no longer eligible for Medicaid and would phase out at a family income that was determined to be adequate to purchase health

insurance. Those workers who owe no tax would receive a refund equivalent to the amount required to purchase insurance. The money would be available at the time the worker needed to purchase insurance and could only be used for that purpose.

In its most simple form, tax credits would not be accompanied by mandates on either the employer to offer insurance or the employee to accept the credit and purchase insurance. It is felt that having money available for only that use would be enticement for a large portion of workers to use it. Tax credits would need to be accompanied by some assurance of availability of adequate benefit packages that could be purchased at the cost of the credit. This could be accomplished by federal or state insurance regulation. [2]

Mandates-Employers could be mandated to offer health insurance to employees and employees could be mandated to purchase it. These mandates could be accompanied by subsidies for either employers, low income employees or both. Small company employer access to affordable insurance could be facilitated by insurance-buying pools or cooperatives. Once again a minimum benefits package would need to be defined and be at least one of the options offered.

Expansion of public programs-Medicaid, SCHIP, and Medicare could be expanded to include more low income persons. For example SCHIP could be expanded to provide coverage not only to low income children less than 18 years old, but to other members of their family also meeting the income limits. Although the population ages 55 to 64 is the least likely to be uninsured, they are more likely to have greater health care needs. Medicare could be expanded so that persons in this "near elderly" group could participate if they were not otherwise eligible for coverage.

Single payer-For the past nine decades proposals for a national health insurance program have been brought forward in the United States. [97] [98] None have been approved and the United States remains the only industrialized nation without universal health insurance coverage. [99] Recent proposals and health system reforms have been based on market mechanisms for reducing costs and improving access to health care. The Physicians' Working Group for Single-Payer National Health Insurance has recently reintroduced the concept of single-payer universal health coverage in this country. [98] Their proposal is based on the following principles:

1. Access to comprehensive health care is a human right.
2. The right to choose one's physician is fundamental to patient autonomy.
3. Pursuit of corporate profit has no place in care giving.
4. The public should set health policy and budgets.

Under their proposed plan every American would be covered for all medically necessary services. Private insurance, copayments, and deductibles would be eliminated. The program would cover disabled persons of all ages for all necessary home and nursing home care. Total expenditures for this national health insurance would be set at approximately the same proportion of gross domestic product as in the year preceding the establishment of the program.

The Institute of Medicine [2] has put forward several principles to guide the discussions of methods of providing health care coverage for the uninsured. They feel that all proposals should be judged by how closely they meet these principles. The principles are:

1. Health care coverage should be universal (all residents of the U.S. should be covered).
2. Health care coverage should be continuous.
3. Health care coverage should be affordable to individuals and families.
4. Health care coverage should be affordable for society.
5. Health insurance should enhance health and well being by promoting access to high-quality care that is effective, efficient, timely, safe, patient-centered, and equitable.

Each of the prototypes outlined above could more nearly achieve these principles than the current system, even if the principles are not all completely realized.

Conclusion

Increasing the numbers of people with health insurance is an important goal for the future health of our country. It is not unattainable. By understanding the current health care system and the advantages and disadvantages of various proposals to expand coverage, we can create a viable strategy to ameliorate the problem of the uninsured. Accomplishing the necessary reforms will not be quick or easy. The first step is to identify the changes needed and a timeline for legislating and implementing them.

Rising health care costs and the increasing number of Americans lacking health insurance are likely to keep health care reform on the political agenda. Both political parties have acknowledged that this is a priority for voters, and both presidential candidates have put forth proposals for health care reform, as have members of both parties in Congress.

As health care providers we daily face the personal toll that lack of health insurance takes on our patients, their families, and our health care system. I would propose that because of our unique perspectives on health care, we have a particular responsibility to advocate for the health care policies that we feel would most benefit our patients and our society. This advocacy should at least comprise understanding the various options for expanding health insurance coverage, being aware of the implications of proposals for health care reform, and using this information when making our decisions in the voting booth. For many of us this responsibility will also include educating others, speaking directly to our elected officials about the changes required to improve our health care system, and campaigning for those candidates we feel are most likely to help achieve our vision.

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