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Why Are Health Care Expenditures Increasing and Is There A Rural Differential?

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Rising health care expenditures are a big concern to rural persons, rural employers, taxpayers, and legislators (Strunk & Ginsburg, 2004). In 2004, total health care expenditures in the United States grew 7.5% over the previous year and reached \$1.8 trillion (Centers for Medicare & Medicaid Services, 2005). In the last five years, health care expenditures have grown more than 7% per year, reaching 15.4% of the gross domestic product (Figure 1).

Do the reasons for spending increases differ between urban and rural areas? How should policy makers and others interested in moderating spending increases focus their attention, given multiple explanations for the increases? To answer these questions, this policy brief focuses on (a) the factors that account for the rise in health care expenditures, (b) empirical evidence showing whether there are differences between rural and urban areas in health care expenditure increases, and (c) a framework for considering future changes in rural health care systems.

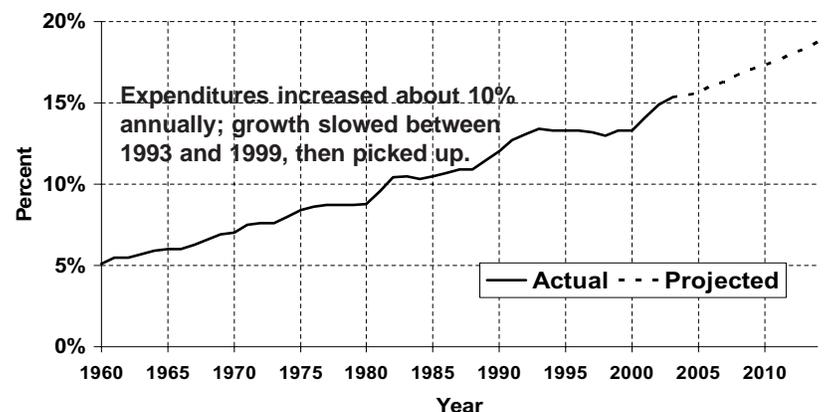
Strategies to contain spending should focus on underlying causes such as changing population and increased use driven by new technology. In rural areas, those factors result in disproportionate spending for office visits and prescription drugs, so strategies aimed at health maintenance may be most appropriate.

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Figure 1. National Health Expenditures:¹ Percentage of Gross Domestic Product, 1960-2014

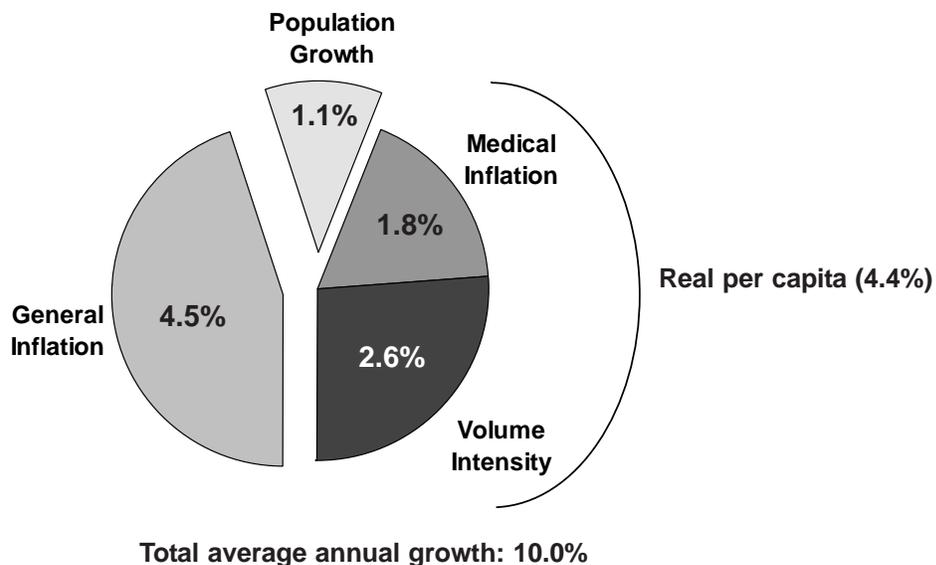


Source: Centers for Medicare & Medicaid Services, 2005.

What factors account for the increases in health care expenditures?

What does the evidence show about the factors behind rising health care expenditures? Figure 2 displays the annual growth rates in health care spending and breaks these increases down into various factors that account for that growth. Overall, health care spending increased by an average of 10% per year from 1960 to 2004. The increases can be attributed to factors both outside and inside the health care sector.

Figure 2. Factors Accounting for Expenditure Growth: Average Annual Percent Change, 1960-2005



Source: Author's computations based on Centers for Medicare & Medicaid Services data, 2005.

Factors Outside the Health Care Sector: (5.6% of 10%)

Health care expenditures will increase because of increases in (1) general price inflation and (2) population. Figure 2 shows that the average increase in general inflation between 1960 and 2004 was 4.5%, while population increased by an average of 1.1% annually. Removing these effects isolates the increases in *real per capita* health care spending, which is shown to have increased by 4.4% annually from 1960 to 2004.

Factors Inside the Health Care Sector: (4.4% of 10%)

1. Changes in health care needs of the population. Demographic changes lead to increases in the consumption of health care overall because the elderly consume more medical care than the non-elderly. Changes in health care needs can also be the result of changes in characteristics of the population, such as increased prevalence of obesity (Aaron, 1991; Newhouse, 1993b; Congressional Budget Office, 1993).² Population change accounts for a small share of the increase in health care expenditures—only about 0.5% of the increase in real per capita health care costs.

2. Increases in personal income. Analysis suggests that health care is what economists call a “normal good,” in that consumption increases as a person’s income increases. Studies of individual behavior, as well as international comparisons, show that health care expenditures rise considerably with income. Family income has risen considerably in the United States, adjusted for inflation. Therefore, one of the principal reasons for the rise in health care spending in recent decades has been the rise in family income. From these studies, we can conclude that approximately 1.0% to 1.3% of the 4.4% increase in real per capita spending has resulted from increases in personal income.

3. Insurance-induced demand. The common-sense proposition that consumers will purchase more of a good or service if the price drops has long been one of the central tenets of economic analysis. It should come as no surprise, therefore, that economists would predict that insurance should lead consumers to purchase more health care goods and services (Newhouse, 1993a). Health insurance acts as a mechanism that drops the price of health care *at the point of purchase*. Sometimes, the price is equal to the deductible (typically a few hundred dollars) plus some percentage of the costs above that amount (equal to the copayment, typically between 10% and 20%). Although researchers disagree about the magnitude of the effect, in general, they conclude that the effect is smaller than might be expected (Aaron, 1991; Newhouse, 1993b). This effect is small primarily because the most expensive health care services (e.g., hospital care) are perceived by patients to be *essential and life-saving* when provided, and thus are not price-sensitive. Nor has the change in the population’s insurance status between 1960 and 2004 contributed significantly to increased health care spending. In fact, many people had insurance coverage in 1960 that paid for much of their health care, and some people have insurance coverage today that requires high copayments. As a result of these factors, Aaron (1991) and Newhouse (1993b) have concluded that increased insurance coverage accounted for between 5% and 10% of the increases in health care spending, or about 0.5% of the average annual increase.

4. Increases in producer prices. As noted above, much of the increase in health care spending over time is accounted for by general inflation, or rises in prices overall. However, this does not account for the possibility that the price of medical care might have risen faster than other prices in the economy. Estimates of growth in medical price inflation, based on the health care component of the Consumer Price Index (CPI), do show that medical inflation has increased faster than other prices (Newhouse, 1993b). However, many analysts have concluded that this estimate is not a good measure of health care inflation because it does not adequately account for changes in the *quality* or even *quantity* of health care services that might result in health care price inflation (Newhouse, 1993b; Phelps, 1992). Generally, some of the increase in the medical price inflation is attributable to the rising quality of services and service improvement from professionals. Nevertheless, some of the increase in inflation can be attributed to the wages of health providers (e.g., physicians) and the prices of health care products.

5. Other factors. Many authors have identified other factors that account for the increase in health care expenditures, including increased malpractice costs and defensive medicine and increased administrative costs (Aaron, 1991). Although the costs of defensive medicine account for about 5% of health care spending and administrative costs account for 10% to 20%, there have been few studies that show that these factors contribute significantly to the *increase* in health care spending in recent years.

The factors described so far account collectively for less than half of the 4.4% average annual increase in real per capita health care spending since 1960. What accounts for the rest?

6. Technology. Many economists who have looked at the reasons for rising health care expenditures have concluded that *rapidly increasing technology* is the major reason spending has risen (Newhouse, 1993b; Aaron, 1991). Almost everyone has been exposed to the miracles of modern medicine. We have seen the development of machines that produce CT scans and MRIs, the introduction of organ transplants and sophisticated surgical procedures for curing heart problems, the development of miracle drugs that cure a host of important problems, and advances in medical education leading to well-trained nurses and physicians. Analysts conclude that more than half the increases in real, per capita health care spending has been caused by the increased use of these sophisticated technologies.

Is there a rural differential in rising health care expenditures?

To study whether there is a rural differential in the increases in health care expenditures, we used individual health data from the Medical Expenditure Panel Survey to explore what factors and services might have contributed to the rise in health care spending (Table 1). Both rural and urban families (standardized to be a family unit of four persons) experienced similar increases in health spending from 2001 to 2002 (around \$300), and two services in particular account for the growth in health care spending in both rural and urban areas: hospital spending and physician office-based spending.

Table 1 shows how rural and urban persons are affected differently by the factors affecting spending growth. Rural families experienced much faster growth in physician office-based spending than did urban families (compare \$124 growth in rural areas to \$95 growth in urban areas). Rural families also experienced faster growth in prescription drug spending than did urban families (compare \$23 growth in rural areas to \$8 growth in urban areas). Physician office-based services and prescription drugs are more likely to be delivered locally, while rural persons may be more likely to travel to urban areas for at least some hospital-based services. Locally delivered services may be more likely to be related to routine care for emergent and chronic conditions. Reducing increases in physician expenditures would require a combination of lowering the price of the service or altering the underlying need for the service. Alternatives to physician office-based services would not be as likely to lower use as would alternatives to inpatient hospital care. Also, a word of caution should be noted—decreasing physician office visits may not lead to efficiency because increased physician visits, coupled with decreases in hospital spending, may actually be overall considered a good outcome from an efficiency standpoint. Therefore, this may put what is happening in rural areas into a different context.

Table 1. Health Spending³ Increase Per Family, 2001-2002: Is There a Rural Differential?

Type of Service	Change in Spending	
	Rural	Urban
Inpatient	\$190	\$188
Office-based visits	\$124*	\$95
Emergency room	\$-1*	\$13
Outpatient	\$-7*	\$15
Home health	\$-9*	\$9
Vision	\$10*	\$7
Prescription drugs	\$23*	\$8
Other	\$-28*	\$-16
Total	\$303*	\$296

Source: Medical Expenditure Panel Survey, 2001-2002. Statistical computations by RUPRI Center for Rural Health Policy Analysis.

*Significant difference between rural and urban at 95% confidence level.

A Framework for Considering Future Changes in Rural Health

First, rural decision makers should consider the four factors that contributed the most to rising health care spending in recent years:

1. Change in health care needs of the population
2. Economic changes (income and wages)
3. Provider price changes
4. Technological change

Next, rural decision makers should consider whether and how these factors are expected to change in the near future. In particular, will these factors continue to contribute to rising health care spending? Why or why not? And if so, in what magnitude?

Some rural-specific considerations related to these factors might include the following:

1. *Change in health care needs of the population.* Although population growth is generally slow, especially in many rural areas, the growth in the aged population is significant. Over the next 35 years, the number of people aged 65 and older in the United States is expected to double, to over 70 million by 2030, and the number of persons aged 85 and older is expected to triple (U.S. Bureau of the Census, 2006). The aging of the population will have profound impacts on health care, especially with the dominance of Medicare and Medicaid consumption by the elderly. Another important trend is the growth of minority populations. The Hispanic population is expected to grow by more than six-fold from 2002 to 2050, and by 2028, the Hispanic population is projected to be the largest racial/ethnic minority group in the 65-or-older age group. The growth of minority populations will have uncertain effects on rural areas.

How can rural areas prepare for this trend? Rural areas can institute programs to reduce the growth of expenditures for the aged, such as options to nursing homes for the aged, which are the most expensive form of long-term care. Rural areas also need to develop programs that focus on the unique needs of minority populations, to adapt to the changing and growing minority populations that the United States will face in the next few decades. In the area of rising health care spending associated with obesity and associated disorders, rural areas can participate in wellness and education programs to reduce obesity.⁴

2. *Economic changes (income and wages).* The United States has strong agrarian, rural roots; however, in the last few decades, the rural economy struggled as the economy converted from an agrarian economy to a manufacturing economy and then to a service economy. The key trends affecting rural areas, which will then affect health care spending growth, are low income, poverty, and lower education (relative to urban areas). A continued decline in the manufacturing base and the quality of manufacturing jobs will affect wage growth and the availability and quality of health insurance benefits. All of these factors will have a direct impact on the ability of rural populations to pay for health care because, as noted above, rising incomes have been one of the key factors fueling the rise in health care spending.

How can rural areas prepare for this trend? Rural stakeholders can work toward solutions to increase health care access and insurance coverage for rural persons who might be left out of the

employer-sponsored insurance system as changes in manufacturing and other economic changes lead to losses of insurance and access for rural Americans.

3. Provider price changes. Other market changes, such as the impact of changes in provider payment policies through Medicare and Medicaid, will likely have a more important impact on rural areas than on urban areas and will spill over to the private sector.

How can rural areas respond to this trend? Rural stakeholders need to be proactive with policy makers at the federal and state level to make sure that rural interests are well-represented in the policy process.

4. Technological change. As noted above, the economic literature has pointed to technological change as the major factor behind rising health care spending. There is no reason to believe that technological change in medical care will abate. Although rural areas sometimes do not have access to the most recent technology, in most cases, rural providers do have such access. And even when rural residents travel to access care in other areas, they will be affected by rapid increases in technological change and the costs associated with this care. So rural areas are perhaps just as likely to be affected by technological change as are urban areas. Moreover, to the extent that it is true that rural areas have lagged in the adoption of recent technological changes, the next few years might lead to the adoption of those new technologies and therefore might contribute to more rapid increases in spending.

How can rural areas respond to this trend? Rural stakeholders need to be proactive in seeking ways of getting cost-effective health technology to rural areas, through entrepreneurship, legislation, and other initiatives.

Where the Dollars Are Spent

The focus of rural efforts to control increasing health care expenditures should be on the same two factors that lead urban spending—inpatient hospital stays and office-based visits. However, in rural areas more attention should be given to the factors that drive office-based visits and use of prescription drugs, with less attention to factors related to outpatient visits and home health. The precise targets should be determined after more thorough study of the discrete factors driving up expenditures in those two categories.

Conclusions

Rising health care expenditures have in recent years been a burden for rural persons, rural employers, and taxpayers. Several factors have contributed to rising health care expenditures, including changes in the health care needs of the population, rising income of the population, insurance-induced demand, provider price changes, and technological change. Some of these factors have disproportionately affected rural areas, and rural areas have in recent years seen higher increases in some expenditure categories such as physician office-based visits. Those differences suggest strategies to contain health expenditure increases may be different in rural areas and may be best determined on a local basis as outlined above, paralleling the differences in health status and service delivery that occur across communities.

Notes

1. “National Health Expenditures represents health care spending in the aggregate. The NHEA recognize several types of health care spending within this broad aggregate. ‘Personal Health Care Expenditures’ measures the amount total spent to treat individuals with specific medical conditions. ‘Health services and supplies,’ which represents spending for medical care rendered during the year, is the sum of personal health care expenditures, government public health activity, and program administration, which includes the net cost of private health insurance. National Health Expenditures equals Health Services and Supplies plus Investment, the sum of medical sector purchases of structures and equipment and expenditures for noncommercial medical research” (Centers for Medicare & Medicaid Services, 2006, p. 4). Over-the-counter drug expenditures are not included.
2. Although these references are relatively dated, the analysis contained within refers to a share of the spending growth due to the factors described, and that methodology is applied here. There is no more recent literature because the relative importance of underlying factors remains the same.
3. Total health care spending, shown in Table 1, is from all sources, and funded by all sources, including out-of-pocket, private insurance, and government insurance (Medicare and Medicaid).
4. The Rural Healthy People 2010 Web site contains models in practice for health promotion programs to address major health problems in rural areas: <http://www.srph.tamhsc.edu/centers/rhp2010>.

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