

HEALTHCARE EXPENDITURES IN RURAL AND URBAN AREAS:
EXPLANATIONS FOR THE DIFFERENCES

by

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Abstract

This paper on the urban and rural healthcare expenditures gap examines common explanations for why the gap exists. The rural communities have consistently had lower healthcare expenditures than that of the urban communities. Over the years the gap has decreased, but not by a significant amount. According to a 2003 U.S. Census, for people over 65 the gap was nearly double. For people under 65 the gap was significantly smaller, but still exists. There are many factors that lead to the healthcare expenditure gap and there are also many possible solutions to manipulate these factors. This paper will separate these factors, explain them and look at the pros and cons of some possible solutions.

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Chapter 1 – Introduction

Over the years people have come to realize what needs to be done to live healthier, longer lives. Eating better foods and learning the importance of exercise have led to healthier lifestyles. One of the concerns that has not been resolved, but has been slightly narrowing over the years, is the gap between rural and urban healthcare expenditures.

Healthcare economics is often a very complicated subject to research. Most economist studying the gap between urban and rural areas find that rural areas have less healthcare expenditures. Are rural people healthier? Are urban areas cheaper due to the size of the market? The answer is not that simple. What causes this gap? Is the gap going to increase as the rural areas decrease in population? What if anything can be done about this gap? This paper will look at various ways to explain the healthcare expenditure gap and apply ideas to narrow it.

The trend to move to more populated areas has accelerated over the years due to the struggles of living in rural areas. Living in the country is not known to be a life of luxury to most, but to others it may be, depending on what a person is looking for. One of the main reasons for the trend is the lack of job opportunities in these rural areas, which leads to many rural residences not having as much financial flow as people in urban areas (Guydish, 2005).

Most of this report bases its statistics on population in different counties. According to the U.S. Department of Agriculture, counties with a city of 2500 people or less are considered a rural area and a county with a city of 10000 or less is considered near-rural. A metro area is an area with a population over 1 million, and near-metro can be of any size, provided it is adjacent to a metropolitan area.

Demographic Differences

The information in the demographics section comes from the Medical Expenditure Panel Survey (MEPS) from the years 1998-2000. For years 1998 and 1999 the dollar amounts are set to 2000 dollar amounts calculated using the consumer price index.

Age

Going back a few centuries, the share of people living in rural areas has decreased at a steady pace. With better opportunities in the more populated areas, the trend looks to keep going. In 2000, roughly 3 million people lived in rural areas with population of 2500 or less in close proximity. This is not including the 49 million, of the 281 million Americans, who live in nonmetropolitan areas (Census, 2008).

Rural areas consist mostly of white, non-Hispanics. Most rural people are over the age of 45, making rural areas unhealthier, since people of this age and older are more likely to be wearing their bodies down. Only a little over 20% of the United States lived in rural America in the year 2000 (Rosenblatt, 2000). In the 1990s, that number was nearly 25% and, it was another 2% higher in the 1980s. This has always been the trend going way back to the 1800s when over 90% of the people in the U.S. lived in rural areas. Rural residents do not look to be on the increase any time in the near future (Census,2008).

The age of rural residents consist mostly of people under the age of 18 and people over the age of 65. These two categories are the two groups that are going to be having higher healthcare expenditures. Older people pay for healthcare to keep their bodies going. Younger people pay for preventive care as their bodies develop.

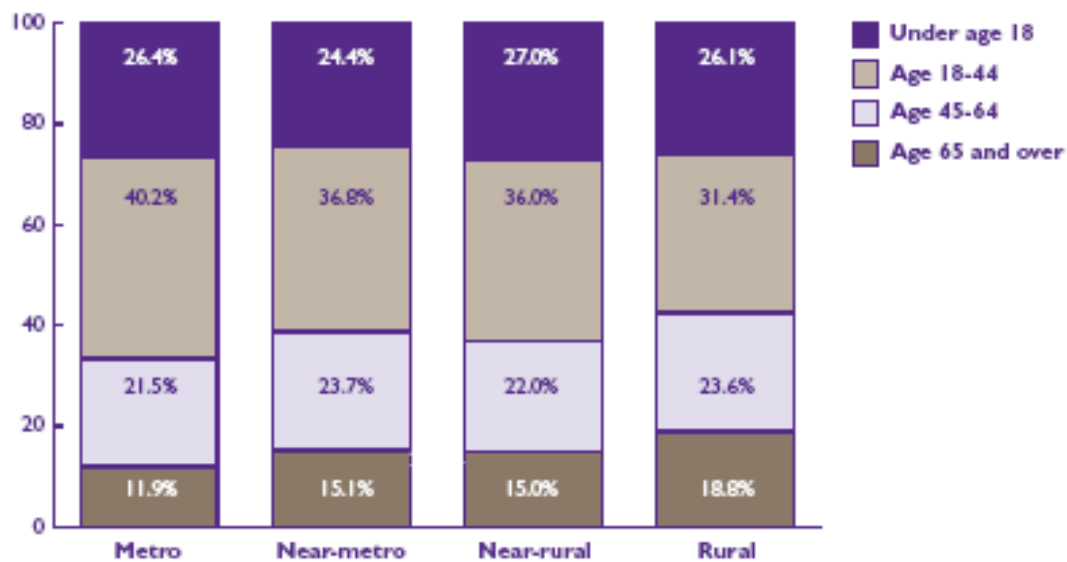


Figure 1.1 Geographic Proportion of Population by Age Group.

Source: Larson 2004

Education and Income

With less competition and less income in smaller communities, the education requirements for a career are less. The majority of rural Americans have 12 years of education in people under 65, and less than that for people over 65, as shown in Figure 1.2. This may also lead to less knowledge of healthcare problems and the importance of getting preventive care. These problems will contribute to a smaller number of doctor visits and less healthcare expenditures in the short run, but may lead to more doctor visits and higher healthcare expenditures in the long run.

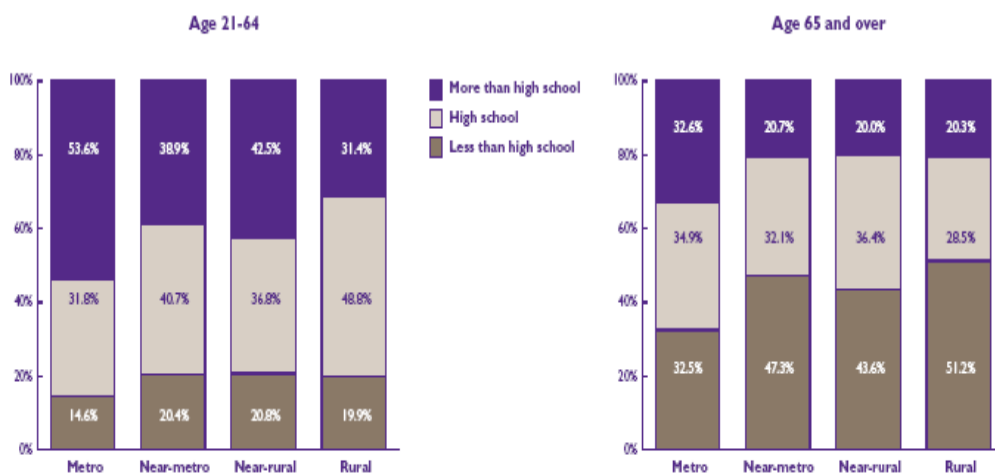


Figure 1.2 Education Attainments in Geographic Regions.

Source: Larson 2004

With less education and less revenue in rural areas, the opportunities in rural areas to make a decent income are lower. As shown on Figure 1.3, the income in rural areas is comparably less than that of the urban areas. Approximately 25% of the population in rural areas shown income less than 125% of the poverty line and only 16% of urban areas had incomes below this level. As for high income, people with an income 200% above the poverty line, only 53.2% of rural people under 65 were in this category compared to the 72.6% in urban areas. Without a decent income it is less likely someone will see a physician (Currie, 2003).

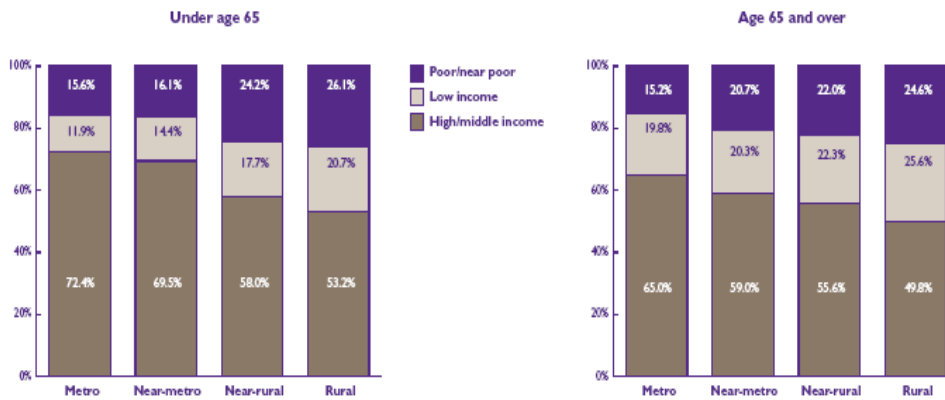


Figure 1.3 Income Levels in Geographic Regions.

Source: Larson 2000

Difficulties in measuring the gap

There are many difficulties in measuring the rural and urban healthcare expenditure gap. In the healthcare industry, along with many other industries, hospitals and physicians avoid releasing most of the information on their patients. Due to confidentiality and fear of complications, a firm does not want to disclose information on individual accounts. In the healthcare industry most information is given at a macroeconomic level, making it difficult to do economic research with a microeconomic point of view.

The high cost of doing research makes it difficult to do research at a microeconomic level, as shown in the RAND Experiment from the 1970s. A research conducted only one time, and costing over \$100,000, it was a very valuable tool for learning how people react to different healthcare insurance plans. To reconstruct that experiment today it would cost over half a million dollars and that is just to pay the enrollees in the program, not the researchers and other costs. Many other economists use the RAND information to do research, being one of the only healthcare experiments with individual data.

Another reason it is tough to measure the gap is all the different variables that are not included in a patient's records. Factors include the severity of different patients' conditions, or the distance one drives to get to a physician. Every patient is different, and every physician reacts to patients in different ways. These factors, and many more, all contribute to how much a person spends on healthcare while on a healthcare visit, but it is not shown on records for the public to view.

Chapter 2

Background on the Gap between Urban and Rural Healthcare Expenditures

The difference in healthcare expenditures between rural and urban areas has been the same for many years; urban expenses are much higher. There are many reasons for why this gap may be there, including higher number of visits and higher paid staff in more populated areas, or hidden costs that do not show up in the expenditures in rural areas.

Ambulatory Care Expenses

According to the “MEPS”, the average annual ambulatory care expenses in metropolitan areas (\$1201) are almost double that of rural areas (\$636). In near rural areas the average expenses stay relatively close to that of the metropolitan areas (\$2378 vs. \$2403).

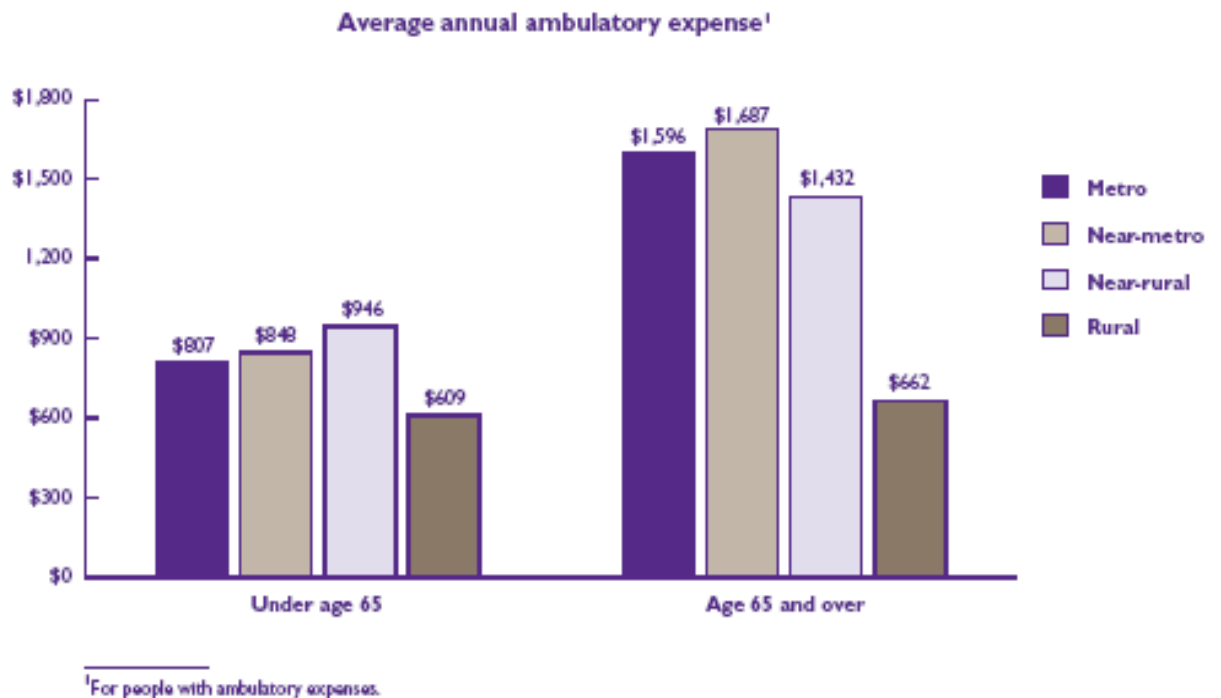


Figure 2.1 Average Annual Ambulatory Expense.

Source: Larson 2004

Dental Expenses

The expenses for dental care are also lower in rural areas, but the gap is not quite as noticeable. The rural areas are estimated to have 60% of the expenses of that the urban areas have. The rural elderly expenses were not recorded, but would most likely follow the same trend.

At 31.4%, the number of people with dental expenses was significantly lower in rural areas. By comparison, the amount of expenses in urban areas is almost 42%. The difference is even higher in people over the age 65 with approximately 21% of rural people having expenses and the urban percentage is almost double at 42% (Larson 2004).

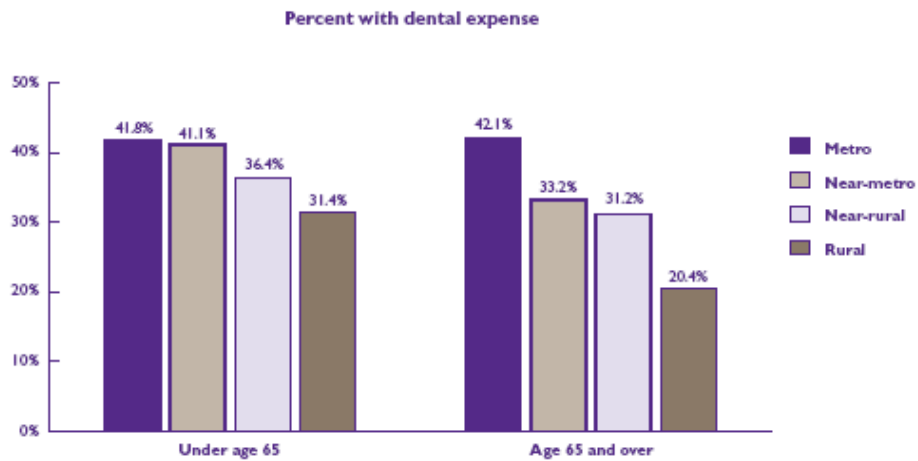
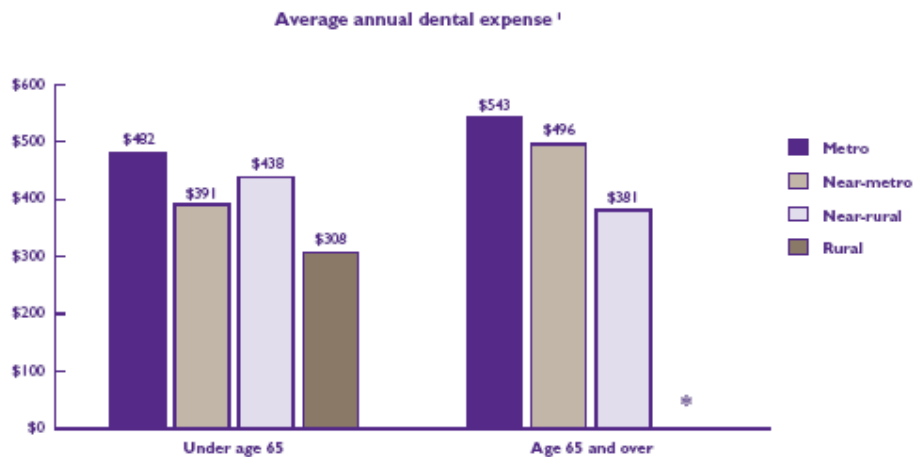


Figure 2.2 Percent with Dental Expense. *Source: Larson 2004*



¹For people with dental expenses.

*Estimate for rural counties not shown because the sample size was too small for reliable estimation.

Figure 2.3 Average Annual Dental Expense. *Source: Larson 2004*

Total Expenses

The statistics from the Centers for Medicare & Medicaid Services look at the expenditures of separate states in 2004. When looking at the states with the highest population density, the per capita healthcare expenditure is well above the national average. This is evidence of the lack of expenditures in rural areas. The District of Columbia has the highest average expenditures at \$8295, well above the average of \$5263. It is also well above the second highest in density, with 9378 people per square mile. New Jersey is the second highest with 1138, the national average is 80.2, with expenditures \$525 above average. Out of all the states, the top 10 with the highest density have above average expenditures.

Almost two-thirds of the 10 least dense states are below the expenditure average. This includes Utah, with the least amount of expenditures, at \$3972. The least dense state, Alaska, has health care expenditures above average, at a high \$6450. This may also be due to the extreme climate conditions faced in Alaska.

	Density	Expenditures		Density	Expenditure
AVG.	80.7	\$5,283	AVG.	80.7	\$5,283
State	Highest		State	Lowest	
New Jersey	1138	\$5,807	Utah	27.2	\$3,972
Rhode Island	1003.2	\$6,193	Nebraska	22.3	\$5,599
Massachusetts	809.8	\$6,540	Nevada	18.2	\$4,569
Connecticut	702.9	\$6,409	Idaho	15.6	\$4,444
Maryland	541.9	\$5,590	New Mexico	15	\$4,471
New York	401.9	\$6,535	South Dakota	9.9	\$5,327
Delaware	401.1	\$6,306	North Dakota	9.3	\$5,808
Florida	296.4	\$5,483	Montana	6.2	\$5,080
Ohio	277.3	\$5,725	Wyoming	5.1	\$5,265
Pennsylvania	274	\$5,935	Alaska	1.1	\$6,450

Table 2.1 State Health Expenditures and Density.

Source: CMS 2004 & Census 2000

Note: Figure 2.1- Expenditures are per capita, density rates are per square mile

Amount of Staff

As of 2005 there were 90 physicians to every 100,000 inhabitants in rural areas. Larger cities were averaging over 300 physicians per 100,000 inhabitants (Ricketts,2005). Figure 2.4 shows the rate at which these numbers have changed over the years. The percentage of physicians in rural areas from 1940-1995 has not changed in any significant amount. The larger the population the larger the growth has been. From 1940-1995, the number of physicians per 100,000 population has nearly doubled in large metropolitan areas. According to a journal article on healthcare disparities in rural areas by the Agency for Healthcare Research and Quality (AHRQ), 20% of the United States population lives in rural areas, but only 9% of physicians practice there (Disparities, 2005).

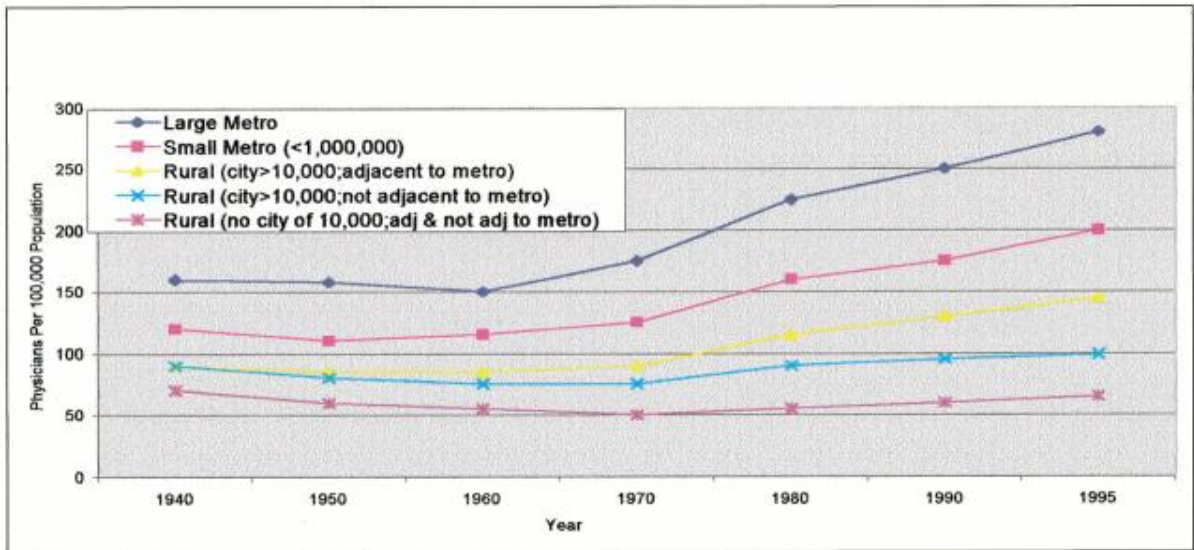


Figure 2.4 Physicians per 100,000 Population 55 Year Trends.

Source: AMA from BHP Pr ARF data, 1997

According to Sorkin, hospitals with less than 100 beds show no significant difference in economies of scale than those with 300 beds. Multiple smaller hospitals in separate regions should run at relatively the same efficiency as larger single hospitals and be more accessible for everyone.

Pay Rates

The amount a physician makes in a city is on average much higher than that of the rural physician. However, when taking into account the cost of living, the rural physician's real wages are much higher, giving them 13% more purchasing power (Reschovsky, 2005). This is a perk, but it does not seem to be enough to make up for the benefits of living in a city. Some upcoming physicians may not even look at the real wages being earned. The net income a rural physician makes has averaged about 7% lower than what an urban physician makes. This has been the trend for the last 30 years.

Most important is the general practitioners who are the most needed everywhere. In rural areas they have averaged 4% lower pay than in urban areas, which is relatively close in comparison. In recent years the rural areas have been paying 8% higher than the urban areas. In most rural areas being a general physician has paid even better, at 12% higher than urban areas. This is a good sign for the gap to get closer for years to come, as long as demand stays up. More physicians might be more apt to practice in rural areas with these salaries.

Mean Urban and Rural Physician Incomes by Specialty, 2003

	Urban	All Rural	Rural Counties Adjacent to Metro Area	Rural Counties Nonadjacent to Metro Area
Unadjusted (Nominal) Income				
All Physicians	\$218,000	\$204,000	\$201,000	\$212,000
All Primary Care Physicians	161 ,000	170 ,000	166 ,000	177 ,000
General Internal Medicine	169 ,000	175 ,000	170 ,000	183 ,000
Family/General Practice	156 ,000	171 ,000	169 ,000	176 ,000
General Pediatrics	156 ,000	152 ,000	143 ,000	176 ,000
All Specialists	253 ,000	245 ,000	238 ,000	263 ,000
Medical Specialists	226 ,000	208 ,000	205 ,000	214 ,000
Surgical Specialists	291 ,000	283 ,000	271 ,000	318 ,000

Mean Urban and Rural Physician Incomes by Specialty, 2003

	Urban	All Rural	Rural Counties Adjacent to Metro Area	Rural Counties Nonadjacent to Metro Area
(Real) Income Adjusted for Cost of Living				
All Physicians	\$199,000	\$225,000	\$217,000	\$242,000
All Primary Care Physicians	145,000	189,000	182,000	203,000
General Internal Medicine	149,000	192,000	183,000	206,000
Family/General Practice	146,000	193,000	188,000	203,000
General Pediatrics	138,000	165,000	153,000	196,000
All Specialists	232,000	266,000	254,000	298,000
Medical Specialists	207,000	223,000	220,000	232,000
Surgical Specialists	268,000	310,000	288,000	372,000

Table 2.2 Mean Urban and Rural Incomes by Specialty, 2003.

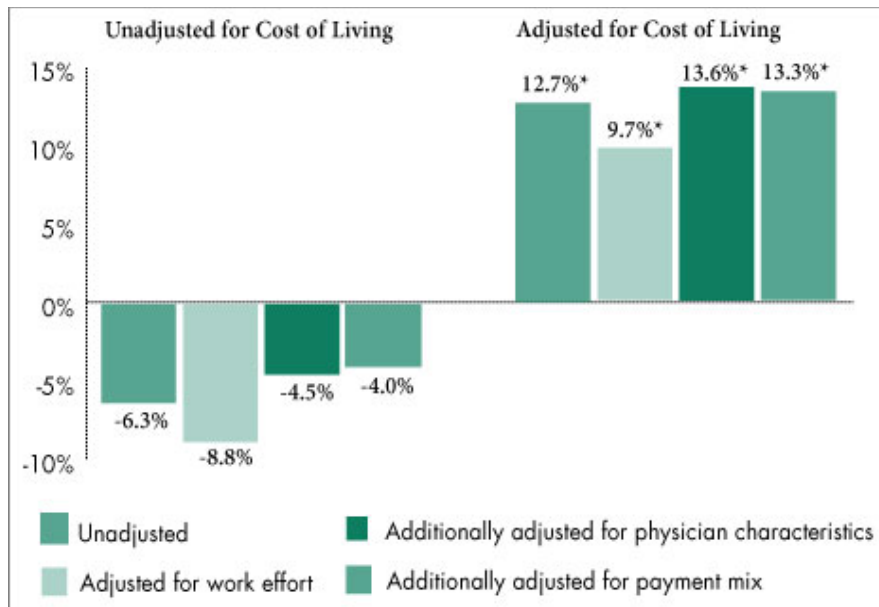
Source: HSC Community Tracking Study Physician Survey, 2000-01; incomes adjusted to reflect 2003 value.

Extra real income in rural areas is much higher due to the cost of living. Figure 2.5 shows that rural living has 19% less cost of living. Net pay is 6.3% less in rural areas, with cost of living factor the rural physician makes a real income 12.7% higher.

Rural physicians on average work around two hours more work per week. “Among rural primary care physicians the difference is greatest; they work about 10 percent, or five hours, more a week than urban primary care physicians.” (Reschovsky, 2005). Adjusting for these hours makes the income look 2-3% lower than that of urban physician’s income. This is the adjustment made for work effort.

Physician characteristics in Figure 2.5 include factors that could affect the physician’s income. This includes years of experience and years of training in different fields. If including these factors it “increases rural incomes relative to urban incomes by roughly 4 percentage points.” (Reschovsky, 2005).

The payment mix is how the healthcare facility is paid, either through private insurance or Medicare and Medicaid. The amount a private insurer pay are higher than what Medicare and Medicaid pay. In rural areas there are more Medicare and Medicaid payments being made, which lowers the amount a healthcare facility makes.



* Difference is statistically significant at $p \leq 0.05$.
 Source: Community Tracking Study Physician Survey, 2000-01

Figure 2.5 Percentage Difference in Incomes of Rural/Urban Physicians.

Source: Reschovsky 2005

Chapter 3

Healthier in Rural Areas?

Fatality Rates

Are people healthier in rural areas? This is not true; in rural areas mortality rates are much higher amongst people of any age. People in rural areas under the age of 24 have a 31% higher death rate than that of people in urban areas and 65% higher than those from a suburban county (Hartley, 2004). When people get older the urban vs. rural gap in the death rates decreases. This is due to an overall increase in death rates. By the time people hit 65 the difference is only 7% compared to people of the most populated areas.

One of the explanations for such a difference in death of younger people is the high rates of suicide and unintentional deaths in rural areas. Unintentional deaths include things such as work accidents, hunting accidents, or the most common, motor vehicle crashes. The number of

arrests due to drinking and driving were much higher in rural areas (Harley, 2004). Fewer law enforcement officials, yet still more arrests means there must be a significant number of rural people drinking and driving. This is an explanation for part of the high rates of fatality in the rural areas.

People aged 15 and over in nonmetropolitan counties had a suicide rate 37% higher than that of people of the same age in the suburbs. These numbers are especially high in males, which show a suicide rate 47% higher in the most rural counties (Hartley 2004). Suicides do not usually raise healthcare expenditures unless the attempts are unsuccessful and cause injury.

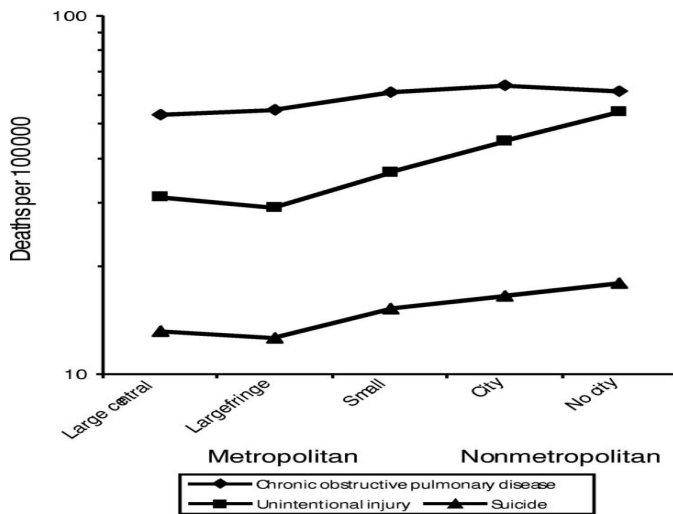


Figure 3.1 Causes for Deaths in Geographic Regions.

Source: Hartley 2004

Chronic Diseases & Habits

A rural resident is also more likely to see fatal cases of cardiovascular disease and cancer. Before becoming fatal, these problems can raise a person’s expenses by large amounts. The rural residents are also more likely to come down with cases of diabetes, blood pressure, arthritis, edentulism, and obesity. Edentulism is a disease with loss of all the teeth in the mouth, which is 11% higher in rural areas (39%), compared to the urban areas (28%) (Hartley, 2004). These types of problems can cost a person various amounts, depending on the person. These problems should be treated to be healthy, but can also be easily ignored. It is more likely for someone who does not have easy access to healthcare to ignore these issues.

Other causes for these problems may include patients abusing their own health. This includes such things as the high rates of smoking and the activity limitations for rural people. Activity limitation in rural residents under the age of 65 is 21.5%, which is almost double that of urban residents. For people over 65 activity limitations is still 19% higher in rural people at a high rate of 72.9%. Smoking is roughly 25% higher in rural areas, which is a leading cause in cancer and chronic obstructive pulmonary disease (COPD). Obesity was reported to be 28% higher in the rural areas and physical activity in leisure time is 50% less (Hartley 2004). This may be partly caused by the amount of physical labor a rural person applies during his/her work day. It may also be the cause of the higher amount of diabetes cases.

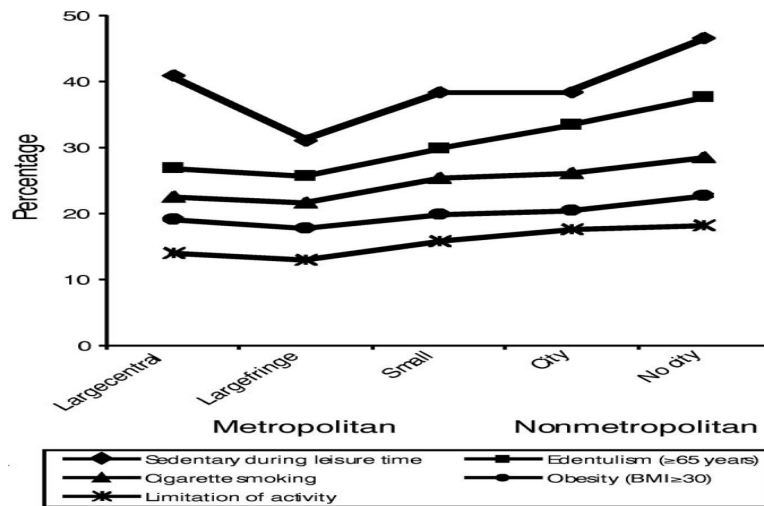


Figure 3.2 Activities and Health Issues.

Source: Hartley 2004

Reported Health

Residents in both rural and urban areas report similar standings of fair to poor health. In the 1998 National Health Interview Survey data showed that 16% of adults over the age of 18 reported poor health at the time compared to the 9% of people in suburban areas. The gap in reported health is more noticeable in younger people, due to the higher number of natural caused deaths in the elderly. Rural people under 65 report 11.4% and urban people reported 7.4% in fair to poor condition.

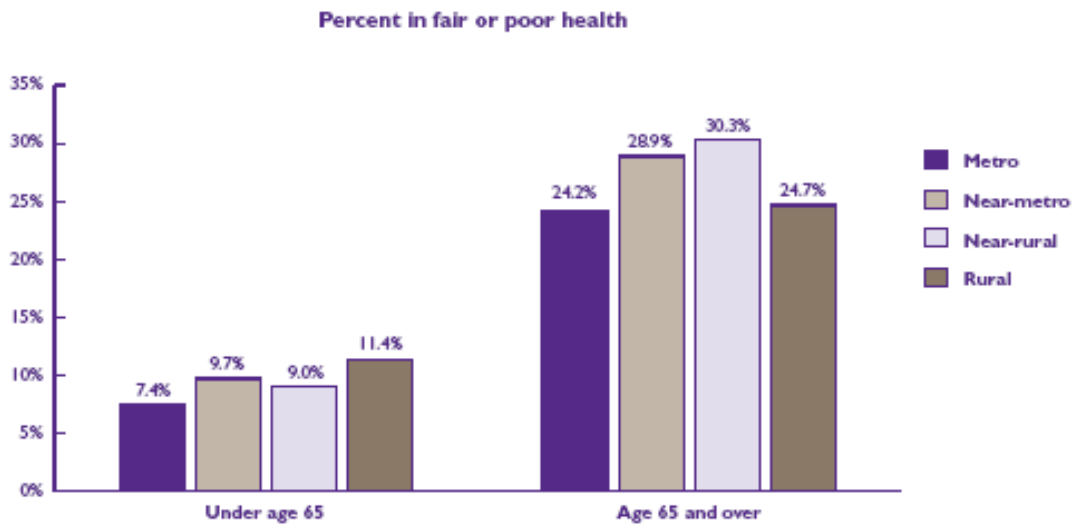


Figure 3.3 Percent in Fair or Poor Health

Source: Larson 2004

The United States spends 15% of GDP on healthcare, the highest in the world (Wook, 2006), so why is the country so unhealthy? The Institute of Medicine of the National Academies argues that, “the current rate of uninsurance creates direct and hidden costs shared by all, and that extending coverage to all would lower costs and improve quality. Americans have a lower average life expectancy than those in other industrialized nations with universal health care, such as Australia, the United Kingdom, Canada, and Sweden. Infant mortality rates also remain higher in the U.S., despite declines in recent decades, and are higher than the average of the European Union.” (Wook, 2003) In this case they are pushing for a universal healthcare system. Others argue that obesity has caused the United States to be so unhealthy, which just happens to be higher in rural regions. This increase in the last few years is mostly blamed on the rise in fast food consumption and sedentary lifestyles.

Prescription Drugs

Prescription drugs expenditures are another way to show the health of a society. It does not show a person’s preference, but is more likely to show what needs to be done to stay healthy. Even though rural healthcare expenditures are noticeably lower, the cost and amount of

prescription drugs is relatively similar to that of urban areas. The difference between the groups with prescription drugs was less than 4% between rural and urban areas. The amount the patients paid for the prescriptions varied less than \$75.

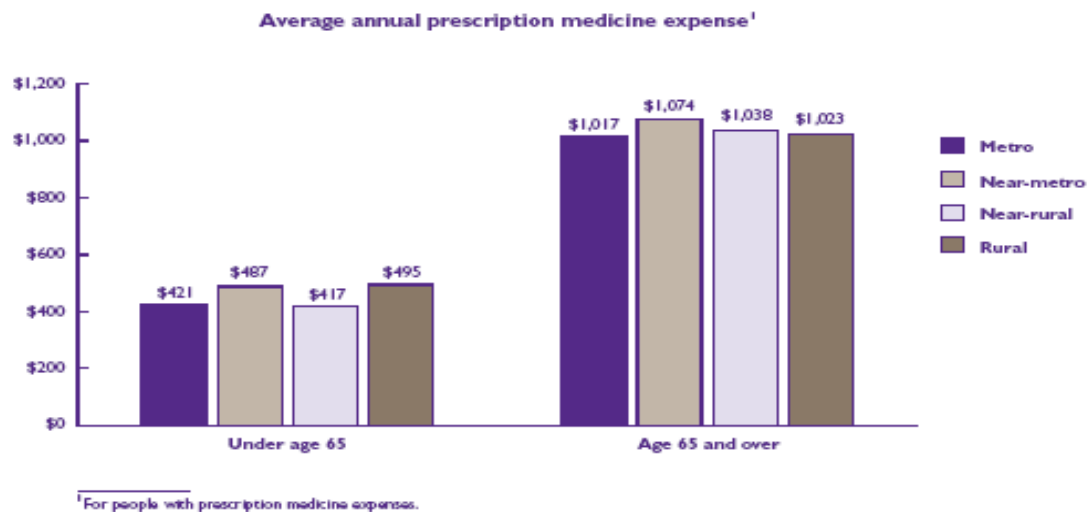


Figure 3.4 Average Annual Prescription Medicine Expense.

Source: Larson 2004

Number of visits

A reasonable explanation for a big part of the gap is the number of visits a person makes to the healthcare facilities. The ambulatory care visits are noticeably different among elderly people, rural residents reporting almost half the number visits annually. People under the age of 65 are a little closer, with rural residence visiting 5.1 times annually, and urban people visiting an annual 6.3 times. The number of visits for people with activity limitations has shown an even higher difference between rural and urban areas. Rural residents under the age of 65 who had activity limitations averaged 8.1 ambulatory visits per year. Urban residents with the same demographics averaged 12.7 ambulatory visits per year (Larson, 2004). This gap could be due to the distance one has to go to get medical care.

Dental care visits are mostly similar amongst rural and urban areas, averaging around 2.4 visits per year. The only noticeable difference was that the elderly, rural residence over 65 went an average 1.9 times per year, compared to the urban 2.9 times per year.

Average number of ambulatory care visits ¹		
	Under Age 65	Age 65 and Over
Metro	6.3	10.9
Near-metro	6.3	10.3
Near-rural	6.0	9.9
Rural	5.1	5.5
¹ For people with ambulatory expenses.		

Average number of dental visits ¹		
	Under Age 65	Age 65 and Over
Metro	2.5	2.9
Near-metro	2.4	2.5
Near-rural	2.4	2.6
Rural	2.4	1.9
¹ For people with dental expenses.		

Table 3.1 Average Number of Ambulatory Care and Dental Visits.

Source: Larson 2004

Chapter 4

Malpractice & Quality of Care

Another factor that may be included in the healthcare expenditure gap is the issue of physician malpractice. As a physician in a rural area, committing malpractice can be easier. According to a study by the Oregon State Board on Northwest jurors in 2003, rural residents believe 51% of the time that malpractice claims are not legit, and support the side of the physicians, compared to the 34% that the urban residents believe (New, 2003). This makes it easier for the rural residents to be cheated by their physician, due to the concept of “physicians

do the best they can.” This thought leads to less chance of having a claim against a physician, and if so the chance of a supportive jury for the plaintiff are going to be smaller.

With the number of uninsured residents in rural areas, the chance of a physician wanting to do a “cheaper fix” on a patient is more likely. Knowing that some of the uninsured residents cannot afford some of the procedures taken by someone with insurance, the physician will avoid some actions so that they do not have to “eat” the cost.

Insured/Uninsured

Since the 1960s, the percentage that insurance has paid out in health expenditures has almost doubled. Back in the 1960s the insurance companies paid for roughly 25% of healthcare expenditures, but by 2000 insurance was paying out about 45%. It has almost become a partnership with hospitals (Johnson, 2006).

Hospitals sometimes overcharge uninsured and give discounts to the insurance companies. It was shown in a study done in California from 1984-1988, which also had shown that there was less care given to the uninsured. On July, 16 2007 there was a lawsuit filed in California that claimed lack of care for the uninsured, but has not been settled yet (Anderson, 2005).

Being insured is something that not only sometimes affects the actions of the physicians, but also affects the actions of the patients. As the amount of insurance coverage goes down the patient’s likelihood to go to a doctor diminishes. The majority of people without insurance coverage are people that cannot afford it. People who cannot afford insurance probably cannot afford doctor visitation unless absolutely needed. In these cases, over the long run the uninsured patient’s health is likely to be less than that of one that can afford insurance.

In 1997-1998, 21% of rural residents under 65 were uninsured compared to the 12% of people in suburban areas. People that had income 200% above the poverty line reported having insurance 89% of the time in rural areas and 93% in suburban areas. This shows the relationship between income and insurance (Moore, 2003). Rural residents lack careers with benefits including health insurance. “62% of nonmetropolitan residents aged younger than 65 years reported that they obtained private health insurance through their workplace compared with 75% of suburban residents,”(Sorkin, 1992). With the lower income and lack of company benefits, the rural residents are likely to spend less on healthcare.

Premiums for insurance have increased dramatically over the years. Usually an employer will spend somewhere between 4.6% and 8.7% of the payroll on insurance. According to a survey by the Kaiser Family Foundation the cost of this insurance has increased 78% since 2001, causing fewer employers to pay for employees insurance. This was an increase of 12.5% per year. During this time wages have only gone up a total of 19% and overall the price levels have gone up 17%. From 2005 to 2006 the number of uninsured at 15.1%, increased from 44.8 million to 47 million. Which population increase included, is an increase of .6%, making it 15.7%.

There is more to look at than just the amount of insurance a person has, but the amount of other coverage's available. Such things include Medicare and Medicaid. Medicare supplemental coverage is rather close amongst the population as a whole, but the difference in people of age 65 and over is a quite large difference. The rural elderly have 38.6% without Medicare coverage and metropolitan areas have 31.7% of the elderly without coverage. External coverage may be low in rural areas, for the same reason as healthcare expenditures (Larson, 2004). They are both hard to access and there is less knowledge about the subject.

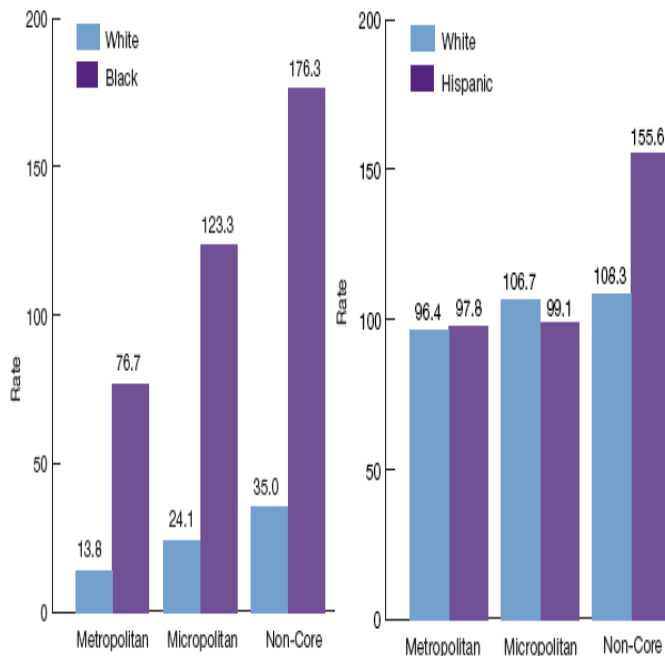
Uncompensated care has made up for roughly 6% of hospital care ever since the 1980s. An Institute of Medicine study showed that 75%-85% of hospitals uncompensated charges are paid for by the government (Johnson, 2006). This action is a type of price discrimination called cost shifting, where the highest percentage of the charity is paid through the tax payers. Often when hospitals do uncompensated care, it is to compete with other hospitals in the vicinity for goodwill. Hospitals use it as another form of marketing, grabbing the trust of the customers.

Quality of Care

The quality of care in a hospital can sometime be reflected by the number of inpatient death rates and outpatient diagnosis. The number of inpatient death rates for patients with myocardial infarctions, also known as heart attacks, was 6% higher in non-core area hospitals. Where non-core areas consist of a population less than 10,000, and core areas have a population of more than 50,000. The numbers shown in figure 4.1 are based on deaths per 1,000 admissions into a hospital. Figure 4.1 may also be suggesting an issue with diversity in smaller communities. White and Black people are relatively close in comparison in core areas, where Hispanic myocardial infarction deaths in non-core areas are significantly different.

Figure 4.2 looks at adult admissions per 100,000 for uncontrolled diabetes without complications. This figure is referring to the lack of quality in outpatient care in rural areas. Non-core areas showing more than double the amount of admissions at 176.3 admissions, compared to the 76.7 admissions in core areas. This is also showing the diversity with Hispanics in non-core areas.

**Figure 4.1
Adult Admissions for Uncontrolled Diabetes Without Complications per 100,000 Population, by Race.**



**Figure 4.2
Deaths per 1,000 Adult Admissions for Acute Myocardial Infarction, by Race/Ethnicity.**

Source: Disparities in Rural Areas

Chapter 5

Possible Solutions

Mobile Healthcare Units

To make up for the lack of healthcare in rural areas, the increase of mobile healthcare units may be a possibility. A mobile unit could go from town to town and allow visits from lower income people who cannot afford to make the drive to healthcare facilities. This is being used in rural areas of Colorado, part of a \$1,000,000 grant from the United Health Foundation. These mobile units will comprise of services consisting of dental, primary care, and disease prevention (Randolph, 2007). Such units have been on the increase and are being used in other states such as Arkansas and Michigan.

The mobile unit would cost more than a regular physician's office due to travel expenses, but the cost could be spread amongst the patients. This would cost less than if the patients individually drove to a physician in another town up to 60 miles away for some. Patient visits should increase due to the mentality of consumers believing they are receiving more benefits for their money. This would increase the physician's revenue and profits. It would not work for every area; a cost-benefit analysis would have to be done first.

"Last month (July, 2007), RMY (Rural Mountain Youth Colorado) conducted a three-day dental clinic at Akron for Washington County children. The Dental Care mobile saw 43 patients, provided 89 x-rays, placed 158 sealants on teeth and provided prophylaxis to all patients. In all, RMY provided over \$10,000 worth of dental services, or about \$240 a patient. Almost half of the patients had never been to a dentist, 40 percent had cavities and nearly 20 percent had one or more abscessed teeth." (Levy, 2007) From these numbers, a person can see the need and opportunity in rural America.

Marketing

Getting the word out about underserved communities may also be of help to the financial deprived. Contacting large corporations, medical industry companies, and fund raising groups to ask them to donate to the cause can help narrow the healthcare expenditure gap. Fund raisers and

large corporations can help financially, but most importantly medical companies may be able to offer their products and service at a lower cost.

Contributions were peaked in the middle of the 1960s, but fell to a low, down to 5% by 1984. This was estimated to be a \$2 billion loss in contributions. This could have been caused by the “crowding out” effect by the government when Medicare and Medicaid came into effect (Sorkin, 1992). Private contributors did not feel the need to pay out as much since the government was helping out with tax dollars.

Some of the underprivileged do not realize they are eligible for government healthcare funding. Finding a way to inform these people of this may bring down the expenditure gap. A study by the Kaiser Family Foundation showed that roughly 25% of America’s uninsured are eligible for government funding. The problem with this is if these people did apply for it, the government is not sure how they would pay for it (Holahan, 2007).

The other part some rural residents do not realize is the importance of staying healthy. The rural areas do not see all the advertisements and health awareness found in an urban setting. The amount of fatalities from heart disease and cerebrovascular disease has fallen 50-60 percent since the 1960’s (Johnson, 2005). Letting people know the importance of exercising and dieting has been a big contribution to this decrease. By increasing awareness, the number of visits should increase, especially on precautionary care.

Universal Healthcare

Having a universal healthcare insurance system would also help decrease the gap in the expenditures. With rural areas carrying the least amount of insurance, they are less likely to take care of an injury or sickness due to the higher out-of-pocket expenses. With a universal healthcare system the disadvantage is the distance to drive to find a healthcare facility and the rise in taxes to help support the expenses. The tax burden could also be put on those with larger incomes. Naturally the use of healthcare services will also go up, increasing the overall health of the society.

Universal healthcare systems have been used in almost every wealthy, industrialized country in the world, such as China, Canada, Hungary, Australia, United Kingdom, and the Netherlands. Germany was the first, using it since 1883, where only 15% of the country’s population uses private coverage due to better benefits. In their system that has been around for

over 125 years, 77% of cost is funded by the government, and the other 23% is privately paid for (Core Health, 2008). Compare that to the 45% that the United States government puts in (OECD, 2007).

The only places that have made a partial universal healthcare in the United States are Massachusetts and San Francisco. Within the last year it has gone into effect, so little research is done on how well it is working so far. Researchers in America have been looking at doing subsidies for the uninsured, but found they are price sensitive. They are saying the price elasticity for the market is between -0.1 and -0.3 (Eakin, 2005). With healthcare being so price sensitive, universal healthcare is a strong possible solution.

Supporters of the universal healthcare system say it would lead to a healthier society, in which leads to a healthier economy. U.S. citizens pay 60% of healthcare already through taxes, so it raises taxes a little more, and in the long run everyone's spending will be less. The current U.S. system could be costing \$286 billion a year more than universal healthcare providers in overhead and paperwork (Woolhandler, 2004). 24% of U.S. healthcare spending is on administrative cost, by far the highest in the world. 50% of all healthcare cost goes to things other than healthcare in a private insurance government (Reinhardt, 2004). People against universal healthcare say the studies done are biased, making private insurances look bad.

Hospitals and doctors offices would also run more efficiently since there is no competition for insurance companies. Quality should also go up. Since there is no competition for profit, physicians have to compete for quality. With all the savings, there would be an increase in consumer purchasing power. U.S. car manufacturers claim that roughly \$1000 is added to each car due to the cost of employees' health insurance (Clark,2006).

Several studies have shown that U.S. citizens would prefer to have a universal healthcare system. Healthcare is a right, and everyone should be given the best care, no matter who they are. This is covered for the most part through the Federal Emergency Medical Treatment Act, which requires hospitals and ambulance services to provide emergency care to anyone regardless of citizenship, legal status, or ability to pay. Universal healthcare would pay for chronic and long term illnesses that patients could not afford on their own. If people want private insurance, they should be able to buy it on top adding more benefits to their plan.

People sometimes argue that universal healthcare systems can work as a monopoly and deny private insurers, to control costs. Someone may also claim universal healthcare may be

against constitutional rights, not leaving the option up to the people or the states. It is also not the government's responsibility to provide healthcare. On the other hand, this statement falls under the act mentioned above. A universal healthcare system would probably cause an increase in demand, causing increased wait times. This would decrease health if health supply was not efficient, and there would still be unequal access. It may reduce charity cases done by physicians and reduce contributions by private parties or companies (just like when Medicare and Medicaid became active).

In these arguments it seems the pros outweigh the cons. Some of the cons could be fixed with a universal healthcare system. If universal healthcare is too large of a step, there should be universal cost for medical services.

One issue a rural person faces is the cost of an ambulance ride to a healthcare facility. A ride 30 miles in an ambulance can cost up to \$1000. For a low-income rural family this could be a factor in the decision on using the ambulance service. Paramedics call this time between an accident and getting to a healthcare facility the "golden hour", the most crucial time in ensuring the best outcome for an emergency patient. If these costs could be shared evenly among different patients, the cost of using the ambulance service may be more bearable.

Tax Incentives

Giving tax incentives to physicians that practice in rural and underserved areas may also narrow the healthcare expenditure gap if passed nationwide. This may bring more family physicians into rural areas making local residence more apt to go see a physician. Only 20% of all physicians are family physicians, which is what a patient will most likely need in rural areas. Most physicians are specializing, mainly due to the higher income and lower risk involved. Over the years this 20% is diminishing, making it tougher to find physicians to move to rural areas.

Tax incentives are a subject that has been brought up at both the national and state level. The Physician Incentives to Serve Rural America Act of 2005 was never passed at the national level. In this act they were to offer a onetime only tax credit of \$20,000 for physicians who served over 250 Medicare patients annually (Fleming, 2005). Such states as Oklahoma and Georgia are trying to pass similar tax incentives at the state level (Grove, 2007).

A 2001 study conducted by the Center for Health Policy Research, Center for Health Sciences at Oklahoma State University determined that, "licensed physicians are one of the most

powerful economic engines for a local economy. The total economic impact that results from the presence of one family physician in a local community exceeds \$1.1 million annually.”

Have upcoming physicians do training in rural areas, and they are more likely to practice in a rural area. Something similar to this is done in the state of Minnesota, offering tuition forgiveness (annual lump sum of \$17,000) for physicians who practice in rural communities. The only requirements that Minnesota has is the physician is not to relocate for three years and must start within the year they finish residence (Mheso, 2008).

If a healthcare facility could have tax breaks for patients due to the distance to the patient’s residence, a facility would not have to take this cost difference out of their profits, but take it as a tax write-off. It may also work better if it also is based off the income that the patient makes, and not given to some patients in a higher income bracket.

Chapter 6

Conclusion

In the gap on healthcare expenditures there are a lot of logical explanations. All together, they lead to a larger gap. So are rural people healthier? Are urban areas cheaper due to the size of the market? What causes this gap? Is the gap going to increase as the rural areas decrease in population? What if anything can be done about this gap? The answers to these questions are actually rather simple to understand, but there are many factors involved to understand them.

As for rural people being healthier, no, if anything they can be found to be less healthy with their less healthy lifestyles. Are urban areas cheaper due to the size of the market? No, as shown in a study, no matter the size of the facilities, the economies of scale are not sufficiently different. As for the pay being better in urban areas, that is not true. When looking at the real income of the staff of the facilities it is actually higher in the rural areas.

When looking at the gap, it is necessary to keep in mind factors such as the number of visits, not just the financial numbers involved. The higher cost for uninsured patients and the ability of possible rural malpractice being higher could take partial credit for this gap.

The demographics also have a lot to do with it. Age seems to not be as big of a factor, but income and education play a crucial factor in the gap. The lack of income in rural areas will sometimes change the line on needs and wants for healthcare expenditures. People with less education are sometimes less informed about possible health risks they put upon themselves or don't realize there are other forms to pay for medical costs (if unable to afford it).

The healthcare expenditure gap could get worse, but most likely not. It should slowly decrease over time, depending on what applications are put to use. If no solutions take place, the gap will remain close to the same. As population increases the amount of rural area decreases, but demand should stay about the same.

The possible solutions should decrease the amount of each factor put into the healthcare expenditure gap. The mobile healthcare units will increase demand (increasing number of visits) and increase rural revenue, narrowing the gap. Marketing is another way to increase visits. It will make rural residents more aware and may decrease physician cost, through contributions, increasing demand.

Universal healthcare will lead to less staffing needed, will increase visits, and will increase the amount of insured citizens. If physicians were paid by the government, the pay and cost should also be universal. Tax incentives should increase rural staff with physician incentives and also increase number of visits if there are rural patient incentives.

In this examination of possible explanations for the healthcare expenditures gap, it seems the most important thing is increasing demand in rural communities. It seems the best way to do this is through making patients more aware of health needs and making access easier for the financially deprived. With a little effort and more help from the financially stable this gap could be narrowed to a minimal difference. The next question to look at is how much time and effort does one put into the issue before the cost exceeds the benefits? Maybe it is time for another research to be done, like the 1970's RAND Experiment.

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