

## The Effect of Chronic Illness on Health Care Value

By Juhi Kunde

### Introduction

In March of 2009, the Institute of Medicine (IoM) published a brief discussing common themes surrounding health care value. In this brief, they suggest that “to address both the costs and the performance of the health care system, greater consensus will be required on what constitutes value in health care, and how to measure and increase that value.”<sup>1</sup>

The IoM also noted that “value means different things to different stakeholders, so clarity of concepts is key.”<sup>2</sup>

These statements are now being echoed around the U.S. and the rest of the world as more policymakers, researchers, analysts and health care consumers are seeing the price of health care rise while quality falls. Suddenly, value and what constitutes value in health care are of great importance. Of equal or greater importance is being able to measure and increase health care value in specific sectors of the American population. One segment of the population, those suffering from chronic conditions, is of particular interest because of this group’s heavy use of health care and its intrinsic reliance on the health care system.

In order to assess how different segments of society value health care, the principals at Spectrum, a D.C.-based public relations and public affairs firm, began discussing the question of what constitutes value in health care and how it could be measured. Was health care value something that could be equated with health care spending? Probably not when it is so widely recognized that health care spending is out of control and contains a great deal of waste and abuse. Furthermore, there may not be a consensus on what actually constitutes health care expenditures, regardless of the waste and abuse that might be included in that figure.

In the medical and health care industry it is possible to define the basic elements of health care—the products, programs and services that make up the health care system. While there may be many ways of approaching this, one way is to look to the standard industry codes, or SIC codes, used by the U.S. Government for measuring economic activity in the various sectors of the U.S. economy. These codes provide a list of all goods and services that are produced and measured as part of the U.S. economy, including the health care industry sector. There are 27 programs, products and services designated by the major health care industry SIC codes.

Comparing the relative value of these 27 products, programs and services is one way to quantify the value of the different components that make up our health care system. The next issue is who should be the respondent to a question of what those relative values are? Should policymakers and others who allocate the funds for health care spending be the individuals answering these relative value questions? One idea is to ask the people who actually pay for the programs, products and services—American consumers and taxpayers.

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<sup>1,2</sup> Institute of Medicine of the National Academies. Roundtable on Evidence Based Medicine. “Value in Health Care; accounting for cost, quality, safety, outcomes and innovations” March 2009. Downloaded on April 15, 2009 from <http://www.iom.edu/?id=64675>.

It is this approach that is taken in the Spectrum Health Value Study™. Choosing this approach over, for example, the CEA (cost-effectiveness analysis) approach is not intended to indicate that the CEA approach will not or does not provide equally important information in the valuation of health care. It is only a different approach, intended to open a dialogue much like the dialogue that CEA raises.<sup>3</sup>

### Purpose

The purpose of this study is to identify the relative importance of a set of 27 health products, programs and services to American consumers over the age of 18.

### Research Objectives

Specifically, the study was designed to 1) gain a better understanding of consumers' use of and relationship to health products, programs and services, 2) to evaluate the relative value consumers place on different attributes of health products, programs and services, and 3) to identify key segments of health care consumers within the American population.

### Methodology

Each quarter, beginning in January 2009, [Spectrum](#) will interview approximately 1,000 respondents for the study. Respondents are matched to the U.S. population by age, gender, region and ethnicity. The first two quarters of data will be collected via online interviewing of the E-Rewards panel, made up of 2.9 million panel members. In the third quarter of 2009, 300 telephone interviews will be added to the total respondents to verify that there is no significant online bias.

### **Why Consider the Chronically Ill?**

Chronic illnesses such as cancer, diabetes and cardiovascular disease are among the most prevalent and costly health problems facing Americans today.<sup>4</sup> In 2005, almost half of all Americans suffered from at least one chronic condition.<sup>5</sup> The health care costs of people suffering from these conditions make up more than three quarters of the \$2 trillion the U.S. spends on health care.<sup>6</sup> Given that these conditions make up such a significant proportion of the U.S. health care expenditures, it is important to consider how people suffering from chronic conditions use and value health care.

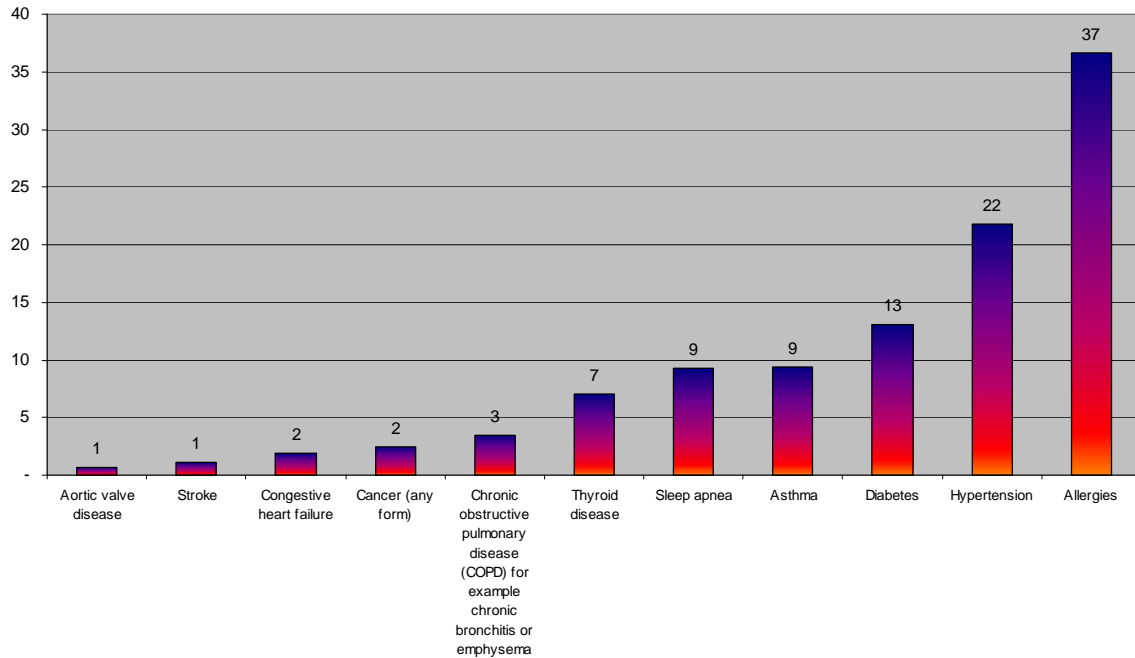
Of the respondents interviewed in the first two quarters, 37 percent suffered from allergies, 22 percent suffered from hypertension and 13 percent suffered from diabetes within the past year. Other ailments cited include: asthma, thyroid disease, sleep apnea and cancer. Chart 1 depicts the chronic conditions survey respondents suffered from during the past year.

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<sup>3</sup> Braithwaite, RS, Rosen, AB. "Linking cost sharing to value: An unrivaled yet unrealized public health opportunity. [Annals of Internal Medicine](#). 17 April 2007. Vol. 146. No. 8. pp. 602-605.

<sup>4,5,6</sup> National Center for Chronic Disease Prevention and Health Promotion. <http://www.cdc.gov/nccdphp/overview.htm> Content downloaded 4 May 2009.

**Chart 1. Conditions Suffered from in the Past Year; percentage of all respondents**

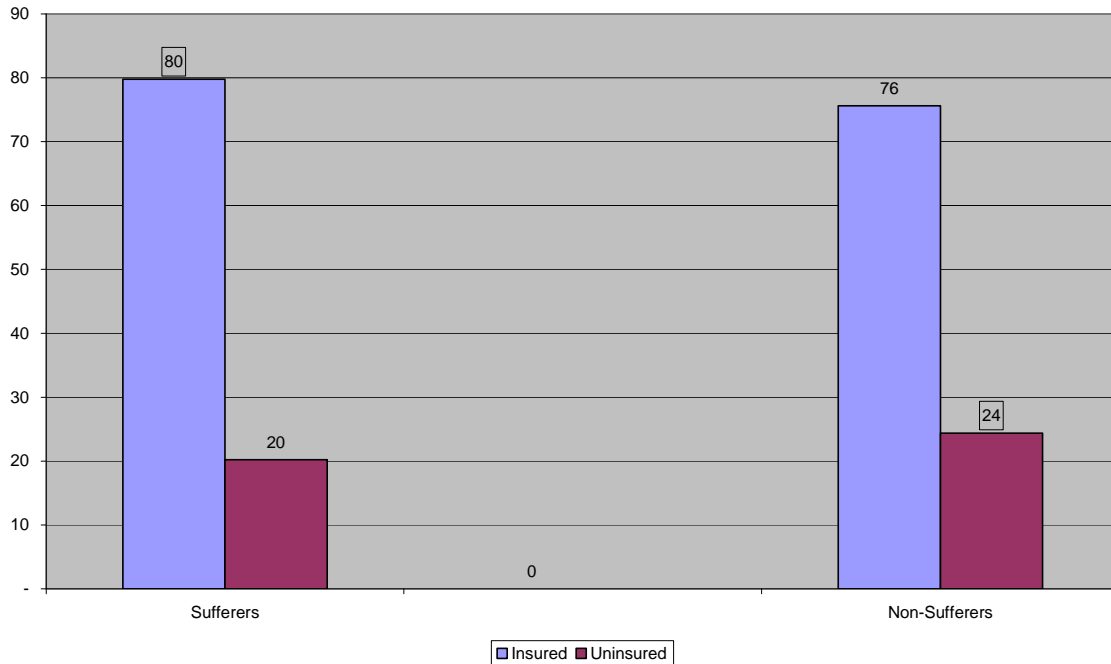


Of those respondents who indicated they have suffered from these conditions within the past year (called “sufferers” in the study results), significantly more were female and had a higher average age (48.5 years) compared to those people who did not suffer from any chronic ailments. The non-sufferers had a higher proportion of males and an average age of 42.6 years. Those suffering from chronic conditions demonstrated a significantly higher percentage of being divorced or widowed when compared to the non-sufferers. In addition, chronic ailment sufferers were significantly more likely to be retired, while those free of chronic conditions were more likely to be full-time students or full-time employees.

The survey responses suggest that chronic illness can have implications for the way people value and use health insurance. While nearly all respondents felt it was important to have health insurance, 72 percent of those suffering from chronic conditions felt health insurance is absolutely essential, which is significantly more than the 61 percent of non-sufferers who ranked health insurance as absolutely essential. Furthermore, sufferers were more likely than non-sufferers to have health insurance—with 80 percent of sufferers being insured vs. 76 percent of non-sufferers.

Chart 2 below depicts a comparison of the health insurance coverage of sufferers versus non-sufferers. Data in boxes are statistically significant differences.

**Chart 2: Insurance Coverage:  
Sufferers versus Non-Sufferers**



However, of those people who have health insurance, the data revealed that sufferers of chronic conditions seemed to have health insurance plans with significantly better coverage than non-sufferers. In particular, significantly more sufferers had health insurance plans that cover doctor visits, hospital stays, prescriptions, lab tests, outpatient procedures and major medical expenses compared to non-sufferers.

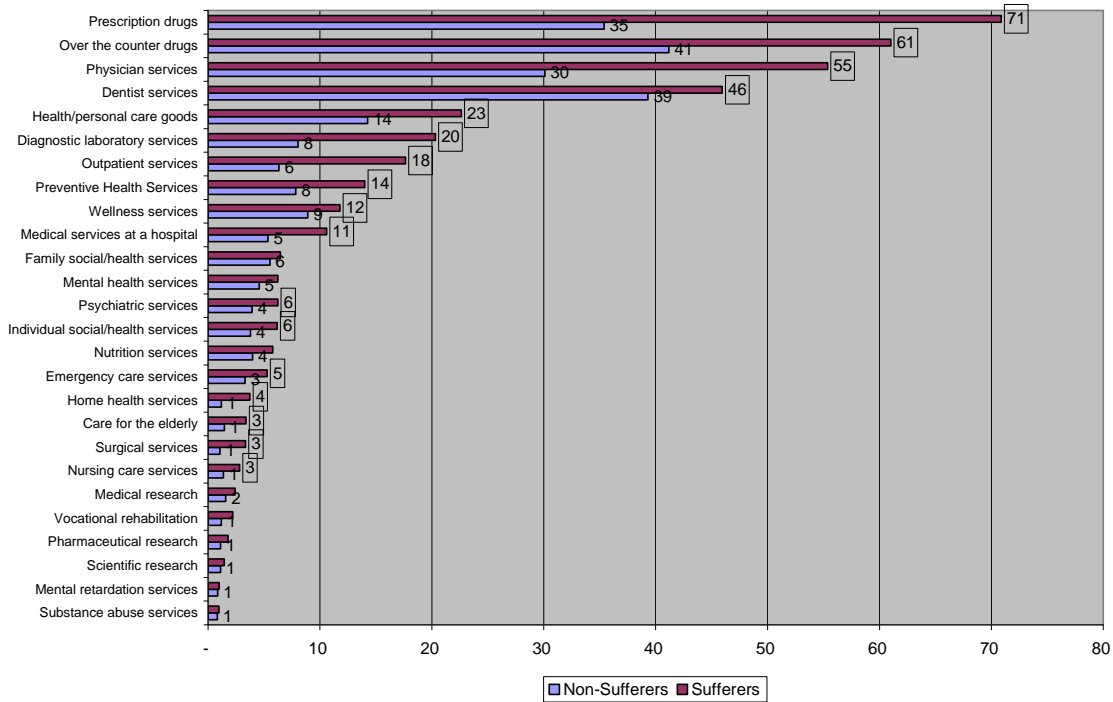
Use of Services

The survey asked respondents which the 27 products, programs and services they used on a ‘regular’ basis.

While it would be expected that people suffering from a chronic condition would use more health care products, programs and services on a regular basis, the size of this difference was surprising. For example, only 30 percent of the non-sufferers used physician services on a regular basis, compared to the significantly higher 55 percent of sufferers who received regular physician services. Over-the-counter drugs, which are easy to access and don’t require a prescription, were also used significantly more by sufferers (61 percent) compared to non-sufferers (41 percent).

Overall, sufferers of chronic conditions used a wide range of services more regularly than non-sufferers, with 20 percent of non-sufferers not using any of the services and programs listed in the survey regularly. A summary of the use of health care products, programs and services between sufferers and non-sufferers is presented in Chart 3, below.

Chart 3: Comparison of Services Used Regularly: Sufferers versus Non-Sufferers

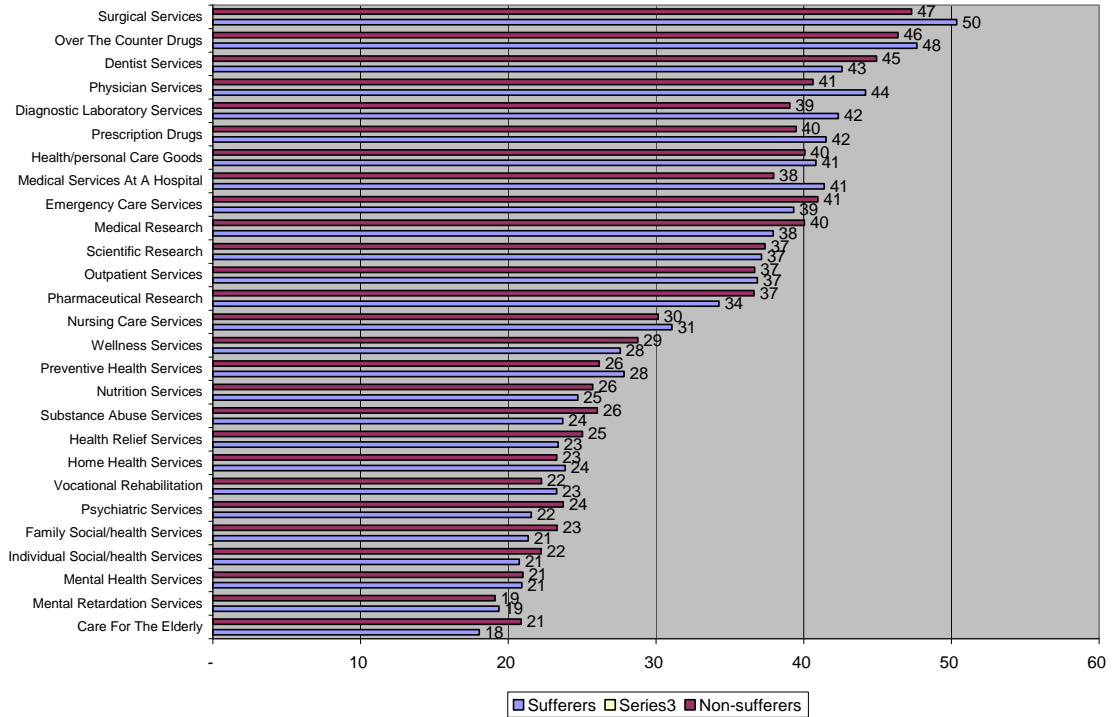


Level of Satisfaction

Respondents were asked, for the 27 products, programs and services tested, how satisfied or not satisfied they were with these products. The specific question asked respondents “In general terms, how would you rate health care services that are available in the U.S.? For each of the following services please use a scale of 1 to 10, where a 10 means that in general that service is excellent and a 1 means that in general that service is poor.”

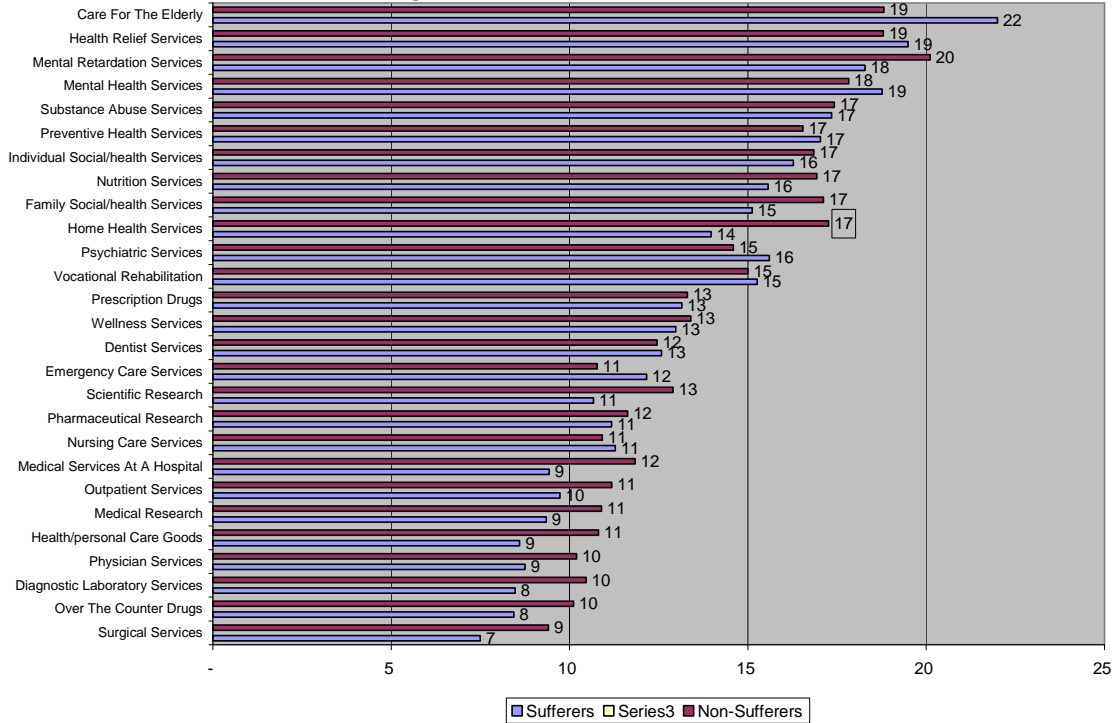
Overall, respondents who had suffered from chronic conditions in the past 12 months (“sufferers”) were more likely to rate health care services and programs higher than those who did not suffer from chronic ailments. This is true for the top 10 rated services, when looking at respondents who use these services on a regular basis. Chart 4 below shows this comparison by examining the percent of respondents who rated each item in the top three categories (8,9 or 10).

Chart 4: Service Ratings: Sufferers versus Non-Sufferers; Top Three Box



Although sufferers used health care services and programs significantly more than non-sufferers, they tended to rate these services about the same or slightly lower, in terms of satisfaction. Also, there were not many significant differences between those services rated with a 1, 2, or 3 (also referred to as bottom-three box ratings). The one exception was home health services, where non-sufferers gave this service a higher rating. A summary of these bottom-three box ratings is shown in Chart 5.

Chart 5: Service Ratings: Sufferers versus Non-Sufferers; bottom three box



Value of Services

The heart of the Spectrum Health Value Study is the analysis of the relative value that respondents place on the 27 tested products, services and programs. We asked each respondent the following question several times, each time showing them a set of four different services, products and programs randomly selected from the 27 being tested. Each time they chose which was 'most important' to them and their family, per the question, and each time they were asked which was 'least important.' The actual question is as follows:

“Recognizing that health care costs vary, depending on your level of insurance coverage and other health benefits that you either purchase or receive through an employer or other sources, and thinking about the actual dollars that are spent, listed below are four health care services with costs that you and other individuals ultimately pay for either directly or indirectly. Of these four, which is the most important and which is the least important for you and your family as you spend **your** health care dollars?”

Before proceeding with the results, it is important to note that the Spectrum Health Value Study did not want to assume that respondents would necessarily agree with the premise of this statement. Because such an assumption would have made the results very difficult to interpret, it was important to gage respondents' overall level of agreement with this premise. Therefore, following the administration of the Maximum Difference questions (described above) the respondents were shown the following statement and follow-up question:

Statement: “The cost of health care benefits and services for Americans is—one way or the other—ultimately paid for by individuals who contribute in various ways. These various types of payments include insurance policy premiums that people pay, income and sales taxes people pay, employer deductions from employees’ paychecks, an individual’s out-of-pocket expenses or co-pays, as well as payments or personal charitable contributions to health providers. In summary, whatever the combination or method of funding for health care, the ultimate payer is the individual.”

Question: “How much do you agree or disagree with this statement? Please choose a number from 1 to 10, where a 10 means that you **STRONGLY AGREE** and a 1 means that you **STRONGLY DISAGREE.**”

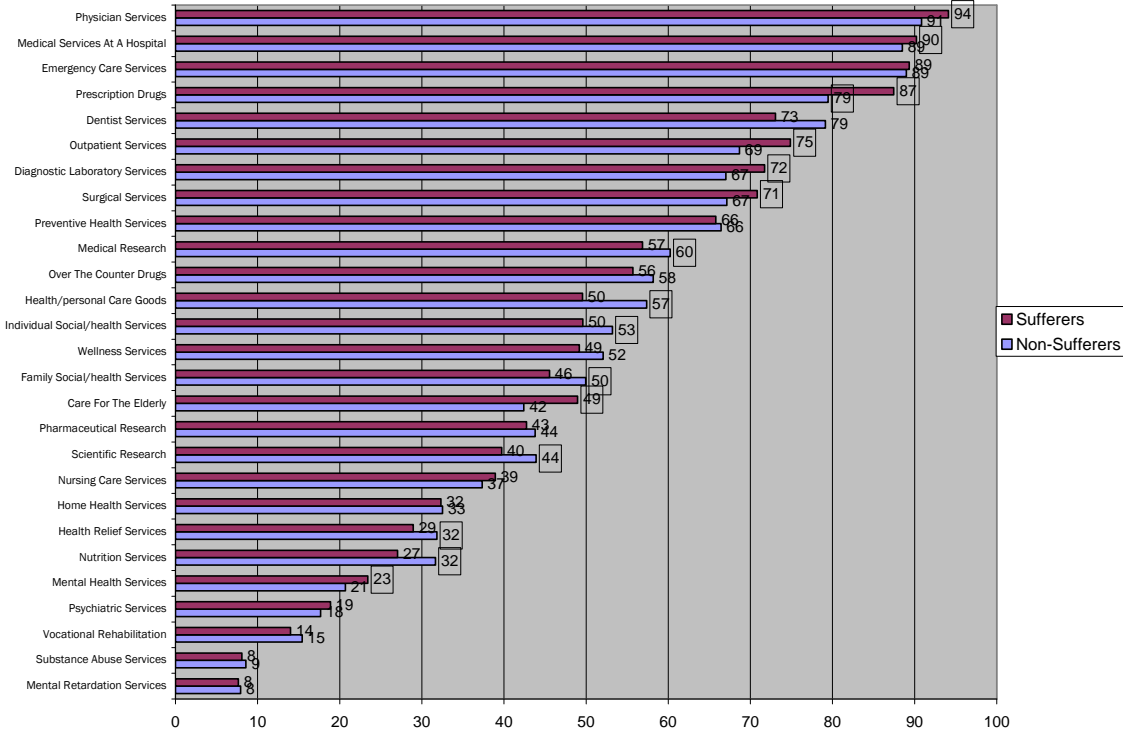
Approximately seventy percent responded with a 10, 9 or 8 (top three-box rating) which indicates a strong level of agreement with the statement. People who suffer from a chronic health condition were statistically more likely to answer with a 10 than were people who do not have such a health condition.

The results of the Max-Diff evaluation of the 27 products, services and products is somewhat dependent on most people agreeing with this concept, which they do—69 percent agreeing, 38 percent of them agreeing strongly.

In the interpretation of Max-Diff results, any value above 50 indicates that a program, product or service was picked as ‘most important’ more often than not. Any value below a 50 indicates that the product, program or service was picked as ‘least important’ more often than not. All Max-Diff scores are relative, therefore it is impossible to say when a score has reached a significant level. However, scores of over 70, for example, indicate that 70 percent of the time, when shown this product, program or service, the respondents chose it as being most important. Scores in the 90s indicate a very high level of agreement among all respondents—an indication that respondents believe these products, programs and services are basically ‘essential.’

In our results three of the tested products, programs and services scored at or above a 90 for both sufferers and non-sufferers: physician services, hospital medical services and emergency care. Each of these has to do with the individual respondent’s preference for services that they or their family can utilize to obtain medical services, as opposed to services such as preventive health services which do not actually deal with an existing medical problem, but are designed to prevent medical problems from arising. A full summary of these findings is available in Chart 6.

Chart 6: Max-Diff Scores; Sufferers versus Non-Sufferers



Conclusion

Because health care costs for people with chronic conditions make up the majority of U.S. expenditures on health care, the Spectrum Health Value Study™ chose to study how this segment of the American population uses and values health care.

This population suffers from a variety of conditions ranging from diabetes to allergies to sleep apnea and tends to be significantly older than the population of non-sufferers. In addition, people suffering from chronic conditions are significantly more likely to be female. While those who are free of chronic ailments are more often full-time students or full-time employees, those suffering from chronic conditions were significantly more likely to be retired.

Despite these differences, similar numbers of sufferers and non-sufferers have health insurance policies; however, sufferers tend to have better insurance coverage.

It was not surprising to find that people suffering from chronic health conditions tended to use more health care services on a regular basis. However, the large size of the difference in use between sufferers and non-sufferers was interesting. It is also important to note that while sufferers used more services and programs than non-sufferers, sufferers tended to be less satisfied with the quality of care they receive. Nevertheless, when looking at the 27 programs and services tested, both sufferers and non-sufferers were most satisfied with the surgical services and the over-the-counter drugs available

in the U.S. In addition, the sufferers and non-sufferers also tended to agree that physician services, hospital medical services and emergency care were of utmost importance.

Overall, these findings help to paint the picture of the health care values, level of satisfaction and usage habits of people suffering from chronic conditions. Because these Americans rely heavily on the health care system and because the cost of caring for their conditions makes up such a large proportion of the health care expenses within the U.S., it is vital to study their habits and needs carefully as we continue our discussion of health care values.

#### About the Spectrum Health Value Study™

In 2008 [Spectrum](#) leadership observed that the discussion around health care and potential reform efforts was not fully informed in one important aspect. While much had been written and discussed about access, insurance, quality and effectiveness, there was no data or information from the American public about what they value when they face spending their own dollars on health care products and services.

Working with [Russell Research, Inc.](#) of New York, NY, Spectrum designed a national survey to ask consumers what they value when it comes to these products and services. The Spectrum Health Value Study was created. Each quarter, data from 1,000 new respondents is added allowing for finer analyses and eventually for trend studies. The results will also be compiled to form an increasingly robust and informed answer to the question of what consumers value in health services and products, and to offer a look at how the value changes during these uncertain economic times.

More information on study methodology can be found in the methodology section of this site.

This information is made available to the public as part of the Spectrum Health Value Study™, and may be used for media, academic and policy analysis purposes with attribution. Suggested citation: "Spectrum Health Value Study ([www.healthvaluestudy.com](http://www.healthvaluestudy.com)), 2009."