

Factors Impacting Healthcare Satisfaction of Insured and Uninsured Americans: An Empirical Investigation

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Abstract

Purpose – The purpose of this empirical study was to investigate factors that impact healthcare satisfaction of patients with and without health insurance in the United States.

Design/methodology/approach – This is an empirical analysis of the Center for Studying Health System Change’s 2010 Health Tracking Household Survey. Regression analysis was done to examine the impact of various factors on healthcare satisfaction of 1345 uninsured and 10,921 insured American respondents.

Findings –Standardized regression coefficients indicate that satisfaction with primary care physician, general health, visiting doctors, medical costs and age significantly impact satisfaction with healthcare of both insured and uninsured Americans. In addition, number of emergency room visits, income, family type, and information from friends and demographic variables like race, male, and education only impacted healthcare satisfaction of the uninsured.

Research limitations/implications – The results in our sample may not apply to other countries.

Practical implications –This study increases the understanding of social science researchers and medical providers on how different factors impact satisfaction of insured on the healthcare they receive in the United States. While the results of this study have serious implications for hospital

administrators, they also have broader implications for all types of healthcare organizations that deal with the uninsured.

Originality/value –No other study has examined the issues impacting the satisfaction of uninsured and insured Americans with healthcare in the United States.

Keywords – Hospitals, insured, uninsured, patients.

Paper type- Empirical research paper.

Various nations use consumer satisfaction as an important factor in assessing healthcare delivery and healthcare reform.¹ Instead of measuring technical quality of care, satisfaction ratings measure the patient's cognitive and emotional reaction to healthcare. In addition, satisfaction measures incorporate a person's personal standards and preferences. One major stream of research on consumer satisfaction has focused on satisfaction with health system.²⁻⁴ This comparative research has been useful in identifying ways to improve health and implement reform. The second major stream of research on consumer satisfaction has focused on patient satisfaction.⁵ This body of research has been used for various outcomes including identifying consumers likely to drop their insurance provider,⁶ evaluating quality of care,⁷⁻¹¹ and assessing the likelihood of malpractice lawsuits.¹²⁻¹⁴ Patient satisfaction has been identified as an important measure of value-based healthcare under the Affordable Care Act. Beginning October 2012, medicare reimbursements have been tied to patient satisfaction, as measured by the Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) survey.¹⁵ It would be reasonable to expect that in the near future, many private providers will follow Medicare and also tie their reimbursements to patient satisfaction.

Unfortunately most of the traditional consumer satisfaction surveys in healthcare are methodologically weak, focused on the agenda of healthcare managers or clinicians, and/or may not be externally valid.¹⁶⁻²² While it is useful to conduct hospital or healthcare facility specific research, more research is needed to understand factors impacting satisfaction with the general healthcare system in the United States.¹ Only a survey of nationally representative households

would allow us to investigate this research. In this paper we use Center for Studying Health System Change's 2010 Health Tracking Household Survey²³ data, consisting of nationally representative sample of individuals to examine the impact of treatment-related issues, financial issues, family-related issues, sources of healthcare information, and demographics related factors on satisfaction with healthcare received in the past 12 months for insured and noninsured Americans.

Methods

Sample

The data used in this study came from the 2010 Health Tracking Household Survey (HTHS). The 2010 HTHS was funded by the Robert Wood Johnson Foundation and conducted by the Center for Studying Health System Change (HSC). HSC is a Washington D.C. based nonpartisan organization partly funded by the Robert Wood Johnson Foundation (RWJF). HSC is also closely affiliated with Mathematica Policy Research. It aims to ensure that reliable and unbiased information is available to those making healthcare policy decisions. The dataset used in this study and its accompanying are available through the Inter-University Consortium for Political and Social Research (ICPSR) at <http://www.icpsr.umich.edu/icpsrweb/HMCA/studies/34141>. The sample of this study consists of households from the Continental United States and the District of Columbia. Households were selected using random digit dialing techniques. The sampling frame included landline and cellular phones. Computer assisted telephone interview technology was used to complete 16,671 individual interviews between April 2010 and March 2011. The Health Tracking Survey Methodology Report, 2010 provides additional information on the survey at <http://www.hschange.com/CONTENT/1297/1297.pdf>. Only those families who had provider or hospital visits in the last 12 months were included in the study. Our study consists of 1345 uninsured and 10,921 insured American respondents

Dependent Variable

Satisfaction with health care was the dependent variable of this study. The informant's overall satisfaction with healthcare was measured on a five-point Likert scale ranging from a high of very satisfied to a low of very dissatisfied.

Independent Variable

The independent variables of this study were grouped into five categories. They are treatment-related issues, financial issues, family-related issues, health care information source, and demographics. Detailed information on their scales is presented in Table 1.

Treatment Issues

Treatment issues consisted of satisfaction with primary care physician, general health status, promptness of doctor's visit, and number of emergency room visits. Satisfaction with primary care physician was measured on a five-point Likert scale (5=very satisfied;1=very dissatisfied). General health status was measured on a five-point scale ranging from a high of excellent to a low of poor. Promptness of doctor's visit measured if the respondent went to the doctor as soon as she/he started feeling bad. The item was measured using a five-point Likert scale ranging from strongly agrees to strongly disagree. Number of emergency room visits was top coded at 5 visits.

Financial issues

Financial issues consisted of medical cost to family, income of family, and defer medical treatment. Medical cost to family was a five-point categorical variable that indicated out-of-pocket medical costs for the family. It ranged from a low of \$0 to a high of greater than \$5000. Income of family included total family income from all sources before taxes and deductions. This variable was top coded at \$150,000. Defer medical treatment due to financial issues was a dichotomous variable (1=yes, 0=no).

Family-related issues

Family-related issues included type of family and persons in family. Type of family defined family structure in terms of relationships and children. It was a five-point scale that ranged from single person (1) to non-nuclear family (5). Persons in family was a count of the total number of persons in each family.

Source of health-care information

This category measured if the informant got healthcare information from four sources: on the internet; friend or relative; television or radio; and newspaper, books, or magazines. These four items were measured on a two-point scale (yes, no).

Demographics

The first two demographic variable consisted of region of nation and metro area. Region of nation indicated census region (Northeast, Midwest, South, and West). Metro area used 1992 MSA/PMSA boundaries and population counts to group households into large metro over 200k, small metro under 200k, and non-metropolitan areas. Other demographic variables selected were age, sex, education, and race. Scales of these variables are also presented in Table 1.

Analysis

We first calculated means and standard deviations for each variable. T-tests were done to examine if there was a significant difference in means for the insured and noninsured groups.

Ordinary Least Square regression analysis was done to examine the impact of various independent variables on our dependent variable. Statistical analysis was done using IBM SPSS Statistics 21.

Results

Descriptive statistics of the data used in this study are presented in Table 2. An average insured respondent was a 52 year old white non-Hispanic female who was “very satisfied” with healthcare and a family income of \$45630. An average uninsured respondent was a 39 year old white non-Hispanic female who was “satisfied” with healthcare and a family income of \$26110. Table 2 also uses t-tests to examine statistical significant differences between the means of the insured and uninsured samples. Significant differences in means were seen on a majority of variables.

The significance of the relationship between the independent and dependent variables for the uninsured and insured groups are presented in Table 3. All the treatment-related issues and financial issues significantly impacted satisfaction with healthcare for the insured group. Among family-related issues and healthcare information source, family type and information from TV

respectively impacted satisfaction with healthcare significantly. Among demographic variables for this group, age, gender, and race significantly impacted our dependent variable. In the uninsured group the results were different. Of the treatment-related issues, satisfaction with primary care physician, general health status, and promptness of visit to doctor significantly impacted satisfaction with healthcare. Among financial-related issues, medical cost per family and defer medical treatment impacted our dependent variable. None of the family-related issues or healthcare information sources impacted satisfaction with healthcare. Among demographic variables, only age had a significant positive impact on satisfaction with healthcare.

Discussion

This study uses the Center for Studying Health System Change's 2010 Health Tracking Household Survey²³ data consisting of nationally representative sample of individuals and their responses to various healthcare related issues. This is one of the few consumer satisfaction studies that is not limited to a specific hospital or healthcare facility or focused on the agenda of healthcare managers or clinicians.¹⁶⁻²²

Our data indicates that three factors related to treatment issues (satisfaction with primary care physician, general health status, promptness of visit to doctor) significantly impacted satisfaction with healthcare for both insured and uninsured subjects. Satisfaction with primary care physicians was the most important predictor of consumer satisfaction with healthcare for both groups. Primary care physicians are typically the first contact for an individual with a health concern. In addition they also provide ongoing care of various medical illnesses. Previous research suggests that a physician's technical and interpersonal skills can significantly impact patient satisfaction with primary care provider. Unfortunately the American Academy of Family Physicians (AAFP) estimates there will be a shortage of over 40,000 primary care doctors in the United States by the end of this decade. This is happening at a time when millions of uninsured Americans may seek health insurance after the passage of the Patient Protection and Affordable Care Act.²⁴ Given the great need for primary care physicians in the coming years and their impending shortage, it is critical that medical school administrators and healthcare policy makers to implement progressive policies to encourage current primary care physicians to practice

longer and propose long term strategies to increase the supply of primary care physicians in the United States.

Like previous research respondents with perceived better health status reported higher satisfaction with healthcare for both groups.²⁶⁻³⁰ In addition, those who visited a doctor's office promptly when ill also exhibited higher levels of satisfaction with healthcare. Previous research has shown that medical complications can have a strong impact on patient satisfaction.³¹⁻³³ Future research needs to examine if medical complications moderate the relationship between promptness of office visit and satisfaction with healthcare.

Of the three financial related factors, medical cost per family and annual family income significantly impacted satisfaction with healthcare for both groups. Previous research has indicated that patient satisfaction is associated with greater healthcare expenditures and higher expenditure on prescription drugs.³⁴⁻³⁵ This research suggests that often patients come with certain expectations when they meet their physicians. Often they make specific tests or treatment requests of physicians. Fulfilment of patient expectations can impact their satisfaction with physician/healthcare and also impact medical cost expenditures. Previous research suggests that the uninsured are more likely to postpone needed care, have unfilled prescriptions, lack links with primary care providers, and perceive lack of sufficient time with physicians during a visit³⁴ This points to the need for policymakers to ensure that there are stable incentives in place to extend healthcare coverage to as many uninsured people as possible.

Among family-related issues, family type had a significant impact on satisfaction with healthcare for the insured group. Information from TV was the least used by the two groups (10%, 10%). But this source had a significant impact for healthcare satisfaction for the insured group. The three most common source of information about a health concern for insured and uninsured were the internet (34%, 29%), friends and relatives (29%, 29%), and newspapers, books, or magazines (20%, 15%). But seeking healthcare information about a personal health concern from friends or relatives had a significant negative impact on satisfaction with healthcare. The lack of quality and accuracy of healthcare information provided by friends or relatives may create unreasonable expectations in the mind of the patient. Future research needs to examine this issue in detail. There was no significant difference in satisfaction with healthcare based on any location factors like region of the nation or density of the local population. Among

various demographic variables examined in this study, only age had a significant impact on satisfaction with healthcare. Consistent with past research, older patients were more satisfied with healthcare than younger patients.³⁶⁻³⁸ The elderly are expected to be a large share of the population in the future and continue to account for a large share of encounters with the healthcare facilities.³⁰ Higher satisfaction with healthcare among older patients has been attributed to a variety of reasons including realistic expectation of care and familiarity of potential shortcomings of the health care system.³⁹⁻⁴⁰

We have identified a number of limitations of this study. First, healthcare literature has measured satisfaction in multiple ways and there is no established definition of the construct. Second, the study uses self-reported secondary data. Thus we had no control over data collection procedures and our research was limited to the variables included in the study. Third, while previous research suggests that the impact of nonresponse bias on satisfaction studies may be small,⁴¹ we are not sure about the impact of nonresponse bias on this study. Fourth, our independent variables accounted for only 20% and 18% of the variance in satisfaction with healthcare in insured and uninsured group. Finally our research only accounts for direct effects of the independent variables on satisfaction with healthcare. Future research can use path models with hypothesized direct and indirect effects to test more complex models of satisfaction with healthcare.

In conclusion, this study uses a nationwide representative sample to provide valuable information on factors that impact satisfaction with healthcare. Results indicate that satisfaction with primary care physician, defer medical treatment, and general health status are the three most significant indicators of an individual's satisfaction with healthcare among insured and uninsured. Combining results of nationwide studies on healthcare satisfaction in general (like ours), with studies on satisfaction with specific healthcare facilities can create a useful knowledge base for researchers and policy makers to understand the responsiveness of the healthcare system in the United States to the needs of its patients.

Table 1: Information on Variables Included in this Study*proceedings January, 2015*

Variables	Scale
Satisfaction with healthcare	5=very satisfied, 1=very dissatisfied
Satisfaction with primary care physician	5=very satisfied, 1=very dissatisfied
General health	5=excellent, 1=poor
Visit doctor promptly	5=strongly agree, 1=strongly disagree
Number of emergency room visit	Top coded at 5
Medical costs per family	0=\$0, 1=\$1-\$499, 2=\$500-\$1999, 3=\$2000-\$2999, 4=\$3000-\$4999, 5= >=\$5000
Annual family income	Top coded at \$150,000
Defer medical treatment	1=yes, 0=no
Family type	1=Single, 2=Married couple no kids, 3=Married with own kids, 4=Single with own kids only, 5=Non-nuclear family
Persons in family	Actual number of persons in family
Get information from web	1=Yes, 0=No
Get information from friends	1=Yes, 0=No
Get information from TV	1=Yes, 0=No
Get information from hardcopy	1=Yes, 0=No
Region	1=Northeast, 2=Midwest, 3=South,4=West
Metro area	1=Large metro over 200k, 2=Small metro <200k, 3=non-metro
Age	Top coded at 91 years
Male	1=Male, 0=Female
Education	Top coded at 19 years of education
Race	1=White non-Hispanic, 2=African American non-Hispanic, 3=All other non-Hispanic, 4=Hispanic

Table 2: Descriptive Statistics

Variable	Insured		Uninsured		t-value	
	Mean	SD	Mean	SD		
Satisfaction with health care	4.46	0.95	3.61	1.45	20.95	**
Satisfaction with PCP	4.57	0.88	4.04	1.26	15.01	**
General health	3.54	1.11	3.23	1.16	9.18	
Doctor visit	2.51	1.05	2.27	1.09	7.70	*
Emergency room visits	0.30	0.80	0.50	0.99	-6.80	**
Medical costs for family	4.13	1.28	4.48	1.25	-9.58	**
Income of family	45630.54	37303.45	26109.50	22744.33	27.28	**
Defer medical treatment	0.21	0.41	0.44	0.50	-16.42	**
Family type	2.19	0.90	2.24	1.07	-1.44	
Persons in family	2.40	1.29	2.40	1.42	-0.07	
Information from Web	3.50	0.48	0.30	0.45	4.42	**
Information from friends	0.30	0.46	0.30	0.46	-0.30	
Information from TV	0.10	0.30	0.10	0.30	-0.11	
Information from print	0.20	0.40	0.16	0.36	3.61	**

Region of nation	2.53	1.02	2.77	0.93	-8.74	**
Metro area	1.48	0.81	1.54	0.84	-2.41	*
Age	51.61	17.71	38.95	13.40	31.43	**
Male	0.44	0.5	0.45	0.50	-0.92	
Education	13.89	2.55	12.51	2.51	19.04	**
Race	1.44	0.90	1.99	1.24	-15.55	**

Table 3: Regression Results

Variable	Insured			Uninsured		
	Beta	SE		Beta	SE	
Treatment-related Issues						
Satisfaction with PCP	0.33	0.01	**	0.28	0.03	**
General health	0.11	0.01	**	0.13	0.03	**
Doctor visit	0.03	0.01	**	0.06	0.03	*
Emergency room visits	-0.03	0.01	**	-0.03	0.04	
Financial Issues						
Medical costs for family	0.10	0.01	**	0.06	0.03	*
Income of family	0.03	0.00	**	-0.04	0.00	
Defer medical treatment	-0.11	0.02	**	-0.14	0.08	**
Family-related Issues						
Family type	-0.03	0.01	*	0.05	0.05	
Persons in family	0.03	0.01		0.02	0.04	
Healthcare Info Source						
Information from Web	0.01	0.02		0.04	0.09	
Information from friends	-0.02	0.02		-0.02	0.09	
Information from TV	0.00	0.03	*	0.00	0.13	
Information from print	0.00	0.02		-0.03	0.11	
Demographic Variables						
Region of nation	0.00	0.01		0.04	0.04	
Metro area	0.01	0.01		0.01	0.04	
Age	0.10	0.00	**	0.09	0.00	**
Male	-0.02	0.02	*	0.01	0.07	
Education	0.02	0.00		-0.03	0.02	
Race	-0.03	0.01	**	0.04	0.03	
F	143.20	**		16.61	**	
Adjusted R square	0.20			0.18		
N	10921			1345		

All data provided as β (SE); ** $p < 0.01$. * $p < 0.05$

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