

**Health Reform and Primary Care Capacity:  
Evidence from Houston/Harris County, Texas**

**June 2011**

**by**

Charles Begley, Phuc Le, David Lairson, \*Jeanne Hanks, \*\*Anthony Omojasola

**University of Texas School of Public Health  
\*St. Luke's Episcopal Health Charities  
\*\*MD Anderson Cancer Center**



**Health Reform and Primary Care Capacity:  
Evidence from Houston/Harris County, Texas**

**Abstract**

This study estimated the possible surge in demand for primary care among the low income population in Houston/Harris County under the Patient Protection and Affordable Care Act, and related it to existing supply by safety net providers. A model of the demand for primary care visits was developed based on California Health Interview Survey data and applied to the Houston/Harris County population. The current supply of primary care visits by safety net providers was determined by a local survey. Comparisons indicate that safety net providers in Houston/Harris County are currently meeting about 30% of the demand for primary care visits by the low income population and the rest is either met by private practice physicians or is unmet. Demand for primary care by this population is projected to increase by 30% under health reform leading to a drop in demand met by safety net providers to less than 25%.

**Health Reform and Primary Care Capacity:  
Evidence from Houston/Harris County, Texas**

The prospect of expanded coverage of the low income population under the 2010 Patient Protection and Affordable Services Act (ACA) creates uncertainty for local safety net providers who have served this population. If fully implemented, the coverage mandates, expansions of Medicaid, subsidized insurance premiums, and other reforms under the ACA are expected to reduce the number of uninsured by over 30 million people nationwide by 2019.<sup>1</sup> Major questions about the implementation of the law create uncertainties for safety net providers including: the coverage provisions do not extend to undocumented residents nor will the Medicaid expansions extend to non-citizen legal residents in Texas (although they will be eligible for premium subsidies); the enrollment of new and existing eligibles will depend on yet to be defined efforts to expand and streamline eligibility processes; and the impact on coverage decisions and health care seeking behavior of the mandates, penalties, regulatory requirements, premium subsidies, and exchanges are difficult to predict.<sup>2</sup> Who will gain coverage and will there be a surge in demand for care by the low income population? Will the newly insured continue to rely on safety net providers once they obtain coverage? Will local safety net providers have the capacity to meet the potential surge in demand of the newly insured and that of the remaining uninsured? Answers to these questions are needed by communities around the country interested in assessing the future need for safety net services among the newly covered as well as those who will remain uninsured if ACA is fully implemented.

Like most cities, Houston/Harris County has a loosely organized system of safety net providers that provide free or discounted care to low income uninsured, underinsured, and Medicaid populations.<sup>3</sup> At the center of the safety net is the publicly funded Harris County

Hospital District (HCHD), consisting of three public hospitals, several community- and school-based clinics, a dental center, a program for the homeless, and mobile health units. HCHD provides care to county residents with incomes up to 200% of the federal poverty level (FPL) charging limited copayments. Patients with incomes between 201% and 250% of FPL receive a 50% discount on billed charges. Above 250% of FPL, patients are asked to pay full charges. The District serves about 300,000 people a year in its hospitals and clinics, of which about 70% are uninsured.

In addition to HCHD, subsidized primary and specialty care is available for the low income population from private hospitals, community clinics run by private non-profit organizations, and private practice physicians who offer charity care programs either on a voluntary basis or required for tax exempt status in the case of some of the non-profit facilities. There are about 75 community- and school-based private clinics, Federally Qualified Health Centers (FQHCs), and FQHC Look-Alikes (community clinics that meet the same program requirements as FQHCs but do not receive federal funding) that provide free and discounted primary care to the low income population in the area. A number of these clinics offer a broad spectrum of primary care and urgent care services to adults and children in community and school-based settings. To meet budget requirements they balance expenses with revenues from a variety of sources including patient fees, grants from federal, state and local governments, and contributions from philanthropic organizations.

Various initiatives have recently been implemented by safety net providers in the area in response to the growing number of uninsured. The initiatives have addressed various issues including: coordinated pursuit of additional public and private funding for care; efforts to expand the number and capacity of safety net providers, particularly providers of primary care; and

efforts to coordinate eligibility, services, and management resources to improve effectiveness and efficiency. A community clinic survey was developed to monitor the amount of primary care provided by safety net providers. Data from this survey for 2008 is combined with primary care demand estimates of the low income population to determine the current proportion of demand met by safety net providers with and without health reform.

## **METHODS**

**Design.** The study used a cross sectional approach to compare the provision of primary care visits by safety net clinics based on survey data to estimated demand for primary care visits by low income insured and uninsured populations based on a demand model. The demand model was used to project the surge in demand under health reform and compare it to current supply.

**Data Sources.** The Project Safety Net (PSN) Clinic Survey was developed by St.Luke's Episcopal Health Charities (SLEHC), a local foundation.<sup>4</sup> The staff of the foundation use a list of clinics that participate in an online clinic registry developed as an informational source for low income clients and their advocates looking for providers who offer discounted and free services. The list is checked for completeness on a regular basis with the memberships of local collaboratives of safety net providers. Clinics are asked to participate in the survey if they provide primary care, serve the uninsured, charge income-related sliding scale fees, operate at least 20 hours a week, and employ physicians and/or mid-level practitioners. Clinics that only provided dental care, mental health services, immunizations, Women-Infants-Children services or breast health services were excluded. Surveyed clinics include: private non-profits, FQHCs, and FQHC Look Alikes, and public clinics (operated by the HCHD and the city/county public

health departments). The internet-based survey requests information on types of services offered, number of individuals receiving primary care and primary care visits provided, patient demographics and payor source, and provider staffing. Clinic participants are recruited and instructed in completing the survey by SLEHC staff at various group and one-on-one meetings. SLEHC staff are available to provide assistance as needed. If clinics submit incorrect or incomplete information, they are contacted to provide the missing data. More detailed information can be found about the survey at [www.projectsafetynet.net](http://www.projectsafetynet.net).

Two data sources were used to estimate the demand for primary care. First, the public use files of the California Health Interview Survey (CHIS) 2007, conducted between July 2007 and early March 2008, were used to estimate the demand model. A detailed description of the CHIS survey design and process is available at [www.chis.ucla.edu](http://www.chis.ucla.edu). Second, data from the Current Population Survey-Annual Social and Economic (CPS-ASEC) Supplement for Houston/Harris County were used to estimate the primary care visits of the population below 200% of the Federal Poverty Level (FPL).<sup>5</sup> The CPS is one of the official federal government data sources that includes employment and unemployment information, as well as demographic characteristics of the United States population. The ASEC Supplement adds data on work experience, income, noncash income sources and migration. The CPS-ASEC Supplement contains data for the Houston population only. The estimated number of primary care visits is assumed to be similar for Harris County residents outside the city.

**Measures.** Based on data from the PSN Clinic Survey, a primary care visit was defined as any visit made to a physician or mid-level provider in a clinic. In addition, visits for well-child care, family planning, Early Periodic Screening, Diagnosis, and Treatment (EPSDT), and

prenatal care were included. Visits to a clinic that did not require the patient to see a physician or mid-level provider were excluded.

Based on a review of health care demand literature, a two-equation model of demand for primary care was developed in which the likelihood of use/non-use and the actual amount used among users were estimated.<sup>6</sup> The two-equation demand model was:

$$U = f(N, E, P)$$

$$V = f(N, E, P).$$

where U is the probability of seeking at least one primary care visit over 12 months. V is the number of self-reported visits among users. N represents need-for-care factors such as the severity of illness, presence of disability or co-morbidities, and quality-of-life that determine a person's perception of health status. E represents enabling factors including income, health insurance coverage, occupation, transportation, and language proficiency. P represents predisposing factors such as age, gender, race/ethnicity, marital status, education, and health attitudes and beliefs.<sup>7</sup>

The demand model was estimated using data on eleven independent variables from the 2007 CHIS,<sup>8</sup> including age, age-squared (to capture non-linear relationship), gender, race/ethnicity, family size, education, marital status, income, employment status, insurance status, self perception of health status and difficulty at work. Appendix A provides a complete list of variables and definitions.

**Analyses.** We aggregated the number of primary care visits reported by local safety net clinics for the year 2008 to calculate the total supply. Probit regression was used to estimate the use/non-use equation of demand while multiple linear regression was used for the utilization equation. Data from all 4,938 low-income adults in the CHIS 2007 for urban areas was used for

the use/non-use equation, and 3,911 adults with positive visits for the utilization equation. The 2007 CHIS question on primary care utilization was: “During the past 12 months, how many times have you seen a medical doctor?” We used the responses to this question to estimate the total number of doctor visits, and then adjusted the estimate by the age-adjusted percentage of primary care visits out of total doctor visits for the U.S. population reported in the 2006 National Ambulatory Medical Care Survey (NAMCS) to estimate primary care visits.<sup>9</sup>

The model parameters based on the CHIS data were applied to Houston/Harris County by inserting data for the independent variables for low income adults and children in Houston from the CPS-ASEC Supplement.<sup>5</sup> Because of the small number of annual observations in the CPS-ASEC, we combined data from 2008 and 2009.

Total primary care demand of low income people in Harris County was estimated as the product of the number of primary care visits per low income insured and uninsured resident, based on the model, times the total number of low income insured and uninsured in the county. Variables in the model that were irrelevant for children such as education, marital status, employment, and difficulty at work were not included in estimating the children’s demand equations. As a check on our estimates, we were able to compare our primary care visit results for children to the age-adjusted primary care doctor visits in the NAMCS 2006 report<sup>9</sup> and found no significant differences.

The total volume of primary care visits currently provided by PSN clinics was compared to the current estimated demand by low income people to estimate current met demand by safety net providers. Two additional demand scenarios were projected to reflect the potential impact of health care reform on met demand by safety net providers. Scenario 1 assumed that 73.6% of the low income uninsured will obtain health insurance coverage and increase their demand for

primary care. This coverage projection is based on an estimate for Texas of the impact of ACA on increased Medicaid coverage of adults with incomes below 133% of FPL by researchers at the Kaiser Commission on Medicaid and Uninsured.<sup>10</sup> It takes into consideration the percentage of the uninsured who are undocumented and assumes an enhanced outreach and enrollment scenario and high participation of new and current eligibles due to a new “culture of coverage” and the individual mandates.

Scenario 2 assumed that 49.4 % of the uninsured would obtain health insurance.<sup>10</sup> This estimate is also based on the Kaiser Commission projection for Texas uninsured adults assuming moderate participation by new eligibles and very little increase in participation by current eligibles. Both projections are the expected increase in coverage by 2019 after full implementation of health reform compared to the current baseline. For each scenario, we estimated the increase in demand for primary care visits resulting from the increased number of visits per year per person who would gain coverage and compared it to existing supply.

## **RESULTS**

**The Provision of Safety Net Primary Care.** All 85 safety net clinics eligible to participate in the PSN survey responded to the 2009 request for utilization data. Twenty-two were FQHCs or FQHC “look-alikes,” 20 were HCHD clinics, 12 belonged to the city or county health departments, and the remaining 31 sites were private nonprofit clinics. The total number of primary care visits provided by the safety net clinics in Harris County in 2008 was just over 943,000 (Table 1). HCHD’s clinics provided the majority of visits (60%). All 31 private nonprofit clinic sites contributed more than one-fifth of primary care visits. The FQHCs in Harris County play a growing but modest role with 15% of total visits. Local health department

clinics provided the smallest percentage of visits in 2008, reflecting an intentional policy of reducing their investment in clinical services in order to focus more on population-based services and programs.

**Low Income Demand for Primary Care.** Based on the CHIS 2007 data for low income urban adults, having health insurance increased the probability of making a primary care visit at least once per year by 15-20% ( $p < 0.01$ ) compared to those with no insurance (Table 2). People with poor health status were also more likely to visit a doctor in the past 12 months than those with “very good” ( $p < 0.05$ ) or “fair” ( $p < 0.01$ ) health status. Females, people with larger families, higher income, and people with difficulty working at a job had a significantly higher likelihood of having at least one primary care visit per year. Among those with at least one primary care visit, males, single people, and Asian Americans had fewer primary care visits per year ( $p < 0.01$ ) compared to females, married, and non-Asian people. Those with Medicaid and private insurance had more visits compared to those without insurance ( $p < 0.01$ ). Those reporting poor health status and difficulty working at a job had more primary care visits than those with better health status and no work difficulties ( $p < 0.01$ ).

The number of primary care visits demanded per year by low income insured individuals in Harris County, adjusted for all other factors, was almost three times that of low income uninsured people (2.65 versus 0.91) (Table 3). Using population characteristics of Harris County residents from the US Census Bureau and CPS-ASEC Supplement 2009, and the average number of primary care visits from CHIS demand model, the total demand for primary care visits by low income people in Harris County was 3.14 million in 2008 (Table 3).

**Low Income Demand Met by Safety Net Providers.** Comparing the total visits demanded by the low income population to the number of visits provided by the safety net

clinics indicates that about 30% of current demand is being met by safety net providers (Table 4). If 73.6% of the uninsured gained coverage and if each newly insured individual's demand for primary care increases to the same rate of the low income insured (Scenario 1), demand for primary care by the low income population could increase by 30% (from 3,184,338 visits to 4,120,992 visits) and the proportion of demand met by safety net clinics drops to 23%. If 49.4% of the uninsured gained coverage and each newly insured individual increased demand for primary care to that of the low income insured (Scenario 2), demand for primary care by low income could increase by 20% (from 3,184,338 visits to 3,813,017 visits) and the proportion of demand met by safety net clinics will drop to 25%.

## **DISCUSSION**

We project a major challenge to Houston/Harris County's safety net clinics to maintain their existing role in meeting the demand of low income people for primary care with the potential surge in demand under ACA. To increase the percentage of met demand of the low income population from the current rate (30%) to 100% over the next nine years (until 2019), considering the different health reform scenarios, would require the local safety net to increase primary care service capacity by approximately 17 to 18% per year. To maintain the current percentage of met demand (30%), the safety net would have to grow by 2 to 3% per year to meet the potential surge in demand.

Lacking data on the amount of primary care provided by private practice physicians, it is difficult to determine the extent to which the amount of primary care offered by safety net providers combined with that of private practice physicians is meeting the demand of the low income population. Evidence suggests that current demand for primary care by the low income

population is unmet because waiting times for new patient appointments at the HCHD clinics are increasing,<sup>4</sup> the percentage of physicians in the area who are willing to treat the Medicaid and uninsured populations is declining,<sup>11</sup> and hospital emergency room visits for primary care-related conditions are rising.<sup>12</sup> Safety net clinics, particularly FQHCs, are receiving support to increase resources and/or improve productivity to meet the higher demand. In addition, ACA provisions call for increasing Medicaid payment rates for primary care to 100% of Medicare rates, which may increase physician willingness to serve this population. Nevertheless, the challenge of meeting the possible surge in primary care demand is daunting.

A major question is the extent to which the newly insured will continue to rely on the safety net providers once they can access private providers. The experience under the landmark 2006 Massachusetts health reform suggests that safety net providers will continue to play a critical role in caring for newly-insured patients while simultaneously serving as the primary care safety net for remaining uninsured residents.<sup>13</sup> If Texas unfolds like Massachusetts, our study suggests a growing deficit in the percentage of primary care demand of the low income population met by safety net providers under health care reform. These findings are consistent with a recently published article by Ku et al. that developed an index of the potential gap between primary care demand and supply for Texas under health reform.<sup>14</sup> Texas had one of the highest “access challenge index scores” among the states due to the large anticipated expansion of Medicaid coverage and its relatively low primary care capacity.

The study has several limitations that should be considered in interpreting the results. First was the lack of person level data on Harris County’s low income population necessitating the use of California data to estimate a demand model. Therefore, the accuracy of the estimate of demand rests on the assumption of similar health care seeking behavior among low income

Californians and Houstonians with similar characteristics. A replication of the CHIS in Texas is being planned and will allow us to estimate a demand model in the future based on actual data for Houstonians to be collected in 2011.

Second, the dependent variable of interest, number of primary care visits, was not available in CHIS and was obtained by adjusting the number of general visits by primary care proportion reported in NACMS 2006. Nevertheless, our estimates were confirmed for children when compared to national estimates based on NAMCS data.

Third, the primary care visit data provided by safety net clinics was self-reported and could not be validated. It also did not include the provision of primary care by other safety net providers such as the hospital outpatient departments and private practice physicians, as well as some smaller safety net clinics. This limitation may have led to an underestimate of the provision of safety net primary care and hence the proportion of demand met, and inversely overestimated the capacity increase needed to meet future demand.

Our research raises concerns that there may not be enough health care providers in Houston/Harris County to meet the new demand and that gains in health insurance coverage under the ACA may not result in realized access. There is a need for more research to assess the capacity of the private practice physicians to serve this population and to respond to the increase in demand for primary care under health reform. This information is needed to understand the challenges in primary care that we face and the need for expansions that will be needed in order to avoid increased waiting times and access barriers in the years to come.

**Acknowledgements:** Funding for this project was provided by the Houston Endowment, Inc. Phuc Le was supported by the Fogarty International training grant #D43TW007669.

## References

1. Foster RS. Estimated Financial Effects of the Patient Protection and Affordable Care Act as Amended. Baltimore MD: Department of Health and Human Services, Office of the Actuary, Centers for Medicare and Medicaid Services, April 22, 2010.
2. Chazin S, Friedenzohn I, Martinez-Vidal E, et.al. The future of U.S. charity care programs: implications of health reform. Washington DC: Center for Health Care Strategies, Inc. August 2010.
3. America's Health Care Safety Net: Intact but Endangered. Lewin EM, Altman S, Editors. Washington DC: Committee on the Changing Market, Managed Care, and the Future Viability of Safety Net Providers, Institute of Medicine.
4. St. Luke's Episcopal Health Charities. Project Safety Net Clinic Survey 2009. Houston, Texas. Available at [www.projectsafetynet.net](http://www.projectsafetynet.net).
5. U.S. Census Bureau. Current Population Survey, 2009 ASEC Technical Documentation. Washington DC: The Bureau of the Census for the Bureau of Labor Statistics, 2009.
6. Wedig GJ. Health status and the demand for health-results on price elasticities. *Journal of Health Economics*. 1988 June;7(2):151-163.
7. Andersen RM. Revisiting the behavioral model and access to medical care: does it matter? *J Health Soc Behav*. 1995 March;36(1):1-10.
8. California Health Interview Survey. CHIS 2007 Adult Survey. Los Angeles, CA: UCLA Center for Health Policy Research, December 2008.
9. Schappert SM, Rechtsteiner EA. Ambulatory medical care utilization estimates for 2006. *Natl Health Stat Report*. 2008 August 6(8):1-29.

10. Holahan J, Headen I. Medicaid Coverage and Spending in Health Reform: National and State-by-State Results for Adults at or Below 133% FPL. Washington DC: Kaiser Commission on Medicaid and the Uninsured, May 2010.
11. Texas Medical Association. Surveys of Texas physicians: Research findings: Jointly prepared by Texas Medical Association and Nexus Business Information; 2008.
12. Begley CE, Courtney P, Burau K. Houston hospitals emergency department use study 2008: University of Texas-School of Public Health at Houston; April 2010.
13. Ku L, Jones E, Finnegan B, et.al. How is the primary care safety net faring in Massachusetts? Community health centers in the midst of health reform: Kaiser Commission on Medicaid and the Uninsured; March 2009.
14. Ku L, Jones K, Shin P, et al. The States' next challenge - securing primary care for expanded Medicaid populations. N Engl J Med. 2011 Jan 26. [Epub ahead of print]

**TABLE 1 - Number of Primary Care Visits Provided by Safety Net Clinics in Harris  
County, 2008**

Clinic type	Number of clinics	Number of visits	Percentage
Federally Qualified Health Center	22	145,361	15.4
Private Nonprofit	31	208,116	22.0
Hospital District	20	546,329	58.0
City/County Health Department <sup>†</sup>	12	43,272	4.6
<b>Total</b>	<b>85</b>	<b>943,078</b>	<b>100.0</b>

Note: <sup>†</sup> City of Houston Department of Health and Human Services/Harris County Public Health and Environmental Services

Source: Project Safety Net Clinic Survey 2009

**TABLE 2 - Primary Care Demand Models of Urban Adults With Income Below 200% of FPL in California**

Variables	Use/non-use	Utilization
	N = 4,938	N = 3,911
	Marginal effect <sup>a</sup> (SE)	Marginal effect <sup>b</sup> (SE)
AGE	-0.002 (0.003)	-0.072 (0.037)
AGE <sup>2</sup>	0.000 (0.000)	0.001 (0.0003)
MALE (ref. = female)	-0.149** (0.023)	-0.438** (0.125)
Race (ref. = white)		
LATINO	-0.008 (0.032)	-0.679 (0.356)
ASIAN	-0.061 (0.044)	-0.959** (0.339)
BLACK	0.054 (0.045)	-0.384 (0.303)
OTHER	0.029 (0.052)	-0.468 (0.590)
Marital status (ref. = married)		
SEP/DIV/WID/ PARTNER	0.025 (0.024)	0.005 (0.188)
SINGLE	-0.021 (0.038)	-0.783** (0.257)
Educational attainment (ref. = less than high school)		
HISCH	-0.006 (0.023)	-0.059 (0.171)
COLL	0.021 (0.026)	0.324 (0.221)
GRAD	-0.005 (0.057)	0.492 (0.309)
FAMSIZE	-0.016* (0.007)	0.022 (0.068)
INCOME	2.67E-06* (0.000)	3.97E-06 (0.000)
Employment status (ref. = unemployed)		
FULL	-0.002 (0.028)	-0.290 (0.149)
PART	0.028 (0.033)	-0.040 (0.302)
Insurance status (ref. = uninsured)		
MCAID	0.196** (0.025)	1.273** (0.197)
MCARE	0.204** (0.019)	0.362 (0.236)
PRI	0.150** (0.025)	0.397** (0.127)
PUB	0.158** (0.025)	0.203 (0.307)
Self-perception of health (ref. = excellent)		
VGOOD	0.086* (0.039)	-0.186 (0.212)
GOOD	0.066 (0.039)	-0.092 (0.202)
FAIR	0.114** (0.036)	0.241 (0.248)
POOR	0.064 (0.046)	2.215** (0.709)
DIFFWORK (ref.=no diff)	0.172** (0.026)	2.124** (0.463)
Constant	0	3.937** (0.767)

Note: <sup>a</sup> The percentage change in the probability of making a primary care visit compared to the reference group for categorical variables, and per unit change for continuous variables.

<sup>b</sup> The unit change in the number of primary care visits compared to the reference group for categorical variables, and per unit change for continuous variables.

\* p < 0.05, \*\* p < 0.01.

Source: 2007 California Health Interview Survey

**TABLE 3 - Primary Care Visits Demanded by Houston/Harris County Population with Income <200% FPL, 2008**

<b>Harris County</b>	<b>Total population</b>	<b>Visits per person<sup>‡</sup></b>	<b>Total visits<sup>‡</sup></b>
Income < 200% FPL	1,681,874	1.87	3,145,104
Incomed <200% FPL and Uninsured	731,395	0.91	665,569
Income <200% FPL and Insured	950,479	2.65	2,518,769

Note: <sup>‡</sup> Estimates based on applying data for Houston/Harris County from the CPS-ASEC Supplement 2008 and 2009 to the demand models

<sup>‡</sup>Total number of visits = Visits per person x Total population.

Source: US Census Bureau, CPS-ASEC Supplement 2008 and 2009

**TABLE 4. Demand for Primary Care Visits of the Low Income Population in Harris County that is Met by Safety Net Providers**

	<b>Uninsured (Population/ Visits Demanded)</b>	<b>Insured (Population/ Visits Demanded)</b>	<b>Total Visits Demanded</b>	<b>Total Visits Supplied by Safety Net Providers</b>	<b>Met Demand (%)</b>
Current coverage	731,395/ 665,569	950,479/ 2,518,769	3,184,338	943,078	29.6
Scenario 1 – 73.6% of the uninsured get coverage	193,088/ 175,710	1,488,786/ 3,945,282	4,120,992	943,078	22.9
Scenario 2 – 49.4% of the uninsured get coverage	370,086/ 336,778	1,311,788/ 3,476,239	3,813,017	943,078	24.7

Note: Scenario 1: Total demand under health reform = (0.736 x current low income uninsured population x 2.65 visits per year) + (0.264 x current low income uninsured population x 0.91 visits per year) + (Current low income insured population x 2.65 visits per year).

Scenario 2: Total demand under health reform = (0.494 x current low income uninsured population x 2.65 visits per year) + (0.506 x current low income uninsured population x 0.91 visits per year) + (Current low income insured population x 2.65 visits per year).

Source: CPS-ASEC Supplement 2009, Project Safety Net Clinic Survey 2009

## Appendix A. Definitions of Variables in the Demand Model

Variable	Definition
<i>Dependent variables</i>	
USE	The respondent visited doctor at least one time in the past 12 months: 1=Yes, 0 = No
VISIT	Number of primary care visits in past 12 months
<i>Independent variables</i>	
HEALTH = Self perception of health (reference = excellent):	
VGOOD	Self perception of health is very good: 1=Yes, 0 = Otherwise
GOOD	Self perception of health is good: 1=Yes, 0 = Otherwise
FAIR	Self perception of health is fair: 1=Yes, 0 = Otherwise
POOR	Self perception of health is poor: 1=Yes, 0 = Otherwise
DIFFWORK	There exists difficulty working at a job: 1=Yes, 0 = Otherwise
INCOME	Household's total annual income (\$)
INSU = Insurance status (reference = uninsured):	
MCAID	Medicaid coverage only or Medicare and Medicaid: 1=Yes, 0 = Otherwise
MCARE	Medicare only, Medicare and others: 1=Yes, 0 = Otherwise
PRI	Employment-based insurance or Privately purchased coverage: 1=Yes, 0 = Otherwise
PUB	Healthy Family/other public insurance: 1 = Yes, 0 = Otherwise
EMPLOY = Employment status (reference = unemployed):	
FULL	1 if full-time employed, 0 otherwise
PART	1 if part-time employed or employed, not at work; 0 otherwise
AGE	Age in years
AGE <sup>2</sup>	Age squared in years
MALE	1 for male, 0 for female
RACE = Race (reference = White):	
LATINO	1 if Latino, 0 otherwise
ASIAN	1 if Asian or Pacific islanders, 0 otherwise
BLACK	1 if African American, 0 otherwise

OTHER	1 if American Indian, Alaskan native or other single/multiple race; 0 otherwise
MSTATUS = Marital status (reference = married)	
SEP/DIV/WID/ PARTNER	1 if separated, divorced or widowed, 0 otherwise
SINGLE	1 if never married, 0 otherwise
EDU = Educational attainment (reference = less than high school):	
HISCH	1 if grade 12 or high school diploma; 0 otherwise
COLL	1 if some college, vocational school, AA or AS degree, BA or BS degree; 0 otherwise
GRAD	1 if some graduate school, MA or MS degree, Ph.D. or equivalent; 0 otherwise
FAMSIZE	Family size-number of family members