

Who goes to the emergency room versus urgent care centers, and why?
A public opinion analysis

by

Kirstin Woody Scott, MPhil, PhD

**Submitted in Partial Fulfillment of the Requirements for the M.D. Degree
with Honors in a Special Field at Harvard Medical School**

February 2020

ABSTRACT

Study Objective: There is increasing policy interest to redirect patients with low-acuity health needs away from the emergency department (ED) to potentially lower-cost alternatives such as urgent care (UC) centers. Few data exist regarding the patient's perspective when making these decisions. We use a national public opinion survey to examine who uses the ED versus UC, their experiences with care at each facility in terms of quality and cost, and self-reported choices for choosing the ED versus an alternative among individuals with low-acuity health needs.

Methods: This probability-based sample telephone survey was conducted in 2015 and includes a nationally-representative sample of 1,002 adults (age 18+) and a sample of 7,036 adults from seven states. We examined ED and UC utilization as well as experiences with care at these facilities in terms of quality and cost. We then focused on respondents who reported a low-acuity health need and tested associations of ED versus UC use across a variety of demographic and policy-relevant variables with a series of bivariate analyses and survey-weighted multivariable logistic regression modeling for both the national sample and combined 7-state sample. Given the larger sample size, we primarily report results from the combined 7-state sample and also summarize relevant differences when they occur with the national sample.

Results: Approximately one-third of respondents in the combined 7-state sample reported using either the ED (32%) or UC (26%) in the past two years. Over 7 in 10 of users at both facilities reported satisfaction with the quality of care they received at those sites, but nearly 40% of ED users reported the cost of their care as unreasonable (as compared to 23% of UC users). Of those that used the ED, over half (54%) stated it was for a low-acuity health need. A plurality of low-

acuity ED users (33%) report not having access to alternative sites of care as their main reason for using the ED. In the adjusted analysis, respondents who were unemployed, uninsured, and low-income were more likely to turn to the ED for a low-acuity visit compared to UCs.

Conclusion: Americans commonly access both the ED and UC for self-reported low-acuity health problems, but these choices differ by socioeconomic profile. Future work should evaluate the barriers and facilitators to accessing potentially lower cost alternatives to the ED, particularly among vulnerable populations.

TABLE OF CONTENTS

ABSTRACT.....	2
GLOSSARY.....	5
INTRODUCTION.....	6
METHODS.....	8
<i>DATA</i>	8
<i>OUTCOMES</i>	10
<i>DATA ANALYSIS</i>	14
RESULTS.....	16
DISCUSSION.....	23
CONCLUSION.....	32
SUMMARY.....	34
ACKNOWLEDGMENTS.....	36
REFERENCES.....	37
TABLES AND FIGURES.....	41

GLOSSARY

AAPOR	American Association for Public Opinion Research
ACA	Patient Protection and Affordable Care Act
ED	Emergency Department
EDPEC	Emergency Department Patient Experiences with Care
EMTALA	Emergency Medicine Treatment and Active Labor Act
NEDS	Nationwide Emergency Department Sample
UC	Urgent Care

INTRODUCTION

The emergency department (ED) is a commonly utilized healthcare setting for many Americans and a critical safety net for unexpected health challenges.(1) In 2006, there were approximately 120 million ED encounters, a number which has grown to over 144 million as of 2017.(2) This increasing reliance on the ED is a byproduct of a fragmented health care system, where access to timely care when unexpected health issues arise along with basic primary care is unevenly distributed in the United States (US).(3,4) Though the ED has played a vital role in helping to fill these gaps, this has not been without consequence; increased ED volumes have been associated with overcrowding, long wait times, and safety concerns, all of which serve as proxies of poor quality in the health care system.(5)

With this increasing demand for ED services, there have been efforts to identify what might be “avoidable” ED visits, including those that are deemed to be low-acuity.(6) Prior estimates have suggested that 13-27% of ED visits are for low-acuity complaints that could be treated in less costly alternatives to the ED, such as urgent care (UC) centers or retail clinics.(7,8) Over the past decade, these types of alternative sites of care to the ED for unexpected, low-acuity visits have rapidly emerged in the market.(9–11) For UCs in particular, since 2013, there has been an estimated 44% increase in the growth of UCs nationally, totaling to over 8700 facilities in 2018.(12)

Though various staffing models exist, UCs are presumed to be cost-efficient relative to EDs, with some estimates showing an average reimbursement per patient to be comparable to that of a primary care visit.(10) The reasons for the ED being the “most expensive site of care” out of these various settings are multifaceted.(3) The overhead required to maintain a functional ED is comparatively higher than its potential alternatives. Unlike other settings, the ED has a statutory

obligation to be appropriately staffed and resourced - 24 hours a day, 7 days a week, 365 days a year - to provide a health screening and stabilizing care to each patient who arrives in accordance with the 1986 Emergency Medicine Treatment and Active Labor Act (EMTALA).(3,13) It is in this context – with the proposed dual benefits of reducing crowded EDs and reducing health care costs – that interest among policymakers and payers has grown over time to redirect ED patients with unexpected, low-acuity health problems towards less expensive and emerging alternatives.(7,14)

Though enthusiasm exists for crafting policies to realize these proposed benefits, some efforts have been controversial, especially those that penalize patients retrospectively after seeking ED care for conditions later deemed to not be actual emergencies.(15) Further, evidence to date has been mixed as to whether or not the introduction of UCs in proximity to EDs is associated with decreasing rates of low-acuity ED visits.(16,17) A recent analysis by Allen et al. 2019 suggest that the introduction of UCs has had this desired effect to reduce ED volumes within a particular catchment area, but only among the privately-insured patient population.(18) Additionally, multiple studies have suggested that the rise in UCs and other emerging alternatives have been primarily concentrated in high-income areas, thereby complicating the picture of whether or not these alternatives are equally available to everyone.(8,19) Missing from these prior analyses, however, are user-reported opinions as to as to why they might opt for one site of care versus another.

To address this gap, we leverage a unique 2015 public opinion survey of over 8,000 adults that captured perspectives of care-seeking at EDs versus UCs and reasons for doing so. The primary aims of this study are to: 1) characterize respondents who used the ED as compared to UCs and their satisfaction with cost and quality at each site; 2) characterize respondents who use each site

of care for a self-reported low-acuity health need; 3) identify factors associated with the use of EDs versus UCs for low-acuity health needs; and 4) summarize low-acuity ED users' reasons for choosing the ED versus an alternative such as a UC.

METHODS

Data

Data for this study come from the “Patients’ Perspectives on Health Care in the United States” Survey, a randomized, probability-based telephone survey conducted by the Harvard T.H. Chan School of Public Health, the Robert Wood Johnson Foundation, and National Public Radio, to broadly examine patient experiences in health care.(20) The survey research firm SSRS fielded this telephone survey for the Harvard Opinion Research Program from September 8—November 9, 2015, using a random-digit dialing method for cell phones and landlines. Interviews were conducted among U.S. adults 18 years of age and older in both English and Spanish, where one eligible respondent per household was randomly selected to participate in the survey. Non-white minorities were oversampled along with those who came from households of with annual incomes <\$25,000. The survey methodology and summary findings has been published by the Robert Wood Johnson Foundation, and the survey has served as the primary data source for prior published work focusing on low-income users experiences with health care in the two years following implementation of key provisions of the Affordable Care Act (ACA). (20,21)

This study contains eight subsamples, each with approximately 1,000 respondents: a national sample (n=1,002), Florida (n=1,003), Kansas (n=1,005), New Jersey (n=1,003), Ohio (n=1,000), Oregon (n=1,009), Texas (n=1,005), and Wisconsin (n=1,011), totaling to 8,038 respondents (**Figure 1**). The margin of error is plus or minus (\pm) 3.8 percentage points for the national,

Kansas, and Ohio samples, ± 3.9 for the Florida, Texas, and Wisconsin samples, and ± 4.0 for both the Oregon and New Jersey samples at the 95% confidence level (**Table 1**).

The seven states were selected for their geographic and demographic diversity, as well as the range of each state's health care policies in relation to implementing the ACA, notably the provision related to Medicaid expansion.⁽²²⁾ The states that opted to expand Medicaid and had this benefit in place at the time of this 2015 survey were New Jersey, Ohio, and Oregon, whereas the remaining four did not (**Table 1**).

Data were weighted in two stages by the survey firm. First, data were weighted by the inverse of their probability of selection using population weights, based on factors such as the number of adults in the household and the number of cell phone and landline telephone numbers, using National Health Interview Survey data. Second, data were weighted to known demographic characteristics (sex, age, race or ethnicity, education, and household income) to reflect the general population, using U.S. Census Bureau data. As data from this study were drawn from a probability sample and employ best practices in polling methods for sampling and weighting practices, each weighted subsample is expected to yield accurate results that reflect the demographic composition of the non-institutionalized, adult population of that subsample.

We employed a separate process to collate the seven individual state subsamples, and re-weighted the combined 7-state sample to reflect their proportion of the national population based on the 2014 U.S. Census American Community Survey as was done in prior work.⁽²¹⁾ We primarily describe results from this combined 7-state sample ($n=7036$) given both the larger sample size as well as the lack of substantive differences in the characteristics of interest between it and the

smaller national sample. Findings from the smaller national sample, though less robust, are also provided and contextualized throughout the results.

The response rate for the survey was 15% using the American Association for Public Opinion Research (AAPOR) response rate definition #3.(23) Although this is lower than many longer-term demographic surveys, it is comparable to response rates for telephone polling.(24) While response rates to telephone surveys have declined in recent years, data from this study was drawn from a probability sample and employed the best available sampling and weighting practices in polling methods in order to optimize its ability to provide accurate results consistent with surveys with higher response rates.(25–29)

Outcomes

The key outcomes of interest in this study were self-reported 1) utilization of EDs and/or UCs in the past two years, 2) rating of cost and quality of care at each facility type, 3) health acuity when going to an ED or UC, and 4) reason for choosing the ED over other alternatives for a low-acuity complaint.

For self-reported utilization, respondents were asked: “In the past two years, have you received health care [at an urgent care facility?] OR [in the emergency room of a hospital, or has this not happened to you?]” Responses were coded as yes or no. Only these respondents were asked the remaining questions relevant to their utilization of and experiences with either the ED or UC facility.

For quality ratings, respondents were asked: “Thinking about your most recent visit to an urgent care facility” OR “Thinking about the most recent time you were a patient in the emergency room, how would you rate the quality of health care you received?” on a 4-point scale (excellent, good, fair, poor), which we dichotomized to excellent/good or fair/poor. Respondents that refused to respond or reported “Don’t Know” were excluded from the analysis.

For cost ratings, respondents were asked, “What about the cost of the health care you received... (during your most recent visit to an urgent care facility OR the most recent time you were a patient in the emergency room)?” on a four-point scale (very reasonable, somewhat reasonable, somewhat unreasonable, very unreasonable), when we dichotomized to reasonable (very/somewhat) or unreasonable (very/somewhat). Of note, there was no specific prompt within the ED or UC cost rating questions that clarified with respondents to focus their cost ratings on out-of-pocket costs versus charges incurred or something else. However, all respondents had been exposed to questions earlier in the survey asking them about overall health system cost evaluations, which included a prompt that asked respondents to rate their feelings on what they “personally pay for health care, including premiums, deductibles, copayments and prescription drugs.” Respondents that refused to respond or reported “Don’t Know” were excluded from the analysis.

For self-rated health acuity when seeking care at EDs or UCs, respondents were asked: “What was the main purpose of your most recent visit to an [emergency room] OR [urgent care center]?” Response options included: “to get treatment for a major health problem (like a broken bone, cut or high fever)”, “to get treatment for a minor health problem (like a sprain or toothache)”, or “some other reason.” For UC users, they were also provided these additional options: “to get a routine screening, test, exam or vaccination”, or “to get a prescription or treatment for a long-term

health condition.” Respondents who selected anything other than “major” health problem were coded as having a low-acuity visit at each facility.

For self-reported reason for choosing the ED versus other alternatives, all ED users were asked: “What was the main reason you chose to receive health care in the emergency room instead of an urgent care facility, doctor’s office, or community health center. Was it mainly because…” and options included: “you were brought to the emergency room by an ambulance”, “other facilities were not open or you could not get an appointment”, “you felt other facilities did not have the staff or equipment necessary to treat your health problem”, “you thought you might need to be admitted to the hospital overnight”, “you felt the emergency room was the only place that would treat you”, “other facilities were too far away”, or “some other reason.”

Independent Variables

The main independent variables of interest to this study included self-reported household income, measures of health care access, health insurance, self-reported health, having a chronic illness, and whether or not respondents lived in a Medicaid expansion state.

For self-reported household income, each respondent was categorized into one of the following levels based on their response to income questions: <\$30,000, \$30,000-\$49,999, \$50,000-\$99,999, >\$100,000.

This study’s measure of health care access, which is denoted in all tables as “has regular provider”, was captured by asking all respondents: “Do you have a regular doctor or health care professional

that provides most of your health care when you are sick or have a health concern, or do you not?” Respondents were coded as having a regular doctor if they responded “yes” to this question.

For insurance, respondents were asked if they were currently covered by any form of health insurance or health plan, and if yes, they were asked about their main source of health insurance. Responses were coded as employer- or spouse’s-employer sponsored health insurance (ESHI), Medicare, Medicaid, some other insurance (the combination of respondents who selected: a plan purchased yourself, some other government program (VA/Tricare), some other insurance), or uninsured.

For self-reported health, patients were asked to rate their health between excellent to poor, and respondents were divided into two groups based on their responses to the question: “excellent to very good to good” or “fair to poor”. For chronic illness, patients were asked “Has a doctor or other health care professional ever told you that you have a chronic illness, such as heart disease, lung disease, cancer, diabetes, high blood pressure, asthma, or a mental health conditions, or haven’t they?” Respondents were coded as having a chronic illness if they responded “yes” to this question.

For living in a Medicaid expansion state, this was considered only for the combined 7-state survey responses (see Data Analysis). We used Kaiser Family Foundation data to assign Medicaid expansion status as of 2015, the year that the survey was fielded; respondents living in Oregon, Ohio, or New Jersey were coded as living in an expansion state whereas the remaining (Florida, Kansas, Texas, and Wisconsin) were coded as non-expansion states.(30)

We also included a range of covariates in our modeling that have been shown to be associated with health care access and use, including respondents' reported age (coded into these 4 groups: 18-29, 30-49, 50-64, 65+), gender (male/female), race/ethnicity (non-Hispanic white, black, Hispanic, or none of the above), geographical area (urban, suburban, rural) employment status (full-time, part-time, unemployed), and education (high school or less, college or more).(21,31) Reference categories for dichotomous variables were set at zero, and set as the first group for categorical variables with three or more levels (e.g., when including geographical area for modeling, urban was set as 1 and served as the reference group, while suburban was coded as 2 and rural was coded as 3).

Data Analysis

For all analyses, we first analyzed the national sample of 1,002 respondents. We then collated the state-level responses into a combined 7-state sample, which was analyzed separately. Given the larger sample size, we primarily report results from the combined 7-state sample throughout the manuscript, while also contextualizing how this compares to the smaller national sample (n=1002 respondents).

We used chi-squared tests to examine associations between using different sites of care (UC or ED) and the following outcome variables of interest: 1) self-reported utilization of care facility, 2) rating of cost and quality of care at each facility type, 3) health acuity when going to an ED or UC, and 4) reason for choosing the ED over other alternatives for a low-acuity complaint. Any respondent who answered Don't Know or Refused regarding their utilization of both ED and UC, their cost or quality ratings at the site, or reason for choosing a site, were excluded from the analysis. We then performed multivariable logistic regression modeling to assess whether or not

any characteristics were associated with utilization of either facility type, reporting low ratings related to cost and quality at each site, and using the ED versus UC for low-acuity health complaints. Those respondents who volunteered responses of “Don’t Know” or refused to answer any of the covariates (e.g., race, income) were included in bivariate analyses but coded as missing data for all modeling. Statistical significance was established if two-sided p-values fell below the 0.05 threshold. All analyses were conducted using Stata 14.0, StataCorp LP, College Station, Texas.(32)

Sensitivity Analyses

Though respondents are described as being ED users versus UC users, a subset of respondents (11% of the entire survey sample) reported using both sites of care within the two-year period. As a sensitivity analysis, we restricted the sample to exclude users who reported using both sites of care and found no substantive differences in outcomes. As such, respondents who reported using the ED for a low-acuity health reason were included in the final analytic sample regardless of UC use (data not shown).

Regarding self-reported health acuity, the survey structure differed in that UC users were provided with more options that could qualify as “low-acuity” reasons, thereby providing more granularity of responses relative to ED users. To ensure our classification of this variable did not affect our findings, we restricted the UC sample to be an exact comparison to ED users (thereby including only those who answered “minor reason” or “some other reason” among UC users and excluding the remaining respondents). We found no substantive differences between our initial definition and the restricted classification, and thus preserved the larger sample (i.e., anyone who reported

using the ED or UC for anything other than a self-reported “major health problem” was coded as a low-acuity user) to optimize the power to detect statistical differences between the groups.

Ethics

Investigators had access only to de-identified data for this secondary analysis. The study protocol was exempted from review by the Harvard Office of Human Research Administration (IRB # IRB19-0716).

RESULTS

Sample Characteristics

Table 2 summarizes the characteristics of all respondents included in the smaller national sample (n=1,002) and those within the combined 7-state sample (n=7,036). Though there were slight statistical differences between the two samples in terms of race, education, household income, and household location (urban versus rural), the samples did not differ substantively as the general composition and distribution across these variables were relatively similar. For instance, the national sample contained 19% of respondents from a rural location versus 14% in the combined 7-state sample (p<0.001); though this was statistically significant, it was not considered to reflect a substantive difference between the composition of these samples (**Table 2**).

Self-reported utilization and characteristics of users by facility type

Nearly half of survey respondents (48%) in both the combined 7-state and national sample reported accessing care at the ED and/or UC within the two years of being surveyed (p-val=0.80). Table 3 summarizes the key demographic characteristics of U.S. adults who reported using

either UCs or EDs across both samples (**Table 3**). Approximately one-third of adults reported using EDs (32% (combined 7-state sample); 33% (national)), while 26% (combined 7-state sample) and 27% (national) reported using UCs within that time period. Focusing on the distribution of user characteristics within the combined 7-state sample, among both types of facility users, the majority were female (55% UC, 56% ED), had health insurance (91% UC, 87% ED), had a regular doctor (78% UC, 80% ED), and lived in urban areas (57% UC, 55% ED). Relative to UCs, a greater proportion of ED users report having Medicaid, were lower-income, self-reported being non-white, have lower ratings of self-reported health, and having a chronic illness (**Table 3**). For instance, while the majority of facility users reported being in excellent to good health, 35% of ED users reported fair to poor health status as compared to only 23% of the UC users. User profile distributions were generally similar in the national sample (**Table 3**).

Within the combined 7-state sample, 31% of respondents lived in a state that had expanded Medicaid as of 2015. Relative to those not living in a Medicaid expansion state, those respondents residing in expansion states were slightly more likely to report accessing both sites of care within the past two years (34% reported using both UCs and EDs).

Table 4 summarizes the results of our multivariable logistic regression analysis to examine patient characteristics that are associated with utilization at each facility type. In adjusted models, health status, income, and gender were associated with utilization at both types of facilities (**Table 4**). In our combined 7-state adjusted analysis, we found that living in a Medicaid expansion state was associated with higher odds of reporting seeking care in the ED (OR 1.25 [95% CI: 1.04-1.49], p -val < 0.05) but not for UCs. Fair-to-poor health status (OR 1.63 [95% CI: 1.03, 2.57] (p -val < 0.001)) and having a chronic illness (OR 2.46 [95% CI: 1.62, 3.76] (p -val < 0.001)) were both

associated with higher odds of care-seeking at the EDs relative to those reporting good-to-excellent health and not having a chronic illness, respectively. Higher-income adults had lower odds of reporting seeking care at the ED relative to those with very low incomes; those reporting incomes >\$100,000 had 0.28 the odds (OR 0.28 [95% CI: 0.14-0.58], p-val <0.001) of using the ED relative to those reporting incomes of less than \$30,000 (**Table 4**). Though not true for the combined 7-state sample, women had higher odds of using each type of facility relative to men in the national sample (odds of utilization among female patients for UCs was 1.60 [95% CI: 1.08, 2.37] (p-val <0.05) and for EDs was 2.16 [95% CI: 1.46, 3.18] (p-val <0.001). Of note, there was a higher proportion of women users for both facility types noted within the national sample as compared to the combined 7-state sample.

Experiences with Care at EDs and UCs: Quality Ratings

The majority of patients rated the quality of care as either excellent or good in both settings. Among the combined 7-state sample, 72% of ED users reported high quality ratings and 79% of UC users did the same. The national sample was comparable (73% ED users and 75% of UC users provided high quality ratings, p-values of 0.62 and 0.77, respectively) (**Table 5**).

Although only a minority of ED or UC users gave fair-to-poor quality ratings at either facility types, we summarize the characteristics of those 20-30% of users who did so in Table 6. For ED users in particular, the subgroups that were more likely to report low quality ratings were younger (18-29 years), lower income (<\$30k), uninsured, did not have a regular doctor, and had fair-to-poor health. Though the distributions were similar, there were no statistically significant differences detected in the smaller national sample with the exception of the fair-to-poor self-reported health ratings (40% versus 21% of those who had good-to-excellent self-reported health

(p-val <0.01) (**Table 6**). Among UC users, older adults (ages 65+) were less likely to give a low quality rating with their UC use compared to younger respondents (12% versus 23% of 18-29 year olds (p-val <0.01)) as well as full-time employed respondents compared to those who were unemployed (18% versus unemployed 24%, p-val=0.03). Also, the uninsured were more likely to give low quality ratings with their UC care relative to the insured (35% versus 20%, p-val=0.01) in the combined 7-state sample bivariate analysis. No consistent, statistically significant differences were detected in the very small national sample of UC users who reported poor quality experiences (n=55).

Focusing on the larger combined 7-state sample, when controlling for other factors in our multivariable regression modeling, we found self-reported health, chronic illness, and age persisted as independent predictors for assigning a low ED quality rating (**Table 7**). For example, those who reported having a chronic illness were 1.53 times the odds of reporting a poor quality rating in the ED relative to their healthy counterparts (OR 1.53 [95% CI: 1.05, 2.23], p-val 0.03), as well as those who had fair-to-poor self-reported health (OR 1.55 [95% CI: 1.04, 2.31], p-val 0.03) compared to those who had higher self-reported health. Relative to young adults (ages 18-29), those above the age of 65 had much lower odds (OR 0.23 [95% CI: 0.12, 0.43], p-val<0.001) of assigning the ED a low-quality rating, even after controlling for other factors (**Table 7**). In terms of predictors for low UC quality ratings, unemployment was the only factor that remained significant after controlling for other factors, with those who are unemployed having 2.07 times the odds of reporting a poor UC quality experience than their employed counterparts (OR 2.07 [95% CI: 1.16, 3.69], p-val=0.01). The models relying on the national sample are shown in Table 7 though not described due to poor model performance.

Experiences with Care at EDs and UCs: Cost Ratings

Respondents were asked about how reasonable to unreasonable they felt the cost of the health care they received at either an ED or UC. Nearly 40% of ED users reported the cost of ED care as unreasonable as opposed to 24% of UC users did so in the combined 7-state sample, which was comparable to the national sample (**Table 5**).

In Table 8, we summarize the results of our bivariate analysis that examined user characteristics who rated the cost of care as somewhat to very unreasonable in either UCs or EDs (**Table 8**). For ED users in the combined 7-state sample, the subgroups that were more likely to report unreasonable costs were in the middle categories for both age ranges and income. For instance, 49% of those reporting household income levels of \$30k-<\$50k reported unreasonable ED costs (versus 37% within the lowest-income range of <\$30k, p-val<0.001). In addition, the following subgroups appeared to assign the ED with an unreasonable cost rating: those who were full-time employees (50% versus 32% of unemployed, p-val<0.001), uninsured (58% versus 38% of insured respondents, p-val<0.001), and reported not having a regular doctor (49% versus 39% of those who reported having a doctor, p-val=0.02) (**Table 8**). Though the differences were generally similar, only employment and insurance type were statistically significant in the smaller national sample of ED users who reported poor quality ratings (n=89).

Among the UC user group, relatively fewer rated the cost of UC care as unreasonable (24%) in the combined 7-state sample. The subgroups that were more likely to rate UC care cost as unreasonable in the combined 7-state sample were full- (27%) or part-time (29%) employees (versus 17% of unemployed, p-val=0.01), those who reported having a chronic illness (26% versus 19% of their healthy counterparts, p-val<0.01), having spouse- or employer-sponsored health

insurance (28%) or uninsured (27%) (versus public insurance options: Medicare 18%; Medicaid 16%, $p\text{-val}<0.001$). Lastly, among those living in a non-Medicaid expansion state, 26% reported that the cost of UCs were unreasonable relative to only 19% of those who lived in an expansion state ($p\text{-val}=0.02$). None of these factors were statistically significant within the smaller, national sample of UC users who rated the cost of UC care as unreasonable ($n=48$) (**Table 8**).

In Table 9, we summarize results from our multivariable analysis of the combined 7-state sample to assess characteristics that remained associated with an increased likelihood of assigning an unreasonable cost rating to the ED after controlling for other factors. We found that those ED users who were uninsured (OR 1.98 [95% CI: 1.11, 3.51], $p\text{-val}=0.02$) and those with higher education levels (OR 1.53 [95% CI: 1.09, 2.14], $p\text{-val}=0.01$) were more likely to rate ED costs as unreasonable, whereas those who were unemployed (OR 0.58 [95% CI: 0.38, 0.89], $p\text{-val}=0.01$) or identified as black (OR 0.48 [95% CI: 0.30, 0.78], $p\text{-val}=<0.01$) were less likely to do so. These associations were not detected in the modeling of the smaller national sample (**Table 9**).

With regards to UC users in the combined 7-state sample who rated the cost of UC care as unreasonable, the adjusted analysis suggests that those living in an expansion state (OR 0.65 [95% CI: 0.45, 0.95], $p\text{-val}=0.03$) and who self-identified as black (OR 0.38 [95% CI: 0.20, 0.73], $p\text{-val}<0.01$) were less likely to report that UC costs were unreasonable as compared to their reference groups, even after controlling for other factors. These associations were not detected in the modeling of the smaller national sample (**Table 9**).

Self-reported health acuity by facility type

More than half of ED users (54% in combined 7-state sample and 59% in national sample, $p=0.48$) reported seeking ED care for a low-acuity health need over the past two years. The majority of UC users (84% in both samples, $p=0.09$) were low-acuity health users (**Table 5**).

Characteristics of low-acuity users by facility type

Given policy interest around reducing low-acuity ED use(14), we conducted a subgroup analysis on the population of respondents who reported seeking care in the ED for a low-acuity health reason (i.e., those respondents that reported anything but having a “major” health problem when seeking care). Among the combined 7-state sample, those who reported using the ED for a low-acuity health need were more likely than low-acuity UC users to identify as non-white (44% ED vs 30% UC users, $p<0.001$), less likely to have a college degree (49% ED vs 65% UC users, $p<0.001$), more likely to be very low-income ($< \$30k$ annual income) (46% ED vs 29% , $p<0.001$), less likely to be privately insured (33% ED vs 51% UC users, $p<0.001$), and more likely to be chronically ill (48% vs. 36%, $p<0.001$) and have lower self-rated health (33% ED vs 20% UC users, $p<0.001$). Utilization of EDs and UCs for low-acuity health needs was similar between states that expanded Medicaid versus those that did not (34% for both, $p=0.96$) (**Table 10**). The national sample distributions were generally similar, though differences were less often statistically significant (**Table 10**).

The multivariable logistic regression analysis focused on low-acuity users suggested that a number of characteristics independently predicted ED use versus UC use for low-acuity health reasons, even when accounting for other factors. Specifically, ED use for low-acuity visits was associated with being uninsured (OR 1.85 [95% CI: 1.04, 3.27], $p\text{-val}=0.04$), identifying as black (OR 1.78

[95% CI: 1.11, 2.87], p-val=0.02), and being unemployed (OR 1.66 [95% CI: 1.12, 2.45], p-val=0.01). There was also a notable income difference, with those within the highest income bracket (>\$100k) being far less likely to seek care in the ED versus the UC than lower income respondents (<\$30k) (OR 0.37 [95% CI: 0.23, 0.61], p-val<0.001) (**Table 11**). The adjusted analysis of the smaller national sample had similar trends, though they did not reach statistical significance. The exceptions were unemployment, with the national sample showing an opposite finding that unemployed users with low-acuity complaints were less likely to seek care in the ED versus UC, and that those with fair-to-poor health may be more likely to turn to the ED than UC for low-acuity reasons (**Table 11**).

Reasons for opting for ED versus an alternative site of care

When asked why they chose the ED versus other alternatives such as UCs, a plurality of all ED users (27%) reported access concerns (i.e., “other facilities were not open”, “too far away”, or they were “unable to secure another appointment”) (**Figure 2a**). Approximately, one-third of low-acuity ED users (33%) reported similar access concerns. In addition, approximately 14% of ED users, regardless of acuity, felt that the ED was the only place they could be treated. Among the low-acuity ED users, 11% were brought to the hospital by ambulance, 8% felt the ED had the equipment or staff they needed, and 8% felt they might need hospital admission. The remainder (27%) reported “some other reason” for why they opted for the ED versus an alternative for a low-acuity reason. Similar trends were noted in the smaller national sample (**Figure 2b**).

DISCUSSION

This study represents the first-known effort to leverage a public opinion study to assess self-reported low-acuity health usage of EDs versus alternatives and reasons for this care-seeking

behavior. It has four main findings. First, nearly half of the U.S. adult population reports recently using EDs and/or UCs and the populations who utilize these sites of care differ by a range of socioeconomic factors. Second, user experiences with the cost and quality at EDs or UCs differ in important ways, with the uninsured, chronically ill, or those with fair-to-poor self-reported health being more likely to report poor quality experiences with the ED relative to others. Further, nearly 40% of ED users report the cost of the care they receive as unreasonable as opposed to 24% of UC users, with the uninsured being disproportionately more likely to report concerns with the cost of care in EDs. Third, a large segment of the population is self-reporting turning to the ED for a low-acuity health complaint, despite increasing pressures from payers and policymakers to shunt patients away from the ED for low-acuity health needs. Fourth, important demographic differences exist between the populations relying on EDs and UCs for low-acuity health needs, suggesting that the most vulnerable in society and those with the least resources (e.g., low-income, unemployed, uninsured), are particularly reliant on the ED for all types of care – regardless of acuity.

The ED and UC are commonly used and experiences with cost and quality should continue to be measured

The findings from this study are consistent with others who have shown the increasing importance of EDs, UCs, and other alternatives in the healthcare system for meeting the needs of Americans' unexpected health concerns. As nearly half (48%) of Americans reported recent use with at least one of these facilities, and it is known that UCs are continuing to increase in number nationally(9), it is important for future work to systematically compare patient experiences across these care settings.

This study suggested that approximately 7 in 10 of ED and UC users reported good-to-excellent quality of care experiences at both sites, though the quality ratings were more favorable at UCs. This is consistent with a nuanced Yelp-based analysis by Agarwal and colleagues that ascertained differences in satisfaction between EDs and UCs, finding that individuals were more likely to provide top satisfaction ratings for UCs relative to EDs.(33) However, in the current analysis, though a minority of users reported poor quality ratings in both UCs and EDs, this sentiment was not equally distributed across users. Those who were more likely to report low quality ratings were those who may be particularly reliant on these types of facilities for access to care, including the uninsured, the sick, and those who report not having a regular doctor.

In terms of cost, nearly 40% of ED users rated costs as unreasonable as compared to about 23% of UC users. At least within the ED, those who were uninsured were nearly twice as likely to rate the cost of care as unreasonable than their insured counterparts. These overall differences in experiences with cost of care between UCs and EDs is most likely driven by the fact that more uninsured patients – who were unhappier with costs – comprise a greater proportion of ED users than UC users. This utilization discrepancy is consistent with other prior work demonstrating that the uninsured are uniquely reliant on the ED as a safety net for care as other sites may opt to not accept uninsured patients; however, this should not be confused with the commonly-held misperception that the uninsured are more likely to use the ED relative to others as evidence of ED utilization by insurance type suggests the contrary.(34–36)

Though this public opinion analysis did not permit for an in-depth analysis of the specific drivers for cost dissatisfaction, the fact that 40% of ED users expressed concerns about ED costs is important in light of recent media and policymaker attention to “surprise billing” in the ED

(among other settings).(37,38) One study suggested that between 14-20% of ED users are subject to receiving a “surprise bill”, an issue that has reached the public’s consciousness.(39) For instance, one Kaiser Family Foundation health tracking poll showed how over 70% of the public wishes to see Congress take action on surprise billing.(40) Given these concerns related to costs in general, this merits further efforts that systematically capture end-user experiences with the cost of care provided not only at EDs but also at UCs in the future. Overall, these differences in cost and quality ratings by facility type and by user characteristic underscores the need for further equity-focused analysis of UC and ED user experiences so that both cost and quality can be improved for all patients, regardless of which site they access in times of need.

Are UCs substitutes for EDs for low-acuity complaints?

This public opinion study found that over half of ED users self-reported turning to the ED for a low-acuity complaint. However, some studies have suggested that UCs have helped to reduce low-acuity visits to the ED over time. For instance, Poon et al. 2018 demonstrated growth in utilization rates of alternative sites of care, including UCs, retail clinics, and telemedicine, for a subset of low-acuity health conditions (bronchitis, urinary tract infection, rash, and muscle strains) from 2008-2015.(41) However, this study was focused only on a commercially-insured population, which are known to have important differences in terms of access and health care agency relative to the uninsured or non-elderly adults covered by Medicaid, which were included in our public opinion study.(42) Similar to our study’s findings, they also identified that the lowest-income quartile among that commercially-insured population were more likely to use the ED for low-acuity complaints (31%) relative to higher-income insured enrollees (21%).(41) In addition, a recent National Bureau of Economic Research working paper by Allen et al. showed that UCs have been a substitute for the ED for low-acuity users, but these gains have only been seen among

the privately-insured, which UCs are currently targeting.(18) Overall, these individual-level findings from our public opinion study complement a growing evidence base that the availability of alternatives to the ED for low-acuity visits are not evenly distributed in communities, with the poorest areas being least likely to benefit from this emerging “alternative” market.(8,19)

Reasons for turning to the ED versus an alternative

This study captured perspectives on both the ED and UC and reasons for opting for one site of care versus another, showing that approximately one-third of low-acuity users report access issues as their primary reason for choosing the ED versus a UC or another alternative. This finding from our cross-sectional analysis of 2015 user experiences and care-seeking behavior complements findings from the few existing national surveys that exist to evaluate reasons for ED utilization over time. Of note, no such publicly available survey exists for UCs at this time. In particular, the National Health Insurance Survey (NHIS) contains questions that specifically ask respondents why they choose the ED for their care. In our study, we showed that low-income individuals were far less likely to use UCs relative to EDs, a finding that complements a recent analysis that leveraged the NHIS to examine reasons for ED use among a low-income population in particular before and after Medicaid expansion. This comprehensive longitudinal analysis of the NHIS from 2006-2017 showed that approximately 31% of low-income adults (categorized as those with income levels below 138% of the federal poverty line) reported utilizing the ED in the past year.(43) The majority (74%) reported choosing the ED due to illness acuity, and the remaining options included access barriers, alternatives unavailable, or some other reason. Though they did not show an overall decrease in ED visits among low-income users following Medicaid expansion, the authors reported that the proportion of low-income adults who reported outpatient care barriers as a reason for seeking care in the ED declined following Medicaid expansion.(43) Neither this study

nor the NHIS provides granular enough information regarding reasons for choosing the ED versus another site of care, thereby adding to the reasons why the findings from our analysis is important and should be studied over time, especially among low-acuity users.

Future work on this topic should utilize the categories as provided through a systematic review that aimed to delineate why people may be choosing the ED and UC – regardless of health acuity level – in both the United Kingdom and U.S., finding six key reasons for doing so(44): limited access to or confidence in primary care; patient perceived urgency; convenience; views of family, friends, or other health professionals; and a belief that their condition required the resources and facilities offered by a particular healthcare provider. This systematic review as well as studies recently done in Turkey, highlights an important truth – the U.S. is not unique in its desire to investigate why individuals are opting for the ED for low-acuity reasons, even when alternatives exist.(45)

Related to the aforementioned reason of believing that a particular facility type was needed for their care complaint, some reports suggest that individuals are not opting for the UC versus ED for low-acuity conditions due to knowledge gaps.(46) In other words, if patients only knew what UCs could do, then they would not turn to EDs for their low-acuity health concern. Supporting this notion that users may not be savvy about what conditions could be treated in UCs versus the ED is the fact that insurance companies have implemented hotlines to provide guidance to patients on where to seek care, aiming to redirect them away from EDs and towards UCs or telemedicine for low-acuity complaints.(47) While this belief may be warranted in certain cases, our study suggests that even if user savvy of knowing when to access a UC versus ED was perfect, it is also important to consider whether or not each user has equal access to the options.

Limitations

Our findings should be interpreted considering several limitations. Possible sources of error in public opinion surveys include non-response bias, ordering effects, and recall bias (such as for health acuity, which may be influenced by the patient's ultimate diagnosis as opposed to initial reason for selecting one care facility versus another). Though imperfect, efforts were made to compensate for known biases and variations in the probability of selection both within and across households, including weighting the sample data by cell phone/landline use and demographics in order to estimate the true 7-state aggregate population or national population. Other techniques, including random-digit dialing and systematic respondent selection within households, were used to capture a representative sample, though some bias may remain related to the experiences measured.

Though these efforts to link to federal population benchmarks aim to decrease the impact of non-response bias for national public opinion surveys, which are prone to low response rates as was true for this study, these corrections are imperfect. For instance, the proportion of Medicaid users captured in the entire survey sample (9%) was lower than those reported nationally in 2015 (~20%).⁽⁴⁸⁾ Further, encounter-based analysis (which differs from individual-level analysis) suggests that the majority of ED encounters are paid by Medicaid (NEDS reported 62% of encounters with the primary payer as Medicaid in 2015)⁽⁴⁹⁾, and other state-level and national studies have shown that Medicaid users are more likely to use the ED multiple times per year relative to other patients, including more often during business hours.^(49–51) Having fewer Medicaid patients represented in this study's sample therefore decreases our ability to detect effects for this particularly relevant patient population, especially given the importance of Medicaid expansion in the time period that this survey was conducted.

Further, though the survey was conducted in both English and Spanish to broaden its scope in capturing patient perspectives, not all languages were captured thereby excluding other needed perspectives from those who simply could not participate due to language barriers. Further, no specific adjustments were made to account for potential language translation bias among those respondents opting to take the survey in Spanish, which prior work has suggested may be important for certain variables, such as self-reported health, that were used in this study.(52) However, since self-reported health was reconstructed into a binary variable for our analysis, this may have helped to mitigate this potential bias.

Though the structure of this study makes it subject to recall bias, it was interesting to see that such a large proportion of individuals were willing to self-report that they had a low-acuity health complaint and still opted to seek care in the ED. The proportion of ED users reporting low-acuity health complaints found in this study was higher than some estimates provided elsewhere. However, these other studies are also imperfect as they rely on only a subset of conditions and algorithms based on presenting complaint or discharge reasons.(53) This public opinion study is unique in that it has users self-specify what they believe was the acuity of their health reason after seeking care and using these self-reported reasons to inform the policy objectives to try to improve quality by promoting the principle of “right care, right place, right time”.(54)

Another important limitation of this study relates to question wording; this survey did not permit respondents to expand upon the “some other reason” category when asked for their reason to opt for an ED versus an alternative site. As shown in Figures 2a-2b, a sizable proportion of respondents selected the response of “some other reason”, even after being provided a set of

options that are often-stated reasons for why policymakers believe patients turn to the ED for a low-acuity visit (e.g., unable to secure an appointment elsewhere).(44) This particular survey did not capture qualitative comments that allowed users to expand upon their reasons for selecting this choice, thereby limiting this study's ability to provide more information regarding these reasons. This gap underscores the need for further investigations as to why patients are opting for a particular site of care versus another, especially for low-acuity visits, as policymakers continue to look towards initiatives that will be more effective in redirecting low-acuity ED users to alternative sites. Lastly, though this survey provides a unique opportunity to capture these perspectives, it was completed in 2015, thereby making it important for future studies to further document the prevalence of low-acuity visits across these care settings, and to track such measures over time.

Future Directions

The ED provides care for over 144 million encounters a year, yet there are relatively few systematic efforts in place to capture reasons for seeking care at this site, availability of alternatives for low-acuity complaints, and patient experiences at both EDs and the emerging alternatives that were of interest in this study. In light of the quality of care ratings noted in this analysis, there are promising developments underway to more systematically capture ED quality experiences by way of the Emergency Department Patient Experience of Care (EDPEC) survey.(55) The EDPEC survey leverages the commonly used patient-satisfaction framework as provided by the Consumer Assessment of Healthcare Providers and Systems (CAHPS) system. Though this holds promise for filling the aforementioned gap, EDPEC has been in development with the Centers for Medicare & Medicaid Services since 2012 and is still considered to be a pilot initiative with no clear plans in place for it to be launched nationally. An even more prominent gap, however, is any systematic survey that captures experiences with alternative sites, including UCs as well as retail clinics. There

has been growing interest among corporations in the supermarket and retail pharmacy industries – ranging from Walgreens to Walmart – to develop “retail clinics”, which further help address gaps in primary care by providing convenient, walk-in options for uncomplicated minor illnesses or preventive care.(7,17,56) The survey used for this study technically included data on retail clinic utilization, showing that 14% of respondents had used this site of care within the two years of the survey being fielded in 2015.(20) Though beyond the scope of this particular analysis, which focused on UCs – the most likely substitute for EDs for low-acuity visits – future research should aim to capture patient perspectives on why they opt for care at any of these sites, including retail clinics, and also assess the tradeoffs with introducing more complexity to the healthcare system in terms of where patients “should” go when they have a health concern.

CONCLUSION

Nearly half of Americans have recently turned to the ED or UC for a health need, underscoring their growing importance in the broader healthcare system. However, who is accessing each type of facility varies by important socioeconomic profiles as do their experiences with cost and quality. Lessons from this national survey of over 8000 U.S. adults should challenge policymakers to further scrutinize the growth of these facilities in the healthcare system, which adds choice complexity to users who are facing unexpected health concerns, and examine if their benefits are being felt equitably.

Looking ahead, it appears there will be sustained interest among policymakers and payers to redirect patients with low-acuity needs away from the ED and to these lower-cost alternatives in an effort to better optimize the perceived value of these healthcare settings. Findings from this

study may motivate such efforts, as the majority of ED users reported having a low-acuity health complaint when seeking this site of care. Further, it must be acknowledged that it is difficult to identify what a low-acuity health complaint is as efforts to do it retrospectively based on discharge diagnosis, prospectively based on triage level, or even self-reported acuity level (as was done here) all have their challenges.⁽¹⁵⁾ Caution should thus be exercised with any policy effort that equates the terms nonurgent or low-acuity with “inappropriate” use of the ED, as this has the potential to lead to controversial policies that put patients at financial risk for seeking care, even if they feel they have no options.⁽⁵⁷⁾

In this policy context, it is important to ensure that before patients are penalized for the decisions they make when choosing between an ED and an alternative site of care for a low-acuity health concern, that they functionally have access to such alternatives. Nonetheless, the solutions must extend beyond only resolving access barriers, as only one-third of low-acuity ED reasons considered this the primary reason for their choice. Future work is needed to evaluate the barriers and facilitators to accessing these potentially lower cost alternatives to the ED, particularly among vulnerable populations.

SUMMARY

- The emergency department (ED) serves as a common touchpoint of the American healthcare system, with over 144 million encounters in 2017, serving as a vital safety net for individuals who have no other access to care. With this increasing volume of encounters and concerns of ED crowding, there has been interest among policymakers and payers to redirect patients away from EDs with conditions that could be treated in less resource-intensive settings, including UCs.
- Over the past decade, the healthcare system has witnessed sizable growth in potential alternatives to the ED for low-acuity visits, including UCs, retail clinics, and telemedicine. Evidence, however, has been mixed to date on whether or not the introduction of these alternatives is helping to reduce low-acuity ED visits for all patients.
- Though existing national surveys exist to capture patient perspectives as to why they use the ED, this unique national public opinion survey of over 8,000 respondents permitted us to: 1) explore the characteristics of all ED and UC users, 2) assess their experiences at these sites in terms of both quality and cost of care, 3) examine which respondents self-report opting for the ED versus other alternatives, including UCs, when having a low-acuity health complaint, and 4) summarize their reasons for doing so.
- Approximately one-third of respondents have used either the ED (32%) or UC (26%) in the past two years.
- Over 7 in 10 of users at both facilities reported satisfaction with the quality of care they received at those sites. However, there were important differences among the minority who reported low quality of care experiences. For ED users in particular, those who were

uninsured, had fair-to-poor self-reported health, and those without access to a regular doctor were more likely to report low quality experiences in the ED.

- Nearly 40% of ED users reported the cost of their care as unreasonable (as compared to 23% of UC users), a finding likely driven by the differing distribution of users at each site with the uninsured comprising a great proportion of ED users relative to UCs. Though only a minority of ED users are uninsured, nearly 6 in 10 uninsured patients reported their experiences with ED costs as somewhat to very unreasonable.
- In terms of health acuity, over half (54%) of ED users stated they sought out care at the ED for a low-acuity health need.
- A plurality of low-acuity ED users (33%) report not having access to alternative sites of care as their primary reason for turning to the ED versus an alternative, including UCs.
- Low-acuity ED users were more likely to be unemployed, uninsured, and low-income relative to low-acuity UC users.
- Future research should aim to explore the implications of the growth of alternatives to the ED for low-acuity complaints and whether or not the proposed benefits are being equitably distributed among users. Further, a more systematic effort is needed to compare and contrast patient experiences with these sites of care in relation to both quality and cost. In this future work, it will be particularly important to capture vulnerable patient perspectives, including those who are low-income, as to whether or not they are realistically able to access UCs and, if so, why they may be opting for the ED for their low-acuity health complaints.

ACKNOWLEDGMENTS

Though data for this study came from a survey sponsored by the Robert Wood Johnson Foundation and National Public Radio, no funding was provided directly to the author for this work and that the interpretation of the data and views sharing in this report are in no way representative of the positions of these organizations.

This project would not have been possible without the support from incredible mentors and colleagues. I am deeply grateful to my primary mentor, Professor Haiden Huskamp, for her guidance on not only the development of this project but also my broader Scholars in Medicine experience that has been filled with numerous growth opportunities. Thank you for being a constant source of support and encouragement. Further, I wish to thank my co-authors and faculty mentors on this project who have enthusiastically provided input and reflections on the most important elements from this vast survey that could be most relevant to both emergency medicine physicians as well as policymakers: Professor Bob Blendon, Dr. Mary Gorski-Findling, John Benson, Professor Haiden Huskamp, Dr. John Scott, and Dr. Keith Kocher. Lastly, I wish to thank the Scholars in Medicine and Honors Thesis office – including Kari Hannibal, Marcie Naumowicz, and Jasmine Stecker – for their continued support and assistance with making this experience possible. Lastly, I wish to thank the patients I have had the privilege of encountering in emergency departments as a learner from Boston to Seattle to Bakersfield to Ann Arbor who have taught me so much, including the importance of studying policies relevant to their care and ensuring that they, especially the most vulnerable, are never faulted for seeking care in this setting when ill, injured, scared, or unable to access dignified care elsewhere: 24 hours a day, 7 days a week, and 365 days a year.

REFERENCES

1. Singer AJ, Thode HC, Pines JM. US Emergency Department Visits and Hospital Discharges Among Uninsured Patients Before and After Implementation of the Affordable Care Act. *JAMA Netw Open*. 2019 Apr 5;2(4):e192662–e192662.
2. Agency for Healthcare Research and Quality (AHRQ). The HCUP Nationwide Emergency Department Sample (NEDS), 2016 [Internet]. [cited 2019 Feb 2]. Available from: https://www.hcup-us.ahrq.gov/db/nation/neds/NEDS_Introduction_2016.jsp
3. Gonzalez Morganti K, Bauhoff S, Blanchard JC, Abir M, Iyer N, Smith A, et al. The Evolving Role of Emergency Departments in the United States [Internet]. 2013 [cited 2019 Aug 17]. Available from: https://www.rand.org/pubs/research_reports/RR280.html
4. Kellermann AL, Hsia RY, Yeh C, Morganti KG. Emergency Care: Then, Now, And Next. *Health Affairs*. 2013 Dec 1;32(12):2069–74.
5. Bernstein SL, Aronsky D, Duseja R, Epstein S, Handel D, Hwang U, et al. The Effect of Emergency Department Crowding on Clinically Oriented Outcomes. *Academic Emergency Medicine*. 2009;16(1):1–10.
6. Gindi RM, Black LI, Cohen RA. Reasons for Emergency Room Use Among U.S. Adults Aged 18–64: National Health Interview Survey, 2013 and 2014. Centers for Disease Control and Prevention National Center for Health Statistics; 2016 p. 16. (National Health Statistics Reports). Report No.: Number 90.
7. Weinick RM, Burns RM, otra A. Many Emergency Department Visits Could Be Managed At Urgent Care Centers And Retail Clinics. *Health Affairs*. 2010 Sep 1;29(9):1630–6.
8. Massachusetts Health Policy Commission. HPC DataPoints, Issue 8: Urgent Care Centers and Retail Clinics [Internet]. [cited 2019 Sep 23]. Available from: <https://www.mass.gov/info-details/hpc-datapoints-issue-8-urgent-care-centers-and-retail-clinics>
9. Dolan S. Urgent Care Clinics in 2019: Industry Trends & Market Stats - Business Insider [Internet]. Business Insider. 2019 [cited 2019 May 26]. Available from: <https://www.businessinsider.com/urgent-care-industry-trends>
10. Weinick RM, Bristol SJ, DesRoches CM. Urgent care centers in the U.S.: Findings from a national survey. *BMC Health Serv Res*. 2009 Dec;9(1):79.
11. Dolan S. How the growth of the urgent care industry business model is changing the healthcare market [Internet]. Business Insider. [cited 2020 Jan 5]. Available from: <https://www.businessinsider.com/urgent-care-industry-trends>
12. Burns J. The Urgent Care Surge. *Managed Care* [Internet]. 2019 Apr 30 [cited 2019 May 8]; Available from: <https://www.managedcaremag.com/archives/2019/5/urgent-care-surge>

13. Lee TM. An EMTALA Primer: The Impact of Changes in the Emergency Medicine Landscape on EMTALA Compliance and Enforcement. 2004;13:35.
14. Uscher-Pines L, Pines J, Kellermann A, Gillen E, Mehrotra A. Deciding to Visit the Emergency Department for Non-Urgent Conditions: A Systematic Review of the Literature. *Am J Manag Care*. 2013 Jan;19(1):47–59.
15. Jaffe TA, Kocher KE, Ghaferi AA. Potentially Avoidable Emergency Department Use: When Policy Expects Patients to be Physicians. *Annals of Emergency Medicine*. 2018 Sep 1;72(3):256–8.
16. Carlson LC, Raja AS, Dworkis DA, Lee J, Brown DFM, Samuels-Kalow M, et al. Impact of Urgent Care Openings on Emergency Department Visits to Two Academic Medical Centers Within an Integrated Health Care System. *Annals of Emergency Medicine* [Internet]. 2019 Sep 9 [cited 2019 Sep 23]; Available from: <http://www.sciencedirect.com/science/article/pii/S0196064419305347>
17. Martsof G, Fingar KR, Coffey R, Kandrack R, Charland T, Eibner C, et al. Association Between the Opening of Retail Clinics and Low-Acuity Emergency Department Visits. *Annals of Emergency Medicine*. 2017 Apr 1;69(4):397-403.e5.
18. Allen L, Cummings JR, Hockenberry J. Urgent Care Centers and the Demand for Non-Emergent Emergency Department Visits [Internet]. National Bureau of Economic Research; 2019 Jan [cited 2020 Feb 9]. Report No.: 25428. Available from: <http://www.nber.org/papers/w25428>
19. Le ST, Hsia RY. Community characteristics associated with where urgent care centers are located: a cross-sectional analysis. *BMJ Open*. 2016 Apr;6(4):e010663.
20. Robert Wood Johnson Foundation. Patients' Perspectives on Health Care in the United States [Internet]. 2016 [cited 2018 Jul 14]. Available from: <https://www.rwjf.org/en/library/research/2016/02/patients--perspectives-on-health-care-in-the-united-states.html>
21. Sommers BD, McMurtry CL, Blendon RJ, Benson JM, Sayde JM. Beyond Health Insurance: Remaining Disparities in US Health Care in the Post-ACA Era. *The Milbank Quarterly*. 2017;95(1):43–69.
22. Antonisse L, Garfield R, Mar 28 SAP, 2018. The Effects of Medicaid Expansion under the ACA: Updated Findings from a Literature Review [Internet]. The Henry J. Kaiser Family Foundation. 2018 [cited 2019 May 26]. Available from: <https://www.kff.org/medicaid/issue-brief/the-effects-of-medicaid-expansion-under-the-aca-updated-findings-from-a-literature-review-march-2018/>
23. American Association for Public Opinion Research. Response Rates - An Overview - AAPOR [Internet]. [cited 2014 Oct 1]. Available from: <http://www.aapor.org/AAPORKentico/Education-Resources/For-Researchers/Poll-Survey-FAQ/Response-Rates-An-Overview.aspx>

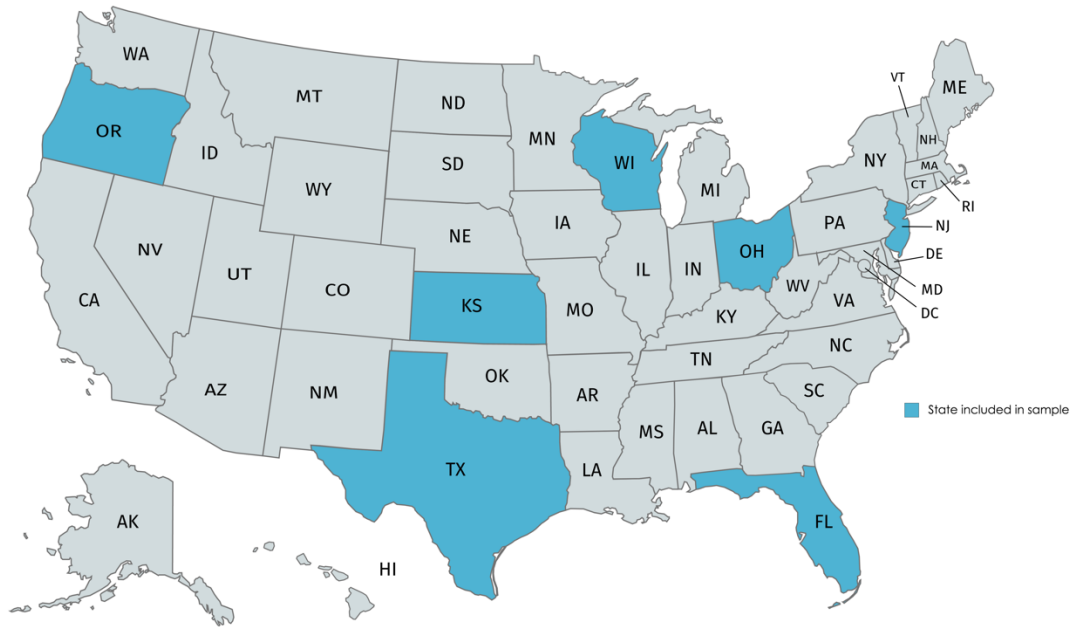
24. Keeter S, Hatley N, Kennedy C, Lau A. What Low Response Rates Mean for Telephone Surveys. :41.
25. Kohut A, Keeter S, Doherty C, Dimock M, Christian L. Assessing the Representativeness of Public Opinion Surveys. :52.
26. Keeter S, Kennedy C, Dimock M, Best J, Craighill P. Gauging the Impact of Growing Nonresponse on Estimates from a National RDD Telephone Survey. *Public Opin Q.* 2006 Jan 1;70(5):759–79.
27. Keeter S, Miller C, Kohut A, Groves RM, Presser S. Consequences of Reducing Nonresponse in a National Telephone Survey. *The Public Opinion Quarterly.* 2000;64(2):125–48.
28. Carlson BL, Strouse R. The Value of the Increasing Effort to Maintain High Response Rates in Telephone Surveys. :8.
29. Carlson BL, Hall J, Cybulski K, Strouse R. Health Tracking Household Survey Methodology Report 2010 Round Six [Internet]. Mathematica Policy Research; 2012 May [cited 2019 Mar 14]. Available from: <https://econpapers.repec.org/paper/mprmprres/11ce53364b6e476ba68fccc0870e5728.htm>
30. Kaiser Family Foundation. Status of State Action on the Medicaid Expansion Decision [Internet]. [cited 2015 Mar 1]. Available from: <http://kff.org/health-reform/state-indicator/state-activity-around-expanding-medicare-under-the-affordable-care-act/>
31. Andersen RM. Revisiting the Behavioral Model and Access to Medical Care: Does it Matter? *Journal of Health and Social Behavior.* 1995 Mar;36(1):1.
32. StataCorp. *Stata Statistical Software: Release 14.* College Station, TX: StataCorp LP; 2015.
33. Agarwal AK, Mahoney K, Lanza AL, Klinger EV, Asch DA, Fausti N, et al. Online Ratings of the Patient Experience: Emergency Departments Versus Urgent Care Centers. *Annals of Emergency Medicine* [Internet]. 2018 Nov 2 [cited 2019 Apr 29]; Available from: <http://www.sciencedirect.com/science/article/pii/S0196064418313222>
34. Zhou RA, Baicker K, Taubman S, Finkelstein AN. The Uninsured Do Not Use The Emergency Department More—They Use Other Care Less. *Health Affairs.* 2017 Dec;36(12):2115–22.
35. Newton MF, Keirns CC, Cunningham R, Hayward RA, Stanley R. Uninsured Adults Presenting to US Emergency Departments: Assumptions vs Data. *JAMA.* 2008 Oct 22;300(16):1914–24.
36. Weber EJ, Showstack JA, Hunt KA, Colby DC, Grimes B, Bacchetti P, et al. Are the Uninsured Responsible for the Increase in Emergency Department Visits in the United States? *Annals of Emergency Medicine.* 2008 Aug 1;52(2):108-115.e1.

37. Kliff S. I read 1,182 emergency room bills this year. Here's what I learned. [Internet]. Vox. 2018 [cited 2019 Feb 13]. Available from: <https://www.vox.com/health-care/2018/12/18/18134825/emergency-room-bills-health-care-costs-america>
38. Kliff S. Surprise Medical Bills, the High Cost of Emergency Department Care, and the Effects on Patients. *JAMA Intern Med.* 2019 Nov 1;179(11):1457–8.
39. Garmon C, Chartock B. One In Five Inpatient Emergency Department Cases May Lead To Surprise Bills. *Health Affairs.* 2017 Jan 1;36(1):177–81.
40. Wu B, 2019. KFF Health Tracking Poll – April 2019: Surprise Medical Bills and Public's View of the Supreme Court and Continuing Protections for People With Pre-Existing Conditions [Internet]. The Henry J. Kaiser Family Foundation. 2019 [cited 2019 May 26]. Available from: <https://www.kff.org/health-costs/poll-finding/kff-health-tracking-poll-april-2019/>
41. Poon SJ, Schuur JD, Mehrotra A. Trends in Visits to Acute Care Venues for Treatment of Low-Acuity Conditions in the United States From 2008 to 2015. *JAMA Intern Med.* 2018 Oct;178(10):1342–9.
42. Huguet N, Valenzuela S, Marino M, Angier H, Hatch B, Hoopes M, et al. Following Uninsured Patients Through Medicaid Expansion: Ambulatory Care Use and Diagnosed Conditions. *Ann Fam Med.* 2019 Jul 1;17(4):336–44.
43. Chou S-C, Gondi S, Weiner SG, Schuur JD, Sommers BD. Medicaid Expansion Reduced Emergency Department Visits by Low-income Adults Due to Barriers to Outpatient Care. *Med Care.* 2020 Jan 29;
44. Coster JE, Turner JK, Bradbury D, Cantrell A. Why Do People Choose Emergency and Urgent Care Services? A Rapid Review Utilizing a Systematic Literature Search and Narrative Synthesis. *Acad Emerg Med.* 2017;24(9):1137–49.
45. Akpınar Y, Demirci H, Budak E, Baran AK, Candar A, Ocakoglu G. Why do patients with minor complaints choose emergency departments and does satisfaction with primary care services influence their decisions? *Prim Health Care Res Dev.* 2018 Jul;19(4):398–406.
46. PatientEngagementHIT. Patient Knowledge Impacts Use of Urgent Care, ED Services [Internet]. PatientEngagementHIT. 2017 [cited 2020 Jan 3]. Available from: <https://patientengagementhit.com/news/patient-knowledge-impacts-use-of-urgent-care-ed-services>
47. Blue Shield of California. Don't Want to End Up In the Emergency Room? Chances Are You Don't Have to [Internet]. Blue Shield of California | News Center. [cited 2020 Jan 5]. Available from: <https://news.blueshieldca.com/2019/07/01/don-t-want-to-end-up-in-the-emergency-room>
48. Health Insurance Coverage of the Total Population [Internet]. The Henry J. Kaiser Family Foundation. 2019 [cited 2020 Feb 8]. Available from: <https://www.kff.org/other/state-indicator/total-population/>

49. Moore B, Stocks C, Owens P. Trends in Emergency Department Visits, 2006-2014 #227 [Internet]. Healthcare Cost and Utilization Project; 2017 Sep [cited 2018 Nov 1]. Available from: <https://www.hcup-us.ahrq.gov/reports/statbriefs/sb227-Emergency-Department-Visit-Trends.jsp>
50. Giannouchos TVM, Washburn DJS, Kum H-C, Sage WMM, Ohsfeldt RL. Predictors of Multiple Emergency Department Utilization Among Frequent Emergency Department Users in 3 States. *Medical Care*. 2020 Feb;58(2):137–45.
51. Capp R, West DR, Doran K, Sauaia A, Wiler J, Coolman T, et al. Characteristics of Medicaid-Covered Emergency Department Visits Made by Nonelderly Adults: A National Study. *J Emerg Med*. 2015 Dec;49(6):984–9.
52. Sanchez GR, Vargas ED. Language Bias and Self-Rated Health Status among the Latino Population: Evidence of the Influence of Translation in a Wording Experiment. *Qual Life Res*. 2016 May;25(5):1131–6.
53. Raven MC, Lowe RA, Maselli J, Hsia RY. Comparison of Presenting Complaint vs Discharge Diagnosis for Identifying “ Nonemergency” Emergency Department Visits. *JAMA*. 2013 Mar 20;309(11):1145–53.
54. WIHI: The Right Care, Right Setting, and Right Time of Hospital Flow | IHI - Institute for Healthcare Improvement [Internet]. [cited 2020 Feb 8]. Available from: <http://www.ihl.org:80/resources/Pages/AudioandVideo/WIHI-Right-Care-Right-Setting-Right-Time-of-Hospital-Flow.aspx>
55. Centers for Medicare & Medicaid Services. Emergency Department Patient Experiences with Care (EDPEC) Survey | CMS [Internet]. [cited 2019 Oct 2]. Available from: <https://www.cms.gov/Research-Statistics-Data-and-Systems/Research/CAHPS/ED>
56. Walmart Looks Toward Training More Health Workers, Streamlining Care For Employees In Health Care Push [Internet]. Kaiser Health News. 2020 [cited 2020 Feb 6]. Available from: <https://khn.org/morning-breakout/walmart-looks-toward-training-more-health-workers-streamlining-care-for-employees-in-health-care-push/>
57. Hsia RY, Friedman AB, Niedzwiecki M. Urgent Care Needs Among Nonurgent Visits to the Emergency Department. *JAMA Intern Med*. 2016 Jun 1;176(6):852–4.

TABLES AND FIGURES

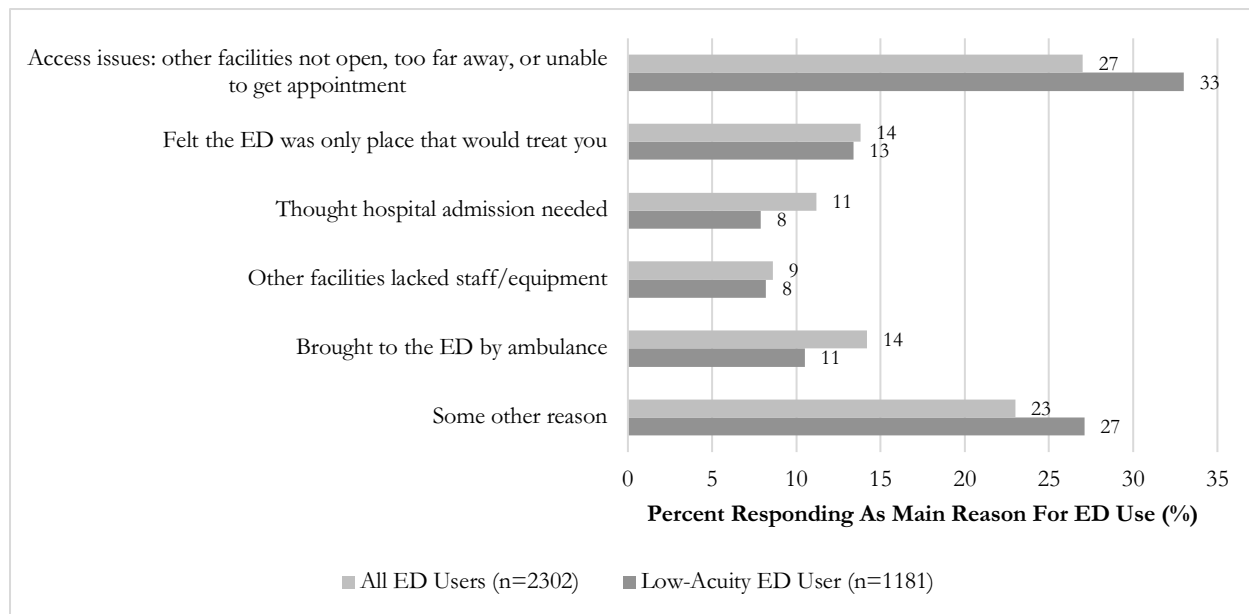
Figure 1. List of Sample by State and Medicaid Expansion Status as of 2015



Created with mapchart.net ©

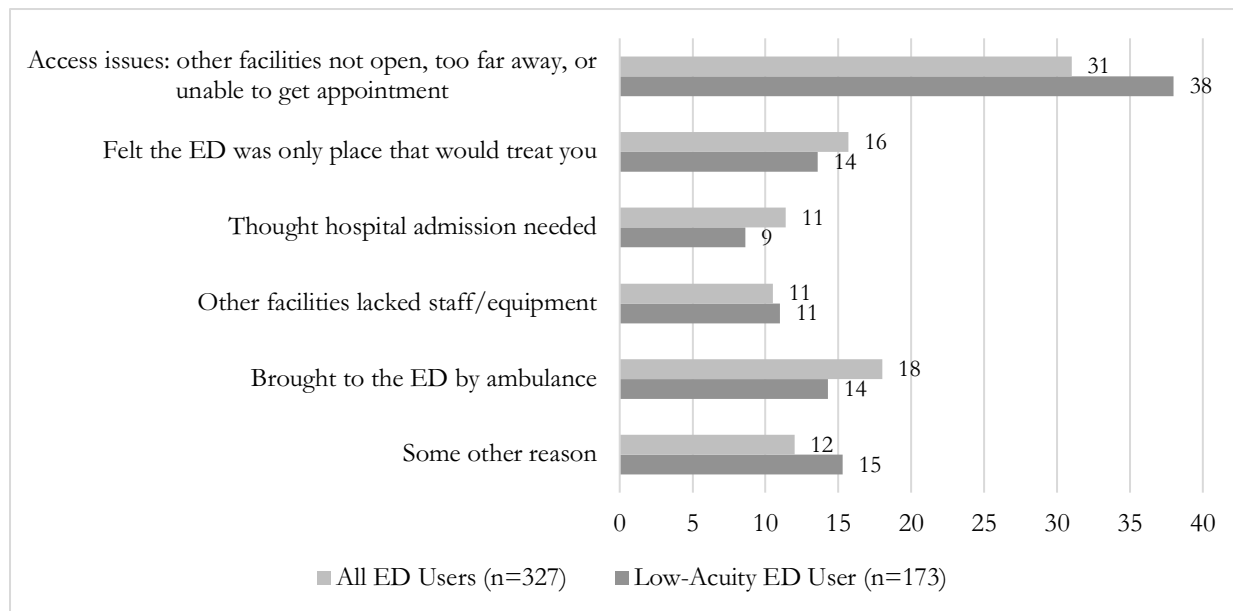
Note: National (U.S.) survey (n=1002, MOE ± 3.8); State samples combined for analysis and re-weighted using 2014 census data: Florida (FL) (n=1003, ± 3.9); Kansas (KS) (n=1005, ± 3.8); New Jersey (NJ) (n=1003 ± 4.0); Ohio (OH) (n=1000; ± 3.8); Oregon (OR) (n=1009; ± 4.0); Texas (TX) (n=1005; ± 3.9); Wisconsin (WI) (n=1011, ± 3.9).

Figure 2a. Percent reported main reason for choosing emergency department (ED) versus alternative among all ED users and low-acuity users, combined 7-state sample (n=2302) (%)



Notes: All respondents who reported using the ED (n=2302) in the combined-7 state sample (n=7036 respondents from Florida, Kansas, New Jersey, Ohio, Oregon, Texas, and Wisconsin) were asked the question: “What was the main reason you chose to receive health care in the emergency room instead of an urgent care facility, doctor’s office, or community health center. Was it mainly because…” and options included: “you were brought to the emergency room by an ambulance”, “other facilities were not open or you could not get an appointment”, “you felt other facilities did not have the staff or equipment necessary to treat your health problem”, “you thought you might need to be admitted to the hospital overnight”, “you felt the emergency room was the only place that would treat you”, “other facilities were too far away”, or “some other reason.” We provide the distribution of responses by all ED users (n=2302) and among the subgroup of ED users who reported having a non-major health reason when seeking this care (n=1181). We combined the responses “other facilities were not open or you could not get an appointment” and “other facilities were too far away” to reflect access issues. A similar distribution was present in the national sample (n=1002 total respondents), though fewer report “some other reason” and there is a greater proportion selecting the option that other facilities are not open (31% among all national ED users (n=327)), and 38% among all ED users with a low-acuity health need (n=173). See Figure 2b.

Figure 2b. Percent reported main reason for choosing emergency department (ED) versus alternative among all ED users and low-acuity users, national sample (n=1002) (%)



Notes: All respondents who reported using the ED (n=327) in the nationally-representative U.S. sample (n=1,002) were asked the question: “What was the main reason you chose to receive health care in the emergency room instead of an urgent care facility, doctor’s office, or community health center. Was it mainly because...” and options included: “you were brought to the emergency room by an ambulance”, “other facilities were not open or you could not get an appointment”, “you felt other facilities did not have the staff or equipment necessary to treat your health problem”, “you thought you might need to be admitted to the hospital overnight”, “you felt the emergency room was the only place that would treat you”, “other facilities were too far away”, or “some other reason.” We provide the distribution of responses by all ED users (n=327) and among the subgroup of ED users who reported having a non-major health reason when seeking this care (n=173). We combined the responses “other facilities were not open or you could not get an appointment” and “other facilities were too far away” to reflect access issues.

Table 1. Sample by National and 7 State Surveys and Medicaid Expansion Status

State	Sample Size (n)	Margin of Error (MOE +/-)	State expanded Medicaid at time of survey (2015)
<i>National Survey (U.S.)</i>	1,002	3.8	<i>n/a</i>
Florida	1,003	3.9	No
Kansas	1,005	3.8	No
New Jersey	1,003	4.0	Yes
Ohio	1,000	3.8	Yes
Oregon	1,009	4.0	Yes
Texas	1,005	3.9	No
Wisconsin	1,011	3.9	No

Notes: Margin of error provided by survey developers at SSRS.(20) Source for Medicaid expansion status as of 2015 available through Kaiser Family Foundation: <https://www.kff.org/health-reform/state-indicator/state-activity-around-expanding-medicare-under-the-affordable-care-act/>

Table 2. Comparison of National versus Combined 7-State Sample, All Respondents

		7-State Sample	National Sample	p-value
		N=7036 %	N=1002 %	
Gender	<i>Male</i>	48.6	48.4	0.90
	<i>Female</i>	51.4	51.6	
Race/Ethnicity	<i>White (non-Hispanic)</i>	61.6	63.3	0.02
	<i>Black (non-Hispanic)</i>	10.7	11.4	
	<i>Hispanic</i>	20.3	15.4	
	<i>Other</i>	5.4	7.7	
Age (years)	<i>18-29</i>	20.5	21.1	0.98
	<i>30-49</i>	33.8	33.3	
	<i>50-64</i>	26.1	25.9	
	<i>65+</i>	19.1	19.3	
Education	<i>High school or less</i>	44.5	45.6	0.02 [^]
	<i>Some college or more</i>	54.9	54.3	
Household Income	<i><\$30,000</i>	37.3	30.7	0.01
	<i>\$30,000-\$49,999</i>	14.4	16.1	
	<i>\$50,000-\$99,999</i>	21.6	23.7	
	<i>≥\$100,000</i>	15.8	15.6	
Employment Status	<i>Full-time</i>	45.3	46.1	0.44
	<i>Part-time</i>	14.0	12.1	
	<i>Not employed</i>	40.5	41.3	
Household Location	<i>Urban</i>	55.4	50.0	0.00
	<i>Suburban</i>	22.8	25.7	
	<i>Rural</i>	13.6	19.4	
Insured	<i>Yes</i>	84.7	85.6	0.42
	<i>No</i>	14.9	13.7	
Main Source of Health Insurance	<i>Employer/Spouse Employer</i>	39.3	40.9	0.50
	<i>Medicare</i>	17.8	17.6	
	<i>Medicaid</i>	8.0	9.3	
	<i>Other Insurance</i>	19.7	17.8	
	<i>Uninsured</i>	14.9	13.7	
Has Regular Care Provider	<i>Yes</i>	73.8	74.4	0.61
	<i>No</i>	25.7	24.8	
Chronically Ill	<i>Yes</i>	37.0	34.0	0.22
	<i>No</i>	62.6	65.3	
Self-reported Health Status	<i>Excellent to Good</i>	77.2	75.3	0.46
	<i>Fair to Poor</i>	22.6	24.3	

Notes: Columns may not add to 100% as we Don't Know/Refused is not shown in table, though these respondents were included in the bivariate analysis. P-values generated by Pearson chi-squared test to assess for differences of group characteristics between state and national samples. [^]Of note, education is no longer significant when excluding the few Don't Know/Refused respondents.

Table 3. Distribution of Characteristics of Urgent Care and Emergency Department Users, by Combined 7-State and National Samples

		Urgent Care Use		Emergency Department Use	
		7-State Sample n=7036	National Sample n=1002	7-State Sample n=7036	National Sample n=1002
Visits	<i>Received care at site within the past 2 years*</i>	26.4	27.2	32.3	33.1
<i>AMONG THOSE WITH ANY VISITS OVER PAST TWO YEARS</i>					
	<i>Observations</i>	n=1836 (%)	n=249 (%)	n=2302 (%)	n=327 (%)
Gender	<i>Male</i>	45.4	40.9	44.4	37.1
	<i>Female</i>	54.6	59.1	55.7	62.9
Race/ Ethnicity	<i>White (NH)</i>	54.6	69.3	59.3	61.7
	<i>Black (NH)</i>	11.6	7.5	14.9	14.3
	<i>Hispanic</i>	17.4	16.6	18.6	15.7
	<i>Other</i>	4.2	4.3	5.6	6.2
Age (years)	<i>18-29</i>	20.2	21.7	19.9	22.2
	<i>30-49</i>	38.3	37.6	33.6	32.9
	<i>50-64</i>	25.3	24	24.9	24.7
	<i>65+</i>	16.1	15.7	21.1	19.8
Education	<i>High school or less</i>	37.2	47.3	47.1	53
	<i>Some college or more</i>	62.6	52.6	52.9	46.9
Household Income	<i><\$30,000</i>	32.0	31.1	45.5	38.7
	<i>\$30,000-\$49,999</i>	12.1	13.8	14.1	21.7
	<i>\$50,000-\$99,99</i>	27.6	26.1	19.5	18.1
	<i>≥\$100,000</i>	20.0	18.1	11.2	7.9
Employment Status	<i>Full-time</i>	48.3	50.0	37.8	42.6
	<i>Part-time</i>	16.0	12.0	12.9	13.8
	<i>Unemployed</i>	35.5	37.6	49.1	43.6
Household Location	<i>Urban</i>	56.8	53.2	55.0	50.3
	<i>Suburban</i>	26.2	28.2	24.9	24.5
	<i>Rural</i>	11.8	15.6	14.0	23.5
Insured	<i>Yes</i>	91.3	89.0	86.6	87.6
	<i>No</i>	8.5	11.0	13.3	11.7
Main Source of Health Insurance	<i>Employer/ Spouse Employer</i>	48.4	44.3	32.6	33.3
	<i>Medicare</i>	15.5	14.0	21.6	19.5
	<i>Medicaid</i>	7.3	8.5	12.0	15.0
	<i>Other Insurance</i>	20.0	22.2	20.4	19.8
	<i>Uninsured</i>	8.5	11.0	13.3	11.7
Has Regular Care Provider	<i>Yes</i>	77.7	73.7	79.1	80.7
	<i>No</i>	22.0	26.3	20.1	19.0

		Urgent Care Use		Emergency Department Use	
		7-State Sample n=7036	National Sample n=1002	7-State Sample n=7036	National Sample n=1002
Visits	<i>Received care at site within the past 2 years*</i>	26.4	27.2	32.3	33.1
<i>AMONG THOSE WITH ANY VISITS OVER PAST TWO YEARS</i>					
	<i>Observations</i>	n=1836 (%)	n=249 (%)	n=2302 (%)	n=327 (%)
Chronic Illness	<i>Yes</i>	38.1	31.7	52.2	48.7
	<i>No</i>	61.3	67.6	47.6	50.8
Self-reported Health Status	<i>Excellent to Good</i>	77.0	77.7	65.1	66.3
	<i>Fair to Poor</i>	23.0	22.3	34.8	33.4
Lives in Medicaid Expansion State	<i>Yes</i>	33.6	n/a	34.4	n/a
	<i>No</i>	66.4	n/a	65.6	n/a

Notes: Columns percentages. Columns may not add to 100% as Don't Know/Refused category (for each characteristic) is not shown in the table, though these users were included in the bivariate analysis. Survey fielded in 2015 thus respondents asked to report on utilization experiences between 2014 and 2015 from the time of the survey.

Table 4. Logistic Regression Results of Characteristics Predicting Use of Urgent Care (UC) and Emergency Department (ED) Within the Past Two Years (2014-2015), Adjusted Odds Ratio [95% Confidence Interval]

Variables		Urgent Care (UC) Use		Emergency Department (ED) Use	
		<i>Model 1</i> 7-State Sample N=5,777 Prof > F: <0.000	<i>Model 2</i> National Sample N=801 Prob > F: 0.4273	<i>Model 3</i> 7-State Sample N=5,781 Prof > F: <0.000	<i>Model 4</i> National Sample N=804 Prof > F: <0.000
Has Regular Care Provider	<i>Yes</i>	--	--	--	--
	<i>No</i>	0.95 [0.74, 1.23]	1.51 [0.88, 2.63]	0.71* [0.55, 0.92]	0.60 [0.35, 1.01]
Main Source of Health Insurance	<i>ESHI</i>	--	--	--	--
	<i>Medicare</i>	0.72 [0.50, 1.03]	0.75 [0.38, 1.45]	1.18 [0.85, 1.64]	1.37 [0.73, 2.57]
	<i>Medicaid</i>	0.61* [0.41, 0.92]	0.89 [0.40, 1.99]	1.43 [0.98, 2.08]	1.59 [0.76, 3.36]
	<i>Other Insurance</i>	0.84 [0.64, 1.11]	0.90 [0.50, 1.63]	1.25 [0.95, 1.65]	1.80 [0.96, 3.38]
	<i>Uninsured</i>	0.41*** [0.28, 0.62]	0.53 [0.24, 1.14]	1.12 [0.79, 1.58]	1.06 [0.49, 2.31]
Chronically Ill	<i>No</i>	--	--	--	--
	<i>Yes</i>	1.18 [0.97, 1.45]	1.14 [0.72, 1.80]	2.00*** [1.63, 2.45]	2.46*** [1.62, 3.76]
Fair/Poor Health	<i>No</i>	--	--	--	--
	<i>Yes</i>	1.33* [1.04, 1.70]	0.80 [0.47, 1.36]	1.88*** [1.50, 2.36]	1.63* [1.03, 2.57]
Gender	<i>Male</i>	--	--	--	--
	<i>Female</i>	1.16 [0.96, 1.40]	1.60* [1.08, 2.37]	1.09 [0.91, 1.31]	2.16*** [1.46, 3.18]
Race/Ethnicity	White (NH)	--	--	--	--
	Black (NH)	1.30 [0.94, 1.80]	0.58 [0.30, 1.10]	1.72** [1.25, 2.35]	0.94 [0.52, 1.71]
	Hispanic	0.97 [0.72, 1.31]	0.76 [0.39, 1.48]	0.95 [0.72, 1.26]	0.82 [0.43, 1.54]
	Other	0.73 [0.50, 1.08]	0.36* [0.15, 0.84]	1.22 [0.85, 1.74]	0.67 [0.29, 1.58]
Age (years)	<i>18-29</i>	--	--	--	--
	<i>30-49</i>	1.13 [0.86, 1.50]	1.24 [0.62, 2.50]	1.11 [0.84, 1.47]	1.27 [0.66, 2.45]
	<i>50-64</i>	0.81 [0.61, 1.08]	0.77 [0.39, 1.48]	0.74* [0.55, 0.98]	0.73 [0.38, 1.38]
	<i>65+</i>	0.71 [0.49, 1.04]	0.90 [0.43, 1.88]	0.68* [0.48, 0.97]	0.73 [0.36, 1.46]

		Urgent Care (UC) Use		Emergency Department (ED) Use	
		<i>Model 1</i>	<i>Model 2</i>	<i>Model 3</i>	<i>Model 4</i>
		7-State Sample	National Sample	7-State Sample	National Sample
		N=5,777	N=801	N=5,781	N=804
Variables		Prof > F: <0.000	Prob > F: 0.4273	Prof > F: <0.000	Prof > F: <0.000
Education	<i>≤ High School</i>	--	--	--	--
	<i>Some college+</i>	1.26* [1.02, 1.55]	0.84 [0.54, 1.32]	1.10 [0.90, 1.35]	0.92 [0.60, 1.41]
Employment	<i>Full-Time</i>	--	--	--	--
	<i>Part-time</i>	1.55** [1.16, 2.07]	0.99 [0.50, 1.97]	0.98 [0.73, 1.32]	0.84 [0.44, 1.59]
	<i>Unemployed</i>	1.02 [0.79, 1.32]	0.96 [0.55, 1.66]	1.20 [0.94, 1.55]	0.56* [0.33, 0.95]
Household Income	<i><\$30,000</i>	--	--	--	--
	<i>\$30,000-\$49,999</i>	0.92 [0.70, 1.20]	0.61 [0.33, 1.12]	0.89 [0.69, 1.15]	1.11 [0.63, 1.96]
	<i>\$50,000-\$99,999</i>	1.46** [1.11, 1.92]	0.86 [0.47, 1.56]	0.83 [0.64, 1.07]	0.53* [0.29, 0.97]
	<i>≥\$100,000</i>	1.34 [0.98, 1.82]	0.85 [0.42, 1.70]	0.63** [0.47, 0.85]	0.28*** [0.14, 0.58]
Household Location	<i>Urban</i>	--	--	--	--
	<i>Suburban</i>	0.97 [0.77, 1.21]	0.82 [0.52, 1.29]	1.20 [0.96, 1.50]	0.86 [0.54, 1.39]
	<i>Rural</i>	0.84 [0.65, 1.10]	0.66 [0.40, 1.10]	0.98 [0.77, 1.25]	1.26 [0.77, 2.06]
Lives in Medicaid Expansion State	<i>No</i>	--	n/a	--	n/a
	<i>Yes</i>	1.09 [0.92, 1.31]	n/a	1.25* [1.04, 1.49]	n/a

Notes: NH=non-Hispanic; ESHI=employer-sponsored health insurance. Reference groups (--), in order of categories: Has a regular care provider; Employer/Spouse Employer Sponsored Health Insurance (ESHI), Not Chronically Ill, In Good/Excellent Health, Male, non-Hispanic White, Age 18-29, High school education or less, Employed full-time, Household Income <\$30,000, Urban household location, and for state-analysis: does not live in Medicaid expansion state. Model is significant at p-value: *p<0.05, **<0.01, ***<0.001.

Table 5. Facility Use, Experiences, and Reasons for Care-Seeking by Combined 7-State and National Samples

	Combined 7-State Sample n=7036 %	National Sample n=1002 %	p-value
<i>Used facility (ED and/or UC)</i>			
Used ED	48	48	0.80
Used UC	32	33	0.69
Used both facilities (<i>among all respondents</i>)	26	27	0.66
<i>Rates Cost as Somewhat to Very Unreasonable*</i>			
ED users	11	12	0.46
UC users	40	38	0.62
	24	22	0.77
<i>Rated Quality as Fair to Poor*</i>			
ED users	28	27	0.90
UC users	21	25	0.36
<i>Reasons for Emergency Department Use</i>			
Major Problem	45	40	0.48
Low-Acuity Health Need (minor + some other reason)	54	59	
Minor Problem	23	23	
Some Other Reason	31	36	
Don't Know/Refused	1	1	
<i>Reasons for Urgent Care Use</i>			
Major Problem	15	15	0.09
Low-Acuity Health Need (minor + routine visit, etc. + some other reason)	84	84	
Minor Problem	52	60	
Routine visit, treatment of chronic condition, vaccination	13	8	
Other Reason	19	15	
Don't Know/Refused	1	2	

Note: p-value comparison allows for evaluation of differences in outcomes by state and national samples. *For this analysis, we excluded those respondents who provided a Don't Know/Refused response to these outcome questions regarding cost or quality ratings (<1% of quality outcome, and <5% of cost outcome). When including them in overall sample (including the DK/Refused categories), the rates of giving low quality ratings were as follows (ED: 28% state, 27% national | UC: 21% state, 25% national); and then for giving unreasonable cost ratings (ED: 38% state, 36% national | UC: 23% state, 21% national).

Table 6. Characteristics of Respondents who Rated Quality of Care as Poor/Fair, by Facility Type (Row Percentages %)

		Urgent Care Users				Emergency Department Users			
		7-State Sample		National Sample		7-State Sample		National Sample	
Number of Facility Users		n=1836		n=249		n=2302		n=327	
<i>Percentage Giving Low Quality Rating*</i>		21.4%		24.7%		28.5%		27.2%	
<i>AMONG THOSE WHO RATED QUALITY AS FAIR TO POOR</i>									
<i>Observations</i>		n=355		n=55		n=565		n=89	
		(%)	p-value	(%)	p-value	(%)	p-value	(%)	p-value
Gender	<i>Male</i>	21.3	0.95	34.7	0.02	25.8	0.13	24.1	0.42
	<i>Female</i>	21.5		17.8		30.6		29.0	
Race/ Ethnicity	<i>White (NH)</i>	20.4	0.18	23.5	0.84	26.6	0.07	25.1	0.64
	<i>Black (NH)</i>	17.6		21.2		27.9		33.9	
	<i>Hispanic</i>	26.2		31.9		34.4		32.6	
	<i>Other</i>	20.8		17.2		36.3		24.1	
Age (years)	<i>18-29</i>	22.6	<0.01	30.8	0.65	41.3	<0.001	36.6	0.16
	<i>30-49</i>	22.9		26.4		31.4		27.8	
	<i>50-64</i>	23.5		18.9		26.9		21.9	
	<i>65+</i>	11.8		23.0		13.8		20.8	
Education	<i>High school or less</i>	24.2	0.03 [^]	24.9	0.89	31.1	0.12	29.4	0.53
	<i>Some college or more</i>	19.5		24.7		26.2		24.7	
Household Income	<i><\$30,000</i>	26.1	0.18	28.5	0.76	34.6	<0.01	32.6	0.63
	<i>\$30,000- \$49,999</i>	16.3		22.2		26.3		23.8	
	<i>\$50,000- \$99,99</i>	21.0		29.1		23.8		25.8	
	<i>≥\$100,000</i>	18.4		18.8		18.3		14.9	
Employ- ment	<i>Full-time</i>	18.0	0.03	22.9	0.29	27.8	0.10	26.5	0.87
	<i>Part-time</i>	24.4		17.4		36.9		24.1	
	<i>Unemployed</i>	24.3		28.8		26.8		28.8	
Location	<i>Urban</i>	22.5	0.62	29.7	0.44	29.5	0.70	22.5	0.34
	<i>Suburban</i>	19.0		18.1		26.6		34.0	
	<i>Rural</i>	23.2		19.4		29.9		30.7	

		Urgent Care Users				Emergency Department Users			
		7-State Sample		National Sample		7-State Sample		National Sample	
Number of Facility Users		n=1836		n=249		n=2302		n=327	
<i>Percentage Giving Low Quality Rating*</i>		21.4%		24.7%		28.5%		27.2%	
<i>AMONG THOSE WHO RATED QUALITY AS FAIR TO POOR</i>									
<i>Observations</i>		n=355		n=55		n=565		n=89	
		(%)	p-value	(%)	p-value	(%)	p-value	(%)	p-value
Insured	<i>Yes</i>	20.1	0.01	24.3	0.77	25.9	<0.001	21.4	0.62
	<i>No</i>	34.9		28.0		45.5		28.1	
Main Source of Health Insurance	<i>ESHI</i>	20.9	0.03	21.8	0.57	24.9	<0.001	25.8	0.91
	<i>Medicare</i>	14.9		15.8		19.0		26.6	
	<i>Medicaid</i>	27.6		35.2		33.4		32.7	
	<i>Other Insurance</i>	19.5		30.5		29.9		29.7	
	<i>Uninsured</i>	34.9		28.0		45.5		21.4	
Has Regular Care Provider	<i>Yes</i>	19.4	0.02	21.9	0.21	25.5	<0.001	25.8	0.39
	<i>No</i>	28.5		32.6		40.7		33.1	
Chronic Illness	<i>Yes</i>	21.8	0.72	33.0	0.12	31.1	0.09	25.7	0.36
	<i>No</i>	21.2		21.1		25.8		28.2	
Self-reported Health Status	<i>Excellent to Good</i>	20.4	0.14	22.0	0.12	25.8	0.02	21.0	<0.01
	<i>Fair to Poor</i>	24.7		34.4		33.6		39.5	
Lives in Medicaid Expansion State	<i>Yes</i>	22.6	0.20	n/a		28.1	0.69	n/a	
	<i>No</i>	19.1		n/a		29.2		n/a	

Notes: Row percentages are provided to summarize the percentage of individuals with a given characteristic who gave a fair-to-poor quality rating to a given facility after they experienced care there so that it can be compared to the overall sample response (see first row). *If a respondent selected Don't Know/Refused for their UC or ED rating (<1% of the sample), they were excluded, yet respondents with a Don't Know/Refused response in their characteristic (e.g. age, income) were included for purposes of chi-squared analysis as is consistent with prior tables. ^ Education is no longer significant when excluding the Don't Know/Refused respondents (p-value becomes 0.15).

Table 7. Logistic Regression of Characteristics of Adults (18+) Predicting Fair-to-Poor (Low) Quality Rating at Urgent Care Centers (UCs) or Emergency Departments (EDs), Adjusted Odds Ratio [95% Confidence Interval]

		Low Quality Rating UCs		Low Quality Rating EDs	
		7-State Sample N=1548 Prof > F: 0.0471	National Sample N=210 Prof > F: 0.0573	7-State Sample N=1938 Prof > F: <0.000	National Sample N=272 Prof > F: 0.8807
Has Regular Care Provider	Yes	--	--	--	--
	No	1.47 [0.89, 2.41]	0.81 [0.28, 2.34]	1.42 [0.89, 2.27]	1.40 [0.49, 4.01]
Main Source of Health Insurance	ESHI/ Spouse	--	--	--	--
	<i>Medicare</i>	0.59 [0.27, 1.31]	0.67 [0.14, 3.07]	0.73 [0.41,1.30]	1.03 [0.33, 3.23]
	<i>Medicaid</i>	0.87 [0.36, 2.11]	3.63 [0.67, 19.45]	0.88 [0.47,1.63]	0.87 [0.24,3.17]
	<i>Other Insurance</i>	0.68 [0.38, 1.20]	2.47 [0.64, 9.54]	1.16 [0.69,1.94]	0.83 [0.24,2.95]
	<i>Uninsured</i>	1.30 [0.61, 2.78]	2.85 [0.58, 14.1]	1.49 [0.82,2.70]	0.29 [0.64,1.36]
Chronically Ill	No	--	--	--	--
	Yes	1.00 [0.64, 1.57]	2.43 [0.89, 6.62]	1.53* [1.05, 2.23]	1.04 [0.41, 2.67]
Fair/Poor Health	No	--	--	--	--
	Yes	1.13 [0.64, 1.57]	1.59 [0.54, 4.65]	1.55* [1.04, 2.31]	2.58* [1.12, 5.97]
Gender	<i>Male</i>	--	--	--	--
	<i>Female</i>	1.08 [0.71, 1.64]	0.23** [0.09, 0.60]	1.18 [0.84, 1.67]	1.22 [0.60, 2.51]
Race/Ethnicity	White (NH)	--	--	--	--
	Black (NH)	0.51 [0.23, 1.11]	0.70 [0.17, 2.96]	0.96 [0.58, 1.58]	1.01 [0.36, 2.87]
	Hispanic	1.10 [0.61, 2.01]	1.79 [0.53, 6.06]	0.94 [0.56, 1.60]	1.01 [0.35, 2.86]
	Other	0.75 [0.35, 1.60]	0.66 [0.08, 5.52]	1.30 [0.69, 2.47]	1.22 [0.27, 5.58]
Age (years)	18-29	--	--	--	--
	30-49	1.10 [0.62, 1.98]	1.55 [0.44, 5.43]	0.58* [0.37, 0.93]	0.54 [0.17, 1.78]
	50-64	1.04 [0.57, 1.91]	0.34 [0.10, 1.21]	0.37*** [0.22, 0.63]	0.43 [0.11, 1.70]
	65+	0.52 [0.22, 1.19]	1.07 [0.25, 4.59]	0.23*** [0.12, 0.43]	0.28 [0.07, 1.20]

		Low Quality Rating UCs		Low Quality Rating EDs	
		7-State Sample	National Sample	7-State Sample	National Sample
		N=1548	N=210	N=1938	N=272
Education	<i>≤ High School</i>	--	--	--	--
	<i>Some college+</i>	0.83 [0.53, 1.31]	1.85 [0.70, 4.93]	0.87 [0.60, 1.26]	0.82 [0.37, 1.81]
Employment	<i>Full-Time</i>	--	--	--	--
	<i>Part-time</i>	1.81 [0.96, 3.41]	0.67 [0.10, 4.57]	1.32 [0.79, 2.21]	0.97 [0.30, 3.20]
	<i>Unemployed</i>	2.07* [1.16, 3.69]	0.90 [0.29, 2.72]	1.23 [0.78, 1.93]	0.95 [0.36, 2.51]
Household Income	<i><\$30,000</i>	--	--	--	--
	<i>\$30,000-\$49,999</i>	0.55 [0.29, 1.03]	0.87 [0.24, 3.19]	0.80 [0.50, 1.27]	0.65 [0.26, 1.64]
	<i>\$50,000-\$99,99</i>	0.83 [0.47, 1.48]	1.24 [0.36, 4.28]	0.81 [0.50, 1.31]	1.10 [0.35, 3.50]
	<i>≥\$100,000</i>	0.71 [0.36, 1.42]	0.49 [0.09, 2.63]	0.65 [0.35, 1.20]	0.28 [0.04, 2.26]
Household Location	<i>Urban</i>	--	--	--	--
	<i>Suburban</i>	0.75 [0.47, 1.21]	0.23* [0.07, 0.70]	0.83 [0.57, 1.22]	2.01 [0.85, 4.73]
	<i>Rural</i>	0.97 [0.55, 1.71]	0.49* [0.09, 2.63]	0.98 [0.64, 1.50]	1.39 [0.61, 3.16]
Lives in Medicaid Expansion State	<i>No</i>	--	n/a	--	n/a
	<i>Yes</i>	0.90 [0.60, 1.33]	n/a	1.13 [0.82, 1.54]	n/a

Notes: NH=non-Hispanic; ESHI=employer-sponsored health insurance. Reference groups (--), in order of categories: has a regular care provider; Employer/Spouse Employer Sponsored Health Insurance (ESHI), Not Chronically Ill, self-reported Good/Excellent Health, Male, non-Hispanic White, Age 18-29, High school education or less, Employed full-time, Household Income <\$30,000, Urban household location, and for state-analysis: does not live in Medicaid expansion state. Model is significant at P-value: *p<0.05, **<0.01, ***<0.001.

Table 8. Characteristics of Respondents who Rated Cost of Care as Somewhat/Very Unreasonable, by Facility Type (Row Percentages %)

		7-State Sample n=1732		National Sample n=236		7-State Sample n=2023		National Sample n=304	
<i>Percentage Rating Cost as Unreasonable</i>		23.6%		22.5%		40.5%		38.7%	
<i>Observations</i>		n=365 (%)	p- value	n=48 (%)	p- value	n=801 (%)	p-value	n=104 (%)	p- value
Gender	<i>Male</i>	26.1	0.15	17.8	0.23	42.7	0.15	37.3	0.76
	<i>Female</i>	21.5		25.7		38.7		39.5	
Race/ Ethnicity	<i>White (NH)</i>	25.8	0.09	19.0	0.25	42.0	0.02	40.1	0.11
	<i>Black (NH)</i>	14.2		28.5		29.5		35.9	
	<i>Hispanic</i>	21.2		36.6		42.7		29.2	
	<i>Other</i>	22.4		15.3		44.0		69.6	
Age (years)	<i>18-29</i>	22.2	0.01 [^]	20.2	0.55	38.4	0.00	33.6	0.07
	<i>30-49</i>	26.7		28.4		47.3		43.7	
	<i>50-64</i>	24.8		16.2		46.0		49.7	
	<i>65+</i>	14.3		19.6		24.0		23.1	
Education	<i>High school or less</i>	21.4	0.04 [^]	21.3	0.80	37.7	0.04 [^]	38.1	0.78
	<i>Some college or more</i>	24.6		23.6		42.8		39.5	
Household Income	<i><\$30,000</i>	19.0	0.13	18.5	0.91	36.5	<0.001	37.6	0.18
	<i>\$30,000- \$49,999</i>	29.0		24.4		49.3		37.6	
	<i>\$50,000- \$99,99</i>	26.5		22.0		46.7		46.9	
	<i>≥\$100,000</i>	25.7		28.6		39.6		56.4	
Employ- ment	<i>Full-time</i>	26.5	0.01	25.5	0.72	50.1	<0.001	48.5	0.02
	<i>Part-time</i>	28.6		17.0		41.8		21.6	
	<i>Unemployed</i>	16.7		20.2		31.9		34.1	
Location	<i>Urban</i>	26.4	0.18	24.7	0.34	38.3	0.16	37.0	0.88
	<i>Suburban</i>	20.6		16.7		43.9		43.3	
	<i>Rural</i>	19.0		29.0		43.7		37.1	
Insured	<i>Yes</i>	23.4	0.50	22.7	0.84	38.1	<0.001	37.6	0.47
	<i>No</i>	26.8		20.7		58.0		47.9	
Main source of health insurance	<i>ESHI</i>	28.1	0.03	25.5	0.89	47.9	<0.001	53.5	0.01
	<i>Medicare</i>	15.6		19.5		26.0		25.6	
	<i>Medicaid</i>	18.0		15.7		28.2		37.6	
	<i>Other Insurance</i>	19.4		21.5		39.6		23.5	
	<i>Uninsured</i>	26.8		25.5		58.0		47.9	

		7-State Sample n=1732		National Sample n=236		7-State Sample n=2023		National Sample n=304	
<i>Percentage Rating Cost as Unreasonable</i>		23.6%		22.5%		40.5%		38.7%	
<i>Observations</i>		n=365 (%)	p- value	n=48 (%)	p- value	n=801 (%)	p-value	n=104 (%)	p- value
Has Regular Care Provider	<i>Yes</i>	22.7	0.19	23.9	0.53	38.6	0.02	38.9	0.91
	<i>No</i>	26.4		18.8		48.8		37.7	
Chronic Illness	<i>Yes</i>	18.7	<0.01	28.6	0.09	38.2	0.09	36.2	0.56
	<i>No</i>	26.3		19.3		42.9		41.2	
Self-reported Health Status	<i>Excellent to Good</i>	25.1	0.04 [^]	20.5	0.27	39.9	0.20	37.4	0.62
	<i>Fair to Poor</i>	18.3		29.5		41.5		41.4	
Lives in Medicaid Expansion State	<i>Yes</i>	19.1	0.02	n/a		40.3	0.20	n/a	
	<i>No</i>	25.8		n/a		40.8		n/a	

Notes: Row percentages are provided to summarize the percentage of individuals with a given characteristic who gave a very-to-somewhat unreasonable cost rating to a given facility after they experienced care there so that it can be compared to the overall sample response (see first row). *If a respondent selected Don't Know/Refused for their UC or ED rating (<5% of the sample), they were excluded, yet respondents with a Don't Know/Refused response in their characteristic (e.g. age, income) were included for purposes of chi-squared analysis as is consistent with prior tables. [^] No longer significant when excluding the Don't Know/Refused respondents for those categories.

Table 9. Logistic Regression of Characteristics of Adults (18+) Predicting Unreasonable Cost Rating at Urgent Care Centers (UCs) or Emergency Departments (EDs), Adjusted Odds Ratio [95% Confidence Interval]

		Unreasonable Costs UC		Unreasonable Costs ED	
		7-State Sample	National Sample	7-State Sample	National Sample
		N=1482	N=198	N=1808	N=255
Variables		Prof > F: 0.0208	Prob > F: 0.3638	Prof > F: <0.000	Prof > F: 0.0378
Has Regular Care Provider	Yes	--	--	--	--
	No	1.00 [0.62, 1.61]	0.51 [0.15, 1.77]	1.07 [0.68, 1.68]	0.93 [0.35, 2.51]
Main source of Health Insurance	ESHI/ Spouse	--	--	--	--
	<i>Medicare</i>	0.83 [0.39, 1.80]	3.04 [0.71, 13.08]	0.76 [0.46, 1.27]	0.38 [0.13, 1.16]
	<i>Medicaid</i>	0.80 [0.33, 1.94]	0.87 [0.12, 6.16]	0.63 [0.35, 1.14]	0.76 [0.22, 2.67]
	<i>Other Insurance</i>	0.58 [0.32, 1.06]	2.82 [0.64, 12.53]	1.14 [0.72, 1.82]	0.29* [0.10, 0.86]
	<i>Uninsured</i>	0.88 [0.39, 1.96]	2.94 [0.42, 20.42]	1.98* [1.11, 3.51]	0.60 [0.17, 2.18]
Chronically Ill	No	--	--	--	--
	Yes	0.78 [0.52, 1.17]	4.11** [1.43, 11.84]	0.93 [0.66, 1.32]	0.53 [0.23, 1.21]
Fair/Poor Health	No	--	--	--	--
	Yes	0.91 [0.53, 1.55]	0.72 [0.23, 2.29]	1.33 [0.92, 1.93]	2.29 [1.00, 5.20]
Gender	Male	--	--	--	--
	Female	0.82 [0.55, 1.22]	1.93 [0.84, 4.48]	0.89 [0.65, 1.21]	1.11 [0.52, 2.38]
Race/ Ethnicity	White (NH)	--	--	--	--
	Black (NH)	0.38** [0.20, 0.73]	2.61 [0.60, 11.34]	0.48** [0.30, 0.78]	0.62 [0.22, 1.75]
	Hispanic	0.79 [0.42, 1.46]	4.08* [1.12, 14.87]	1.05 [0.66, 1.68]	0.49 [0.14, 1.76]
	Other	0.87 [0.42, 1.79]	0.28 [0.05, 1.51]	0.83 [0.45, 1.50]	5.63* [1.30, 24.49]
Age (years)	18-29	--	--	--	--
	30-49	1.14 [0.69, 1.91]	2.01 [0.46, 8.87]	1.03 [0.65, 1.65]	1.10 [0.37, 3.27]
	50-64	1.17 [0.65, 2.09]	0.70 [0.16, 2.96]	1.17 [0.72, 1.89]	1.54 [0.51, 4.66]
	65+	0.51 [0.21, 1.21]	1.58 [0.30, 8.19]	0.62 [0.35, 1.12]	0.59 [0.17, 2.08]
Education	≤ High School	--	--	--	--
	Some college+	1.04 [0.69, 1.57]	1.87 [0.72, 4.84]	1.53* [1.09, 2.14]	0.84 [0.38, 1.88]

		Unreasonable Costs UC		Unreasonable Costs ED	
		7-State Sample	National Sample	7-State Sample	National Sample
		N=1482	N=198	N=1808	N=255
Variables		Prof > F: 0.0208	Prob > F: 0.3638	Prof > F: <0.000	Prof > F: 0.0378
Employment	<i>Full-Time</i>	--	--	--	--
	<i>Part-time</i>	1.49 [0.86, 2.60]	0.32 [0.05, 2.04]	0.81 [0.50, 1.31]	0.27 [0.07, 1.08]
	<i>Unemployed</i>	0.93 [0.54, 1.58]	0.23* [0.07, 0.76]	0.58* [0.38, 0.89]	0.81 [0.27, 2.42]
Household Income	<i><\$30,000</i>	--	--	--	--
	<i>\$30,000-\$49,999</i>	1.51 [0.83, 2.73]	1.28 [0.32, 5.10]	1.42 [0.94, 2.17]	0.94 [0.37, 2.37]
	<i>\$50,000-\$99,99</i>	1.10 [0.62, 1.95]	1.62 [0.42, 6.31]	0.96 [0.62, 1.49]	1.26 [0.39, 4.09]
	<i>≥\$100,000</i>	0.91 [0.47, 1.78]	2.34 [0.56, 9.69]	0.63 [0.37, 1.07]	1.28 [0.36, 4.55]
Household Location	<i>Urban</i>	--	--	--	--
	<i>Suburban</i>	0.68 [0.42, 1.09]	0.20 [0.04, 0.96]	0.99 [0.70, 1.41]	1.72 [0.69, 4.36]
	<i>Rural</i>	0.59 [0.33, 1.03]	0.92 [0.32, 2.64]	1.08 [0.74, 1.59]	0.93 [0.45, 1.94]
Lives in Medicaid Expansion State	<i>No</i>	--	n/a	--	n/a
	<i>Yes</i>	0.65* [0.45, 0.95]	n/a	1.14 [0.85, 1.53]	n/a

Notes: NH=non-Hispanic; ESHI=employer-sponsored health insurance. Reference groups (--), in order of categories: has a regular care provider; Employer/Spouse Employer Sponsored Health Insurance (ESH), Not Chronically Ill, self-reported Good/Excellent Health, Male, non-Hispanic White, Age 18-29, High school education or less, Employed full-time, Household Income <\$30,000, Urban household location, and for state-analysis: does not live in Medicaid expansion state. Model is significant at P-value: *p<0.05, **<0.01, ***<0.001.

Table 10. Characteristics of Individuals with Self-Reported Low-Acuity Health Need, by Facility Type

		7-State Sample N=7036			National Sample N=1002																																																																																																																																																																																																
		UC User n=1168 %	ED User n=1,181 %	p-value	UC User n=157 %	ED User n=173 %	p-value																																																																																																																																																																																														
Gender	<i>Male</i>	47	43	0.22	49	34	0.03*																																																																																																																																																																																														
	<i>Female</i>	53	57		51	66		Race/Ethnicity	<i>White (non-Hispanic)</i>	69	55	<0.001***	73	54	0.07	<i>Black (non-Hispanic)</i>	10	20	8	16	<i>Hispanic</i>	16	18	13	19	<i>Other</i>	4	6	4	7	Age (years)	<i>18-29</i>	20	23	0.08	22	27	0.44	<i>30-49</i>	37	33	39	36	<i>50-64</i>	27	24	24	21	<i>65+</i>	16	19	14	16	Education	<i>High school or less</i>	35	51	<0.001***	45	54	0.22	<i>Some college or more</i>	65	49	55	55	Household Income	<i><\$30,000</i>	29	46	<0.001***	27	38	0.02	<i>\$30,000-\$49,999</i>	11	16	14	19	<i>\$50,000-\$99,999</i>	28	18	30	17	<i>≥\$100,000</i>	23	8	20	9	Employment Status	<i>Full-time</i>	53	36	<0.001***	49	46	0.66	<i>Part-time</i>	16	13	10	14	<i>Not employed</i>	31	51	40	40	Household Location	<i>Urban</i>	58	55	0.1	53	53	0.19	<i>Suburban</i>	27	24	28	24	<i>Rural</i>	12	14	14	22	Insured	<i>Yes</i>	92	86	<0.001***	87	89	0.4	<i>No</i>	8	14	13	9	Main source of health insurance	<i>ESHI</i>	51	33	<0.001***	45	32	0.24	<i>Medicare</i>	15	21	12	17	<i>Medicaid</i>	5	12	10	16	<i>Other Insurance</i>	21	20	20	24	<i>Uninsured</i>	8	14	13	9	Has Regular Care Provider	<i>Yes</i>	79	75	0.02*	70	81	0.12	<i>No</i>	21	24	30	19	Chronically Ill	<i>Yes</i>	36	48	<0.001***	31	43	0.13	<i>No</i>	64	51	68	57	Self-reported Health Status	<i>Excellent to Good</i>	80	67	<0.001***
Race/Ethnicity	<i>White (non-Hispanic)</i>	69	55	<0.001***	73	54	0.07																																																																																																																																																																																														
	<i>Black (non-Hispanic)</i>	10	20		8	16																																																																																																																																																																																															
	<i>Hispanic</i>	16	18		13	19																																																																																																																																																																																															
	<i>Other</i>	4	6		4	7		Age (years)	<i>18-29</i>	20	23	0.08	22	27	0.44	<i>30-49</i>	37	33	39	36	<i>50-64</i>	27	24	24	21	<i>65+</i>	16	19	14	16	Education	<i>High school or less</i>	35	51	<0.001***	45	54	0.22	<i>Some college or more</i>	65	49	55	55	Household Income	<i><\$30,000</i>	29	46	<0.001***	27	38	0.02	<i>\$30,000-\$49,999</i>	11	16	14	19	<i>\$50,000-\$99,999</i>	28	18	30	17	<i>≥\$100,000</i>	23	8	20	9	Employment Status	<i>Full-time</i>	53	36	<0.001***	49	46	0.66	<i>Part-time</i>	16	13	10	14	<i>Not employed</i>	31	51	40	40	Household Location	<i>Urban</i>	58	55	0.1	53	53	0.19	<i>Suburban</i>	27	24	28	24	<i>Rural</i>	12	14	14	22	Insured	<i>Yes</i>	92	86	<0.001***	87	89	0.4	<i>No</i>	8	14	13	9	Main source of health insurance	<i>ESHI</i>	51	33	<0.001***	45	32	0.24	<i>Medicare</i>	15	21	12	17	<i>Medicaid</i>	5	12	10	16	<i>Other Insurance</i>	21	20	20	24		<i>Uninsured</i>	8	14		13	9		Has Regular Care Provider	<i>Yes</i>	79	75	0.02*	70	81	0.12	<i>No</i>	21	24	30	19	Chronically Ill	<i>Yes</i>	36	48	<0.001***	31	43	0.13	<i>No</i>	64	51	68	57	Self-reported Health Status	<i>Excellent to Good</i>	80	67	<0.001***	84	67	<0.001***																	
Age (years)	<i>18-29</i>	20	23	0.08	22	27	0.44																																																																																																																																																																																														
	<i>30-49</i>	37	33		39	36																																																																																																																																																																																															
	<i>50-64</i>	27	24		24	21																																																																																																																																																																																															
	<i>65+</i>	16	19		14	16		Education	<i>High school or less</i>	35	51	<0.001***	45	54	0.22	<i>Some college or more</i>	65	49	55	55	Household Income	<i><\$30,000</i>	29	46	<0.001***	27	38	0.02	<i>\$30,000-\$49,999</i>	11	16	14	19	<i>\$50,000-\$99,999</i>	28	18	30	17	<i>≥\$100,000</i>	23	8	20	9	Employment Status	<i>Full-time</i>	53	36	<0.001***	49	46	0.66	<i>Part-time</i>	16	13	10	14	<i>Not employed</i>	31	51	40	40	Household Location	<i>Urban</i>	58	55	0.1	53	53	0.19	<i>Suburban</i>	27	24	28	24	<i>Rural</i>	12	14	14	22	Insured	<i>Yes</i>	92	86	<0.001***	87	89	0.4	<i>No</i>	8	14	13	9	Main source of health insurance	<i>ESHI</i>	51	33	<0.001***	45	32	0.24	<i>Medicare</i>	15	21	12	17	<i>Medicaid</i>	5	12	10	16	<i>Other Insurance</i>	21	20	20	24		<i>Uninsured</i>	8	14		13	9		Has Regular Care Provider	<i>Yes</i>	79	75	0.02*	70	81	0.12	<i>No</i>	21	24	30	19	Chronically Ill	<i>Yes</i>	36	48	<0.001***	31	43	0.13	<i>No</i>	64	51	68	57	Self-reported Health Status	<i>Excellent to Good</i>	80	67	<0.001***	84	67	<0.001***																																								
Education	<i>High school or less</i>	35	51	<0.001***	45	54	0.22																																																																																																																																																																																														
	<i>Some college or more</i>	65	49		55	55		Household Income	<i><\$30,000</i>	29	46	<0.001***	27	38	0.02	<i>\$30,000-\$49,999</i>	11	16	14	19		<i>\$50,000-\$99,999</i>	28	18		30	17		<i>≥\$100,000</i>	23	8	20	9	Employment Status	<i>Full-time</i>	53	36	<0.001***	49	46	0.66	<i>Part-time</i>	16		13	10	14		<i>Not employed</i>	31		51	40	40	Household Location	<i>Urban</i>	58	55	0.1	53	53		0.19	<i>Suburban</i>	27		24	28		24	<i>Rural</i>	12	14	14	22	Insured	<i>Yes</i>	92	86	<0.001***	87	89	0.4	<i>No</i>	8	14	13	9	Main source of health insurance	<i>ESHI</i>	51	33		<0.001***	45	32		0.24	<i>Medicare</i>		15	21	12	17	<i>Medicaid</i>	5	12	10	16	<i>Other Insurance</i>	21	20	20	24	<i>Uninsured</i>	8	14	13	9	Has Regular Care Provider	<i>Yes</i>	79	75	0.02*	70	81	0.12	<i>No</i>	21	24	30	19	Chronically Ill	<i>Yes</i>	36	48	<0.001***	31	43	0.13	<i>No</i>	64	51	68	57	Self-reported Health Status	<i>Excellent to Good</i>	80	67	<0.001***	84	67	<0.001***																																												
Household Income	<i><\$30,000</i>	29	46	<0.001***	27	38	0.02																																																																																																																																																																																														
	<i>\$30,000-\$49,999</i>	11	16		14	19																																																																																																																																																																																															
	<i>\$50,000-\$99,999</i>	28	18		30	17																																																																																																																																																																																															
	<i>≥\$100,000</i>	23	8		20	9		Employment Status	<i>Full-time</i>	53	36	<0.001***	49	46	0.66	<i>Part-time</i>	16	13	10	14	<i>Not employed</i>	31	51	40	40	Household Location	<i>Urban</i>	58	55	0.1	53	53	0.19	<i>Suburban</i>	27	24	28	24	<i>Rural</i>	12	14	14	22	Insured	<i>Yes</i>	92	86	<0.001***	87	89	0.4	<i>No</i>	8	14	13	9	Main source of health insurance	<i>ESHI</i>	51	33	<0.001***	45	32	0.24	<i>Medicare</i>	15	21	12	17	<i>Medicaid</i>	5	12	10	16	<i>Other Insurance</i>	21	20	20	24	<i>Uninsured</i>	8	14	13	9	Has Regular Care Provider	<i>Yes</i>	79	75		0.02*	70	81	0.12		<i>No</i>	21	24		30	19	Chronically Ill	<i>Yes</i>	36	48	<0.001***	31	43	0.13	<i>No</i>	64	51	68	57	Self-reported Health Status	<i>Excellent to Good</i>	80	67	<0.001***	84	67	<0.001***																																																																												
Employment Status	<i>Full-time</i>	53	36	<0.001***	49	46	0.66																																																																																																																																																																																														
	<i>Part-time</i>	16	13		10	14																																																																																																																																																																																															
	<i>Not employed</i>	31	51		40	40		Household Location	<i>Urban</i>	58	55	0.1	53	53	0.19	<i>Suburban</i>	27	24	28	24	<i>Rural</i>	12	14	14	22	Insured	<i>Yes</i>	92	86	<0.001***	87	89	0.4	<i>No</i>	8	14	13	9	Main source of health insurance	<i>ESHI</i>	51	33	<0.001***	45	32	0.24	<i>Medicare</i>	15	21	12	17	<i>Medicaid</i>	5	12	10	16		<i>Other Insurance</i>	21	20		20	24		<i>Uninsured</i>	8	14	13	9	Has Regular Care Provider	<i>Yes</i>	79	75	0.02*	70	81	0.12	<i>No</i>	21	24	30	19	Chronically Ill	<i>Yes</i>	36	48	<0.001***	31	43	0.13	<i>No</i>	64	51	68	57	Self-reported Health Status	<i>Excellent to Good</i>	80	67	<0.001***	84	67	<0.001***																																																																																														
Household Location	<i>Urban</i>	58	55	0.1	53	53	0.19																																																																																																																																																																																														
	<i>Suburban</i>	27	24		28	24																																																																																																																																																																																															
	<i>Rural</i>	12	14		14	22		Insured	<i>Yes</i>	92	86	<0.001***	87	89	0.4	<i>No</i>	8	14	13	9	Main source of health insurance	<i>ESHI</i>	51	33	<0.001***	45	32	0.24	<i>Medicare</i>	15	21	12	17	<i>Medicaid</i>	5	12	10	16		<i>Other Insurance</i>	21	20		20	24		<i>Uninsured</i>	8	14	13	9	Has Regular Care Provider	<i>Yes</i>	79	75	0.02*	70	81	0.12	<i>No</i>	21	24	30	19	Chronically Ill	<i>Yes</i>	36	48	<0.001***	31	43	0.13	<i>No</i>	64	51	68	57	Self-reported Health Status	<i>Excellent to Good</i>	80	67	<0.001***	84	67	<0.001***																																																																																																																
Insured	<i>Yes</i>	92	86	<0.001***	87	89	0.4																																																																																																																																																																																														
	<i>No</i>	8	14		13	9		Main source of health insurance	<i>ESHI</i>	51	33	<0.001***	45	32	0.24	<i>Medicare</i>	15	21	12	17		<i>Medicaid</i>	5	12		10	16		<i>Other Insurance</i>	21	20	20	24	<i>Uninsured</i>	8	14	13	9	Has Regular Care Provider	<i>Yes</i>	79	75	0.02*	70	81	0.12	<i>No</i>	21	24	30	19	Chronically Ill	<i>Yes</i>	36	48	<0.001***	31	43	0.13	<i>No</i>	64	51	68	57	Self-reported Health Status	<i>Excellent to Good</i>	80	67	<0.001***	84	67	<0.001***																																																																																																																													
Main source of health insurance	<i>ESHI</i>	51	33	<0.001***	45	32	0.24																																																																																																																																																																																														
	<i>Medicare</i>	15	21		12	17																																																																																																																																																																																															
	<i>Medicaid</i>	5	12		10	16																																																																																																																																																																																															
	<i>Other Insurance</i>	21	20		20	24																																																																																																																																																																																															
	<i>Uninsured</i>	8	14		13	9		Has Regular Care Provider	<i>Yes</i>	79	75	0.02*	70	81	0.12	<i>No</i>	21	24	30	19	Chronically Ill	<i>Yes</i>	36	48	<0.001***	31	43	0.13	<i>No</i>	64	51	68	57	Self-reported Health Status	<i>Excellent to Good</i>	80	67	<0.001***	84	67	<0.001***																																																																																																																																																												
Has Regular Care Provider	<i>Yes</i>	79	75	0.02*	70	81	0.12																																																																																																																																																																																														
	<i>No</i>	21	24		30	19		Chronically Ill	<i>Yes</i>	36	48	<0.001***	31	43	0.13	<i>No</i>	64	51	68	57	Self-reported Health Status	<i>Excellent to Good</i>	80	67	<0.001***	84	67	<0.001***																																																																																																																																																																									
Chronically Ill	<i>Yes</i>	36	48	<0.001***	31	43	0.13																																																																																																																																																																																														
	<i>No</i>	64	51		68	57		Self-reported Health Status	<i>Excellent to Good</i>	80	67	<0.001***	84	67	<0.001***																																																																																																																																																																																						
Self-reported Health Status	<i>Excellent to Good</i>	80	67	<0.001***	84	67	<0.001***																																																																																																																																																																																														

		7-State Sample N=7036			National Sample N=1002		
		UC User n=1168 %	ED User n=1,181 %	p-value	UC User n=157 %	ED User n=173 %	p-value
	<i>Fair to Poor</i>	20	33		16	32	
Lives in Medicaid Expansion State	<i>Yes</i>	34	34	0.96	n/a	n/a	--
	<i>No</i>	66	66				

Notes: Medicaid expansion state was only included in the combined 7-state sample analysis. ESHI = employer-sponsored health insurance or spouse-ESH I. *p<0.05, **<0.01, ***<0.001.

Table 11. Logistic Regression Results Predicting Emergency Department (ED) Use for Low-Acuity Health Reason (versus Urgent Care) Within the Past Two Years (2014-2015), Adjusted Odds Ratio [95% Confidence Interval]

Variables		7-State Sample N=1,986 Prof > F: <0.000	National Sample N=271 Prof > F: 0.0061
Has Regular Care Provider	<i>Yes</i>	--	
	<i>No</i>	0.94 [0.62, 1.41]	0.26** [0.11, 0.63]
Main Source of Health Insurance	<i>ESHI</i>	--	--
	<i>Medicare</i>	1.31 [0.78, 2.20]	1.84 [0.58, 5.83]
	<i>Medicaid</i>	1.49 [0.80, 2.76]	0.84 [0.27, 2.65]
	<i>Other Insurance</i>	1.03 [0.67, 1.60]	2.19 [0.82, 5.86]
	<i>Uninsured</i>	1.85* [1.04, 3.27]	1.54 [0.45, 5.34]
Chronically Ill	<i>No</i>	--	--
	<i>Yes</i>	1.29 [0.94, 1.78]	1.04 [0.47, 2.28]
Fair/Poor Health	<i>No</i>	--	--
	<i>Yes</i>	1.00 [0.69, 1.46]	3.71** [1.49, 9.25]
Gender	<i>Male</i>	--	--
	<i>Female</i>	1.00 [0.74, 1.34]	1.73 [0.90, 3.34]
Race/ Ethnicity	White (NH)	--	--
	Black (NH)	1.78* [1.11, 2.87]	1.68 [0.64, 4.39]
	Hispanic	0.86 [0.55, 1.36]	1.27 [0.46, 3.49]
	Other	1.51 [0.84, 2.72]	2.53 [0.62, 10.36]
Age (years)	<i>18-29</i>	--	--
	<i>30-49</i>	1.08 [0.69, 1.68]	0.74 [0.27, 1.99]
	<i>50-64</i>	0.88 [0.57, 1.37]	0.62 [0.22, 1.76]
	<i>65+</i>	0.78 [0.43, 1.38]	0.59 [0.17, 2.04]
Education	<i>≤ High School</i>	--	--
	<i>Some college+</i>	0.84 [0.61, 1.16]	0.83 [0.39, 1.75]
Employment	<i>Full-Time</i>	--	--
	<i>Part-time</i>	0.92 [0.57, 1.49]	0.74 [0.25, 2.18]
	<i>Unemployed</i>	1.66* [1.12, 2.45]	0.36* [0.15, 0.91]
Household Income	<i><\$30,000</i>	--	--
	<i>\$30,000-\$49,999</i>	1.16 [0.79, 1.73]	0.95 [0.38, 2.42]
	<i>\$50,000-\$99,99</i>	0.59* [0.39, 0.89]	0.60 [0.24, 1.53]
	<i>≥\$100,000</i>	0.37*** [0.23, 0.61]	0.38 [0.11, 1.30]
Household Location	<i>Urban</i>	--	--
	<i>Suburban</i>	1.14 [0.81, 1.62]	1.10 [0.52, 2.32]
	<i>Rural</i>	1.19 [0.81, 1.74]	1.47 [0.62, 3.45]
Lives in Medicaid Expansion State	<i>No</i>	--	n/a
	<i>Yes</i>	1.01 [0.76, 1.34]	n/a

Notes: NH=non-Hispanic; ESHI=employer-sponsored health insurance. Reference groups (--), in order of categories: Has a regular care provider; Employer/Spouse Employer Sponsored Health Insurance (ESHI), Not Chronically Ill, In Good/Excellent Health, Male, non-Hispanic White, Age 18-29, High school education or less, Employed full-time,

Household Income <\$30,000, Urban household location, and for state-analysis: does not live in Medicaid expansion state. Model is significant at P-value: *p<0.05, **<0.01, ***<0.001.