ABSTRACT Undocumented immigrants were excluded from the health benefit Marketplaces created by the Affordable Care Act partly because of claims that they contribute to problems such as high costs and emergency department (ED) crowding. This article examines the likely health care use and costs of undocumented immigrants in California in 2009–10. Using data from the 2009 California Health Interview Survey (CHIS), we developed a model that estimated the state’s adult and child undocumented immigrant population, since the survey does not explicitly inquire about undocumented status. The survey also provided information on insurance status, doctor visits, and ED visits in the previous year. We found that undocumented immigrants in California, and the uninsured among them, had fewer or similar numbers of doctor visits, ED visits, and preventive services use compared to US citizens and other immigrant groups. Allowing undocumented immigrants to purchase insurance in the Marketplaces and ensuring receipt of low-cost preventive services can contribute to lower premiums and reduce resource strains on safety-net providers.

Conservative rhetoric blames undocumented immigrants for many of the ills of the US health care system.\(^1\) Undocumented immigrants allegedly overburden the safety-net system through high rates of emergency department (ED) use and hospitalization.\(^2\) Similar to undocumented immigrants, those without documents typically have lower health care expenditures and may not have access to high health care insurance coverage.\(^3\) In 2010 undocumented immigrants were excluded from coverage under the Affordable Care Act (ACA), including the new health benefit exchanges, or Marketplaces. Arguments for the exclusion of undocumented immigrants included the reduction of the government’s financial liability to pay exchange-based subsidies. However, the option to include undocumented immigrants in the exchanges without subsidies, similar to the inclusion of documented immigrants and citizens with incomes over 400 percent of the federal poverty level, could have been exercised.

There were an estimated 11.2 million undocumented immigrants in the United States in 2010, the largest share of whom (2.55 million) resided in California.\(^4\) Those without documents typically have lower educational attainment, household income, and health insurance coverage rates than US-born citizens and other immigrant groups.\(^5\) Undocumented immigrants constitute 6.8 percent of California residents\(^6\) but 24 percent of the state’s uninsured population.\(^7\) Despite high rates of full-time employment, many work in industries such as farming, construction, groundskeeping, and maintenance that do not offer employment-based coverage.\(^8\) Most are low-wage workers who are unable to afford private insurance coverage.

To date, geographically specific and limited national data have shown that undocumented...
immigrants have lower rates of hospitalization for non-childbirth-related reasons, fewer visits to physicians, lower likelihood of receiving blood pressure and cholesterol checks, and lower overall health care expenditures compared to US citizens and other immigrant groups.2,7–9 A comparison of US-born citizens of Mexican descent and undocumented Mexicans residing in California found fewer office visits and more negative experiences with health care for the latter group.10

Despite these findings, a persistent perception of undocumented immigrants as major contributors to the problems facing the US health care system continues to spur anti-immigrant sentiment and policy. One argument for the exclusion of undocumented immigrants from exchanges posits that health insurance would serve as a magnet for further undocumented immigration to the United States, despite a lack of evidence of a connection between health benefits and migration. To the contrary, research suggests that most undocumented immigration occurs because of the search for higher wages by unskilled workers or for family reunification.5,11

We tested the validity of the assertion that undocumented immigrants are more frequent users of health care by asking the following questions: Do undocumented immigrants use more services than other immigrants and citizens? Do uninsured undocumented immigrants use more services than other uninsured people? Do uninsured undocumented immigrants use more services than insured undocumented immigrants? These questions allowed us to assess differences in service use as well as the role of insurance in service use among undocumented immigrants, other immigrants, and US citizens.

### Study Data And Methods

**DATA AND SAMPLE** We used data from the 2009 California Health Interview Survey (CHIS). This data source was preferable to available national data because it controls for differences in benefit mandates, Medicaid and Children’s Health Insurance Program (CHIP) eligibility criteria and benefits, and other unique market and demographic factors. CHIS is also uniquely suitable for this analysis because its large representative sample of more than 59,000 respondents, oversampling of Asian American and non-English-speaking populations, and questions on citizenship allow for a relatively accurate assessment of immigration status.12 The sample used for this analysis included 12,324 children and adolescents ages 0–17 and 47,614 adults.

**UTILIZATION VARIABLES** Utilization variables were selected to measure the scope of ambulatory and preventive service use. They included the number of doctor visits in the past year and the percentage of respondents with an ED visit in the past year among children and adults, and the percentage of children who had a doctor visit in the past year. We used the percentage of children with at least one doctor visit in the past year as a proxy for well-child visits or preventive care. Preventive services included women ages fifty and older who had a mammogram in the past two years and the percentage of adults ages fifty and older who had a colorectal cancer screening.

**PRIMARY PREDICTOR AND CONTROL VARIABLES**

The primary variable of interest was immigration status. CHIS does not explicitly inquire about undocumented status, so we constructed the category based on available variables and other resources. All CHIS respondents were asked if they were US-born, naturalized citizens, or legal permanent residents. Respondents who were not born in the United States were also asked to report their country of birth and number of years of residence in the United States. Data from other research based on immigration and naturalization data and the Current Population Survey show that 95 percent of immigrants without a green card (that is, not legal permanent residents) living in the United States for more than three years were undocumented, with small rate variations based on the country of origin.13

Using this information, we developed a model to predict the likelihood of being undocumented among noncitizen, non–legal permanent resident CHIS respondents who had resided in the United States for four or more years compared to those with shorter lengths of residence. The predictors in the model included country of origin, age, sex, education, work status, and income relative to the federal poverty level. These predictors were consistent with available data on the demographic and socioeconomic characteristics of undocumented immigrants.3 We pursued a similar methodology to assess undocumented status among those who reported being naturalized but had not resided in the United States for at least six years, when naturalization status would be rare. We predicted the likelihood of being undocumented for those who had resided in the United States for less than six years compared to those with longer tenure.

We identified those with the highest predicted likelihood of being undocumented from both models. The remainder in each group was considered to be documented immigrants and naturalized citizens, respectively. We estimated 2.22 million undocumented immigrants (95% confidence interval: 2.10, 2.43), comparable to other existing estimates (2.55 million; 95% CI: 2.35, 2.75).5 The resulting undocumented popu-
Immigrant Populations

... lation consisted of those without a green card and residing in the United States for more than four years (79 percent), followed by those without a green card and residing in the United States for less than four years (14 percent), and those naturalized who had lived in the United States for less than six years (8 percent). The final status variable had four categories: US-born, naturalized citizen, legal permanent resident or other authorized immigration status, and undocumented. “Other authorized immigration status” consisted of refugees, asylum seekers, and people with temporary work visas and was combined with legal permanent residents because of its small sample size.

The second variable of interest was insurance coverage, which was divided into five categories of self-reported coverage: private employer-based and privately purchased insurance in health maintenance organizations (HMOs), public HMO (Medicare, Medicaid, CHIP, and other state or local programs), private non-HMO, public non-HMO, and uninsured. Public coverage included a number of local California programs that enroll children regardless of immigration status. Adults covered by emergency Medicaid, Access for Infants and Mothers, or other programs were also included in this group.

We controlled for other potential confounders, including selected demographics such as age, sex, and race and ethnicity (non-Latino white, non-Latino African American, Latino of any racial origin, non-Latino Asian American, and non-Latino other). Language of survey interview (English, Spanish, and Asian languages) was used as a proxy for spoken English fluency. Specifying the California region of residence (northern, greater Bay Area, Sacramento area, San Joaquin Valley, central, Los Angeles, and southern counties) and urban or rural residence controlled for geographic variations in supply of providers and practice variations. Specifying family status (single without children, single with children, married without children, or married with children), family size (four or fewer versus five or more), and work status (full time, part time, self-employed, or not working) controlled for social circumstances that enable or inhibit service use. Economic indicators and health status were assessed with household income relative to the federal poverty level (less than 200 percent versus 200 percent or more); self-assessed health status (excellent, very good, or good versus fair or poor); and a count of the number of chronic conditions available in the data, including asthma, diabetes, heart disease, high cholesterol, cancer, and stroke. Work status and poverty level for children were measured at the family level. Education and language of interview were re-reported for the parent who responded for the child. An indicator of family-level work status was created considering both parents’ work status. Families with at least one full-time working parent were assigned to the full-time category, followed by at least one part-time working parent, one self-employed parent, and families with no working parents.

**Analysis Methods** We examined ambulatory and preventive service use in regression models. We used Poisson regression models for number of office visits and logistic regression models for any doctor visits, ED visits, and preventive services in the statistical analysis software STATA, version 12.1. Using the same models, we performed post-estimation analysis to calculate differences in predicted probability of service use with confidence intervals computed by Taylor Series approximation. We compared the service use of undocumented immigrants to that of legal residents and US-born and naturalized citizens, to highlight the overall difference between undocumented immigrants and other groups. We also compared the service use of uninsured undocumented immigrants with that of other uninsured respondents, and that of uninsured undocumented immigrants with that of privately insured undocumented immigrants. These comparisons allowed us to identify variations in service use among different insurance and immigration statuses and to examine the potential level of service use of uninsured undocumented immigrants if they were to obtain private insurance coverage in the California exchange marketplace. All analyses were adjusted for the complex survey design of CHIS explained above. We present the predicted probabilities of service use for ease of interpretation.

**Limitations** Our study has several limitations. We lacked data on overall health expenditures and thus could not examine the corresponding expenditures for undocumented immigrants. However, other research that monetizes usage indicates that expenditures for undocumented immigrants are lower than for other groups.7,14 We also lacked hospital admission data in the 2009 CHIS, but data from the 2001 CHIS showed similar adjusted hospitalization rates for children (4.8 percent) and adults (8.6 percent) across immigration and citizenship categories.

Despite our best efforts, errors in determining documentation status may have occurred. Respondents may have misreported their immigration status for various reasons, including fear of deportation. Inaccuracies in our models may have also led to erroneous assessment of undocumented status. We attempted to reduce such errors by reassigning those claiming to be naturalized immigrants who had lived in the United...
States for less than six years and by comparing our estimates with other independent estimates. Since our estimate of the total size of the undocumented immigrant population matches other independent estimates, we believe that our imputations have a reasonable level of accuracy.15

Finally, our data are limited to California and may not fully represent the health services use of undocumented immigrants elsewhere. Undocumented immigrants from Mexico account for 60 percent of all undocumented residents nationally but are overrepresented in California.7 California incorporates many Medicaid enrollees into public HMOs, which may not be the case nationally. California also has programs that provide care for all residents regardless of immigration status and currently has a relatively tolerant political climate for immigrants, which may cause the rates of health care use of uninsured undocumented immigrants in California to be higher than in other states.

Study Results
Exhibit 1 displays the service use of the sample by immigration status and age. An estimated 4 percent of children (453 respondents) and 6 percent of adults (1,515 respondents) were undocumented. The mean number of doctor visits in the past year was significantly lower for undocumented children (2.3) and adults (1.7) than for US-born children and adults (2.8 and 3.2, respectively). The rates of visits regardless of immigration status—3.0 for adults and 2.8 for children—were lower than the 3.3 mean number of annual visits in 2007 for all ages nationwide.16,17 The likelihood of an ED visit in the past year was 19 percent for adults and 18 percent for children—higher than the national average of 14 percent.16 This rate did not vary by immigration status for children, but undocumented adults had significantly lower rates (11 percent) than US born adults (20 percent). Ninety percent of US-born children had at least one doctor visit in the past year, compared to 78 percent of undocumented children. Rates of mammogram and colorectal cancer screening for undocumented immigrants (71 percent and 32 percent, respectively) among recommended age- and sex-appropriate adults were significantly lower than for the US-born (84 percent and 71 percent, respectively).

Service use by immigration status, adjusted for other potential modifiers, is presented in Exhibit 2. Adjusted mean number of doctor visits and ED use by undocumented children did not differ significantly from those of other groups. However, a lower proportion of undocumented children (84 percent) had at least one doctor visit in the past year compared to naturalized citizen children (94 percent) and children who were

### Exhibit 1

Health Care Usage Rates For Children And Adults, By Immigration Status, 2009

<table>
<thead>
<tr>
<th>Service used</th>
<th>Children ages 0–17 (N = 12,324)</th>
<th>Adults ages 18 and older (N = 47,614)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percent of sample</td>
<td>Total 93</td>
<td>Naturalized 1 2</td>
</tr>
<tr>
<td>Mean number of doctor visits last year</td>
<td>28 1.9 25 23</td>
<td>30 2.0 25 23</td>
</tr>
<tr>
<td>Percent with ED visit last year</td>
<td>18 10 15 17</td>
<td>19 20 16 17</td>
</tr>
<tr>
<td>Percent of children with at least one doctor visit last year</td>
<td>90 93 87 78</td>
<td>— — — —</td>
</tr>
<tr>
<td>Percent of women 50 and older who had mammogram in past two years</td>
<td>— — — —</td>
<td>84 84 86 76</td>
</tr>
<tr>
<td>Percent of adults 50 and older who had colorectal cancer screening</td>
<td>— — — —</td>
<td>68 71 66 41</td>
</tr>
</tbody>
</table>

SOURCE: 2009 California Health Interview Survey. NOTES: 
p values indicate significant differences between undocumented and other immigration categories. ED is emergency department. *Not applicable. **p < 0.05 ***p < 0.01 ****p < 0.001
legal permanent residents or had another type of documentation (91 percent). Among adults, undocumented immigrants had significantly fewer adjusted office visits (2.6) than US-born citizens (2.9). There were no significant differences in adult ED and preventive services use by immigration status after other predictors were controlled for.

When we considered only the uninsured population and adjusted for other predictors (Exhibit 3), fewer undocumented children (73 percent) had a doctor visit in the past year than naturalized citizens (89 percent) and children who were legal permanent residents or had another type of documentation (84 percent). Uninsured undocumented children did not otherwise differ from uninsured children in other immigration and citizenship categories. Uninsured undocumented adults had fewer office visits (1.6) than US-born citizens (1.8). Adjusted rates of ED and preventive services use did not differ. Within the undocumented population, signif-
icantly fewer uninsured children (73 percent) had a doctor visit last year than children with private HMO (85 percent) and private non-HMO (88 percent) coverage (Exhibit 4). Compared to their insured counterparts, undocumented uninsured adults had a significantly lower mean number of doctor visits in the past year (1.6) and a lower adjusted rate of ED use in the past year (9 percent), and they were less likely to have had age- and sex-appropriate screenings for breast (70 percent) and colon cancer (33 percent).

Discussion
Our findings indicate that undocumented immigrants, especially the uninsured among them, do not use more health services than other immigrants and citizens. On the contrary, utilization among undocumented immigrants in all analyses was lower than or similar to that of other groups. Of particular interest was the lower ED use by adults, which negates the myth that undocumented immigrants are responsible for ED overcrowding. Our results contradict this common misconception and confirm that more citizens and documented individuals than undocumented immigrants use EDs. They confirm other findings that undocumented immigrants have lower health care spending, estimated in one study at $15.4 billion in annual average spending compared to $1 trillion for US-born individuals.7,14 Our study provides evidence that these lower expenditures are achieved in part through lower use of essential preventive and primary care services.

The differences in service use between insured and uninsured undocumented immigrants suggest that increasing private insurance coverage would increase service use among undocumented immigrants, but the level of use would likely remain lower than that of citizens. This is because other barriers such as limited English proficiency may still prevent service use.15 Increased private insurance coverage is likely to increase important preventive care such as cancer screenings for undocumented uninsured adults. Public coverage options for undocumented adults in California are limited to state-funded emergency Medicaid or condition-specific and limited coverage.

The lower likelihood of any doctor visits for undocumented children is particularly alarming because it may indicate low levels of preventive care. Widespread availability of free or low-cost immunizations may alleviate this concern somewhat but not completely. The lower number of annual office visits and the significantly lower use of preventive cancer screening by undocumented uninsured adults indicate less access to basic primary care, which carries significant and negative public health cost implications. Lower use of primary care is associated with the exacerbation of existing conditions and higher rates of avoidable acute care expenditures in the long term.19,20 Given the low rate of insurance and low incomes among undocumented immigrants, many of those expenditures are likely to be uncompensated and paid for by public funds (more details are available in the online Appendix).21 Our findings challenge the argument that undocumented immigrants use more health ser-

**EXHIBIT 4**

Predicted Rates of Service Usage for Undocumented California Residents, by Insurance Coverage, 2009

<table>
<thead>
<tr>
<th>Service used</th>
<th>Uninsured</th>
<th>Private HMO compared to uninsured</th>
<th>Private non-HMO compared to uninsured</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>AGES 0–17</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean number of doctor visits last year</td>
<td>2.0</td>
<td>3.0***</td>
<td>3.2***</td>
</tr>
<tr>
<td>Percent with ED visit last year</td>
<td>19</td>
<td>25</td>
<td>24</td>
</tr>
<tr>
<td>Percent with at least one doctor visit last year</td>
<td>73</td>
<td>85***</td>
<td>88***</td>
</tr>
<tr>
<td><strong>AGES 18 AND OLDER</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean number of doctor visits last year</td>
<td>1.6</td>
<td>2.5***</td>
<td>2.7***</td>
</tr>
<tr>
<td>Percent with ED visit last year</td>
<td>9</td>
<td>14***</td>
<td>13***</td>
</tr>
<tr>
<td>Percent of women 50 and older who had mammograms in past two years</td>
<td>70</td>
<td>90***</td>
<td>84***</td>
</tr>
<tr>
<td>Percent of adults 50 and older who had colorectal cancer screening</td>
<td>33</td>
<td>55***</td>
<td>49***</td>
</tr>
</tbody>
</table>

**SOURCE** 2009 California Health Interview Survey  **NOTES** Models are adjusted for insurance status, age, sex, race and ethnicity, spoken English fluency, region of residence, urban or rural status, family status, family size, work status, poverty level, health status, and number of chronic conditions. **p** values indicate significant differences between undocumented and other immigration categories. ***p < 0.01  ****p < 0.001

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vices than other populations. The lower level of service use among uninsured undocumented immigrants is likely due to barriers in service use, including unaffordability of care, inaccessibility of services, and fears about immigration enforcement. Care-related barriers are usually lowest at federally qualified health centers, the largest providers of uncompensated care in the safety net. Undocumented immigrants are estimated to represent nearly one-quarter of the uninsured population post-ACA implementation, and an increasing number will likely seek low-cost care in the safety-net system.

Safety-net providers are concerned that newly insured populations under the ACA will seek care from commercial providers, leaving federally qualified health centers and other safety-net providers with an increasingly higher proportion of undocumented immigrant patients. The ACA has provided federal funds to increase health centers’ number and capacity, but the predominance of undocumented immigrant patients may negatively affect political support for federal grants to these providers.

The exclusion of undocumented immigrants from the health benefit exchanges reduces the likelihood of coverage for these people, especially if more low-cost insurance policies are offered in the health benefit exchanges than outside them.

Including undocumented immigrants in the exchanges without subsidies is likely to have little effect on the size of the undocumented population, but denial of coverage may have important financial and social consequences. Lack of coverage and poor access to care may lead to late detection of disease and exacerbation of ambulatory care–sensitive conditions, leading to higher uncompensated expenditures as undocumented immigrants ultimately seek ED and hospital care from safety-net providers.

Extending the opportunity to purchase affordable insurance in the exchanges to undocumented immigrants could reduce the burden of uncompensated care on safety-net providers. The utilization profile of undocumented immigrants presented in this study suggests that exchanges may benefit from allowing them to purchase unsubsidized coverage, because a larger low-service-use risk pool may contribute to lower premiums. However, the current political climate makes such a change unlikely.

Immigration reform efforts had stalled at the time of this study, but none of the proposed legislation provided subsidized coverage to currently undocumented immigrants for at least ten years after registering for provisional immigrant status. Senate Bill 744, which passed in June 2013, would allow these people to purchase coverage in the exchanges without subsidies, but some predict that affordability will be a major barrier to coverage.

Limited alternative approaches are more likely. California has had private and charity-funded programs to provide partial or full coverage to children regardless of documentation status. Other approaches use noninsurance models. A low-cost preventive and primary care program organized by a Los Angeles–based community clinic and a restaurant workers’ group offered primary care services for $25 a month. Healthy San Francisco is a county-level coverage model that expands and regularizes primary and hospital care and includes undocumented adults.

States can use Medicaid funds to provide Medicaid coverage to undocumented immigrants. However, such coverage is restricted to an “emergency medical condition,” which must be severe, acute, and life-threatening or lead to disability. Even these limited benefits are frequently threatened by fiscal crises and economic downturns.

Conclusion

In the absence of a more comprehensive solution, access to care for undocumented immigrants will remain low, with lower-than-average rates of essential primary and preventive care services. Reduced payments under health care reform to hospitals that serve disproportionate shares of low-income patients and increased pressures on safety-net clinics to cater to insured patients are likely. These pressures may create severe problems for the remaining uninsured, the majority of whom will be citizens and legal residents. Bringing undocumented immigrants into health insurance Marketplaces and expanding their coverage through local initiatives would benefit undocumented residents and the safety net, with a greater impact in states such as California, where greater numbers of undocumented immigrants reside.
NOTES


3 Camarota SA. Illegal immigrants and HR 3200: estimate of potential costs to taxpayers [Internet]. Washington (DC): Center for Immigration Studies; 2009 Sep [cited 2014 Mar 14]. Available from: http://cis.org/ IllegalsAndHealthCareHR3200#19


13 Personal communication with Jeff Passel at Pew Hispanic Research Center [2007 Jan 25]. Based on the data from his research studies that estimated the probability of being undocumented using 2005 immigration and naturalization and current population surveys.


21 To access the Appendix, click on the Appendix link in the box to the right of the article online.


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