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Citizenship Documentation Requirement for Medicaid Eligibility: Effects on Oregon Children

Brigit A. Hatch, MD, MPH; Jennifer E. DeVoe, MD, DPhil; Jodi A. Lapidus, PhD; Matthew J. Carlson, PhD; Bill J. Wright, PhD

BACKGROUND AND OBJECTIVES: The Deficit Reduction Act (DRA) of 2005 mandated Medicaid beneficiaries to document citizenship. Using a prospective cohort (n=104,375), we aimed to (1) determine characteristics of affected children, (2) describe effects on health insurance coverage and access to needed health care, and (3) model the causal relationship between this new policy, known determinants of health care access, and receipt of needed health care.

METHODS: We identified a stratified random sample of children shortly after the DRA was implemented and used state records and surveys to compare three groups: children denied Medicaid for inability to document citizenship, children denied for other reasons, and children accepted for coverage. To combat survey nonresponse, we used Medicaid records to identify differences between responders and nonrespondents and created survey weights to account for these differences. Weighted simple and multivariable logistic regression described the complete, originally identified population.

RESULTS: Children denied Medicaid for inability to document citizenship were likely to be US citizens, were medically and socially more vulnerable than their peers, and went on to have gaps in health insurance coverage and unmet health care needs. The DRA led to persistent loss of insurance coverage, which decreased access to needed health care. Having a usual source of care was an effect modifier in this relationship.

CONCLUSIONS: Our findings demonstrate the negative consequences of the DRA and support the use of automated methods of citizenship verification allowed under the Patient Protection and Affordable Care Act.

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Medicaid but, historically, applicants attested their US citizenship under penalty of perjury. In 2005, the Deficit Reduction Act (DRA) changed this: in order to obtain or maintain Medicaid coverage, applicants became required to prove citizenship with a US passport, certificate of naturalization, certificate of citizenship, or a valid state-issued driver's license from a state that requires proof of US citizenship before issuance. If none of these documents can be provided, a complex algorithm of alternative documents can be accepted but only in tandem.¹

The 2005 DRA was implemented September 1, 2006. The following year, three quarters of states experienced significant declines in Medicaid enrollment.² Though reasons for this enrollment decline cannot be identified retrospectively, enrollment in the Food Stamp Program (a service not requiring citizenship documentation) increased during the same period. This enrollment pattern suggests Medicaid declines were not due to decreased need but may have resulted from barriers created by the new citizenship

Recent health care reforms, such as the Patient Protection and Affordable Care Act (PPACA), aim to improve access to health insurance. As the nation strives to expand coverage, debate

increases about who ought to receive insurance and how these individuals should be identified. For Medicaid, citizenship has become the center of this controversy. Citizenship has always been a requirement for

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documentation requirements.³ Further, state Medicaid officials reported the new citizenship documentation requirement to be a significant contributing factor to low or declining growth in Medicaid enrollment for fiscal year 2007. More than half of Medicaid officials reported “moderate or significant” increased time was required to process applications, and nearly half reported a “moderate or significant” backlog of applications as a direct result of the citizenship documentation requirement.²

In Oregon, during the first 5 months after implementation of the DRA, over 1,000 Oregonians lost Medicaid coverage or were denied new coverage specifically because they were unable to provide citizenship documentation.⁴ During this period, utilization of health care services was also affected, including a 30% decrease in utilization of family planning services that was attributed directly to the effects of the DRA.⁵

Because national policies such as the DRA have the unique ability to facilitate or impede the accessibility of public insurance,⁶⁻⁸ and because

documentation of citizenship poses an increasingly relevant challenge to eligibility determination,^{9,10} we aimed to study how the DRA policy influenced Medicaid enrollment and access to care for Oregon children. We had three goals: first, to understand the characteristics of affected children, second, to determine whether denial for inability to document citizenship led to significant gaps (of at least 6 months) in health insurance and access to needed health care, and third, to model the complex causal relationship between this new policy, known determinants of health care access, and receipt of needed health care.

Methods

Study Design

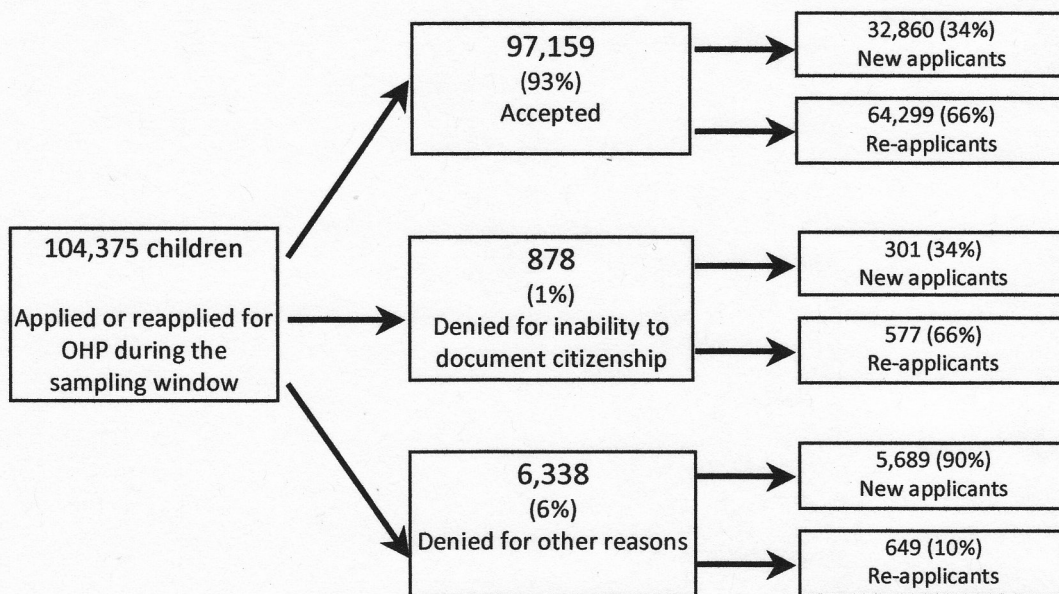
We identified a cohort of children who applied for Medicaid during a 3-month sampling window between January and March of 2007, shortly after the new citizenship documentation requirement of the DRA was implemented in Oregon. Children were eligible for participation if they applied for the Oregon Health Plan

(OHP) within the sampling window and had a valid Oregon address. We used administrative records from Oregon’s Division of Medical Assistance Programs (DMAP) to identify and stratify children into six categories as shown in Figure 1. These strata were created to equally represent new and returning applicants experiencing each potential outcome of application. Children were then randomly sampled from the study population to include approximately equal numbers of children from each of the six strata as described. Only one child was selected from each household. The study protocol was approved by the Institutional Review Board at our academic health center.

Recruitment

Six months after the sampling window, postcard screeners were mailed to subjects. If the screener was returned without a forwarding address, the potential participant was excluded. Approximately 2 weeks later, subjects received the survey by mail with a prepaid response envelope, instructions for completing and

Figure 1: Applicants to the Oregon Health Plan (OHP) (January Through March 2007)



Source: Oregon Health Plan Disenrollment Study

returning the survey, and the offer of \$5 in cash upon completion of the survey. Two weeks later, nonrespondents received a reminder postcard and, 2 weeks after that, nonrespondents received another copy of the survey and another prepaid return envelope. Surveys were accepted for 3 months.

Measurements

The survey instrument was a shortened version of the Oregon Health Care Survey, which has been used and validated by our team to assess coverage, access, utilization, and financial and health outcomes among current and former Medicaid members in Oregon.^{11,12} It was written at a fifth-grade reading level and was designed as a general health and health care survey, so it did not appear to be a targeted assessment of the DRA's citizenship documentation requirements. Surveys were translated from English to Spanish and were independently back-translated to ensure the fidelity of the translation. Language of the mailed survey was determined based on language preference of the parent/guardian in state administrative records. If the preferred language was not English or Spanish, an English survey was mailed, and those who returned an English language survey were considered "English-speaking." Surveys were administered between July and September of 2007.

Variables

The primary independent variable was application status, which represented the outcome of an applicant's Medicaid application, determined from state administrative data. This categorical variable included three groups: children denied Medicaid for inability to document citizenship (Denied-CID), children denied Medicaid for other reasons (Denied-Other), and children accepted for coverage. We evaluated the differential association between application status and the outcome variables defined below.

The two principal outcome variables were insurance coverage gaps and unmet health care needs during the 6 months after the application window, both gathered from survey responses. For insurance coverage gaps, a categorical variable was created with three values: no gap, a 1–5 month gap, or a gap that spanned the entire 6-month study period. To evaluate health care needs, participants were asked separately if their child needed medical, dental, or prescription medications during the previous 6 months and then were asked if their child had received each type of care they needed. Results from only those children who reported having at least one health care need were then coded into a categorical variable with two groups: children who had unmet health care needs and children whose health care needs were met. Children who did not need any health care during the study period were excluded from this sub-analysis.

As we evaluated the relationship between application status and the outcomes described above, we considered several covariates, including age, gender, race, ethnicity, language preference, geographic location of residence, parental employment, parental education, household income, and whether or not the child had a usual source of care (USC). We also constructed an ordinal "social vulnerability" variable that represented the presence of risk factors, including low household income, low parent educational attainment, and unemployment. Individuals received a score from 0–3, with 1 point for each of the following: household income < \$15,000/year, parent's education ≤ high school, and parent currently unemployed.

Analysis

Surveys were de-identified, and data were stored confidentially. Data were weighted in three rounds to better reflect the full population described by our sample. First, we applied a base weight for inclusion probability so that each stratum reflected the

full population stratum from which it came. Second, a weight for number of children in the household was applied to account for the exclusion of children from the same household. Finally, an iterative post-stratification raking ratio was applied to adjust for survey nonresponse.¹³ The raking ratio used demographic data available for all identified subjects to create a regression-based weight to account for demographic differences between responders and nonrespondents. We then confirmed the validity of this multi-step weighting scheme by comparing weighted and unweighted strata percentages.

Weighted contingency tables were constructed, and a design-based F-test (the weighted equivalent of a Pearson's chi-squared test) was used to describe the sample population demographics and to identify potentially confounding relationships. Backward step-wise multivariable logistic regression was performed with successive eliminations made on the basis of statistical significance and hypothesized effect.¹⁴

Using a model adjusted for social vulnerability, gender, and race/ethnicity, we calculated the odds ratios of having a 6-month insurance gap for coverage. To this model, we added variables for "length of insurance gap" and "USC," individually and in combination, to determine the nature of underlying causal relationships. Analysis was performed using STATA IC 11.0.

Results

During the 3-month sampling window, 104,375 children applied for the OHP. Of these children, we aimed to identify 550 in each of the six strata shown in Figure 1 (for a total of 3,300 children). Because one stratum did not contain a full 550 children, 3,095 children were ultimately identified for participation: 2,065 met eligibility criteria and, of these, 394 returned completed surveys, leading to a response rate of 19%. We anticipated this low response rate, which is common with socially vulnerable groups such as

the Medicaid population. Despite a low survey response rate, tracking ratios adjusted for this nonresponse to allow the data to closely represent the full population of 104,375 children who applied for Medicaid during the sampling window. Post-hoc analysis showed that study exclusion and survey nonresponse affected each stratum of children approximately equally. Very slight differences in weighted and unweighted proportions were within the margin of error and did not significantly influence the results of our study.

Demographics, Social and Medical Vulnerability

Participants ranged in age from 1 month to 18 years, with a median age of 8 years. They were 69% white, 32% Hispanic, and 92% were born in the US. The median annual household income was \$12,000–\$15,000 (Table 1).

Two important trends emerged from the demographic analysis. First, children who were denied Medicaid for inability to document citizenship tended to be white (69%), non-Hispanic (66%), and from English-speaking households (83%); and 97% reported being born in the United States. Second, there was a trend toward increased medical and social vulnerability among children denied for inability to document citizenship. Compared to children denied Medicaid for other reasons, children denied for inability to document citizenship were more likely to have a parent who had no education past high school, an annual household income of <\$15,000, and at least one chronic health condition ($P<.05$).

Insurance Gaps and Access to Health Care

For many children, being denied Medicaid for inability to document citizenship resulted in a significant health insurance coverage gap: 52% experienced a gap of at least 1 month, and 36% reported having no health insurance for the entire 6-month study period (Table 1). Children denied for other reasons

experienced similar insurance gaps. Of course, accepted children were much less likely to experience insurance gaps—only 17% reported a gap of at least 1 month. Differences among these three groups were statistically significant ($P<.001$).

There were also significant differences in unmet health care needs across the three application status groups ($P<.001$). Compared to children accepted for Medicaid, those denied insurance for any reason were more likely to experience unmet health care. This pattern remained true when “health care needs” was subdivided into medical ($P<.01$), prescription ($P<.001$), and dental ($P<.001$) needs.

Multivariable Analysis

Adjusting for social vulnerability, gender, and race/ethnicity, children denied insurance for any reason were approximately eight times as likely to have a 6-month insurance gap than were children accepted for coverage (Table 2). There was no significant difference in odds of having a 6-month insurance gap between children denied for citizenship and children denied for other reasons.

Adjusting for differences in social vulnerability (Table 3, model 1), children Denied-CID had approximately twice the odds ($OR=2.47$) of experiencing unmet health care needs, compared to children accepted for coverage. Likewise, children Denied-Other also had significantly higher odds of unmet health care needs during the study period. After adjusting for presence of an insurance gap (Table 3, model 2), the association between application status and unmet health care needs was no longer significant ($P=.454$), indicating that the relationship between application status and unmet health care needs was explained by the presence of an insurance gap.

In contrast, when adjusting for USC but not presence of an insurance gap (Table 3, model 3), application status retained its significance ($P=.012$), indicating that although having no USC was significantly

associated with unmet health care needs, it did not explain the relationship between application status and unmet health care needs. As such, USC operated as an effect modifier while presence of an insurance gap acted as an intermediate step in a causal pathway between Medicaid denial and unmet health care needs (Figure 2).

Because variables for both presence of an insurance gap and USC were significant in the multivariable models, the best predictive model is one that accounts for the effects of both. From this final model we found that, compared to children with no gap in their health insurance, children who had an insurance gap of at least 6 months had more than 15 times greater odds of having unmet health care needs. Even children who had a short insurance gap of 1–5 months had 11 times greater odds of having unmet health care needs. Kids who had a USC had less than half the odds of having unmet health care needs ($OR=0.39$), though this variable, in combination with the presence of an insurance gap, did not achieve statistical significance.

Discussion

Demographically, Oregon children Denied-CID resembled children who were accepted for coverage. We found no significant differences in race/ethnicity, nationality, or parental language preference when comparing these groups. These findings support the previous report that many Oregon children affected by the citizenship documentation requirement of the 2005 DRA were US citizens.⁴

Those children affected by the DRA were more likely to be socially and medically vulnerable than children Denied-Other, and this was a key difference between children Denied-CID and other children. Further, the similarities of the denied children to accepted children suggested that they were likely to have been accepted for coverage if not required to provide citizenship documentation.

Table 1: Characteristics of Children Who Applied for Medicaid (Column Percentages)

| Demographic Characteristics | Application Status | | | Design Based F Test P Value |
|---|--------------------|------------|--------------|-----------------------------------|
| | Accepted | Denied-CID | Denied-Other | |
| Sex | | | | .234 |
| Male | 49.52% | 52.77% | 59.09% | |
| Female | 50.48% | 47.23% | 40.91% | |
| Age | | | | .541 |
| <10 years | 56.25% | 70.12% | 54.96% | |
| ≥10 years | 43.75% | 29.88% | 45.04% | |
| Language | | | | .145 |
| English | 79.92% | 82.96% | 70.32% | |
| Spanish | 20.08% | 17.04% | 29.68% | |
| Race/ethnicity | | | | .812 |
| White, non-Hispanic | 55.02% | 57.05% | 52.65% | |
| Non-white or Hispanic | 44.98% | 42.95% | 47.35% | |
| Born in the United States | | | | .433 |
| No | 7.43% | 2.92% | 10.19% | |
| Yes | 92.57% | 97.08% | 89.81% | |
| Income | | | | .005 |
| ≤ \$15,000/year | 62.27% | 51.29% | 41.24% | |
| > \$15,000/year | 37.73% | 48.71% | 58.76% | |
| Parent's education | | | | .976 |
| ≤ High school diploma | 71.89% | 71.73% | 72.28% | |
| > High school diploma | 28.11% | 28.27% | 27.72% | |
| Parent's employment | | | | .068 |
| Employed | 54.01% | 60.17% | 68.45% | |
| Unemployed | 45.99% | 39.83% | 31.55% | |
| Social vulnerability scale (0–3) [†] | | | | .075 |
| 0 | 9.47% | 12.87% | 11.18% | |
| 1 | 31.69% | 30.72% | 47.7% | |
| 2 | 30.31% | 35.3% | 28.92% | |
| 3 | 28.53% | 21.1% | 12.21% | |
| Location | | | | .109 |
| Urban | 89.97% | 91.67% | 91.89% | |
| Rural | 10.03% | 8.33% | 8.11% | |
| Chronic disease | | | | .023 |
| No | 75.47% | 78.46% | 87.98% | |
| Yes | 24.53% | 21.54% | 12.02% | |

(continued on next page)

Table 1 (continued)

| Demographic Characteristics | Application Status | | | Design Based F Test P Value |
|----------------------------------|--------------------|------------|--------------|-----------------------------|
| | Accepted | Denied-CID | Denied-Other | |
| Insurance gap | | | | <i>P</i> <.001 |
| No gap | 82.62% | 48.07% | 52.01% | |
| 1–5 month gap | 5.7% | 16.35% | 11.94% | |
| 6 month gap | 11.68% | 35.58% | 36.04% | |
| Usual source of care | | | | <i>P</i> <.050 |
| Yes | 88.67% | 87.68% | 76.30% | |
| No | 11.33% | 12.32% | 23.70% | |
| Skipped needed medical care | | | | <i>P</i> <.01 |
| Yes | 12.37% | 25.39% | 31.87% | |
| No | 87.63% | 74.61% | 68.13% | |
| Skipped needed prescription care | | | | <i>P</i> <.001 |
| Yes | 16.24% | 22.57% | 10.78% | |
| No | 83.76% | 77.43% | 89.22% | |
| Skipped needed dental care | | | | <i>P</i> <.001 |
| Yes | 26.31% | 53.12% | 59.87% | |
| No | 72.69% | 46.88% | 40.13% | |
| Any unmet health care needs | | | | <i>P</i> <.001 |
| Yes | 11.02% | 26.47% | 36.47% | |
| No | 88.98% | 73.53% | 63.53% | |

† Combined variable for Employment, Education, and Income
Source: Oregon Health Plan Disenrollment Study

Children Denied-CID were as likely as children Denied-Other to experience a gap in health insurance for the entire 6-month duration of the study, suggesting that children Denied-CID were not covered by other insurance types and that such denials resulted in significant coverage gaps while the proper documents were obtained. Further, these denials carried real costs for children—those denied Medicaid were substantially more likely to have unmet health

care needs than children accepted for coverage.

Limitations

As a survey study design, the analysis was particularly vulnerable to selection and information biases. To minimize bias, we followed criteria for high-quality surveys as outlined by Saultz.¹⁵ Still, several biases were notable.

First, survey nonresponse played a significant role in this study.

Higher nonresponse rates are a reality of working with vulnerable populations, so efforts were made to encourage participation, but our low response rate of 19% still excluded a large population from our study. To improve validity, we used state administrative demographic data, which were available for all identified subjects, to create raking ratios that accounted for any potential demographic differences between responders and nonrespondents. This

Table 2: Adjusted Odds Ratios of Children Having a 6-Month Insurance Gap Following Application for Medicaid

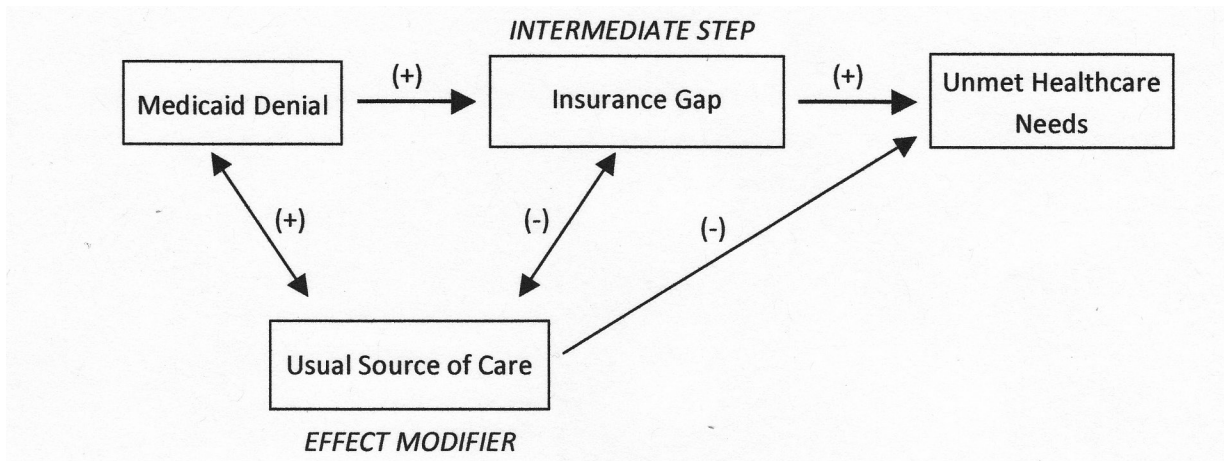
| Independent Variable | Adjusted OR | 95% CI | P Value |
|----------------------|-------------|--------------|---------|
| Application status | | | |
| Accepted | 1.0 | — | — |
| Denied-CID | 8.32 | 2.97 - 23.26 | <.0001 |
| Denied-Other | 7.97 | 3.13 - 20.26 | <.001 |

Source: Oregon Health Plan Disenrollment Study

Table 3: Adjusted Odds Ratios (95% CI) of Children Having Any Unmet Health Care Needs During the 6 Months Following Application for Medicaid

| Independent Variable | Adjusted OR: Model 1 | Adjusted OR: Model 2 | Adjusted OR: Model 3 | Adjusted OR: Model 4 |
|----------------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| Application status | <i>P</i> =.007 | <i>P</i> =.454 | <i>P</i> =.012 | <i>P</i> =.518 |
| Accepted | 1.0 | 1.0 | 1.0 | 1.0 |
| Denied-CID | 2.47 (1.01–6.01) | 0.99 (0.27–3.66) | 2.41 (0.92–6.33) | 1.90 (0.56–6.46) |
| Denied-Other | 4.12 (1.64–10.35) | 2.07 (0.63–6.91) | 3.53 (1.49–8.32) | 2.71 (0.93–7.84) |
| Social Vulnerability Index | | | | |
| 0 | 1.0 | 1.0 | 1.0 | 1.0 |
| 1 | 0.55 (0.11–2.66) | 0.32 (0.05–2.05) | 0.41 (0.09–1.99) | 0.26 (0.04–1.66) |
| 2 | 0.56 (0.11–2.83) | 0.43 (0.05–3.44) | 0.44 (0.08–2.32) | 0.38 (0.05–2.96) |
| 3 | 0.33 (0.06–1.86) | 0.13 (0.01–1.33) | 0.26 (0.04–0.64) | 0.12 (0.01–1.19) |
| Insurance Gap | | | | |
| No gap | — | 1.0 | — | 1.0 |
| 1–5 month gap | — | 15.24 (3.31–70.11) | — | 11.31 (2.75–46.43) |
| 6 month gap | — | 17.38 (4.99–60.53) | — | 15.06 (4.13–54.97) |
| Usual source of care | | | | |
| No | — | — | 1.0 | 1.0 |
| Yes | — | — | 0.20 (0.06–0.64) | 0.39 (0.12–1.20) |

Source: Oregon Health Plan Disenrollment Study

Figure 2. Causal Pathway: From Medicaid Denial to Unmet Health Care Needs

Source: Oregon Health Plan Disenrollment Study

allowed us to draw demographic conclusions for our original study population despite the limitations of our particular sample. Administrative records did not include information about insurance gaps or unmet health care needs, though there is no reason to suspect differential bias leading to nonresponse

independently based on these characteristics. There could have been systematic tendencies toward non-response based on unmeasured characteristics such as true citizenship. If our sample differentially recruited US citizens, which is conceivable, we may have greatly underestimated the proportion of non-citizen children

affected by the 2005 DRA. An estimated 81% of undocumented immigrants come from Latin American countries,¹⁶ so if there were significant differences in citizenship status between responders and nonresponders, we might have expected to see differences in ethnicity and language preference between responders and

nonrespondents, but none existed. We hypothesize that noncitizens may have chosen to not apply or reapply for Medicaid and therefore would have been excluded from the scope of this study entirely. Even if we overestimated the proportion of citizen children affected by the DRA, we clearly identified a large group of affected children who were almost certainly citizens. Alone, this is a significant finding.

We also considered the possibility of information bias. To minimize misclassification, we used a previously validated and simply written survey. Still, a recent study showed that about 13% of children had parents who misreported or were unsure of their public insurance status.¹⁷ This phenomenon could explain minor irregularities in the self-reported data, but this type of misclassification would only create a nondifferential bias that would not significantly change the study findings.

The scope of this study was limited to individuals who applied for the OHP during a 3-month period shortly after citizenship documentation requirements were implemented. Our study is not generalizable to other states with different populations or people who chose not to reapply for coverage. Because surveys were limited to Spanish and English languages, the results may not be applicable to persons who primarily speak other languages.

Policy Implications

Our findings highlight several important features about the children impacted by the DRA citizenship documentation requirement. First, many US citizens are likely to be denied as a result of this policy. Second, affected children seem to represent an especially vulnerable group of citizens—children with high-level social or medical vulnerability. This trend has been seen with other restrictions in Medicaid eligibility.^{18,19} In other states, in which vulnerable individuals have disenrolled from Medicaid, the cost of care has showed a parallel increase.²⁰

Finally, our findings support mounting evidence that insurance coverage gaps and insurance transitions have significant detrimental effects on children's health care.^{3,17,21-31} Because gaps in insurance coverage proved to be a key intermediate step in the causal pathway between a denied Medicaid application and increased unmet health care needs, policy interventions that reduce and eliminate insurance gaps should be top priorities to improve children's access to health care. In contrast, policies such as the DRA citizenship documentation requirement will contribute to discontinuity of insurance and health care, creating significant insurance gaps as families struggle to meet the new documentation requirements.

The 2009 Children's Health Insurance Program Reauthorization Act (CHIPRA) and the 2010 Patient Protection and Affordable Care Act (PPACA) provide the opportunity to counter this negative influence. With the new implementation of CHIPRA and PPACA, states now have the option to reverse the citizenship documentation requirement of the 2005 DRA and, instead, use automated and streamlined approaches, such as electronic data-matching technologies, to confirm citizenship.^{32,33} Currently, about half of all states have either adopted or are testing electronic citizenship matching through the Social Security Administration database. Early studies report 94% success in the matching process.³⁴ Our findings clearly support the need to accelerate these automated processes and abandon requirements for physical documentation.

Conclusions

The DRA citizenship documentation requirement led to significant insurance gaps and increased unmet health care needs among Oregon children. It also suggests that many of the affected children were US citizens with a high degree of social and medical vulnerability. CHIPRA and PPACA provisions, that allow for alternative strategies

to confirm citizenship, deserve urgent priority for implementation in the attempt to reduce these harms. They hold promise for a streamlined future public insurance system with fewer barriers for children seeking needed health insurance coverage and needed health care.

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