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Abstract

This paper examines the impact of Deficit Reduction Act of 2005 mandated citizenship verification requirements on the Medicaid coverage of children using state administrative data from Georgia. Our analysis focuses on children enrolled in Medicaid prior to the reform in the eligibility category for which the reform is most likely to be binding. We find that these children were slightly more likely to exit during the first "high impact" recertification in which the enhanced citizenship verification was binding than children whose first recertification occurred just prior to the reform. In addition, we observe a slightly lower re-entry probability among children exiting during a "high impact" first recertification. Assuming at least some of the exiting children are non-citizens, the fact that the exit and re-entry rates associated with a "high impact" first recertification are only modestly different from other first recertification months suggests that the reform is probably not having a dramatic impact on citizens.

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Introduction

A persistent issue associated with the design of transfer programs in the United States (and immigration policy more generally) is whether or not non-citizens are eligible to participate in such programs. Requiring citizenship for program participation introduces the questions of what constitutes sufficient proof of citizenship and whether or not requiring such proof imposes a significant barrier to participation. Given this backdrop, a relatively recent Federal rule change regarding citizenship verification requirements in state Medicaid programs has received considerable attention in the popular press.[1] Beginning in July 2006, the Deficit Reduction Act of 2005 (DRA) required most new Medicaid applicants, as well as most current beneficiaries (at their next recertification of eligibility), to document their citizenship. Acceptable documentation includes a U.S. passport, birth certificate or driver's license from a state that verifies social security numbers. The purpose of this paper is to examine the impact of this change on the Medicaid coverage of children using state administrative data from Georgia.

Previous research (Scrivner and Wolfe, 2005; Bansak and Raphael, 2006) suggests that, in general, increases in the complexity of application and renewal requirements within public insurance programs will lead to reductions in take up rates. Thus, if a programmatic priority going forward is to increase the take up rate of uncovered eligible children, it will be important to have a better understanding of how increases in the requirements to document citizenship impact participation in public health insurance programs. This topic takes on added significance because of the Affordable Care Act (ACA), as states must verify the citizenship status of individuals obtaining subsidies for coverage through state health insurance exchanges and noncitizens remain ineligible for expanded Medicaid coverage.

[1] See for example the following article in the *New York Times*:
http://www.nytimes.com/2006/06/05/washington/05medicaid.html?_r=0

According to the CMS website, prior to July 2006, individuals were not eligible for Medicaid unless they were either American citizens or qualified aliens; however, beneficiaries could self-declare their citizenship status by checking a box on the application form under penalty of perjury. The DRA required, staring in July 2006, actual documentary evidence of a person's status when applying for Medicaid coverage or, if already enrolled, when recertifying coverage. This must be enforced by states in order to receive their federal Medicaid match.[2]

In what appears to be practically the only academic study on this subject, Sommers (2010) uses data from the Current Population Survey (CPS) and attempts to identify the impact of the enhanced citizenship verification rules by comparing changes in states that already utilized enhanced citizenship verification to changes in those that did not prior to the reform. The results suggest that the DRA reduced Medicaid enrollment among non-citizens, as intended, but did not significantly affect citizens. However, these results hinge on the classification of states into the treatment or control group depending on their Medicaid citizenship verification policies prior to the DRA and, as we will discuss in more detail, coming up with a clean classification strategy for these policies is challenging.

The response of Georgia's Medicaid program to the DRA provides a unique opportunity for us to analyze the impact of enhanced citizenship verification in an environment in which we can be certain of the previous institutional background. Georgia began enhanced citizenship verification procedures in its Medicaid program in January 2006, several months before it became a federal requirement. Using Medicaid micro-enrollment data from 2004-2008 provided to us by the Georgia Department of Community Health, we identify the impact of the DRA by

[2] For more on what is considered documentary evidence, see the following link from the CMS website: http://www.cms.gov/Regulations-and-Guidance/Legislation/DeficitReductionAct/Citizenship.html

comparing the disenrollment rate and subsequent re-enrollment rate for children whose first Medicaid recertification occurs after January 2006 (which we refer to as a "high impact" recertification) with those whose first recertification occurs before January 2006. We focus on children in the Medicaid eligibility category most likely to be impacted by the DRA and compare them to those jointly enrolled in Medicaid and the Supplemental Security Income (SSI) program, as those children were already subject to enhanced citizenship verification.

Our analysis suggests that children enrolled prior to the reform were slightly more likely to exit during the first "high impact" recertification in which the enhanced citizenship verification was binding. In addition, we observe a slightly lower re-entry probability among these children as compared to children that exit during a pre-reform first recertification. Assuming at least some of the exiting children are non-citizens, the fact that the exit and re-entry rates associated with a "high impact" first recertification are only modestly different from other first recertification months suggests that the reform is probably not having a dramatic impact on citizens.

Literature Review

States face competing priorities when implementing public health insurance programs. One such challenge is balancing the accuracy of eligibility determination with the ease of Medicaid enrollment for eligible individuals.[3] This is especially true given DRA enhanced citizenship verification requirements and the incentives given to states for administrative simplification and increased enrollment under the Children's Health Insurance Program Reauthorization Act (CHIPRA) of 2009. In addition, under the ACA, states must balance the eligibility policies and system linkages required between the health insurance exchanges and

[3] See Kleven and Kopczuk (2011) for a recent theoretical analysis of this issue.

Medicaid with the shrinking pool of federal uncompensated care dollars in order to minimize use of state funds and assure individuals are enrolled in appropriate coverage programs.

Prior to DRA enactment, the Office of the Inspector General recognized this challenge and reported on citizenship self-declaration policies within Medicaid (OIG, 2005). In a descriptive study of state Medicaid directors, the OIG found that most states allowing self-declaration of citizenship reported they had not seen a problem with noncitizens gaining Medicaid coverage as evidenced by their post eligibility quality control activities. Only one State, Oregon, quantified the problem, estimating that about one percent of their mailed-in Medicaid applications (OIG, 2005) had citizenship-related problems. Medicaid directors also indicated that if all Medicaid applicants were required to provide documentary evidence of U.S. citizenship then this would delay eligibility determinations, increase eligibility personnel costs, as well as be burdensome for applicants (OIG, 2005).

The peer-reviewed literature supports the notion that decreasing the administrative burden for applicants leads to increases in take-up of public coverage. Studies of state policies suggest that eliminating asset tests, allowing for presumptive eligibility, offering continuous coverage, simplifying applications, reducing waiting periods, and increasing outreach activities all have a positive impact on take-up (Bansak & Raphael, 2007, Wolfe & Scrivner, 2005, Bronchetti, 2014). Furthermore, transitions between Medicaid and separate CHIP programs (Ketsche et al., 2007a), changes from passive to an active renewal process (Herndon et al., 2008), welfare reform (Watson, 2014), managed care implementation (Marton, Yelowitz, & Talbert, 2014, Marton & Yelowitz, 2015), as well as premium increases (Marton, 2007, Kenney et al., 2006, Marton, Ketsche & Zhou, 2009, Marton et al., 2015) lead to reductions in enrollment and increase gaps in coverage, otherwise known as churning.

Thus, this prior research suggests that the implementation of increased citizenship documentation requirements should negatively impact enrollment and is consistent with the self-reported survey research done by the Government Accounting Office of 44 states post-DRA implementation (GAO, 2007). The GAO reported that citizenship documentation requirements resulted in enrollment declines for eligible citizens and posed administration burdens on states. Of those surveyed, 22 of the 44 states reported a decline in enrollment, 12 reported no change and 10 stated that they did not know the effect of the requirement. In its response to the GAO, the Centers for Medicare and Medicaid Services (CMS) questioned the validity of the results saying they were all based on anecdotal statements without supporting data analysis to attribute all declines to the new requirements.

A Commonwealth Fund Report identified enrollment declines by a closer examination of data from seven states during the six months that followed implementation of the enhanced citizenship verification rules compared to the six months that preceded the change (Summer, 2009). This study found that the new citizenship documentation requirements made the enrollment and renewal process more complex, administratively burdensome, and costly. Summer (2009) also found the impact on applicants and beneficiaries differed by state depending, in part, on the state's infrastructure and approach to implementation. Several states reported that while the policy is aimed at undocumented immigrants, predominantly Hispanics in the United States, it was more likely to negatively impact other population groups who are citizens and eligible for public programs (Summer, 2009, Ross, 2007). Angus & Devoe (2010) looked specifically at Oregon's Family Planning Program implemented through a Medicaid waiver. They found an association between enhanced Medicaid citizenship documentation

requirements and reductions in access to family planning for young adults and as well as an increasing strain on the social safety net.

Sommers (2010) uses the CPS to estimate a difference-in-differences model to compare four states (Montana, Georgia, New Hampshire, and New York) classified by the author as not having major changes in Medicaid citizenship verification policy with all other states before and after the implementation of the DRA. The extent to which these four states had consistent Medicaid citizenship verification procedures during the time period analyzed is debatable. Obviously, the purpose of our paper is to examine changes made in Georgia. Perhaps the fact that Georgia enhanced its Medicaid citizenship verification procedures six months prior to the DRA requirement led to some confusion as to its classification. In addition, Ross and Cox (2007) point out that while the other "control" states (Montana, New Hampshire, and New York) required proof of citizenship before the DRA mandate, " ... their rules were significantly easier to meet than the new federal requirement since a greater variety of documents were acceptable and photocopies, rather than originals or certified copies, were permitted." Putting these issues aside, Sommers (2010) finds that the DRA reduced Medicaid enrollment among non-citizens, as intended, but did not significantly affect citizens.

Identification Strategy

Our analysis focuses on the implementation of enhanced Medicaid citizenship verification in Georgia for two reasons: first, we can be more certain about the institutional background if we focus on a single state, as opposed to a 50 state study; second, we were provided confidential Medicaid enrollment micro-data with which to evaluate this policy change from the Georgia Department of Community Health. Georgia implemented the enhanced

Medicaid citizenship verification rules prescribed by the DRA in January 2006, six months prior to the Federal requirement.

Figure 1 graphs total enrollment of children in Georgia Medicaid between July 2003 and June 2008. The number of children in Medicaid rises above 900,000 per month in the months just prior to the policy change and then falls to about 750,000 in June 2008. Obviously, such a graph doesn't account for contemporaneous confounders, such as changes in economic conditions. In addition, an aggregate enrollment count such as this may hide different patterns for different types of children.

In order to identify the impact of enhanced Medicaid citizenship verification we restrict attention to children enrolled through the eligibility category for which the reform was most likely to be binding, the "Low Income Medicaid" or "LIM" eligibility category (which is based on the 1996 Aid to Families with Dependent Children (AFDC) income standards). Our basic identification strategy is to restrict attention to children that initiated LIM Medicaid coverage in the year prior to the reform and compare the recertification experience of ones that start earlier in the year to those that started later in the year. This is because those that started earlier in the year would not be subject to enhanced citizenship verification upon their first eligibility recertification whereas those that started later in the year would. We refer to those experiencing their first recertification on or after January 2006 as having a **high impact first recertification** and others as having a **low impact first recertification**.

Figure 2 gives an illustration of two children with a low impact first recertification and one child with a high impact first recertification. Child 1 and child 2 enrolled prior to enhanced citizenship verification and also had their first recertification prior to the reform. Child 3 also enrolled prior to enhanced citizenship verification, but faces the stricter requirements at their first

recertification. If there is an impact of this rule change on enrolled children, such high impact first recertifications would be the most likely place for it to appear. In order to assess the magnitude of this effect, we can compare the exit rate during these high impact first recertifications with the low impact first recertifications that occurred in months just before the reform. Because all of these children started their spell in the year prior to the reform in the same eligibility category, they are arguably otherwise similar.

As a test of our identification strategy we will perform the same analysis for children jointly enrolled in Georgia Medicaid and the federal SSI program. Because these children are enrolled in the SSI program, they were already subject to enhanced citizenship verification. Thus we should not expect to see any impact of the Georgia changes we are analyzing on these children.

Data

We start with the universe of Georgia Medicaid enrollment records for each month between December 2004 and June 2008. As mentioned, in our analysis we restrict attention to the 121,434 Georgia LIM Medicaid spells for children initiated between December 2004 and December 2005. Children initiating these spells did not have to meet the enhanced citizenship verification requirement in order to enroll. In addition, children starting their spell between December 2004 and April 2005 (monthly cohorts 1-5) experienced their first recertification prior to DRA implementation in Georgia, while children starting their spell between May 2005 and December 2006 (monthly cohorts 6-13) experienced their first recertification AFTER DRA implementation.

Table 1 presents descriptive statistics for the LIM spells that are the focus of our analysis. The descriptive statistics are given for all spells as well as separated by those that faced low

versus high impact first recertifications. Overall, the average spell length is 18 months and 81 percent of the coverage spells end before June 2008. Spells that are ongoing or initiated in June 2008 are treated as right-censored. Spells associated with a low impact first recertification appear to be slightly more likely to end in an exit as compared to spells associated with a high impact first recertification. This may seem somewhat surprising, but it is important to remember that the reform does not impact all enrolled children at the same time. This motivates our approach of focusing on months in which we are most likely to see an impact of the reform and compare them to otherwise similar months.

Empirical Specification

While simple enrollment counts (such as those presented in figure 1) can shed some light on the impact of these policy changes, as mentioned above, the aggregate nature of the data does not allow for an analysis of differential responses by children of different ages and races, or in different parts of the state. Therefore, we use a hazard model approach to estimate the impact of the reform on the duration of each LIM child's enrollment in Medicaid using the 121,434 spells described in table 1. The hazard model we estimate is specified in equation (1) below:

$$H(t) = exp(X_{1t}'\beta_1) * exp(t\alpha_1 + t^2\alpha_2) \quad (1)$$

Here we are estimating the impact of the observable characteristics parametrically using the standard proportional hazards functional form ($exp(X_{1t}'\beta_1)$). Included in the vector X_{1t} are dummies for high impact first recertification months, low impact first recertification months, and other recertification months.

We also include in this vector the demographic controls described in table 1 and an indicator for any months with a higher than average unemployment rate. A key component of any analysis of time varying covariates is the proper specification of the baseline hazard. Rather than modeling the baseline hazard in the standard way (using the Weibull distribution), we include a quadratic in time on the right hand side of our model ($exp(t\alpha_{j1} + t^2\alpha_{j2})$) to control for any general temporal patterns in program exits. While our approach to modeling the baseline hazard is still ultimately a parametric one, it does provide more flexibility than the Weibull distribution.[4]

Results

Impact on Enrollment Duration for Enrolled Children

Table 2 provides estimation results for equation (1) using the 121,434 LIM Medicaid child enrollment spells described in table 1. The key coefficient of interest is on the high impact first recertification indicator, because these are the months in which the enhanced citizenship verification was first binding for children in monthly cohorts 6-13. The estimated hazard coefficient associated with the high impact first recertification indicator is 2.62 and highly statistically significant. This suggests that children enrolled in a high impact first recertification month are 162 percent more likely to exit relative to other months. When compared to the average monthly exit probability in the sample of 4.57 percent, this coefficient represents a monthly exit probability of 11.96 percent. We call this the "absolute effect" associated with a high impact first recertification.

We can compare this exit rate to that of the first (low impact) rectification of children in monthly cohorts 1-5, who were enrolled just prior to the reform and as a result were not exposed

[4] Marton et al. (2010) use a similar approach to estimate the impact of premium changes on the duration of enrollment in public coverage.

to enhanced citizenship verification during their first recertification. The estimated hazard coefficient for a low impact first recertification is 2.10 and also highly statistically significant. This implies that the monthly exit rate associated with a low impact first recertification is 9.61 percent, which is lower than the 11.96 percent monthly exit rate associated with a high impact first recertification. Note that we cannot observe directly whether or not children exiting are non-citizens, rather we are inferring this from the timing of their exit.

These might seem like big differences relative to the baseline, it is important to remember that exit rates during recertification months are always higher than during non-recertification months. For this reason, we also include controls for all other re-certifications in the model (estimated hazard coefficient 1.21, absolute effect 5.53 percent). Table 2 also suggests that male and non-white children are overall less likely to exit as are children aged 12 and under, when compared to children aged 13 to 18. The linear and quadratic time trend terms that model the baseline hazard suggest that children are more likely to exit over time.[5]

Disenrollment Simulation

In order to compare the magnitude of the high impact recertification coefficient with the low impact recertification coefficients, we simulated the number of monthly exits for an initial cohort of 100,000 enrollees over the course of one year under two scenarios: 1) their six month recertification is high impact and their twelve month recertification is an "other" recertification

[5] An alternative to including the recertification dummies would be to instead include a post-DRA enhanced citizenship verification dummy on the right hand side of the model. We expect that such an approach would be a noisy indicator of the impact of the reform because it simply compares each child's experience in the pre-reform period versus the post-reform period. As discussed above, a child that enrolls just prior to the reform, say December 2005, would not have to provide enhanced citizenship on January 1, 2006. Instead, this would be required at their six month recertification in May 2006. If the child provides the proper documentation and meets any other eligibility requirements, then their coverage will continue and additional citizenship documentation will not be required during future re-certifications. If they cannot, then they will be dis-enrolled. A simple post-period dummy would treat May 2006 the same as any other post-reform month. Thus this example suggests that a post-period dummy would not be the best way to isolate the impact of the reform.

and 2) their six month recertification is low impact and their twelve month recertification is an "other" recertification. The results of these simulations are reported in table 3. To explain in more detail, consider first the "high impact" column. We apply the average monthly exit rate in the data (4.57 percent) at the end of months 1-5, so at the end of month 5 there are 79,142 enrollees remaining. In month 6 we apply the high impact recertification monthly exit rate of 11.96 percent, which results in a larger reduction relative to any of the previous months. We then apply the average monthly exit rate in months 7-11 and the other recertification monthly exit rate at the end of month 12. In this scenario, there are 52,094 children left at the end of the year, assuming no new entry.

We model the "low impact" scenario in a similar fashion, plugging in the appropriate recertification exit rate at the end of month 6 and month 12. Table 3 illustrates that there is little difference in the number of children remaining by the end of the year. The high impact scenario results in an additional 1,390 exits relative to the low impact scenario. Therefore, the high impact scenario leads to an additional 1.39 percent of the initial cohort of 100,000 exiting by the end of the year.

We can compare this to estimates of the number of undocumented immigrants in Georgia produced by the Urban Institute (Passel, Caps, and Fix, 2004) that suggest undocumented immigrants make up 2.5-3.5 percent of the total Georgia population. If we apply these percentages directly to our hypothetical cohort of 100,000 LIM Medicaid children, then we estimate that 2,500-3,500 of these children are non-citizens. This is likely an upper-bound estimate, since we expect that adults make up a larger proportion of the total population of non-citizens. A comparison of our simulated number of additional exits as a result of the high impact recertifications (1,390 children) to this estimate of the number of LIM Medicaid non-citizen

children (2,500-3,500 children) suggests that our simulation results produce numbers that are consistent with estimates of the size of the non-citizen population. In other words, if our simulation produced an estimate of an additional 6,000 exits as a result of high impact first recertifications then we would be suspicious because there are probably not that many non-citizens in a cohort of 100,000 children.

Impact on Re-enrollment for Children that Exit Coverage

As table 2 suggests, we observe 98,788 exits (81 percent) among the 121,434 Medicaid LIM enrollment spells in our dataset. We are interested in knowing how many of these children regain public coverage. In order to analyze this question we constructed a dataset consisting of spells of "non-coverage" or "between coverage" spells for the Medicaid LIM children in our sample. Thus these 98,788 between coverage spells are triggered by an exit of a Medicaid LIM child from coverage, so these exits occurred any time between January 2005 and June 2008 (42 months).

Among these 98,788 exits, 18,618 (19 percent) occur during a high impact first recertification month and 7,151 (7 percent) occur during a low impact recertification in the pre-reform time period. Because we suspect that the modestly larger number of exits that occurred during a high impact first recertification is most likely to be tied to the enhanced citizenship verification rules, we are especially interested in how many of those children re-enter public health insurance coverage. If a child is not a citizen, then they should not, by definition, be able to re-enter Medicaid or CHIP. If we observe the child re-entering public coverage, then their parents must have presented the appropriate citizenship documentation with their subsequent application.

Table 4 reports the results of our re-entry analysis. Among the 18,618 high impact first recertification exits that we observe in our sample, 6,684 (36 percent) subsequently re-enroll in either Medicaid or CHIP. Among these re-enrollees 53 percent re-enroll via the LIM eligibility category of Medicaid, 39 percent re-enroll via the "Right from the Start Medicaid" (RSM) eligibility category of Medicaid, and 7 percent re-enroll through the CHIP program. As mentioned above, these 6,684 children would not be allowed back into Medicaid or CHIP if they were not citizens. We might ask whether or not 36 percent is a large proportion of re-enrollees. One way to answer is to compare this to the proportion of children that re-enroll after a low impact first recertification exit in the pre-reform period. We find that 41 percent of the children that exit during a low impact first recertification month re-enroll in Medicaid or CHIP before the end of our analysis time period. Thus the modestly lower rates of exit and re-entry associated with the high impact first recertifications could be explained by non-citizens exiting due to stricter citizenship verification and, as a result, not returning.

If we assume that at least some of the exiting children are non-citizens, the fact that the exit and re-entry rates associated with the high impact first recertification months are only modestly different from low impact first recertification months suggests that the reform is probably not having a dramatic impact on citizens. To carry the simulation from table 3 a step further, we can apply these re-entry probabilities to our simulated number of exits. We reported that an additional 1,390 children out of a cohort of 100,000 children exit in our high impact scenario. If we apply the high impact re-entry probability of 36 percent to these exits, we would expect to see 500 return. This would imply that the net number of "high impact" exits in our simulation would be roughly 890 children. This is again consistent with our rough estimate of between 2,500 and 3,500 non-citizen LIM children in our hypothetical cohort.

Specification Checks

Our analysis focuses on LIM children because the citizenship verification policy change was clearly binding for that particular eligibility category. As a specification check we estimate the same model for children jointly enrolled in both Medicaid and the SSI program. These children were already subject to both enhanced citizenship and verification, given the federal SSI application process. The results are reported in table 5 and suggest that, in general, there is not much exiting occurring among SSI children within Medicaid. The low impact first recertification indicator is not statistically significant and the high impact first recertification indicator suggests slightly less exiting during high impact months. The fact that we don't see a big difference between high and low impact first recertifications in this group of children (that started their Medicaid coverage spells at the same time in the same state as the LIM children) gives us more confidence that the difference in these recertifications we observe in the LIM children is being driven by the enhanced citizenship verification reform.

As an additional specification check we re-estimated the model from table 2 with an interaction term between the high impact first recertification dummy and the nonwhite indicator. If being nonwhite is correlated with being a non-citizen, then we would expect to see a higher exit rate among nonwhites during high impact first recertification months. This is exactly what we find, as nonwhites are 32 percent more likely than whites to exit during a high impact first recertification month.

Discussion

Previous descriptive analysis of states (GAO (2007), Summer (2009)) suggested that the implementation of enhanced citizenship verification in Medicaid had a significant impact on enrollment. On the other hand, Sommers (2010) finds that this policy change did not have a

significant impact on citizen enrollment in Medicaid, while one-in-four non-citizen adults and one-in-eight non-citizen children were screened out by the policy annually. Our findings are consistent with Sommers (2010), though we argue below that our focus on one state lends more credibility to our results.

Researchers interested in Medicaid policy often specialize in one of two types of datasets. The first type consists of broad publically available datasets, such as the CPS (as used in Sommers (2010)) or the SIPP. The benefits of such datasets include the potential to build a nationally representative sample, the ability to analyze differences in policies across states, the ability to potentially observe both Medicaid enrollees and those not enrolled, and detailed demographic data, such as citizenship status. The drawbacks include small sample sizes within individual states, the challenge of understanding policy nuances for all 50 state Medicaid programs, and difficulty in correctly identifying Medicaid recipients. In addition, datasets such as the CPS don't allow researchers to follow the same individuals for an extended period of time.

The second type of dataset involves administrative program data from one or a small number of states (as we use in this paper for Georgia). Obviously, Medicaid administrative data doesn't provide information on those not enrolled in the program, so analysis using this data is typically conditioned on program participation. In addition, this sort of data does not often include detailed demographic data and cannot claim to represent the entire country. On the other hand, Medicaid state administrative data clearly identifies program participants and allows researchers to limit their focus. It is easier to have a deep understanding of the history of Medicaid policy in any one state as compared to all 50 states. The fact that Sommers (2010) classifies Georgia as one of four control states with respect to citizenship verification is evidence of the difficulty associated with getting the policies associated with each state right.

State Medicaid administrative data may be better suited for analysis of enhanced citizenship verification than the CPS. As our description of the institutional structure of Georgia's Medicaid program suggests, different eligibility categories were subject to different citizenship verification rules prior to the DRA. This knowledge allows us to focus on the eligibility category in which we are most likely to see a citizenship effect. In addition, our detailed enrollment data allows us to focus on months in which we are most likely to see a citizenship effect. If we don't find a large impact for LIM children in the first post-DRA recertification then we are not likely to find large impacts anywhere else. Despite differences in approach, our results are broadly consistent with Sommers (2010). For the reasons just described, we would argue that our approach should provide more confidence in our results.

Conclusion

This paper examines the impact of Deficit Reduction Act of 2005 mandated citizenship verification requirements on the Medicaid coverage of children using state administrative data from Georgia. Our analysis suggests that children enrolled via the "Low Income Medicaid" eligibility category of Georgia Medicaid (based on the 1996 Aid to Families with Dependent Children (AFDC) standards) that were enrolled prior to the reform were slightly more likely to exit during high impact first recertifications in which the enhanced citizenship verification was binding. In addition, we observe a slightly lower re-entry probability among these children as compared to children that exit during low impact first re-certifications just prior to the reform. Assuming at least some of the exiting children are non-citizens, the fact that the exit and re-entry rates associated with these "high impact" first recertification months are only modestly different from low impact first recertification months suggests that the reform is probably not having a dramatic impact on citizens.

The ACA adds administrative burden to states by requiring coordination of Medicaid eligibility systems with the state insurance exchanges as well as expanding the population eligible for subsidized health coverage to a greater percentage of the adult population, who in turn, are required to document citizenship and income. It also provides additional funding to states to upgrade information systems and build linkages to data hubs (like the Social Security Administration [SSA] and vital record systems) which assists states in documenting citizenship and verifying income and reduces the burden on consumers. In particular, Georgia was able to create a permanent electronic record of citizenship status in their Medicaid eligibility system through linkage with the SSA so individuals who provide a valid social security number no longer need to provide citizenship documentation every time they move to a new county or reapply for public coverage. Our results suggest that enhanced citizenship verification was not having a dramatic impact on citizens in Georgia. This new permanent electronic record of citizenship should further minimize the impact of the policy on citizens.

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Figure 1. Monthly Enrollment of Children in Georgia Medicaid (July 2003 - June 2008)

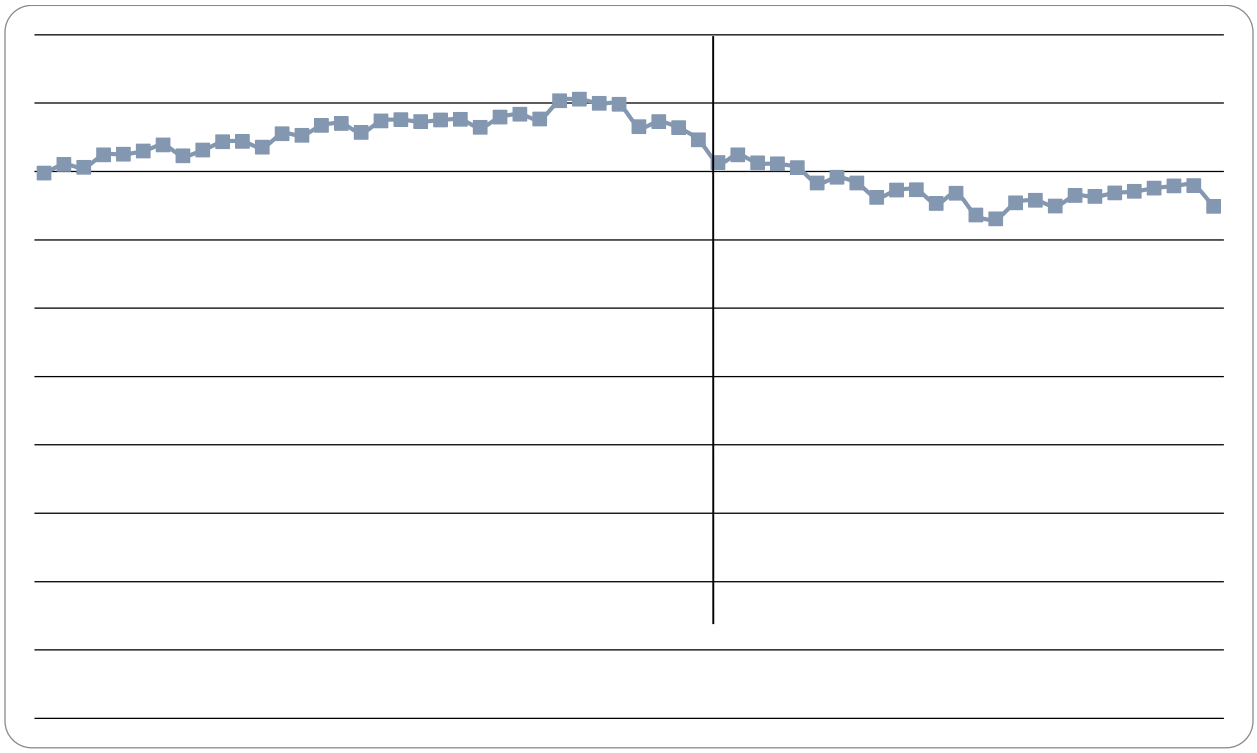

Figure 2. Different Types of First Recertifications

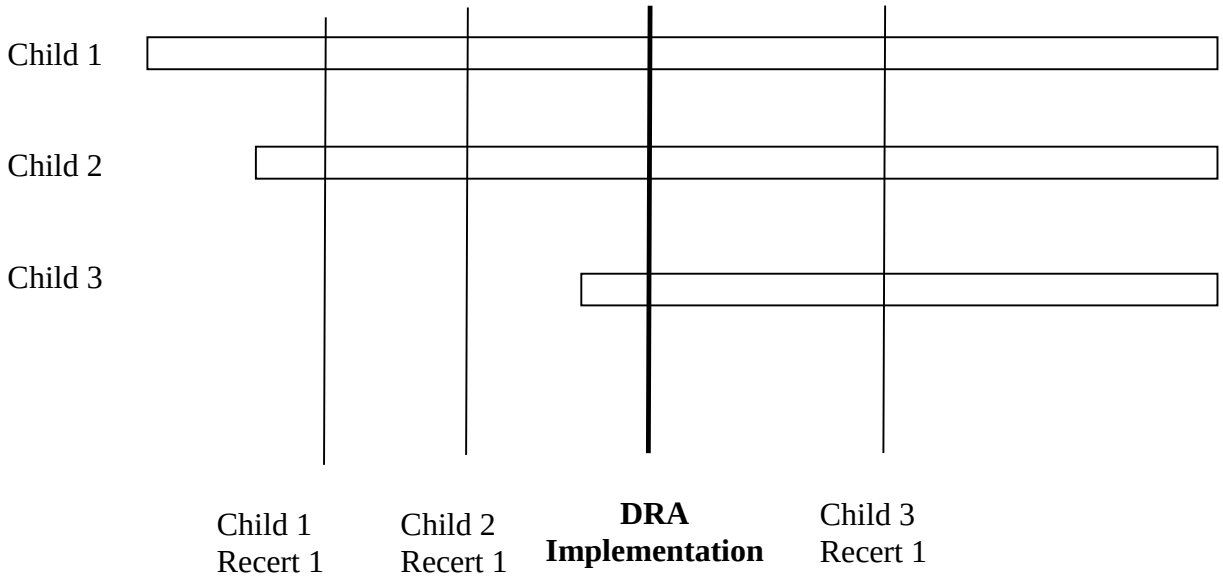

Table 1. Descriptive Statistics for Georgia LIM Medicaid Spells (initiated between December 2004 & December 2005)

	All Cohorts	*Low Impact*	*High Impact*
# spells	121,434	40,572	80,862
Demographics:			
age under 1	17.08%	18.72%	16.26%
age 1-5	31.32%	31.53%	31.21%
age 6-12	28.19%	27.21%	28.68%
age 13-18	23.41%	22.54%	23.85%
Female	51.00%	51.10%	50.94%
non-white	66.56%	64.14%	67.77%
Atlanta metro	40.84%	38.10%	42.22%
Spell characteristics:			
avg. spell length (months)	17.80	19.75	16.82
Spells ending in an observed exit	81.35%	82.78%	80.63%
Spells that are right-censored	18.65%	17.22%	19.37%

Table 2. Duration Model for Georgia LIM Medicaid Spells for Children (initiated between December 2004 & December 2005)

Variable	**hazard**	**standard error**	**p-value**	**absolute effect**
high impact first recertification	2.62	0.02	0.00	11.96%
female	1.02	0.01	0.01	4.65%
Non-white	0.97	0.01	0.00	4.43%
age under 1	0.48	0.00	0.00	2.18%
age 1-5	0.78	0.01	0.00	3.58%
age 6-12	0.79	0.01	0.00	3.63%
high unemployment month	0.84	0.01	0.00	3.83%
time	1.10	0.00	0.00	5.04%
time squared	1.00	0.00	0.00	4.56%
low impact first recertification	2.10	0.03	0.00	9.61%
other recertification	1.21	0.01	0.00	5.53%

# spells	121,434
# exits	98,788
log-likelihood	-153,524.64
avg. spell length	17.80
avg. exit probability	4.57%

Table 3. Simulation Results

	High Impact First Recert	***Low Impact First Recert***
start with:	*100,000*	*100,000*
end of month 1:	95,429	95,429
end of month 2:	91,067	91,067
end of month 3:	86,905	86,905
end of month 4:	82,932	82,932
end of month 5:	79,142	79,142
end of month 6:	69,675	71,534
end of month 7:	66,490	68,265
end of month 8:	63,451	65,144
end of month 9:	60,550	62,167
end of month 10:	57,783	59,325
end of month 11:	55,141	56,613
end of month 12:	52,094	53,485
Low - High =	1,390	1.39%

Table 4. Likelihood of Regaining Public Coverage

	High Impact First Recert	***Low Impact First Recert***
# of LIM children that exit at their first recertification	18,618	7,151
# of children that subsequently re-enter public coverage	6,684	2,897
%	36%	41%
re-entry route:		
back into Medicaid - LIM	3,557	1,466
%	*53%*	*51%*
back into Medicaid - RSM	2,625	1,195
%	*39%*	*41%*
back into CHIP	476	225
%	*7%*	*8%*
back into Medicaid - SSI	26	11
%	*0.39%*	*0.38%*

Table 5. Duration Model for Georgia Medicaid Spells for Children – LIM vs. SSI Children (initiated between December 2004 & December 2005)

	LIM	***SSI***
high_impact_first_recert	2.62***	0.84*
abs. effect	*11.96%*	*1.29%*
low_impact_first_recert	2.10***	1.04
abs. effect	*9.61%*	*1.42%*
other_recerts	1.21***	0.87**
abs. effect	*5.53%*	*1.34%*
# spells	121,434	3,569
# exits	98,788	1,681
log-likelihood	-153,524.64	-3,755
avg. spell length	17.80	26.65
avg. exit probability	4.57%	1.54%

*Note: Each column reports the hazard coefficient and absolute effect associated with the recertification indicator of interest. We indicate statistical significance at the 1 percent level with ***, significance at the 5 percent level with **, and significance at the 1 percent level with *.*

Table 6. Duration Model for Georgia LIM Medicaid Spells for Children, with a Nonwhite Interaction Term (initiated between December 2004 & December 2005)

variable	*hazard*	*standard error*	*p-value*
high impact first recertification	2.04	0.02	0.00
non-white X high impact	1.32	0.02	0.00
female	1.02	0.01	0.01
Non-white	0.93	0.01	0.00
age under 1	0.48	0.00	0.00
age 1-5	0.78	0.01	0.00
age 6-12	0.79	0.01	0.00
high unemployment month	0.83	0.01	0.00
time	1.10	0.00	0.00
time squared	1.00	0.00	0.00
low impact first recertification	2.11	0.03	0.00
other recertification	1.17	0.01	0.00

# spells	121,434
# exits	98,788
log-likelihood	-153,672.11
avg. spell length	17.80
avg. exit probability	4.57%