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Immigration Enforcement and Child Birthweight

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Recent federal government emphasis on immigration enforcement has led to substantial increases in immigrant detentions and removals. From 2017 to 2018, detentions and removals increased by almost 40% (US ICE, 2018). In this project, we examine one avenue through which these immigration enforcement measures are affecting the undocumented population and their children. Specifically, we examine the effects of immigrant apprehensions on the birthweight of children born by potentially undocumented Hispanic/Latina mothers.

Over one fourth (3 million) of the roughly 11 million undocumented people in the U.S. reside in California (Migration Policy Institute, 2014). In this project we focus on effects of enforcement activities on the children of undocumented parents. Recent estimates suggest that roughly 1.5 million children of undocumented parents live in California, making up 17 percent of the total child population in the state (Capps, Fix, and Zong, 2016). Given the large population of undocumented people and their children residing in the state, the findings of our study are particularly relevant in California. Consistent with our hypothesis, we find evidence that immigration enforcement causes the average birthweight of children born by Hispanic immigrant mothers to decrease, relative to the birthweights of children born by native-born Hispanic mothers. This suggests that heightened immigration enforcement in California could have costly health implications for Hispanic immigrant communities.

Previous literature has found that increases in immigration enforcement intensity affect the behavior of immigrant families in ways that are consistent with increased stress and negative health effects. Bronchetti (2014) finds that increased immigration

enforcement is associated with poorer health insurance and health care outcomes among children of immigrant families. Berk and Schur (2001) report fear among undocumented individuals of being able to obtain health services. Hardy et al (2012) find deteriorating health-seeking behaviors after implementation of a new immigration enforcement law in Arizona. Gadarian and Albertson (2013) find that focusing attention on the threat of immigration enforcement induces anxiety and reduces cognitive capacity. Some evidence suggests that increased enforcement may have adverse effects on participation in public assistance programs (e.g. Rhodes et al 2014; Toomey et al 2014), and lead to increases in food insecurity (Potochnick, Chen, and Perreira 2016).

In this project, we examine the effects of immigration enforcement activities on child birthweights and the incidences of low (LBW) and very low child birthweights (VLBW). A large literature has rigorously established the causal link between maternal stress and child birthweight. This literature finds that increases in maternal stress have an overall negative effect on child birthweight and increase the prevalence of both LBW and VLBW (McAnarney and Stevens-Simon 1990; Lobel, Dunkel-Schetter, and Scrimshaw 1992; and Wadhwa et al 1993). The effect of maternal stress is mediated via socio-economic status, with larger stress effects and high intergenerational LBW transmission for mothers with lower socio-economic status (Rondo et al 2003; Currie and Moretti 2007). Given the low median income, high poverty rate, and high share of workers in low-wage jobs amongst the undocumented population (Passel and Cohn, 2009), this suggests that negative effects of maternal stress on infant health outcomes in this group could be substantial.

We link increases in immigration enforcement activity to measures of infant health and maternal behavior from the Center for Disease Control's (CDC) Vital Statistics data. Our measures of immigration enforcement intensity come from two distinct programs under the U.S. Department of Homeland Security's (DHS) Immigration and Customs Enforcement (ICE): 287(g) and Secure Communities (SC).

The 287(g) program refers to Section 287(g) of the Immigration and Nationality Act as modified by the Illegal Immigration Reform and Immigrant Responsibility Act of 1996. For those jurisdictions that choose to participate, this program authorizes local law enforcement agencies to enforce federal immigration law subject (Rodriguez et al 2010). The stated policy goal is to remove illegal immigrants with serious criminal convictions in local systems (ICE 2017). The effectiveness of 287(g) in reducing Hispanic/Latino non-citizen population is documented in Capps et al (2011), and Kostandini, Mykerezi, and Escalante (2013).

Secure Communities (SC) is an information-sharing program designed to leverage the day-to-day operations of local law enforcement agencies to take federal enforcement actions against aliens in the custody of other agencies. Initial rollout of SC began in 2008 and was quasi-randomly activated across the country between 2008 and 2013.[1] The program was suspended in November 2014 but was reactivated January 2017. SC requires that non-federal law enforcement agencies submit the fingerprints of arrested individuals to DHS for checks against immigration databases. If the individual is found to be in the country illegally, SC enables ICE to issue a detainer, leading to removal and other enforcement actions. From 2008 to 2013, SC led to the removal of more than 363,000 immigrants (ICE 2017). Some cities resisted implementation of SC by refusing to comply with detainer requests. We follow Alsan and Yang (2009) in defining these "sanctuary cities" as counties with an active sanctuary policy in place after the implementation of SC.

For every county with 287(g) and/or Secure Communities agreements, we observe the month in which the county entered the agreement. For SC, we additionally observe the number of ICE apprehensions at the county-month level. The data on detainers, detentions, and removals in SC come from a partnership with the Transactional

[1]Proximity to the border is correlated with earlier activation, indicating that border counties or jurisdictions may have received higher priority for activation.

Records Access Clearinghouse (TRAC) at Syracuse University. The remainder of our data was obtained through a series of FOIA requests to the DHS and ICE. Figure 1 summarizes our data over the study period, showing the evolution of activity in 287(g), SC, and sanctuary cities. The number of counties with 287(g) agreements (left axis) peaked in 2010 at roughly 60 counties, fell to zero in 2013, and increased again in 2016. The number of counties with secure community policies (right axis) slowly increased from 2008 to 2010, then increased sharply from 2010 through 2013. County participation remained at thie peak level until the program was discontinued in November of 2014. The number of counties with sanctuary policies (left axis) increased slowly from 2008 through 2014, grew sharply at the start of 2014 and has remained stable since.

Figure 1: Summary of County Immigration Enforcement Agreement
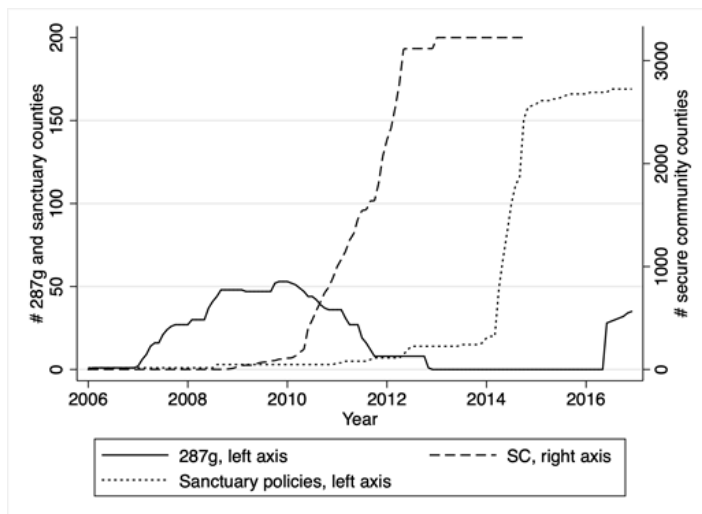
We combine these metrics of immigration enforcement intensity with CDC Vital Statistics data for all U.S. counties for the years 2006-2016. For each birth, we observe month and year of occurrence, county of occurrence, mother's county of residence, and mother's country of birth. We observe birthweight, from which we can classify an infant as normal birthweight, LBW, or VLBW. Birth records also contain measures of maternal behavior including number of pre-natal visits, participation

in WIC, evidence of shifting location of birth[2] and fertility decisions as captured by the birthrate. As a proxy for immigration status, we focus on mothers who record their country of birth as Mexico, El Salvador, Guatemala and Honduras[3] who state they have a high school education or less and who are Hispanic/Latino. Not observing immigration status introduces measurement error and results in attenuation bias. This implies that estimated empirical magnitudes will be smaller than their true values and should be treated as lower bounds.

The study employs a differences-in-differences (DiD) research design, which compares child birthweight between treatment control groups before and after a policy change. Our treatment group consists of potentially undocumented Hispanic/Latino women who reside in counties that have signed a 287(g) agreement. Our control group consists of Hispanic mothers in the same counties, but who were born in the United States and are therefore citizens.

Using the DiD design, we compare child birthweight and incidences of LBW and VLBW between the treatment and control groups before and after each of the following policy changes: a county signs a 287(g) agreement, a county's first apprehension under Secure Communities, or a county declares itself as a sanctuary city.

Table 1: Difference-in-Difference Regression Results

	Birthweight	Low Birthweight	Very Low Birthweight
Undocumented x SC	-13.7***	0.0047***	0.00092***
	(1.95)	(0.00053)	(0.00022)
SC	10.6***	-0.0032***	-0.00071**
	(1.72)	(0.00066)	(0.00028)
Undocumented	61.9***	-0.013***	-0.0028***
	(5.48)	(0.0010)	(0.00028)
287g	-3.36	0.0025***	0.0011***
	(2.82)	(0.00089)	(0.00041)
Sanctuary City	-2.78	0.00077	-0.00005
	(1.75)	(0.00076)	(0.00026)
R^2	0.0053	0.0015	0.00041
# Obs.	4,835,970	4,835,970	4,835,970

Notes: All specifications contain month and year fixed effects. Standard errors given in parentheses, clustered at the county level. Outcome variable is given by the column title: birthweight is in grams, low and very low birthweight are binary indicator variables for a birthweight below 2,500 or 1,500 grams, respectively. All specifications include only Hispanic/Latina mothers. Undocumented is an indicator variable for an immigrant mother born in either Mexico, El Salvador, Honduras, or Guatemala. SC (287g) is an indicator variable equal to one after a county makes its first apprehension through SC (287g). Sanctuary city is an indicator variable equal to one after a count enacts a sanctuary city policy. $^*p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$

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[2]E.g. from counties with 287(g) agreements to counties without 287(g) agreements.

[3]The Pew Charitable Trust has identified these as the top four countries of origin for undocumented individuals in the United States (Passel and Cohn, 2016).

Table 1 shows results from our DiD model for each of the three birthweight outcomes. The main coefficient of interest is on the interaction of Undocumented and SC. Consistent with our hypothesis, we find that the birthweight of children born to undocumented mothers decreases after a county begins SC enforcement. Shown in the first column of Table 2, the average birthweight of these children decreases by 13.7 grams relative to the children of native-born Hispanic women. Shown in the second column of Table 2, the relative incidence of low birthweight children increases by 0.5 percent, and the incidence of very low birthweight children increases by 0.01 percent. These preliminary results suggest that immigration enforcement activities have significant negative implications for the health of children born to immigrant mothers.

We suggest three potential avenues through which policy can address negative health effects from immigration enforcement. First, allocate additional funding for prenatal health services and public health clinics, targeting at-risk populations including non-native Hispanic mothers. Second, we recommend improving access to mental health services in immigrant communities. We believe that this could reduce the feedback between immigration enforcement and the mechanism of maternal stress that leads to our observed birth outcomes. Finally, though it is outside the scope of our study, a large literature has documented the "chilling effects" of immigration enforcement that cause immigrants (regardless of legal status) to use fewer public assistance programs. In our context, this would suggest that immigrant enforcement could reduce immigrant use of medical services they are eligible for. One potential solution is outreach through community-based organizations that serve immigrant populations. These outreach efforts should inform immigrants of the programs they are eligible for and provide resources for mental and physical health services.

ENDNOTES

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