U.S. Immigration Enforcement and Heath Care Utilization *

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Abstract

This paper examines the impact of immigration enforcement on Hispanic hospital admissions in Florida and Arizona between 2005 and 2014. Combining information on immigration enforcement under the Secure Communities (SC) program with hospital inpatient discharge records, this analysis examines the consequences of immigration enforcement for the use of health care services and admissions for preventable diagnoses. SC began in 2008 as part of a broader shift in federal priorities towards more aggressive immigration enforcement and led to a large increase in deportations across the US. Fear of deportation created by this surge in enforcement may lead immigrants or citizen family members to defer necessary health care or forgo preventive care out of fear of interacting with authorities. While prior literature finds significant impacts of immigration enforcement on health outcomes, this paper does not find convincing causal evidence that an increase in immigration enforcement affected the prevalence of ambulatory-sensitive conditions or total inpatient admissions. It may be the case that the group affected by SC was already delaying health care, avoiding hospitals, and finding other avenues of care, and enforcement did not change behaviors or outcomes further. Differential trends in health by ethnicity, combined with confounding factors such as the Great Recession that occurred simultaneously with increases in immigration enforcement, suggest caution in extrapolating meaningful effects from the impact of immigration policies on health outcomes.

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1 Introduction

The U.S. has undertaken significant changes in federal immigration policy in recent decades, setting in motion a broad range of impacts on immigrants and natives alike. The Department of Homeland Security has altered visa policies, border security, and deportation procedures, while state and federal governments have reformed immigrant access to public programs, health care, and education. And while many economists have examined the labor market impact of immigrant inflows to the U.S. in detail, fewer have turned their attention to the impact of removing immigrants through deportation. Changes in immigration enforcement policy have both direct and indirect effects. For example, while the direct impact of deportations is removing undocumented immigrants from the U.S., frequent deportations may also affect people who are not deported. The fear of deportations can cause stress for potential deportees, friends and relatives. This fear may lead immigrants, and even citizen family members, to alter their behavior to limit interactions with government authorities. This may include avoiding workplaces or community events, not signing up for public programs, or deferring health care to avoid the records and bureaucracy that, they fear, could lead to deportation.

This paper seeks to answer the question of whether heightened immigration enforcement impacts health care for targeted immigrants, their families, and their communities. Specifically, I combine data on immigration enforcement under the Secure Communities (SC) program with hospital inpatient discharge records to examine the consequences of immigration enforcement for the use of health care services and admissions for preventable diagnoses among the Hispanic population. The Department of Homeland Security enacted SC beginning in 2008 to increase cooperation between local law enforcement and federal immigration authorities. As part of a shift in federal policy towards a more aggressive stand on immigration enforcement, SC led to a large increase in deportations across the US. I use variation in the timing of the SC rollout and deportations, merged to data on inpatient hospital admissions from the Healthcare Cost and Utilization Project (H-CUP), to measure the relationship between heightened enforcement and health care utilization for the Hispanic population. Due to data availability, this analysis focuses on the Florida and Arizona State Inpatient Databases from 2005-2014. Beyond total hospital admissions, admissions from the emergency department and prevention quality indicators (PQIs) may indicate a lack of access to health care or health insurance. Lacking health insurance or fearful of going to a doctor, people may find themselves relying on the emergency room as a primary source of care. PQIs measure admissions for ambulatory-sensitive conditions that could be managed in an outpatient setting, such as forms of asthma or hypertension and act as a proxy for a lack of regular outpatient care (Kolstad and Kowalski, 2012). However, if targets of immigration enforcement efforts are fearful of being deported, or if their families are afraid of exposing undocumented family members, they may avoid seeking outpatient care or not sign up for health insurance (Alsan and Yang, 2018). If enforcement affects work opportunities or wages for undocumented immigrants, they may also have a harder time paying for health care.

Substantial political attention has focused on immigration policy in recent years, and

understanding both the intended and unintended consequences of immigration enforcement through objective evaluation is necessary to an informed discussion and effective public policy. This analysis also speaks to the question of how psychological barriers impact health care access and utilization. Of course, external constraints like time and monetary costs and the availability of affordable health insurance impact health; however, less obvious factors may also affect health care decisions. For example, people may be afraid to go to the doctor for fear of revealing their legal status or that of a relative. Finally, this question is relevant to the high costs of health care in the US: if fear deters immigrants from receiving regular outpatient and preventive care, they may fall back on the emergency room when minor ailments get more serious, thus using a much higher cost service.

Although prior literature finds effects of immigration enforcement on health insurance and health outcomes, these results do not reveal compelling evidence that heightened enforcement affected hospital utilization or access to care among the Hispanic community during this period. While the analysis reveals several interesting trends in hospital admission in Florida and Arizona, including a large increase in Hispanic Medicaid enrollment in Florida, the results do not support a meaningful effect of increases in immigration enforcement on inpatient hospital outcomes. Of course, the data do not identify patients by immigration status, and it it possible that any causal effect is lost in the noise of the data. Nonetheless, this paper suggests that it is quite difficult to isolate the impact of deportations on immigrant outcomes and we should be cautious due to underlying trends over this time period. While the literature points to potential impacts of immigration enforcement on program take-up and health outcomes, the lack of robust effects on inpatient hospital admissions does not suggest that it causes a change in behavior related to managing more serious health conditions. This study emphasizes that finding effect of immigration enforcement on health care utilization due to fear of deportation requires a behavioral change by immigrants interacting with the health care system. It may be the case that this group was already delaying health care, avoiding hospitals, and finding other avenues of care. Alternatively, the interactions of undocumented immigrants with authorities may be driven by perceptions of local law enforcement that are more dependent on fixed local characteristics than federal policy (Asad and Rosen, 2018). In this case, enforcement may not change behavior further, and we will not see an effect of SC.

Section 2 of this paper discusses recent contributions to the literature on the impact of immigration enforcement on health outcomes and health care, including work on the take-up of safety net programs in immigrant communities and the effect of anti-immigration policies on the health of immigrants and their children. Section 3 describes the available data on immigration enforcement under SC, as well as discussing the relevant data on hospital admissions and trends in Florida and Arizona from 2005-2014. Section 4 explains the empirical approach to analyzing changes in hospital utilization among the Hispanic population in Florida and Arizona and their relationship to the surge in deportations between 2008-2012. Section 5 discusses results from a pooled two-way fixed effects model and event study specification, section 6 reviews sources of heterogeneity and potential confounding factors, and section 7 concludes.

2 Related research

Immigrants, particularly undocumented immigrants, face substantial barriers to accessing health care. They are less likely to be insured than citizens, less likely to have a usual source of health care, and more likely to rely on the hospital or emergency room as their primary source of care (, n.d.; Martinez-Donate et al., 2014; Akresh, 2009; Vargas Bustamante et al., 2012) Transportation poses another barrier, as does the fear of being pulled over by the police while driving (Rhodes et al., 2015). Because undocumented immigrants are generally ineligible for state drivers licenses, simply getting to and from a doctor or hospital is a challenge for many[1].

Prior studies show that immigration enforcement creates fear in immigrant communities with wide-ranging effects, including reducing educational attainment and increasing material hardship (Amuedo-Dorantes and Lopez, 2017; Gelatt et al., 2017). These effects extend to health care access and health outcomes, which respond to heightened enforcement through multiple channels. First, the fear of deportation can affect health outcomes directly through stress (Venkataramani et al., 2017; Novak, Geronimus and Martinez-Cardoso, 2017; Wang and Kaushal, 2018; Lopez et al., 2017; Torche and Sirois, 2019; Cavazos-Rehg, Zayas and Spitznagel, 2007). Recent work shows evidence that immigration enforcement can affect the employment of low-educated non-citizens (East et al., 2018), which may also impact employer-sponsored health insurance. Finally, multiple studies examine the impact of fear created by heightened immigration enforcement on program participation, including the take-up of public health insurance (Watson, 2014; Swartz et al., 2017; Rhodes et al., 2015; Vargas, 2015; Alsan and Yang, 2018). Evidence of chilling effects in health care, where enforcement may deter those eligible for public programs from signing up, as well as qualitative work on spillover effects across communities (Asad and Clair, 2018), makes it clear that citizens related to undocumented immigrants, or living in the same communities, may also suffer the impacts of enforcement policies targeting undocumented immigrants.

In health care, a variety of qualitative and interdisciplinary studies document how immigration enforcement may deter people from seeking health services, delay necessary care, or reduce the use of preventive care (Rhodes et al., 2015; Hacker et al., 2012; Lopez et al., 2017; Maldonado et al., 2013; Cavazos-Rehg, Zayas and Spitznagel, 2007). Martinez et al. (2015) provide a review of this literature. Overall, this research suggests that undocumented immigrants face substantial barriers to receiving health care, and immigration enforcement may increase these barriers. It is possible that the fear of being deported deters immigrants from seeking regular outpatient care. If this lack of outpatient care exacerbates preventable conditions, then people in the communities affected by deportations may resort to inpatient hospital or emergency room visits when otherwise manageable ailments become more serious. This may also be the case if enforcement reduces insurance coverage, thus decreasing preventive care and outpatient visits.

While this paper focuses on trends in health care access and utilization, two recent

[1]While some states have passed laws that allow undocumented immigrants to obtain drivers licenses, Arizona and Texas have not.

papers use variation in the rollout of SC to examine health outcomes and program take-up. First, Wang and Kaushal (2018) use the National Health Interview Survey (NHIS) to examine the effect of SC and a more aggressive but less widespread enforcement program, 287(g) agreements, on the self-reported physical and mental health of Latino immigrants in the US. Merging policy variables to the NHIS for the 2000-2012 period, they find that the implementation of SC led to a 14.7 percent increase in mental health distress for this group. Using difference-in-differences methodology, this paper defines the individuals affected by enforcement as foreign-born Latino adults in households with at least one noncitizen member because this group has a higher probability of having an undocumented family member. The comparison group is native, non-Hispanic white adults. While this paper provides important evidence on the health impacts of SC, it does not provide event study estimates or show a visual depiction of pre-trends. This limits the analysis from considering how any effects change over time, which is especially important because rollout of SC coincided with the Great Recession. Furthermore, the absence of evidence of parallel pre-trends limits confidence that the estimates reflect a causal effect.

Alsan and Yang (2018) consider the effect of fear of deportations on SNAP take-up and ACA enrollment, focusing on spillover effects on US citizens of ethnicity. They find that the implementation of SC led to a decline in SNAP participation and ACA enrollment that are concentrated among mixed-status households. They also show a larger response in areas that are likely to have a higher fear of deportation and a smaller effect in sanctuary cities.Their main results suggest a ten percent decrease in Food Stamp take-up by Hispanic heads of households after SC, relative to non-Hispanics, and a two percent decrease in Hispanic ACA sign-ups for every ten percent increase in ICE detainers under SC. However, they do not ask whether enforcement-induced changes in behavior affected more acute outcomes or serious conditions. The current analysis adds to this literature by examining the impacts of SC on hospital admissions, a similar but potentially more serious margin that could be similarly affected by the fear immigration enforcement. This paper also focuses specifically on two states, Florida and Arizona, with pre-existing differences in health policy and the Hispanic population that could lead to different outcomes.

3 Data and Policy Background

3.1 Immigration Enforcement

This paper's empirical strategy relies on the rollout of the Secure Communities (SC) Program, a federally-mandated immigration enforcement program that the U.S. Department of Homeland Security (DHS) enacted in 2008. SC was the cornerstone of a broader shift in federal policy towards more aggressive immigration enforcement efforts that drew on local-federal cooperation in tightening immigration enforcement. The program led to a significant increase in the number ICE apprehensions and deportations of undocumented immigrants. Figure 1 shows the evolution of ICE interior (non-border) apprehensions between 2000 and 2015, dominated by a surge in apprehensions between 2008 and 2012. The path of SC mir-

rors larger trends in federal immigration policy: intensifying through the second term of the Bush Administration and the first term of the Obama Administration. In November 2014, DHS temporarily suspended SC under the direction of the Obama Administration. In 2017, the Trump Administration reenacted the program.

SC relied on an integrated biometric database, shared between ice and local law enforcement, to ascertain the immigration status of all arrestees booked into a local jail.[2] This database tracked the fingerprints of everyone who had interacted with the U.S. immigration system and Department of Homeland Security.[3] Prior to SC, police departments checked the fingerprints of everyone booked into jail against the FBI Integrated Automated Fingerprint Identification System (IAFIS). SC mandated that they also check fingerprints against the DHS Automated Biometric Identification System (IDENT). If law enforcement officers found that a person had violated federal immigration law, that person could be detained for up to 48 hours and turned over to ICE custody.[4] Due to resource constraints, DHS implemented SC in stages, starting with counties on the U.S.-Mexico border in 2008 and gradually expanding to the entire U.S. by January 2013. Because the federal government mandated Secure Communities, counties had little scope for noncompliance (Miles and Cox, 2014).[5] Still, because these expansions relied on cooperation with local law enforcement, and because the undocumented population varied across places, there was also substantial variation in ICE deportations at the county level.

Figure 2 shows county-level variation in both the number of deportations and the timing of the rollout between 2008 and 2012. A possible concern is that the rollout timing was correlated with local characteristics related to crime rates; however, prior literature suggests that the timing was unrelated to potential confounding factors. While early adopters of SC had a larger Hispanic population share, were closer to the US-Mexico border, and had a higher population density, on average, the timing of the rollout was not correlated with local income, crime rates, or the population share of non-citizens (Cox and Miles, 2013). There is less variation in adoption timing within states than across states: in this paper's sample of Arizona and Florida, counties adopted SC in either 2009 or 2010.[6] However, deportations also varied across counties within a given year. While local attitudes or policing strategies could explain some of this variation, the simplest explanation for differences across counties in the number of deportations is differences in size of the undocumented population.

Relative to other states, Arizona and Florida had more deportations and larger noncitizen populations. In both state, non-citizens accounted for approximately ten percent of the overall population in 2010 (see Table 2). Table 1 shows summary statistics for deportations in Arizona and Florida at the county level. These data come from individual level records

[2]Many thanks to Laura Bellows for sharing data on the rollout of Secure Communities.

[3]This includes everyone who had ever applied for a visa or a work permit, or been deported previously.

[4]A person suspected of immigration violations could be detained for immigration reasons even if they could not be held on the charges for which they were initially arrested.

[5]Some counties, known as "sanctuary jurisdictions", did refuse to cooperate with ICE. However, their scope was limited to refusing to honor detainer requests from ICE, not limiting the rollout of the program.

[6]One county in the initial sample adopted SC in 2008, but this paper follows the literature in dropping the "early adopters" (i.e., 2008 adopters), that may be different in unobservables correlated with the outcomes of interest.

of ICE deportations under SC from 2007-2014, and are aggregated at the county level to measure the total number of deportations in a county each year.[7] These data also contain information on the age, gender, and country of citizenship of the deportee, the county of the agency that submitted the fingerprint record, the type of deportation, the date of departure, and the most serious criminal conviction of the deportee.

While the average county in Arizona deported nearly 2000 immigrants due to SC between 2008 and 2014, the average Florida county deported only 267 immigrants. In part, these numbers reflect a larger undocumented population in Arizona. Undocumented immigrants make up approximately 4 percent of Florida's population and over 13 percent of Arizona's population (CMS, 2016).[8] To consider the effects of immigration enforcement, the deportation rate is the most relevant measure of exposure to enforcement or risk of deportation for a given person. In Arizona, the average county deported .06 percent of its population per year after SC, and 0.26 percent of its Hispanic population. Florida deported 0.03 percent of its total population and 0.38 percent of its Hispanic population.

Although SC targeted criminals, which is apparent both from its operation through local jails and stated federal policy, many deportees were never convicted of a crime. Another large share were convicted of only minor offenses, such as traffic violations, or immigration-related offenses, such as over-staying a visa. While a deportee's most serious criminal conviction is not necessarily the cause of their most recent arrest, it does suggest whether the person was a serious criminal or had only been convicted of a misdemeanor or immigration violation. As shown in Figure 3, over one-third of SC deportees were convicted of only minor offenses or had no criminal record at all.

3.2 Hospital Admissions

The main outcomes of interest, total hospital admissions, admissions from the emergency department, and admissions for preventable diagnoses, come from the Healthcare Cost and Utilization Project (H-CUP). My analysis focuses on Florida and Arizona, using the State Inpatient Database (SID) from 2005-2014 for both states and scaling admissions by ethnicity-specific county population counts from the SEER. These data provide records of all inpatient hospital discharges and contain information on patient diagnoses, treatments, and outcomes. They also include demographic information on patient age, sex, and race/ethnicity, as well as the patient's zip code and county of residence. This analysis limits the sample of patients to adults ages 18-64 and considers the county of patient residence as the relevant location. Controls for county demographic composition by age and ethnicity come from SEER, data on county unemployment rates comes from the Bureau of Labor Statistics Local Area Unemployment Statistics, and employment and the employment-to-population ratio come from the Bureau of Economic Analysis Regional Economic Information System.

[7] The Transactional Records Access Clearinghouse (TRAC) at Syracuse University obtained these data through multiple Freedom of Information Act requests to ICE, and I gained access as a TRAC fellow.

[8] While there is not a reliable county-level measure of the undocumented population, CMS provides state-level estimates of the undocumented population in certain years.

Table 2 describes the total population in Florida according to citizenship and Hispanic ethnicity. As the data do not provide information on citizenship or legal status, this is a useful way to see how much of the treatment group may actually be affected by immigration enforcement policies. Over 3 million of Arizona's 9.22 million residents, or nearly 30 percent, identify as Hispanic. In Florida, 6.67 million of 27.99 million residents, or almost 20 percent, are Hispanic. Non-citizens account for 28 percent of Arizona's Hispanic population and 31 percent of Florida's Hispanic population, a relatively large proportion. Thus while most Hispanics are US citizens and not directly affected by immigration enforcement, non-citizens are a relatively large share of the Hispanic population in Arizona and Florida. Furthermore, the the fear of having a family member deported can indirectly impact legal immigrants and citizens through spillover effects (Alsan and Yang, 2018).

The main indicators of health care access are prevention quality indicators (PQIs), a set of ambulatory care sensitive conditions, or diagnoses for which inpatient care would not be necessary if the patient had obtained regular outpatient or preventive care (see e.g., Kolstad and Kowalski (2012)). Table A.1 summarizes these conditions. The analysis also considers trends in total inpatient admissions, inpatient admissions from the emergency department, and admissions for conditions that are less sensitive to individual decisions about seeking care: injuries and heart attacks.[9] Admissions for conditions such as heart attacks, a serious enough condition that people are unlikely to forego care, should not decline if the underlying health of the population is constant. However, if people delay necessary care because the perceived risk or financial cost of going to the hospital is too high, there may be an increase in admissions for potentially preventable conditions.

To construct PQI and hospital admission rates, I scale admissions by race/ethnicity-specific county population in 2004. All variables are at the county-level, as this is the geographic level of exposure to immigration enforcement. Tables 4 and 5 display summary statistics for Arizona and Florida, respectively. In both states, the Hispanic population is less likely to receive a diagnosis for an ambulatory care sensitive condition and less likely to have a heart attack or serious injury. This is consistent with the Hispanic population being healthier, on average, compared to the non-Hispanic population. However, ethnic disparities are smaller in Arizona than Florida. This is consistent with the Hispanic population being slightly healthier in Florida than Arizona, and the non-Hispanic population being less healthy in Arizona.

As shown in panels A and B of Figure 4, overall admissions in Arizona hospitals did not change substantially between 2004 and 2014. Total admissions are relatively constant for Hispanics and non-Hispanics. Despite a slight increase in admissions from the emergency department for all groups, this outcome does not show much change either. In contrast, panels C and D of Figure 4 show a clear increase in both total inpatient admissions and admissions from the emergency department for Hispanic patients between 2009 and 2010. While this increase in admissions coincides with the rollout of SC, it is unlikely that immigration enforcement caused this increase in admissions. Figure A.2 looks at the expected payer

[9]Injuries are defined according to ICD-9 codes for injury and poisoning. Heart attack refers to acute myocardial infarction. I define PQIs based on ICD-9 diagnosis codes according to specifications of the Agency for Healthcare Research and Quality (AHRQ)

for Florida inpatient admissions over this period, revealing that the growth in both total admissions and PQIs is the result of increase in admissions of Medicaid patients, specifically Medicaid managed care patients.[10] As undocumented immigrants are ineligible for Medicaid, these changes are clearly not the result of immigration enforcement. There was also a slight increase in admissions for self-pay and private insurance patients. This category is more likely to contain undocumented immigrants due to their exclusion from Medicaid and the often prohibitive costs of private insurance, but the increase is not nearly as large as that for Medicaid. Figure FigureA.1 does not reveal any substantial changes in overall population trends for Hispanics or non-Hispanics in either Arizona or Florida. Another explanation for this trend is a change in the composition of the Hispanic population or an increase in Hispanic Medicaid enrollment leading to an increase in health care utilization.

Figures 5 and 6 show trends in PQI admission rates relative to ethnicity-specific population, weighted by county population in 2000. In Arizona, panels A-D of 5 show that PQI rates for Hispanics and non-Hispanics follow similar trends and increase over the 2005-204 period. The exception is acute PQIs in panel C, which sharply increase for Hispanics between 2008 and 2009 before declining from 2009-2014. In panels E and F, heart attacks admissions do not appear to change differentially, while injury rates decline for Hispanics between 2007 and 2008. In Florida, PQI rates increase for Hispanics between 2008 and 2010 in Figure 6, following the same pattern as overall admissions, while other groups follow a flat or slightly increasing trend. To the extent that PQIs capture access to outpatient care, the increase in the incidence of inpatient admissions for ambulatory care sensitive conditions could suggest a decrease in health care access during this period. However, total Hispanic admissions also increase during this period. This could be the result of declining health among the Hispanic population or a substitution towards hospital-based care and away from outpatient facilities as people delay care for ambulatory sensitive conditions. One way to examine whether this is due to overall health declines is to look at changes in admissions for conditions that people cannot delay care for, or non-ambulatory sensitive conditions such as heart attacks or serious trauma. Panels E and F of Figure 6 display trends for heart attacks and injuries/poisoning. There is a similar upward trend in these conditions, suggesting that the increase in admissions is due to compositional change among the Hispanic population and not behavior changes caused by immigration enforcement.

For context, consider the differences in the Hispanic population in Florida and Arizona. As seen in Table 3, while the age and sex composition and employment rates of the Hispanic population is similar in these two states, 76 percent of Arizona's Hispanic population had a high school degree or less in 2005, compared to 62 percent of Florida's population. The higher level of education for Hispanics in Florida translates into income differences: The average annual income for Hispanics in Arizona in 2005 was $19,934, compared to $24,115 in Florida. Finally, while non-citizens comprise approximately 39 percent of the Hispanic population in both states, 27 percent are likely to be undocumented in Arizona, as predicted by education,

[10]Florida did implement changes in Medicaid Managed Care during this period under the Florida Medicaid Reform beginning in 2006. However, prior to 2011, the period of an obvious increase in Hispanic Medicaid hospital admissions, these changes were limited to pilot counties. The results do not appear to be driven by these counties, and the state did not begin to phase-in managed care for all beneficiaries until 2014. See (Centers for Medicare and Medicaid Services, n.d.).

ethnicity, citizenship, and year of arrival in the U.S., compared with 23 percent in Florida. There are also slight differences in health coverage in Florida and Arizona. Both states saw an increase in Medicaid coverage and a decrease in uninsurance rates between 2008 and 2014, although Florida had a consistently lower level of Medicaid enrollment and higher rate of uninsurance. In 2008, 15 percent of Arizona's population was covered by Medicaid and 19 percent was uninsured. By 2014, 20 percent of Arizona's was covered by Medicaid and the rate of uninsurance had dropped to 14 percent. In Florida, Medicaid covered 18 percent of the state's population, while 17 percent remained uninsured (Kaiser Family Foundation, n.d.). Of course, the main policy change during this period was the Affordable Care Act, which President Obama signed into law in March of 2010. While this legislation expanded insurance coverage, most major provisions, including the individual mandate, were not implemented until 2014. Moreover, Florida did not officially expand Medicaid under the ACA and Arizona did not expand until 2013, well after the implementation of SC.

4 Empirical Approach

The first approach in examining the impact of heightened immigration enforcement on hospital admissions and PQIs is a two-way fixed effect model that compares Hispanic and non-Hispanic outcomes at the county-year level before and after the rollout of SC. The specification is as follows:

$$\begin{aligned} y_{gct} = \alpha + \beta SC_{ct} + \mu Hispanic_{gct} + \lambda SC_{ct} * Hispanic_{gct} \\ + X'_{ct}\gamma + \nu_c + \tau_t + t\delta_c + \epsilon_{ct} \end{aligned} \tag{1}$$

for each outcome group g, county c, and year t. In this equation, βSC_{ct}, and indicator for the presence of SC, captures the effect of the implementation of SC on hospital outcomes and $\mu Hispanic_{gct}$ indicates average differences in Hispanic outcomes. The main parameter of interest is $\lambda SC_{ct} * Hispanic_{gct}$, which captures the differential impact of SC on Hispanics relative to non-Hispanics. $X'_{ct}\gamma$ is a vector of county-year controls for the population share under age 25 and ages 25-50, the unemployment rate, and the Hispanic share of the population. ν_c and τ_t capture county and year fixed effects, respectively. County-specific linear time trends, expressed by $t\delta_c$, account for linear trends in hospital admissions and may help address concerns about geographic variation in the impact of the Great Recession, although figures 5 and 6 suggest that differential trends across the treatment and control group are not necessarily linear and differential nonlinear trends could still confound the estimates. Outcomes include the total number of Hospital admissions, admissions from the emergency department, and admission rates for ambulatory care sensitive conditions, as well as admission rates for heart attacks and injuries.

While this specification gives a sense of average differences in the period following SC implementation, it does not consider how effects vary over time. Considering the impact over time is a way to check intuition about any supposed effects of enforcement: if an estimated impact on hospital admissions is truly the result of SC, the timing should coincide

with policy implementation. Accounting for dynamic effects is also important in the case of heterogenous treatment effects, where a pooled difference-in-difference estimator that assigns negative weights to some groups and periods could produce a negative estimate despite positive treatment effects in all periods, or vice-versa (de Chaisemartin and D'Haultfauille, 2018). The next set of results examines differential impacts by year relative to SC adoption in the following specification:

$$y_{gct} = \alpha + \sum_{\substack{k=-4 \\ k\neq -1}}^{4} \beta_k SC_{ck} + \mu Hispanic_{gck} + \sum_{\substack{k=-4 \\ k\neq -1}}^{4} \lambda_k SC_{ck} * Hispanic_{gck} + X'_{ct}\gamma + \nu_c + \tau_t + t\delta_c + \epsilon_{ct} \tag{2}$$

$\lambda_k SC_{ck} * Hispanic_{gck}$ is the difference in the impact of SC on Hispanics relative to non-Hispanics relative to the year year $k = -1$, the year prior to SC adoption. This framework relies on the assumption of common trends across Hispanics and non-Hispanics in the absence of treatment, and it may be inappropriate to pool these two groups due to different rates of insurance coverage or differences in underlying health status.[11] Therefore, an alternate approach is an event study analysis, estimated separately for Hispanic and non-Hispanic outcomes in the following form:

$$y_{ct} = \alpha + \sum_{\substack{k=-4 \\ k\neq -1}}^{4} \beta_k SC_{ck} + X'_{ct}\gamma + \nu_c + \tau_t + t\delta_c + \epsilon_{ct} \tag{3}$$

for each county c in year t. Now, β_k expresses the impact of SC on hospital admissions in county c and year t, alternately for Hispanics and non-Hispanics, relative to the year prior to SC implementation, defined in event time as year $k = -1$. This specification reveals differential pre-trends across the Hispanic and non-Hispanic population that make it difficult to see changes across the groups that are consistent with an effect of SC. To show the lack of differential changes more clearly, this paper applies the methodology suggested by Borusyak and Jaravel (2017) to standardize the estimates by linear trends in the pre-period as follows:

$$y_{ct} = \alpha + \sum_{\substack{k\neq -4 \\ k\neq -1}}^{4} \beta_k 1(SC_{ck} = 1) + X'_{ct}\gamma + \nu_c + \tau_t + t\delta_c + \epsilon_{ct} \tag{4}$$

This specification differs in leaving out the period $k = -4$, the first period in the model, in addition to $k = -1$, the period prior to SC implementation. Of course, other

[11] In the 2008 National Health Interview Survey, Hispanic adults were less likely to report excellent or very good health than non-Hispanic white adults. They were also less likely to have had contact with a doctor or other health professional in the past six months and less likely to report a usual source of health care (U.S. Department of Health and Human Services, 2009).

potential confounders remain. Arizona enacted SB 1070, the harshest immigration enforcement measure at the time, in 2010, coinciding with SC implementation in the later-adopting counties in Arizona. The Great Recession had a heavy impact on Florida and Arizona, and prior research shows that immigrants suffered larger employment losses than natives during the recession (Orrenius and Zavodny, 2010; Liu and Edwards, 2015; Sisk and Donato, 2018). The Affordable Care Act (ACA), passed in 2010 with major provisions implemented in 2014, also impacted health insurance access differentially across ethnicities. Arizona expanded Medicaid under the ACA in 2013, while Florida did not expand Medicaid for adults. However, Florida did see a large increase in Medicaid enrollment as previously eligible but non-participating individuals signed up, the so-called woodwork effect documented by Frean, Gruber and Sommers (2016). Finally, the appearance of differential pre-trends suggests caution in making causal statements about these results. This paper provides the following results in the interest of describing trends in hospital admissions during a period of heightened immigration enforcement and illustrating the potential to obtain misleading results in this setting; it does not claim to have identified a causal impact of immigration enforcement on health care access.

5 Results

5.1 Two-way Fixed Effects

Table 6 displays results from a two-way fixed effects model examining hospital outcomes in Arizona. The coefficient of interest, $\lambda SC * Hispanic$, expresses the differential impact of SC implementation on Hispanic outcomes, revealing a negative correlation between total admissions and SC for Hispanics relative non-Hispanics. There is also a positive correlation between SC and Hispanic PQI admissions, though all but acute PQIs are marginally significant or insignificant. Heart attacks are also significantly positively correlated with SC, although injuries are not. These results are robust to the inclusion of demographic and economic controls, as well as linear, county-specific time trends. One interpretation of the increase in PQI rates is that immigration enforcement caused people to defer care for conditions manageable in an outpatient setting, and heightened stress led to the increase in heart attacks. In this case, the impact should appear shortly after SC adoption. However, this framework is capturing a difference between the two groups over the entire post-period, and the weighted average may pick up spurious components of the data. Despite our best efforts to control for potential confounding factors, the existence of non-parallel pre-trends in this sample suggests that the assumptions underlying the difference-in-differences framework do not hold. To evaluate whether SC impacted outcomes, there should be a clear discontinuity after SC's implementation. While it is possible that the fear of deportation would impact health outcomes in a delayed manner, hospital admissions, and acute PQIs in particular, should appear in a shorter time frame.

To better understand changes in hospital admissions over time, Figure 7 plots the coefficients λ_k from equation 2, the interaction between Hispanic ethnicity and the presence

of SC. These figures display upward trends in the year-by-year coefficients for PQI rates, rather than an increase following policy implementation. In fact, most of the increase in PQI rates does not appear until 3-4 years after SC implementation. Table A.2 splits the coefficient on the presence of SC into two periods: the first two years of implementation, and 3 or more years after implementation. This table highlights that any positive correlation comes later than would be expected for an effect of SC, appearing multiple years after SC adoption.

Table 7 shows estimates for hospital outcomes in Florida from the pooled specification in equation 1. There is a statistically significant, positive correlation between SC adoption and PQIs, heart attacks, and injuries. Total admissions and admissions from the emergency department also show a positive, though not statistically significant, correlation with adoption timing. Given the limited amount of variation in the SC rollout within states and the surge in Hispanic Medicaid admissions during the rollout period, this relationship is not surprising, and it is unlikely to be an effect of SC because the bulk of the increase in Hispanic admissions comes from Medicaid patients. To investigate changes over time, Figure 8 plots coefficients from the $Hispanic * SC$ interaction by year relative to SC adoption. The estimates show a reduction in admission rates in the SC implementation year and subsequent upward trend, again inconsistent with a causal effect of SC on hospital admissions.

5.2 Event Studies

Beyond examining Hispanic outcomes, it is useful to examine the difference between Hispanic and non-Hispanic outcomes over this time frame. Any large divergence between the two groups could indicate changes to health policy, insurance, underlying health, or health care access that affect Hispanics and non-Hispanics differently. To provide more insight into ethnicity-specific changes over time, Figure 9 displays event study estimates for Arizona for Hispanic and non-Hispanic admissions. These estimates correspond to β_k in equation 3. This specification separates outcomes by Hispanic ethnicity, and it includes county and year fixed effects and controls for demographic composition and the unemployment rate.

Clear pre-trends in Figure 9 motivate the use of an alternate model, suggested by Borusyak and Jaravel (2017). Figure 10 shows coefficients from the de-trended model described by equation 4. In both figure 9 and 10, non-Hispanic PQI rates increase more after SC, although the estimates for a given year are rarely statistically different across the two groups. This contrasts with the pooled specification in Table 6 and Figure 7, both of which showed an increase in Hispanic PQIs after SC, perhaps indicating that the time or unit-invariant differences the groups are important. For example, this study is unable to account for patient selection or changes in the composition of patients. It is possible that the non-Hispanic population experienced different changes in overall health than the Hispanic population during this time period. For example, change in the relative underlying health difference between the two groups , as would be the case if non-Hispanics became less healthy relative to Hispanics, could explain this trend. However, despite divergent trends, the differences between the two groups are statistically indistinguishable.

Figure 11 shows event study outcomes for Florida. The Hispanic population sees a decline in admissions and an increase in PQI rates following SC implementation, although Hispanic PQI rates also follow a distinct upward trend in the pre-SC period. There is a smaller increase in PQI rates for non-Hispanics. Once again, although PQI rates for Hispanics increase after SC adoption, this is unlikely to be a causal effect of SC. Figure 12 shows the coefficients from the de-trended model. Correcting for pre-trends, these figures tell a similar story: Total admission rates decrease and PQI rates increase more for Hispanics than for non-Hispanics following SC implementation, a result consistent with the pooled model. However, the estimates across groups are not statistically different from each other for a given year, and estimates for the SC implementation year are almost identical. Overall, the event study estimates do not reveal meaningful differences in inpatient admissions between the Hispanic and non-Hispanic populations as a result of the rollout of Secure Communities.

6 Discussion and Sensitivity Analysis

While the figures above describe interesting trends, they do not provide evidence of a causal effect of SC on hospital admissions. The following section discusses potential sources of heterogeneity, and examines contemporaneous population and employment changes in more detail.

6.1 Enforcement Intensity

If immigration enforcement is the mechanism causing changes in hospital admissions over this period, there should be larger changes in counties that had more intense enforcement activity. To examine this channel in more detail, Figure A.3 groups counties according to the intensity of deportations, defined as the ratio of total deportations under SC to the 2004 population ages 18-64, and shows coefficients from an event study analysis in Arizona for Hispanics (column 1) and non-Hispanics (column 2).[12] The coefficients for PQI rates are slightly higher for high-intensity counties, but the estimates are not statistically different from one another, suggesting that SC did not have a different impact in high-enforcement and low-enforcement counties.

Separating patients by the expected insurance payer is another way to define the group likely to be affected by immigration enforcement. Undocumented immigrants are ineligible for Medicaid, less likely to have employer-sponsored health insurance due to their legal status, and more likely to have low income than the rest of the US population, which makes paying for private insurance difficult. These factors mean that the undocumented population is more likely to be uninsured: in 2010, an estimated 68.5 percent of the US undocumented population did not have health insurance coverage (CMS, 2016). Although the undocumented

[12]High intensity counties are those above the median deportation-to-population ratio; low-intensity counties are those below the median. Because all of the "low intensity" counties adopted SC in 2010, this specification drops year fixed effects.

population is not eligible for Medicaid, enforcement may impact citizens or Medicaid-eligible immigrants in mixed-status households, and Medicaid provides a reasonable proxy for lower-income patients. Figure A.4 shows results from the pooled two-way fixed effects model for the population of uninsured and Medicaid-insured admissions.[13] These results show a similar pattern to Figure 7. There is not a statistically significant increase in total admissions or PQIs following SC, and the largest change in outcomes appears 3 or more years after SC implementation. The coefficients on heart attacks are smaller and negative, while they were positive in the model for all expected payers. This suggests that any increase in heart attacks over time is not coming from the Medicaid and uninsured population. Gender is also a potential source of heterogeneity. As 96 percent of deportees under SC were men, men and women may respond differently to enforcement policies. Figure A.5 displays coefficients from the interaction of Hispanic ethnicity and SC implementation in the pooled model estimated for men only. These results are similar to Figure 7, indicating that there is not meaningful heterogeneity across gender.

6.2 Population and Employment Changes

Another possible concern is that the composition of the local population may change as a result of SC. For example, PQI diagnoses could become more frequent among the Hispanic population either because of a change in health care utilization or because of a change in underlying health. For example, prior studies have shown population changes as a result of other enforcement programs, and heightened enforcement could cause healthier members of the population to move (Bohn, Lofstrom and Raphael, 2013). Similarly, contemporaneous trends in employment could affect health care utilization through income or insurance coverage or impact health directly (Cawley, Moriya and Simon, 2011; Holahan, 2011).[14] Figures A.6 and A.7 show event study results for population and employment spanning 2005-2014.[15] Coefficients on the county-level adult (non-elderly) population follow a smooth downward trend for Hispanics and non-Hispanics in both Florida and Arizona, without any clear change around SC implementation. Employment and the employment-to-population ratio decline after SC, but the decline is larger in Arizona than Florida. While there may still have been differential employment trends for Hispanics and non-Hispanics over this period, the decline in employment outcomes after SC adoption likely reflects the impact of the Great Recession more than an effect of the rollout of SC.

[13] Specifically, this population consists of people with Medicaid, self-pay, or no charge listed as the expected payer by H-CUP.

[14] While the model includes county-specific linear time trends, this would not control for non-linear trends.

[15] This specification includes county and year fixed effects, but drops controls for the county demographic composition and the unemployment rate.

7 Conclusion

The paper documents trends in hospital admissions by ethnicity during a period of heightened immigration enforcement from 2005-2014. In contrast to prior literature that finds significant impacts of immigration enforcement on health outcomes, this paper does not find convincing causal evidence that an increase in immigration enforcement affected the prevalence of ambulatory-sensitive conditions or total inpatient admissions. In Arizona, while estimates from a pooled two-way fixed effects model show an increase in acute PQI admissions, event study specifications suggest that this apparent relationship results from increases in admissions that occur over two years after SC implementation. While the basic model initially appears consistent with the hypothesis of immigration enforcement causing changes in inpatient admissions, potentially due to a change in behavior due to fear of deportation, a closer examination of the dynamics reveals that increased enforcement is unlikely to be responsible for this relationship. Admissions for heart attacks also increased during the period following SC, despite the fact that people are unlikely to change their behavior in seeking care for heart attacks due to the immediate need for treatment and likelihood of death in the absence of treatment. This finding further suggests that unobserved confounders or spurious trends are driving the estimates. In Florida, confounding trends in Hispanic hospital utilization, driven by Medicaid admissions and thus unlikely to be related to SC, confound attempts at causal identification. Of course, the inability to measure legal status in hospital admissions and observe the group targeted by immigration enforcement is a limitation of this study, and it is possible that this lack of precision is masking any true effects. However, differential trends in health by ethnicity, combined with confounding factors such as the Great Recession that occurred simultaneously with increases in immigration enforcement, also suggest caution in extrapolating meaningful effects from the impact of immigration policies on health outcomes.

References

Akresh, Ilana Redstone. 2009. "Health Service Utilization Among Immigrants to the United States." *Population Research and Policy Review*, 28(6): 795.

Alsan, Marcella, and Crystal Yang. 2018. "Fear and the Safety Net: Evidence from Secure Communities." National Bureau of Economic Research Working Paper 24731.

Amuedo-Dorantes, Catalina, and Mary J. Lopez. 2017. "The Hidden Educational Costs of Intensified Immigration Enforcement." *Southern Economic Journal*, 84(1): 120–154.

Asad, Asad L., and Eva Rosen. 2018. "Hiding within racial hierarchies: how undocumented immigrants make residential decisions in an American city." *Journal of Ethnic and Migration Studies*, 0(0): 1–26.

Asad, Asad L., and Matthew Clair. 2018. "Racialized legal status as a social determinant of health." *Social Science & Medicine*, 199: 19–28.

Bohn, Sarah, Magnus Lofstrom, and Steven Raphael. 2013. "Did the 2007 Legal Arizona Workers Act Reduce the State's Unauthorized Immigrant Population?" *The Review of Economics and Statistics*, 96(2): 258–269.

Borusyak, Kirill, and Xavier Jaravel. 2017. "Revisiting Event Study Designs."

Cavazos-Rehg, Patricia A., Luis H. Zayas, and Edward L. Spitznagel. 2007. "Legal status, emotional well-being and subjective health status of Latino immigrants." *Journal of the National Medical Association*, 99(10): 1126–1131.

Cawley, John, Asako S Moriya, and Kosali I Simon. 2011. "The Impact of the Macroeconomy on Health Insurance Coverage: Evidence from the Great Recession." National Bureau of Economic Research Working Paper 17600.

Centers for Medicare and Medicaid Services. n.d.. "Managed Care in Florida." *Available at* `https://www.medicaid.gov/medicaid-chip-program-information/by-topics/delivery-systems/managed-care/downloads/florida-mcp.pdf` *(2019/12/20).*

CMS. 2016. "State Tool: Center for Migration Studies."

Cox, Adam B, and Thomas J Miles. 2013. "Policing immigration." *The University of Chicago Law Review*, 80(1): 87–136.

de Chaisemartin, Clement, and Xavier D'Haultfauille. 2018. "Two-way fixed effects estimators with heterogeneous treatment effects." *arXiv:1803.08807 [econ]*. arXiv: 1803.08807.

East, Chloe N, Philip Luck, Hani Mansour, and Andrea Velasquez. 2018. "The Labor Market Effects of Immigration Enforcement." *IZA*, DP No. 11486.

Frean, Molly, Jonathan Gruber, and Benjamin D Sommers. 2016. "Premium Subsidies, the Mandate, and Medicaid Expansion: Coverage Effects of the Affordable Care Act." National Bureau of Economic Research Working Paper 22213.

Gelatt, Julia, Heather Koball, Hamutal Bernstein, Charmaine Runes, and Eleanor Pratt. 2017. "State Immigration Enforcement Policies."

Hacker, Karen, Jocelyn Chu, Lisa Arsenault, and Robert P. Marlin. 2012. "Provider's perspectives on the impact of Immigration and Customs Enforcement (ICE) activity on immigrant health." *Journal of Health Care for the Poor and Underserved*, 23(2): 651–665.

Health Coverage of Immigrants. n.d..

Holahan, John. 2011. "The 2007–09 Recession And Health Insurance Coverage." *Health Affairs*, 30(1): 145–152.

Kaiser Family Foundation. n.d.. "Health Insurance Coverage of the Total Population." *Available at* `https://www.kff.org/other/state-indicator/total-population` *(2019/12/20).*

Kolstad, Jonathan T., and Amanda E. Kowalski. 2012. "The impact of health care reform on hospital and preventive care: Evidence from Massachusetts." *Journal of Public Economics*, 96(11): 909–929.

Liu, Cathy Yang, and Jason Edwards. 2015. "Immigrant employment through the Great Recession: Individual characteristics and metropolitan contexts." *The Social Science Journal*, 52(3): 405–414.

Lopez, William D., Daniel J. Kruger, Jorge Delva, Mikel Llanes, Charo Ledón, Adreanne Waller, Melanie Harner, Ramiro Martinez, Laura Sanders, Margaret Harner, and Barbara Israel. 2017. "Health Implications of an Immigration Raid: Findings from a Latino Community in the Midwestern United States." *Journal of Immigrant and Minority Health*, 19(3): 702–708.

Maldonado, Cynthia Z., Robert M. Rodriguez, Jesus R. Torres, Yvette S. Flores, and Luis M. Lovato. 2013. "Fear of Discovery Among Latino Immigrants Presenting to the Emergency Department." *Academic Emergency Medicine*, 20(2): 155–161.

Martinez-Donate, Ana P., Xiao Zhang, M. Gudelia Rangel, Melbourne Hovell, Norma-Jean Simon, Catalina Amuedo-Dorantes, Carol Sipan, and Sylvia Guendelman. 2014. "Healthcare access among circular and undocumented Mexican migrants: results from a pilot survey on the Mexico-US border." *International Journal of Migration and Border Studies*, 1(1): 57–108.

Martinez, Omar, Elwin Wu, Theo Sandfort, Brian Dodge, Alex Carballo-Dieguez, Rogeiro Pinto, Scott D. Rhodes, Scott Rhodes, Eva Moya, and Silvia Chavez-Baray. 2015. "Evaluating the impact of immigration policies on health status among undocumented immigrants: a systematic review." *Journal of Immigrant and Minority Health*, 17(3): 947–970.

Miles, Thomas J, and Adam B Cox. 2014. "Does immigration enforcement reduce crime? evidence from secure communities." *The Journal of Law and Economics*, 57(4): 937–973.

Novak, Nicole L., Arline T. Geronimus, and Aresha M. Martinez-Cardoso. 2017. "Change in birth outcomes among infants born to Latina mothers after a major immigration raid." *International Journal of Epidemiology*, 46(3): 839–849.

Orrenius, Pia M., and Madeline Zavodny. 2010. "Mexican Immigrant Employment Outcomes over the Business Cycle." *The American Economic Review*, 100(2): 316–320.

Rhodes, Scott D., Lilli Mann, Florence M. Simán, Eunyoung Song, Jorge Alonzo, Mario Downs, Emma Lawlor, Omar Martinez, Christina J. Sun, Mary Claire O'Brien, Beth A. Reboussin, and Mark A. Hall. 2015. "The impact of local immigration enforcement policies on the health of immigrant hispanics/latinos in the United States." *American Journal of Public Health*, 105(2): 329–337.

Sisk, Blake, and Katharine M. Donato. 2018. "Weathering the Storm? The Great Recession and the Employment Status Transitions of Low-Skill Male Immigrant Workers in the United States." *International Migration Review*, 52(1): 90–124.

Swartz, Jonas J., Jens Hainmueller, Duncan Lawrence, and Maria I. Rodriguez. 2017. "Expanding Prenatal Care to Unauthorized Immigrant Women and the Effects on Infant Health." *Obstetrics and Gynecology*, 130(5): 938–945.

Torche, Florencia, and Catherine Sirois. 2019. "Restrictive Immigration Law and Birth Outcomes of Immigrant Women." *American Journal of Epidemiology*, 188(1): 24–33.

U.S. Department of Health and Human Services. 2009. "Summary Health Statistics for U.S.Adults: National Health Interview Survey, 2008." Center for Disease Control and Prevention, National Center for Health Statistics 10.242.

Vargas Bustamante, Arturo, Hai Fang, Jeremiah Garza, Olivia Carter-Pokras, Steven P. Wallace, John A. Rizzo, and Alexander N. Ortega. 2012. "Variations in healthcare access and utilization among Mexican immigrants: the role of documentation status." *Journal of Immigrant and Minority Health*, 14(1): 146–155.

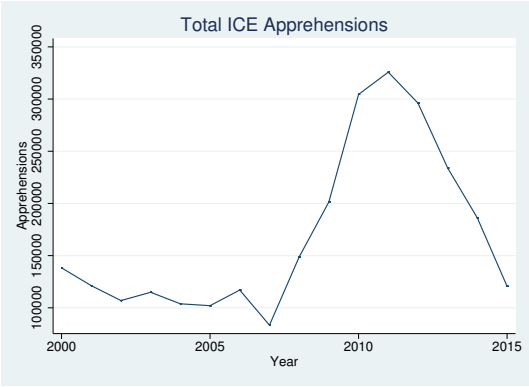
Vargas, Edward D. 2015. "Immigration enforcement and mixed-status families: The effects of risk of deportation on Medicaid use." *Children and Youth Services Review*, 57: 83–89.

Venkataramani, Atheendar S., Sachin J. Shah, Rourke O'Brien, Ichiro Kawachi, and Alexander C. Tsai. 2017. "Health consequences of the US Deferred Action for Childhood Arrivals (DACA) immigration programme: a quasi-experimental study." *The Lancet. Public Health*, 2(4): e175–e181.

Wang, Julia Shu-Huah, and Neeraj Kaushal. 2018. "Health and Mental Health Effects of Local Immigration Enforcement." National Bureau of Economic Research Working Paper 24487.

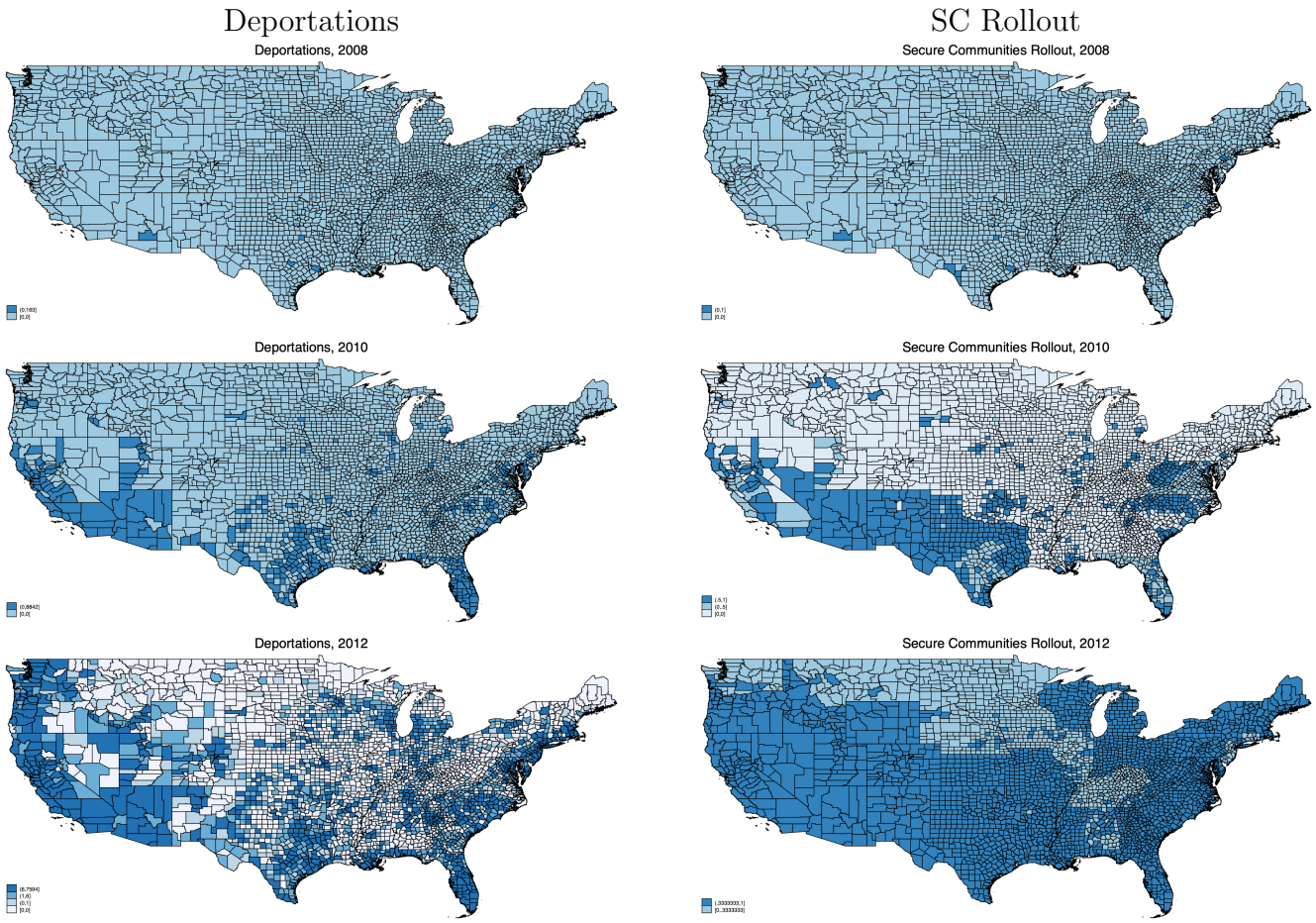
Watson, Tara. 2014. "Inside the Refrigerator: Immigration Enforcement and Chilling Effects in Medicaid Participation." *American Economic Journal: Economic Policy*, 6(3): 313–338.

Figure 1: Total Interior Apprehensions: 2000-2015



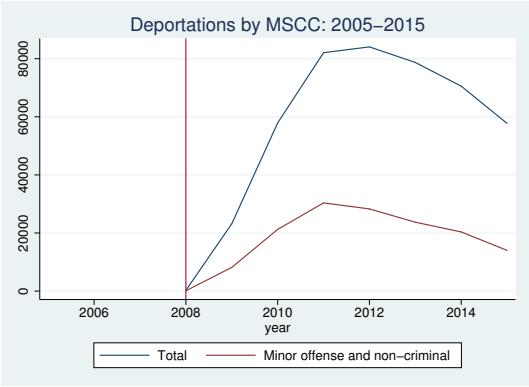
Notes: Figure displays total yearly apprehensions by ICE Investigative Districts and ICE ERO. Data source: Department of Homeland Security Yearbook of Immigration Statistics.

Figure 2: Deportation Rate and SC Rollout by PUMA



Notes: Map displays county-level deportations and the rollout of Secure Communities. The rollout variable is weighted to account for the fraction of the calendar year during which SC was active in the implementation year. Data on SC deportations comes from the Transactional Record Access Clearinghouse at Syracuse University. Data on SC adoption dates courtesy of Laura Bellows.

Figure 3: Total Deportations vs. Minor Offenses



Notes: Minor crimes are disorderly conduct, marijuana possession, traffic offenses (excluding DUIs), and immigration offenses (Illegal Entry, Illegal Re-Entry, and Possession of fraudulent immigration documents). Data obtained from ICE records via the Transactional Records Access Clearinghouse. We categorize crimes according to the most serious criminal conviction of the deportee (note that this is not necessarily the crime for which the person was apprehended prior to removal). Data not available prior to 2008.

Table 1: Deportations;

	Arizona	Florida
County avg. total dep. under SC	1980.80	267.30
	(6059.65)	(633.91)
County avg. annual dep. under SC	396.12	57.84
	(1211.70)	(129.09)
Average dep./ 2000 total pop. (pct)	0.06	0.03
	(0.06)	(0.03)
Average dep./ 2000 hispanic pop. (pct)	0.26	0.38
	(0.21)	(0.30)
N	15	67

Notes: Table shows total deportations, average deportations, and the average deportation rate relative to 2000 total population and 2000 Hispanic population at the county level from 2004-2014. Deportation data from TRAC; population data from the SEER.

Table 2: Population, 2005

	Arizona	Florida
Total population (millions)	9.22	27.99
Hispanic population (millions)	3.30	6.67
Noncitizen population (millions)	1.26	3.59
Non-citizen share (percent)	10.28	10.19
Hispanic share (percent)	28.92	19.77
Noncitizen share of Hispanic	28.78	31.01

Notes: Table shows population statistics for Florida and Arizona in 2005. Estimates are from the American Community Survey made available through IPUMS.

Table 3: Hispanic Population by State, 2005

	Arizona	Florida
Age	34.5	37.4
Male	0.53	0.52
Low-skill	0.76	0.62
Employment	0.68	0.69
Income	$19,934	$24,115
Non-citizen	0.39	0.39
Likely Undocumented	0.27	0.23

Low-skill is defined by education and refers to individuals with a high-school degree or less. Likely undocumented is low-skill non-citizens of Hispanic ethnicity who arrived in the US after 1986.

Table 4: Arizona Hospital Admissions

	Hispanic	Non-hispanic
Total Inpatient Admissions (1000s)	89.65	280.97
	(2.59)	(11.62)
ED Inpatient Admissions (1000s)	40.97	143.38
	(2.82)	(9.37)
Acute PQI/100,000 pop.	258.20	372.04
	(31.15)	(46.51)
Chronic PQI/100,000 pop.	1486.37	1957.78
	(88.24)	(129.87)
Overall PQI/100,000 pop.	1667.04	2240.65
	(91.59)	(155.02)
Diabetes PQI/100,000 pop.	1391.75	1710.96
	(88.26)	(106.53)
Heart Attack/100,000 pop.	68.92	143.41
	(11.52)	(15.96)
Injuries/100,000 pop.	384.80	794.81
	(30.96)	(85.00)
N	10	10

Notes: Table shows total inpatient admissions, inpatient admissions from the emergency department, PQI admission rates, heart attack and injury admission rates. Admission data from the Healthcare Cost and Utilization Project; population data from SEER. All rates are expressed in 100,000 population. Heart Attacks are acute myocardial infarction; injuries are traumatic injuries and poisoning. All diagnoses follow ICD-9 definitions. Data cover Arizona counties from 2005-2014.

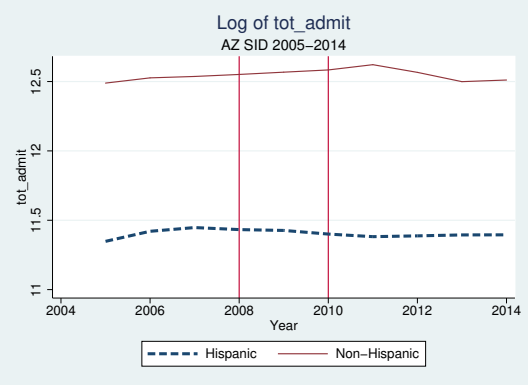
Table 5: Florida Hospital Admissions

	Hispanic	Non-hispanic
Total Inpatient Admissions (1000s)	190.88	1013.31
	(27.25)	(25.70)
ED Inpatient Admissions (1000s)	112.21	601.26
	(24.83)	(52.05)
Acute PQI/100,000 pop.	194.24	395.63
	(40.73)	(12.28)
Chronic PQI/100,000 pop.	1292.66	2464.82
	(293.72)	(108.99)
Overall PQI/100,000 pop.	1435.12	2764.25
	(316.15)	(99.00)
Diabetes PQI/100,000 pop.	1154.41	2073.23
	(271.34)	(99.80)
Heart Attack/100,000 pop.	76.22	172.41
	(16.47)	(16.39)
Injuries/100,000 pop.	375.83	595.28
	(40.69)	(21.83)
N	10	10

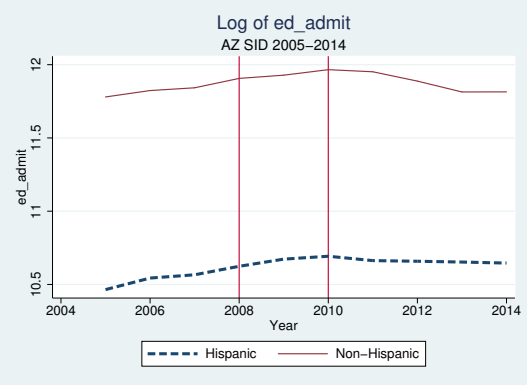
Notes: Table shows total inpatient admissions, inpatient admissions from the emergency department, PQI admission rates, heart attack and injury admission rates. Admission data from the Healthcare Cost and Utilization Project; population data from SEER. All rates are expressed in 100,000 population. Heart Attacks are acute myocardial infarction; injuries are traumatic injuries and poisoning. All diagnoses follow ICD-9 definitions. Data cover Florida counties from 2005-2014.

Figure 4: Adult Hospital Admissions by Ethnicity (Log of total admissions)

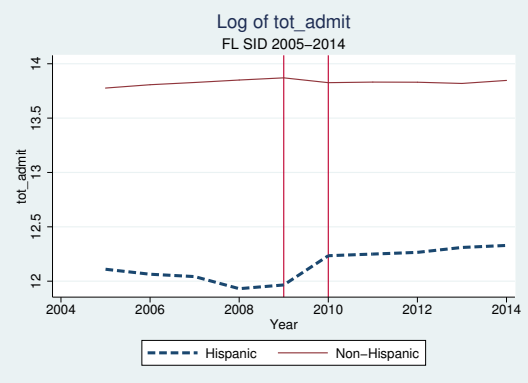
a. Arizona: Total Inpatient Admissions



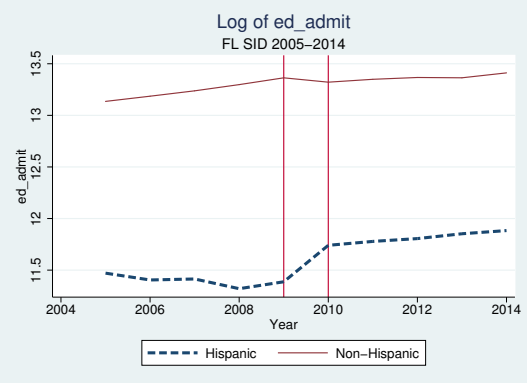
b. Arizona: Inpatient Admissions from the ED



c. Florida: Total Inpatient Admissions

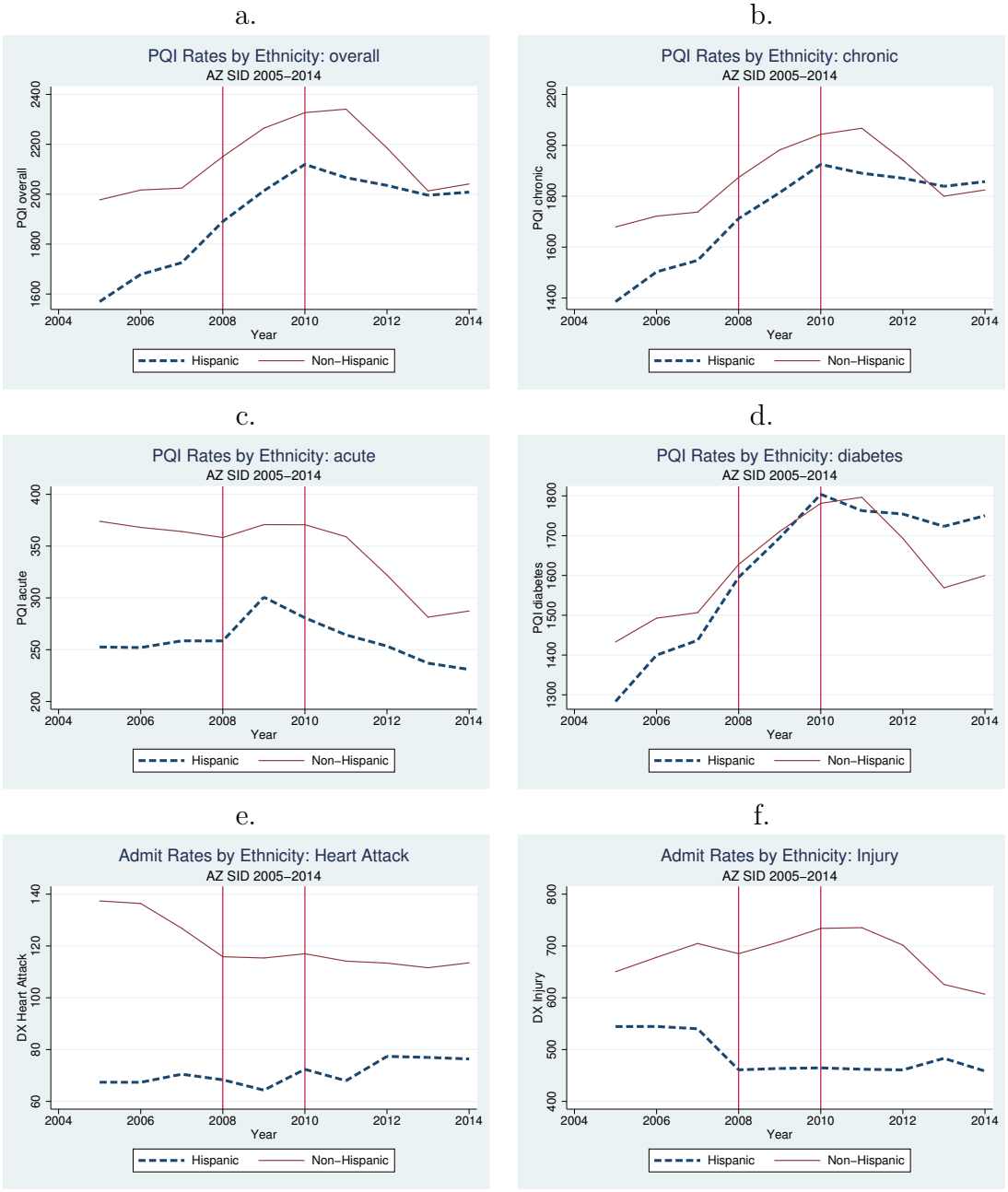


d. Florida: Inpatient Admissions from the ED



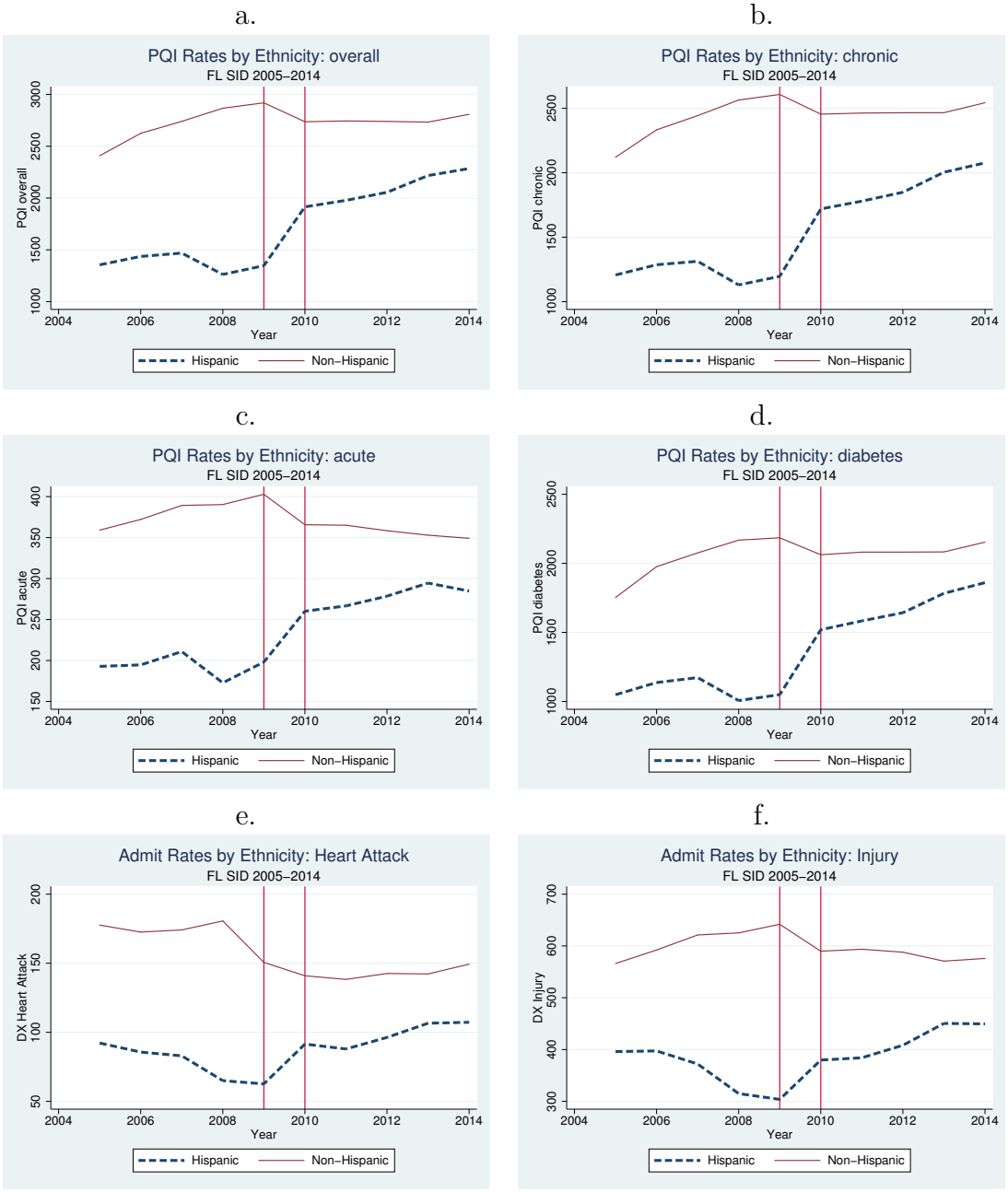
Notes: Figure shows trends by ethnicity in the log of total inpatient admissions and inpatient admissions from the emergency department. Data from the H-CUP State Inpatient Databases. Sample limited to non-elderly adults (ages 18-64).

Figure 5: Arizona PQI Rates : Weighted by 2000 Total Population



Notes: Figures show trends in PQI, heart attack, and injury rates by ethnicity for Arizona counties between 2005-2014. Secure Communities rollout occurred in 2009-2010. PQIs calculated according to AHRQ definitions using ICD-9 diagnosis codes. All rates expressed as total admissions per 100,000 population for each demographic group. Sample limited to non-elderly adults (ages 18-64). Regressions weighted by 2000 total population from SEER.

Figure 6: Florida PQI Rates : Weighted by 2000 Total Population



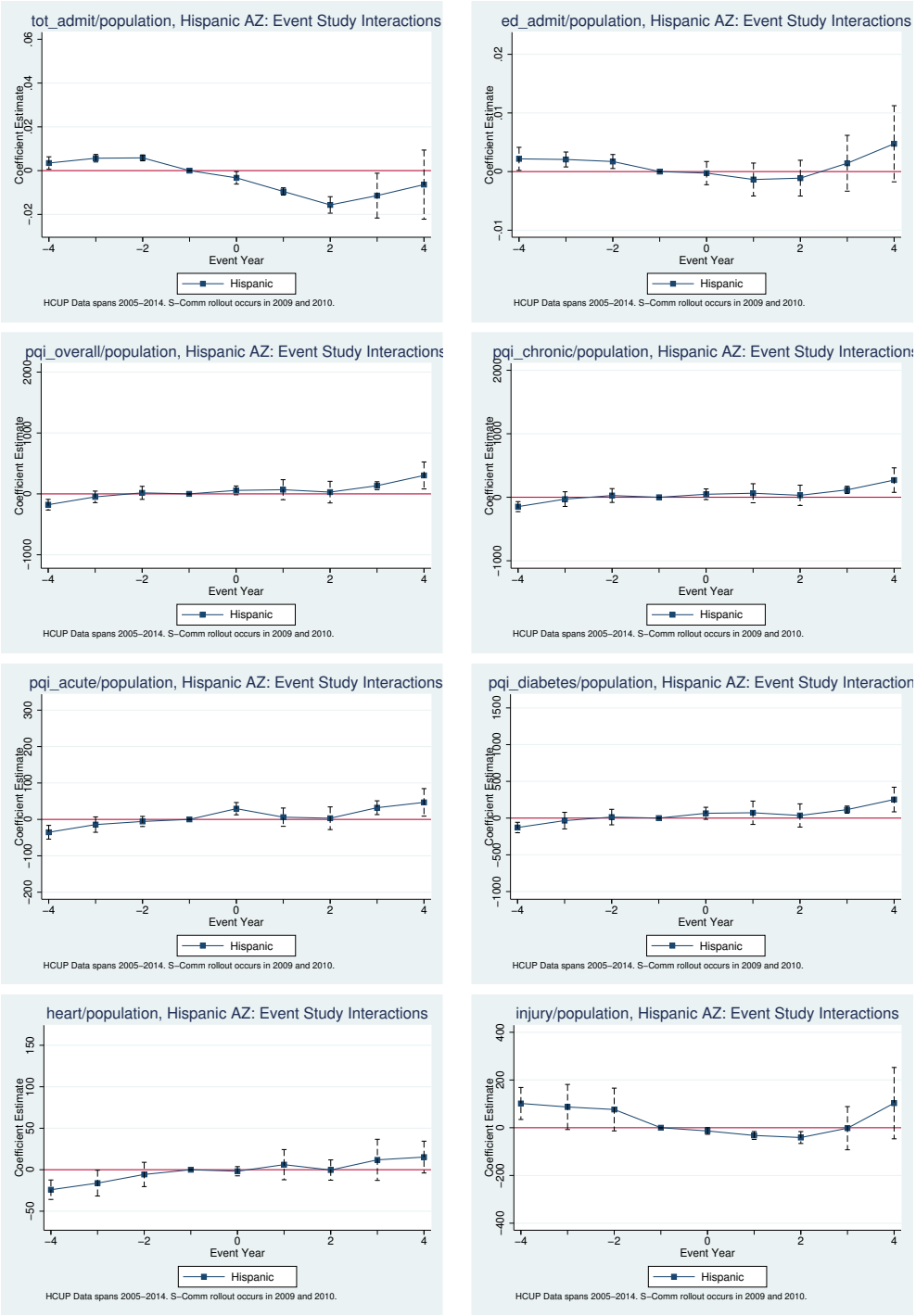
Notes: Figures show trends in PQI, heart attack, and injury rates by ethnicity for Florida counties between 2005-2014. Secure Communities rollout occurred in 2009-2010. PQIs calculated according to AHRQ definitions using ICD-9 diagnosis codes. All rates expressed as total admissions per 100,000 population for each demographic group. Sample limited to non-elderly adults (ages 18-64). Regressions weighted by 2000 total population from SEER.

Table 6: Arizona SID: Inpatient Admissions

	Inpatient Admissions							
	Tot. Admit	ED Admit	PQI Overall	PQI Acute	PQI Chronic	PQI Diabetes	Heart	Injury
SC	0.008***	0.000	-118.757**	-40.210**	-88.041**	-81.390**	-2.880	10.321
	(0.002)	(0.001)	(40.090)	(14.357)	(33.991)	(28.020)	(6.159)	(39.550)
Hispanic	-0.012	-0.029***	-268.458**	-98.344***	-165.966*	-36.422	-56.814***	-155.316
	(0.007)	(0.002)	(93.107)	(17.597)	(82.285)	(71.092)	(7.822)	(95.104)
SC*Hispanic	-0.014***	0.000	179.852***	33.143***	150.992***	146.422***	17.842***	-55.427
	(0.003)	(0.002)	(25.019)	(5.626)	(29.634)	(33.966)	(4.078)	(47.268)
County FE	X	X	X	X	X	X	X	X
Year FE	X	X	X	X	X	X	X	X
Controls								
County Trends								
Y mean	0.09	0.03	1977.35	295.00	1760.66	1584.11	94.51	576.90
Observations	280	280	280	280	280	280	280	280
	Inpatient Admissions							
	Tot. Admit	ED Admit	PQI Overall	PQI Acute	PQI Chronic	PQI Diabetes	Heart	Injury
SC	0.008***	0.001	-114.334***	-38.938**	-84.676**	-81.397**	-3.228	12.573
	(0.002)	(0.001)	(34.242)	(14.654)	(32.003)	(28.420)	(4.950)	(35.296)
Hispanic	-0.012	-0.029***	-268.458**	-98.344***	-165.966*	-36.422	-56.814***	-155.316
	(0.007)	(0.002)	(93.810)	(17.730)	(82.906)	(71.629)	(7.881)	(95.821)
SC*Hispanic	-0.014***	0.000	179.852***	33.143***	150.992***	146.422***	17.842***	-55.427
	(0.003)	(0.002)	(25.208)	(5.668)	(29.858)	(34.223)	(4.109)	(47.624)
County FE	X	X	X	X	X	X	X	X
Year FE	X	X	X	X	X	X	X	X
Controls	X	X	X	X	X	X	X	X
County Trends								
Y mean	0.09	0.03	1977.35	295.00	1760.66	1584.11	94.51	576.90
Observations	280	280	280	280	280	280	280	280
	Inpatient Admissions							
	Tot. Admit	ED Admit	PQI Overall	PQI Acute	PQI Chronic	PQI Diabetes	Heart	Injury
SC	0.008***	0.000	-136.289***	-44.357***	-102.893***	-97.302***	-4.565	14.766
	(0.002)	(0.001)	(30.249)	(13.871)	(28.213)	(24.867)	(4.934)	(36.473)
Hispanic	-0.012	-0.029***	-268.458**	-98.344***	-165.966*	-36.422	-56.814***	-155.316
	(0.007)	(0.002)	(96.400)	(18.219)	(85.196)	(73.607)	(8.099)	(98.468)
SC*Hispanic	-0.014***	0.000	179.852***	33.143***	150.992***	146.422***	17.842***	-55.427
	(0.003)	(0.002)	(25.904)	(5.825)	(30.682)	(35.168)	(4.222)	(48.940)
County FE	X	X	X	X	X	X	X	X
Year FE	X	X	X	X	X	X	X	X
Controls	X	X	X	X	X	X	X	X
County Trends	X	X	X	X	X	X	X	X
Y mean	0.09	0.03	1977.35	295.00	1760.66	1584.11	94.51	576.90
Observations	280	280	280	280	280	280	280	280

Notes: Regressions include county and year fixed effects, and controls for the population share under age 25 and ages 25-50, the unemployment rate, and the Hispanic share of the population. Hospital admission data from the Arizona State Inpatient Database, 2005-2014. Population data from county-level counts from the SEER. PQIs, heart attacks, and injuries are ethnicity-specific rates per 100,000 population. All regressions are weighted by 2000 county population. Standard errors clustered at the county level.

Figure 7: Arizona SID: Event Studies - Interaction with Hispanic ethnicity



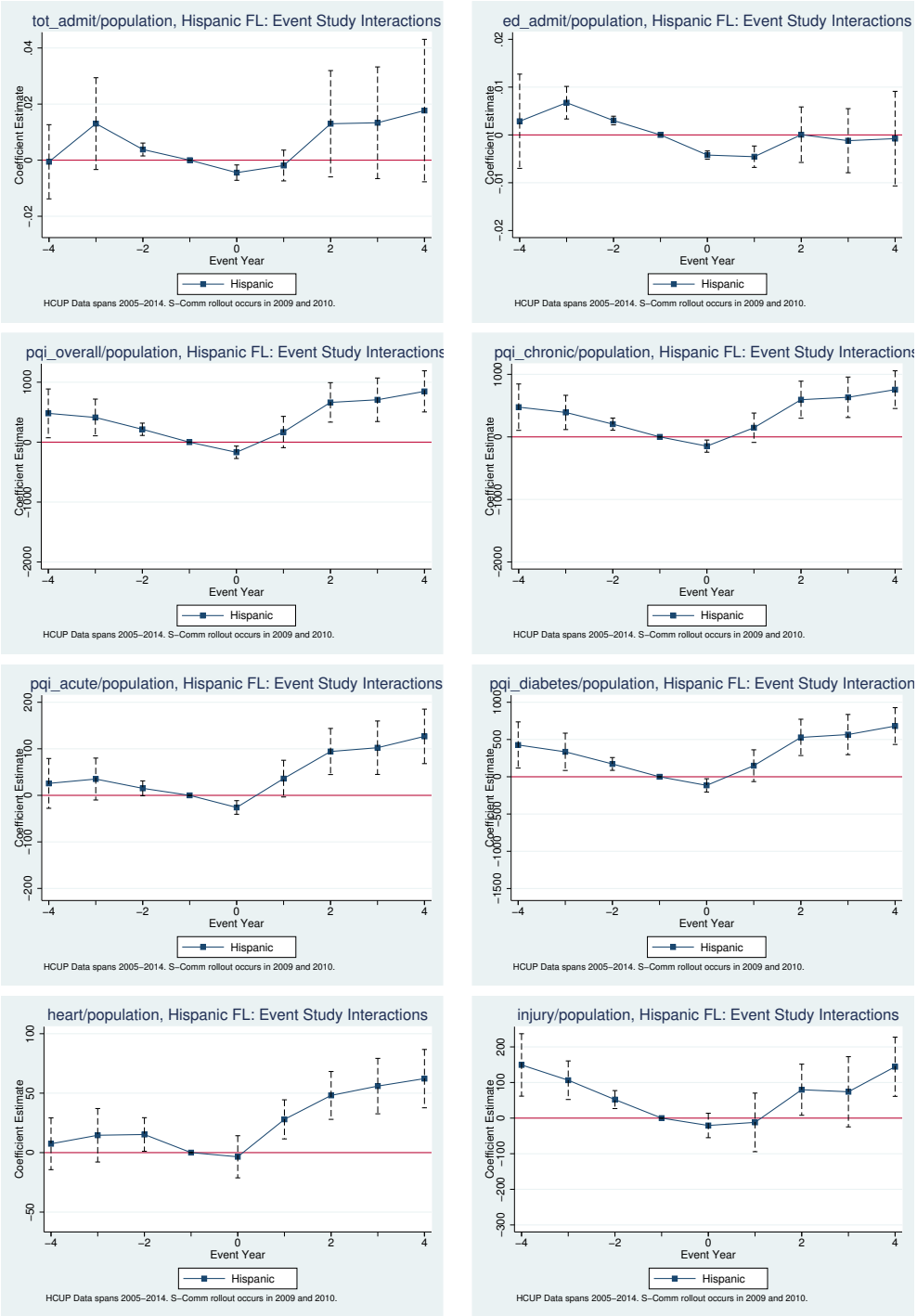
Notes: Figures display estimates from regressions on the interaction between the presence of SC and hispanic ethnicity, by year relative to SC adoption. Regressions include county and year fixed effects, and controls for the population share under age 25 and ages 25-50, the unemployment rate, and the Hispanic share of the population. Hospital admission data from the Arizona State Inpatient Database, 2005-2014. Population data from county-level counts from the SEER. Admissions, PQIs, heart attacks, and injuries are ethnicity-specific rates per 100,000 population. All regressions are weighted by 2000 county population. Standard errors clustered at the county level. Sample limited to non-elderly adults ages 18-64.

Table 7: Florida SID: Inpatient Admissions

	Inpatient Admissions							
	Tot. Admit	ED Admit	PQI Overall	PQI Acute	PQI Chronic	PQI Diabetes	Heart	Injury
SC	-0.006	-0.001	-387.522***	-52.082**	-347.500***	-303.911***	-34.044***	-42.141
	(0.005)	(0.002)	(129.216)	(21.765)	(112.599)	(91.180)	(7.486)	(30.328)
Hispanic	-0.092***	-0.045***	-1318.397***	-187.409***	-1168.898***	-932.187***	-93.835***	-247.897***
	(0.007)	(0.005)	(194.477)	(21.524)	(178.909)	(149.601)	(6.624)	(33.306)
SC*Hispanic	0.012	-0.002	638.105***	105.561***	558.258***	501.786***	49.774***	73.796**
	(0.010)	(0.004)	(133.289)	(21.509)	(117.509)	(93.205)	(8.740)	(36.760)
County FE	X	X	X	X	X	X	X	X
Year FE	X	X	X	X	X	X	X	X
Controls								
County Trends								
Y mean	0.08	0.03	2232.91	303.10	2001.98	1721.90	122.41	491.30
Observations	1285	1285	1285	1285	1285	1285	1285	1285
	Inpatient Admissions							
	Tot. Admit	ED Admit	PQI Overall	PQI Acute	PQI Chronic	PQI Diabetes	Heart	Injury
SC	-0.006	-0.001	-408.131***	-54.369***	-366.452***	-318.985***	-34.827***	-44.275
	(0.005)	(0.002)	(110.432)	(19.156)	(96.295)	(76.584)	(7.576)	(28.280)
Hispanic	-0.092***	-0.045***	-1318.405***	-187.419***	-1168.897***	-932.184***	-93.836***	-247.895***
	(0.007)	(0.005)	(194.862)	(21.566)	(179.264)	(149.894)	(6.634)	(33.367)
SC*Hispanic	0.012	-0.002	638.313***	105.612***	558.428***	501.903***	49.781***	73.806**
	(0.010)	(0.004)	(133.659)	(21.564)	(117.831)	(93.434)	(8.762)	(36.818)
County FE	X	X	X	X	X	X	X	X
Year FE	X	X	X	X	X	X	X	X
Controls	X	X	X	X	X	X	X	X
County Trends								
Y mean	0.08	0.03	2232.91	303.10	2001.98	1721.90	122.41	491.30
Observations	1285	1285	1285	1285	1285	1285	1285	1285
	Inpatient Admissions							
	Tot. Admit	ED Admit	PQI Overall	PQI Acute	PQI Chronic	PQI Diabetes	Heart	Injury
SC	-0.006	-0.001	-392.693***	-51.928***	-352.262***	-310.008***	-34.464***	-46.986
	(0.005)	(0.002)	(108.407)	(19.168)	(94.151)	(74.770)	(7.569)	(29.057)
Hispanic	-0.092***	-0.045***	-1317.536***	-187.252***	-1168.168***	-931.651***	-93.936***	-247.705***
	(0.007)	(0.005)	(200.417)	(22.181)	(184.370)	(154.148)	(6.825)	(34.319)
SC*Hispanic	0.012	-0.002	636.210***	105.327***	556.573***	500.548***	49.938***	73.616*
	(0.010)	(0.004)	(137.552)	(22.200)	(121.249)	(96.104)	(8.998)	(37.879)
County FE	X	X	X	X	X	X	X	X
Year FE	X	X	X	X	X	X	X	X
Controls	X	X	X	X	X	X	X	X
County Trends	X	X	X	X	X	X	X	X
Y mean	0.08	0.03	2232.91	303.10	2001.98	1721.90	122.41	491.30
Observations	1285	1285	1285	1285	1285	1285	1285	1285

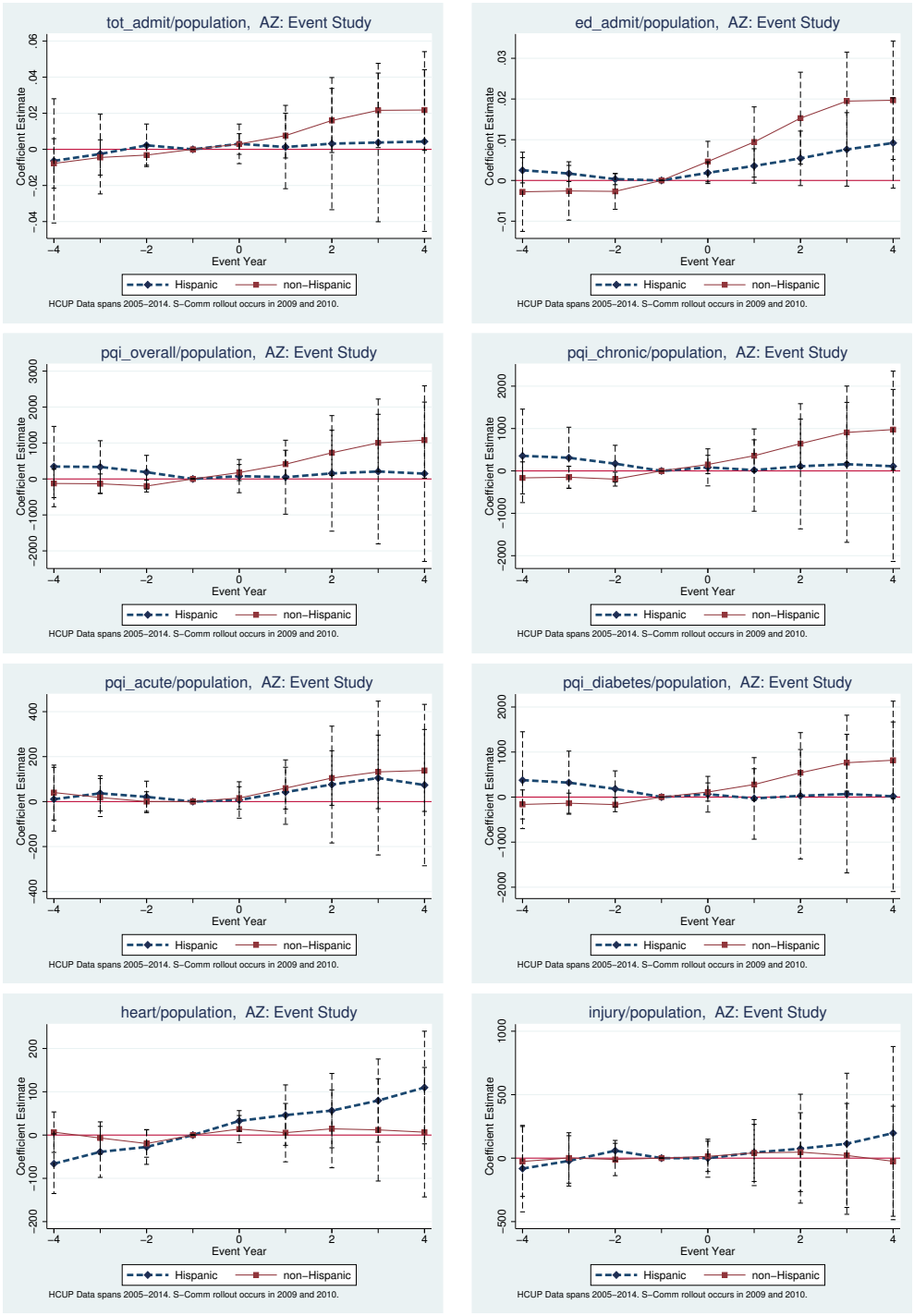
Notes: Regressions include county and year fixed effects, and controls for the population share under age 25 and ages 25-50, the unemployment rate, and the Hispanic share of the population. Hospital admission data from the Florida State Inpatient Database, 2005-2014. Population data from county-level counts from the SEER. PQIs, heart attacks, and injuries are ethnicity-specific rates per 100,000 population. All regressions are weighted by 2000 county population. Standard errors clustered at the county level.

Figure 8: Florida SID: Event Studies - Interaction with Hispanic ethnicity



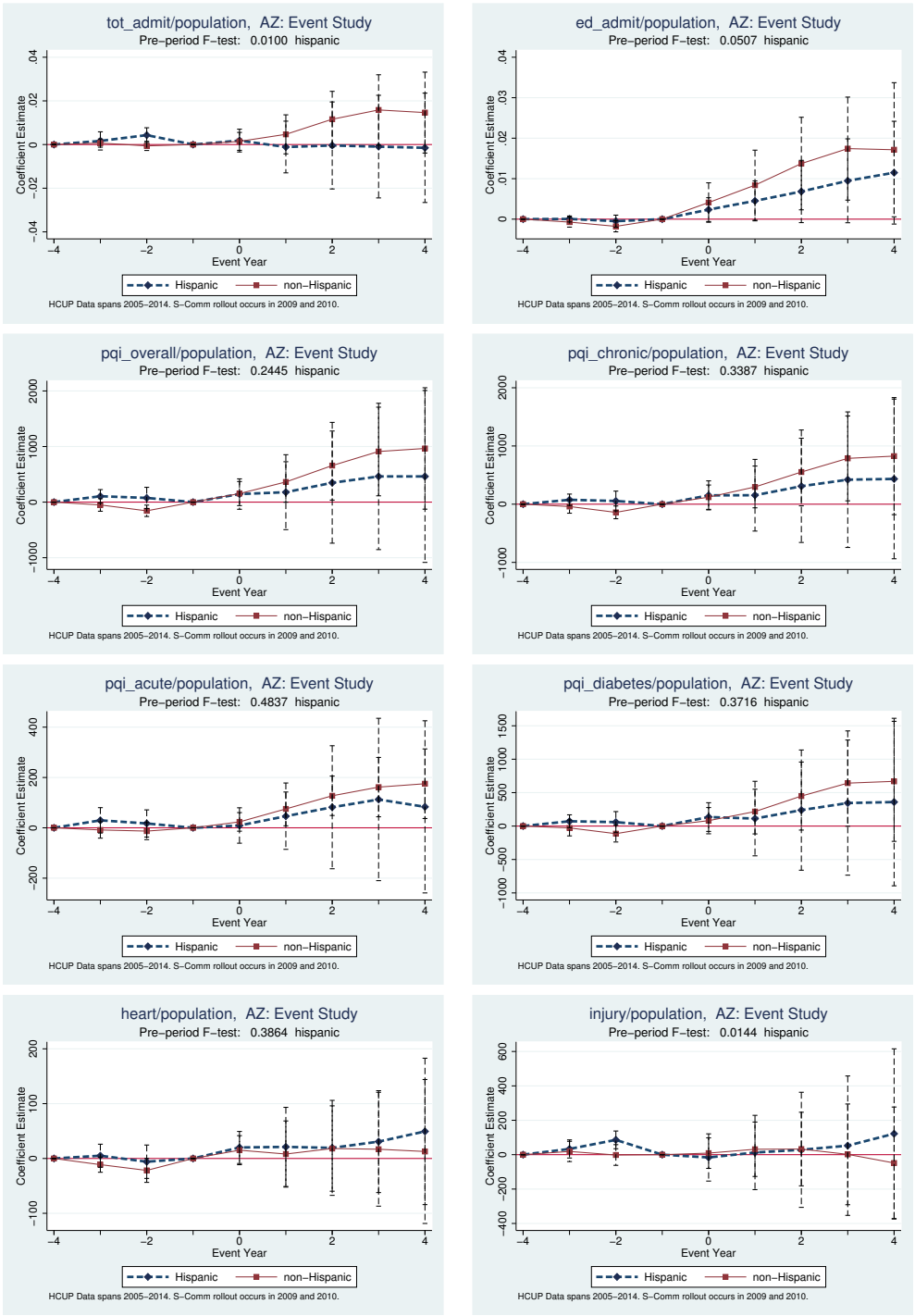
Notes: Figures display estimates from regressions on the interaction between the presence of SC and hispanic ethnicity, by year relative to SC adoption. Regressions include county and year fixed effects, and controls for the population share under age 25 and ages 25-50, the unemployment rate, and the Hispanic share of the population. Hospital admission data from the Florida State Inpatient Database, 2005-2014. Population data from county-level counts from the SEER. Admissions, PQIs, heart attacks, and injuries are ethnicity-specific rates per 100,000 population. All regressions are weighted by 2000 county population. Standard errors clustered at the county level. Sample limited to non-elderly adults ages 18-64.

Figure 9: Arizona SID: Event Studies by ethnicity



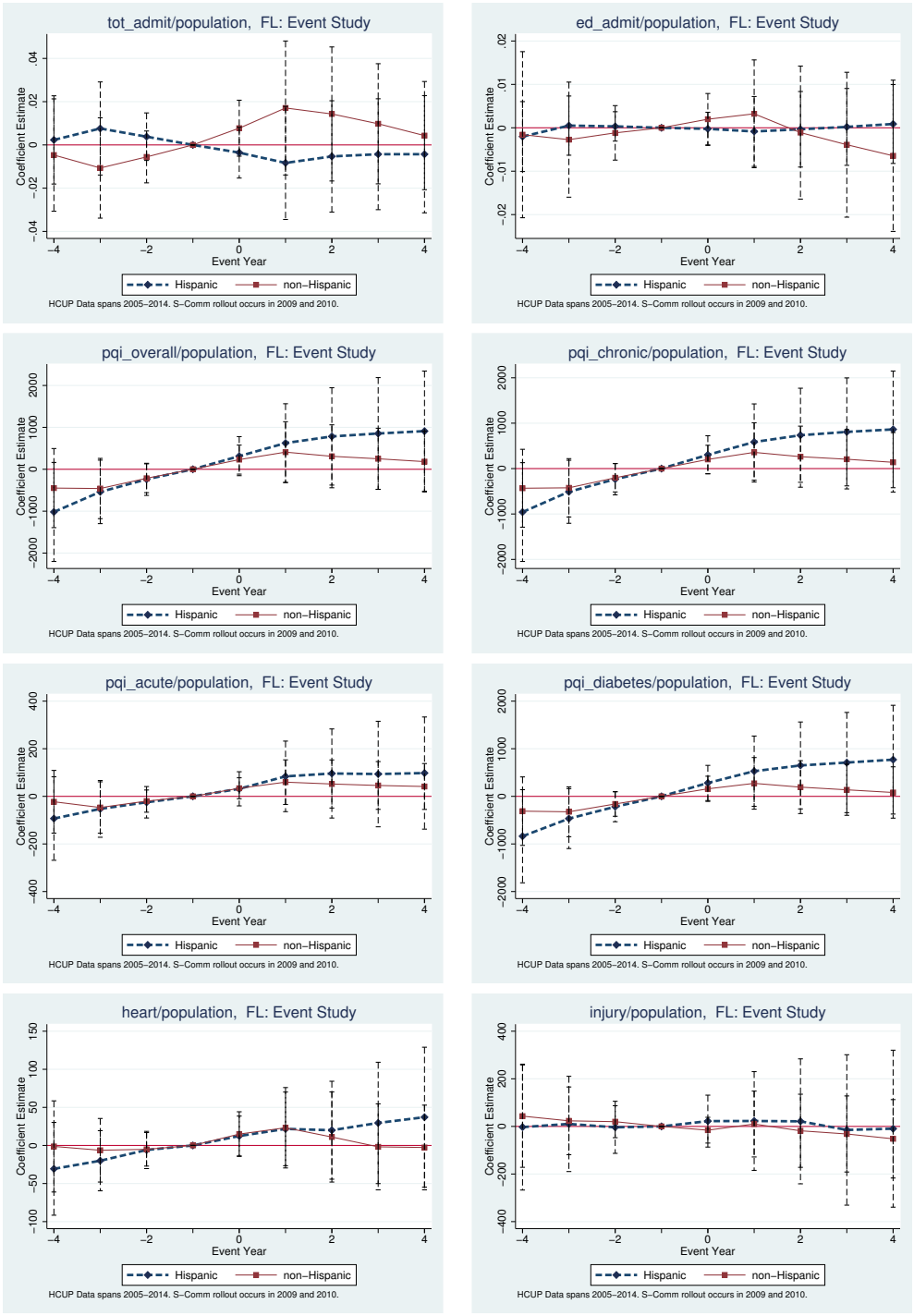
Notes: Figures display estimates from regressions on the interaction between the presence of SC and hispanic ethnicity, by year relative to SC adoption. Regressions include county and year fixed effects, and controls for the population share under age 25 and ages 25-50, the unemployment rate, and the Hispanic share of the population. Hospital admission data from the Arizona State Inpatient Database, 2005-2014. Population data from county-level counts from the SEER. Admissions, PQIs, heart attacks, and injuries are ethnicity-specific rates per 100,000 population. All regressions are weighted by 2000 county population. Standard errors clustered at the county level. Sample limited to non-elderly adults ages 18-64.

Figure 10: Arizona SID: Event Studies by ethnicity, Weighted by 2000 county population, with county and year FE (Detrending)



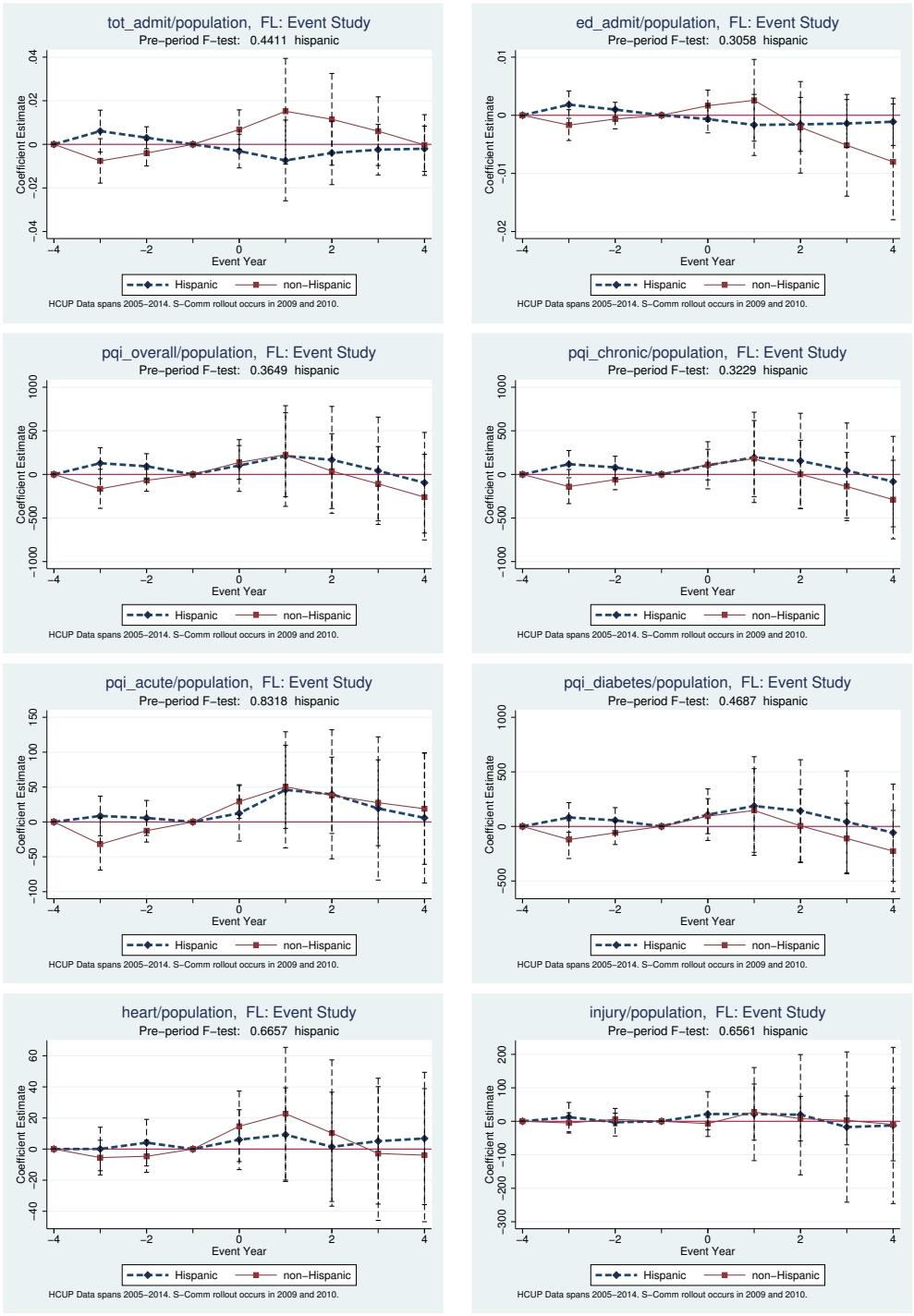
Notes: Figures display estimates from regressions on the interaction between the presence of SC and hispanic ethnicity, by year relative to SC adoption. Regressions include county and year fixed effects, and controls for the population share under age 25 and ages 25-50, the unemployment rate, and the Hispanic share of the population. Hospital admission data from the Arizona State Inpatient Database, 2005-2014. Population data from county-level counts from the SEER. Admissions, PQIs, heart attacks, and injuries are ethnicity-specific rates per 100,000 population. All regressions are weighted by 2000 county population. Standard errors clustered at the county level. Sample limited to non-elderly adults ages 18-64.

Figure 11: Florida SID: Event Studies by ethnicity



Notes: Figures display estimates from regressions on the interaction between the presence of SC and hispanic ethnicity, by year relative to SC adoption. Regressions include county and year fixed effects, and controls for the population share under age 25 and ages 25-50, the unemployment rate, and the Hispanic share of the population. Hospital admission data from the Florida State Inpatient Database, 2005-2014. Population data from county-level counts from the SEER. Admissions, PQIs, heart attacks, and injuries are ethnicity-specific rates per 100,000 population. All regressions are weighted by 2000 county population. Standard errors clustered at the county level. Sample limited to non-elderly adults ages 18-64.

Figure 12: Florida SID: Event Studies by ethnicity, Weighted by 2000 county population, with county and year FE (Detrending)



Notes: Figures display estimates from regressions on the interaction between the presence of SC and hispanic ethnicity, by year relative to SC adoption. Regressions include county and year fixed effects, and controls for the population share under age 25 and ages 25-50, the unemployment rate, and the Hispanic share of the population. Hospital admission data from the Florida State Inpatient Database, 2005-2014. Population data from county-level counts from the SEER. Admissions, PQIs, heart attacks, and injuries are ethnicity-specific rates per 100,000 population. All regressions are weighted by 2000 county population. Standard errors clustered at the county level. Sample limited to non-elderly adults ages 18-64.

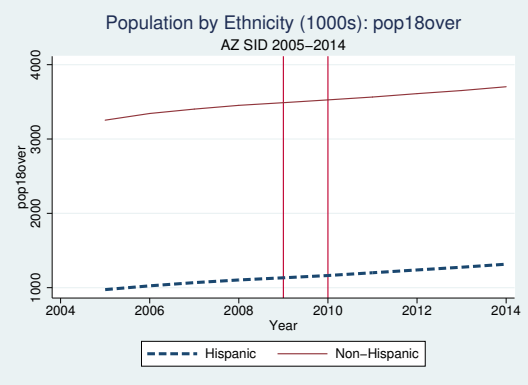
A Appendix

Table A.1: AHRQ Prevention Quality Indicators

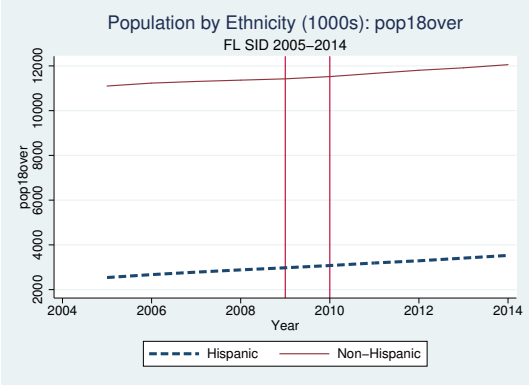
PQI 01 Diabetes Short-term Complications Admission Rate
PQI 02 Perforated Appendix Admission Rate
PQI 03 Diabetes Long-term Complications Admission Rate
PQI 05 Chronic Obstructive Pulmonary Disease (COPD) or Asthma in Older Adults Admission Rate
PQI 07 Hypertension Admission Rate
PQI 08 Heart Failure Admission Rate
PQI 09 Low Birth Weight Rate
PQI 10 Dehydration Admission Rate
PQI 11 Bacterial Pneumonia Admission Rate
PQI 12 Urinary Tract Infection Admission Rate
PQI 14 Uncontrolled Diabetes Admission Rate
PQI 15 Asthma in Younger Adults Admission Rate
PQI 16 Lower-Extremity Amputation among Patients with Diabetes Rate

Figure A.1: Population Trends: Adults (18 and over)

a. Arizona



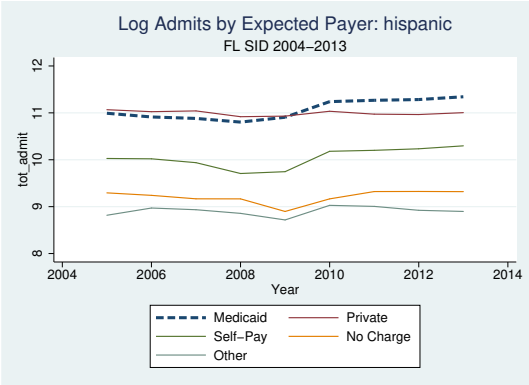
b. Florida



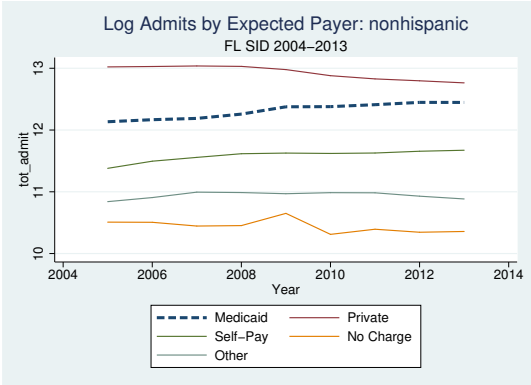
Notes: Figures display total adult population (ages 18 and over) by ethnicity. Data aggregated from county-level population counts by age and ethnicity from SEER. Secure Communities rollout occurred in 2009-2010.

Figure A.2: Florida SID: Log of Admissions by payer, Hispanic

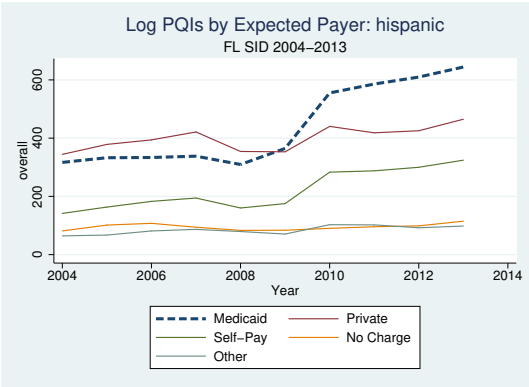
a. Hispanic Admissions by Expected Payer



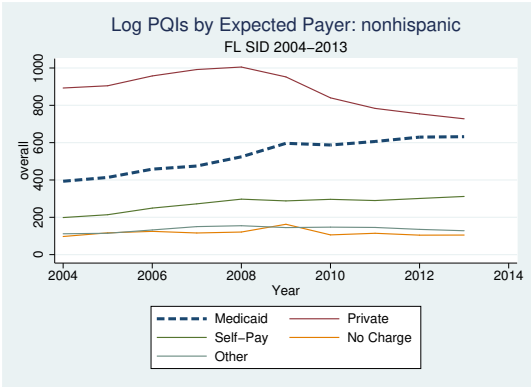
b. Non-Hispanic Admissions by Expected Payer



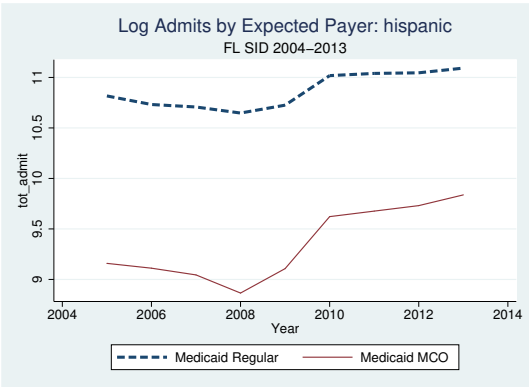
c. Hispanic PQIs by Expected Payer



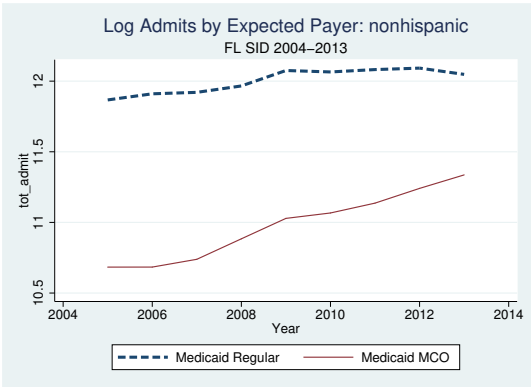
d. Non-Hispanic PQIs by Expected Payer



e. Hispanic MedicaidAdmissions: by MCO



f. Non-Hispanic Medicaid Admissions: by MCO



Notes: Figures show trends in PQI, heart attack, and injury rates by ethnicity for Florida counties between 2005-2014. Secure Communities rollout occurred in 2009-2010. PQIs calculated according to AHRQ definitions using ICD-9 diagnosis codes. All rates expressed as total admissions per 100,000 population for each demographic group. Sample limited to non-elderly adults (ages 18-64). Regressions weighted by 2000 total population from SEER. Expected insurance categories from H-CUP inpatient discharge records include Mediciad, private, self-pay, no-charge, and other. Panels e. and f. consider Medicaid separated by regular Medicaid and managed care.s

Table A.2: Arizona SID: Inpatient Admissions, Separated by Post-Period

	Inpatient Admissions							
	Tot. Admit	ED Admit	PQI Overall	PQI Acute	PQI Chronic	PQI Diabetes	Heart	Injury
SC(1-2)*Hispanic	-0.016***	-0.003**	51.200	14.012*	32.876	45.785	10.654**	-144.129***
	(0.001)	(0.001)	(111.718)	(7.402)	(109.392)	(111.318)	(4.304)	(14.665)
SC(3+)*Hispanic	-0.014***	0.001	217.074***	38.678***	185.166***	175.539***	19.922***	-29.763
	(0.004)	(0.002)	(18.963)	(8.711)	(14.979)	(16.740)	(5.162)	(62.054)
County FE	X	X	X	X	X	X	X	X
Year FE	X	X	X	X	X	X	X	X
Controls								
County Trends								
Y mean	0.09	0.03	1977.35	295.00	1760.66	1584.11	94.51	576.90
Observations	280	280	280	280	280	280	280	280
	Inpatient Admissions							
	Tot. Admit	ED Admit	PQI Overall	PQI Acute	PQI Chronic	PQI Diabetes	Heart	Injury
SC(1-2)*Hispanic	-0.016***	-0.003**	51.200	14.012*	32.876	45.785	10.654**	-144.129***
	(0.001)	(0.001)	(112.568)	(7.458)	(110.224)	(112.165)	(4.336)	(14.777)
SC(3+)*Hispanic	-0.014***	0.001	217.074***	38.678***	185.166***	175.539***	19.922***	-29.763
	(0.004)	(0.002)	(19.108)	(8.777)	(15.093)	(16.868)	(5.202)	(62.526)
County FE	X	X	X	X	X	X	X	X
Year FE	X	X	X	X	X	X	X	X
Controls	X	X	X	X	X	X	X	X
County Trends								
Y mean	0.09	0.03	1977.35	295.00	1760.66	1584.11	94.51	576.90
Observations	280	280	280	280	280	280	280	280
	Inpatient Admissions							
	Tot. Admit	ED Admit	PQI Overall	PQI Acute	PQI Chronic	PQI Diabetes	Heart	Injury
SC(1-2)*Hispanic	-0.016***	-0.003**	51.200	14.012*	32.876	45.785	10.654**	-144.129***
	(0.001)	(0.001)	(115.701)	(7.666)	(113.292)	(115.287)	(4.457)	(15.188)
SC(3+)*Hispanic	-0.014***	0.001	217.074***	38.678***	185.166***	175.539***	19.922***	-29.763
	(0.004)	(0.002)	(19.640)	(9.022)	(15.514)	(17.337)	(5.346)	(64.266)
County FE	X	X	X	X	X	X	X	X
Year FE	X	X	X	X	X	X	X	X
Controls	X	X	X	X	X	X	X	X
County Trends	X	X	X	X	X	X	X	X
Y mean	0.09	0.03	1977.35	295.00	1760.66	1584.11	94.51	576.90
Observations	280	280	280	280	280	280	280	280

Notes: Regressions include county and year fixed effects, and controls for the population share under age 25 and ages 25-50, the unemployment rate, and the Hispanic share of the population. Hospital admission data from the Arizona State Inpatient Database, 2005-2014. Population data from county-level counts from the SEER. PQIs, heart attacks, and injuries are ethnicity-specific rates per 100,000 population. All regressions are weighted by 2000 county population. Standard errors clustered at the county level.

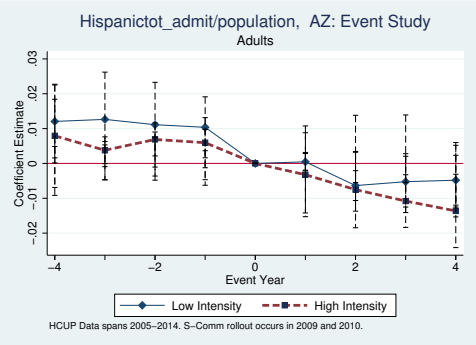
Table A.3: Florida SID: Inpatient Admissions, Separated by Post-Period

	Inpatient Admissions							
	Tot. Admit	ED Admit	PQI Overall	PQI Acute	PQI Chronic	PQI Diabetes	Heart	Injury
SC(1-2)*Hispanic	0.006	-0.004**	492.117***	83.172***	428.707***	384.917***	39.759***	26.245
	(0.006)	(0.002)	(141.704)	(19.704)	(128.120)	(102.646)	(7.189)	(33.615)
SC(3+)*Hispanic	0.014	-0.002	681.675***	112.242***	596.924***	536.664***	52.761***	87.972**
	(0.011)	(0.004)	(131.360)	(22.215)	(114.956)	(91.452)	(9.302)	(38.051)
County FE	X	X	X	X	X	X	X	X
Year FE	X	X	X	X	X	X	X	X
Controls								
County Trends								
Y mean	0.08	0.03	2232.91	303.10	2001.98	1721.90	122.41	491.30
Observations	1285	1285	1285	1285	1285	1285	1285	1285
	Inpatient Admissions							
	Tot. Admit	ED Admit	PQI Overall	PQI Acute	PQI Chronic	PQI Diabetes	Heart	Injury
SC(1-2)*Hispanic	0.006	-0.004**	491.931***	83.177***	428.510***	384.751***	39.762***	26.263
	(0.006)	(0.002)	(141.993)	(19.743)	(128.378)	(102.841)	(7.202)	(33.666)
SC(3+)*Hispanic	0.014	-0.002	681.994***	112.305***	597.196***	536.860***	52.769***	87.981**
	(0.011)	(0.004)	(131.732)	(22.273)	(115.277)	(91.675)	(9.327)	(38.109)
County FE	X	X	X	X	X	X	X	X
Year FE	X	X	X	X	X	X	X	X
Controls	X	X	X	X	X	X	X	X
County Trends								
Y mean	0.08	0.03	2232.91	303.10	2001.98	1721.90	122.41	491.30
Observations	1285	1285	1285	1285	1285	1285	1285	1285
	Inpatient Admissions							
	Tot. Admit	ED Admit	PQI Overall	PQI Acute	PQI Chronic	PQI Diabetes	Heart	Injury
SC(1-2)*Hispanic	0.006	-0.004*	490.531***	82.968***	427.284***	383.842***	39.925***	26.074
	(0.006)	(0.002)	(146.085)	(20.314)	(132.069)	(105.776)	(7.395)	(34.624)
SC(3+)*Hispanic	0.014	-0.002	679.639***	111.993***	595.116***	535.339***	52.923***	87.789**
	(0.011)	(0.005)	(135.571)	(22.932)	(118.619)	(94.284)	(9.578)	(39.209)
County FE	X	X	X	X	X	X	X	X
Year FE	X	X	X	X	X	X	X	X
Controls	X	X	X	X	X	X	X	X
County Trends	X	X	X	X	X	X	X	X
Y mean	0.08	0.03	2232.91	303.10	2001.98	1721.90	122.41	491.30
Observations	1285	1285	1285	1285	1285	1285	1285	1285

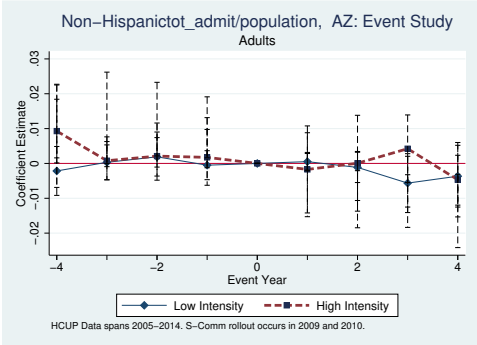
Notes: Regressions include county and year fixed effects, and controls for the population share under age 25 and ages 25-50, the unemployment rate, and the Hispanic share of the population. Hospital admission data from the Florida State Inpatient Database, 2005-2014. Population data from county-level counts from the SEER. PQIs, heart attacks, and injuries are ethnicity-specific rates per 100,000 population. All regressions are weighted by 2000 county population. Standard errors clustered at the county level.

Figure A.3: Arizona SID: Event Studies by Intensity

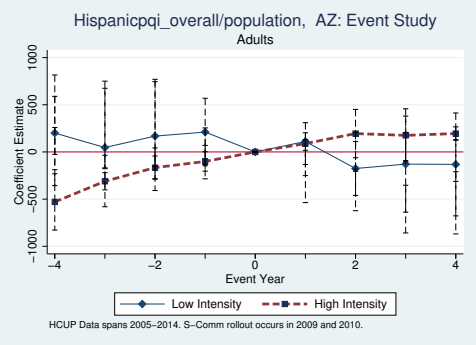
a. Total Admissions/Pop.: Hispanic



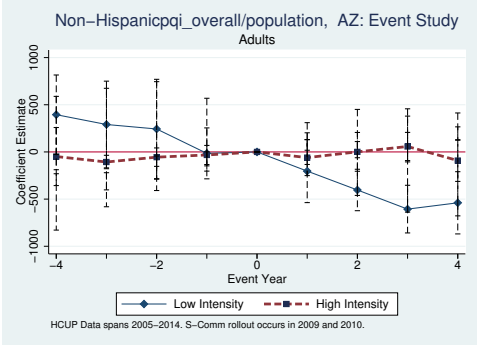
b. Total Admissions/Pop.: non-Hispanic



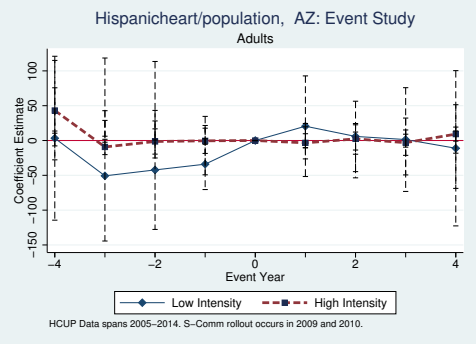
c. PQI/Pop. : Hispanic



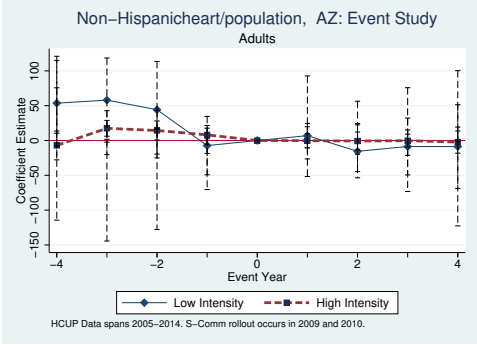
d. PQI/Pop.: non-Hispanic



c. Heart attack/Pop.: Hispanic

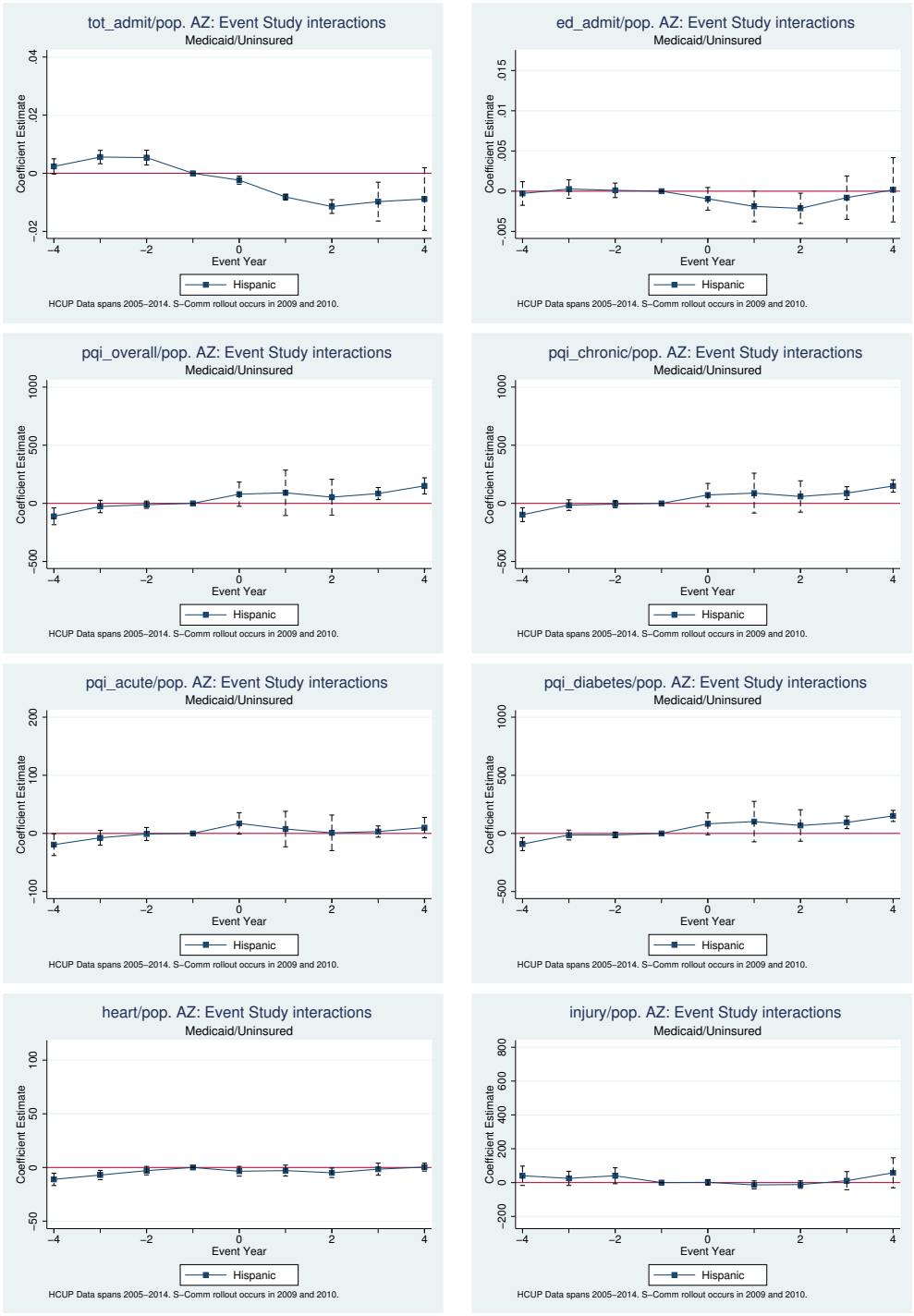


d. Heart attack/Pop.: non-Hispanic



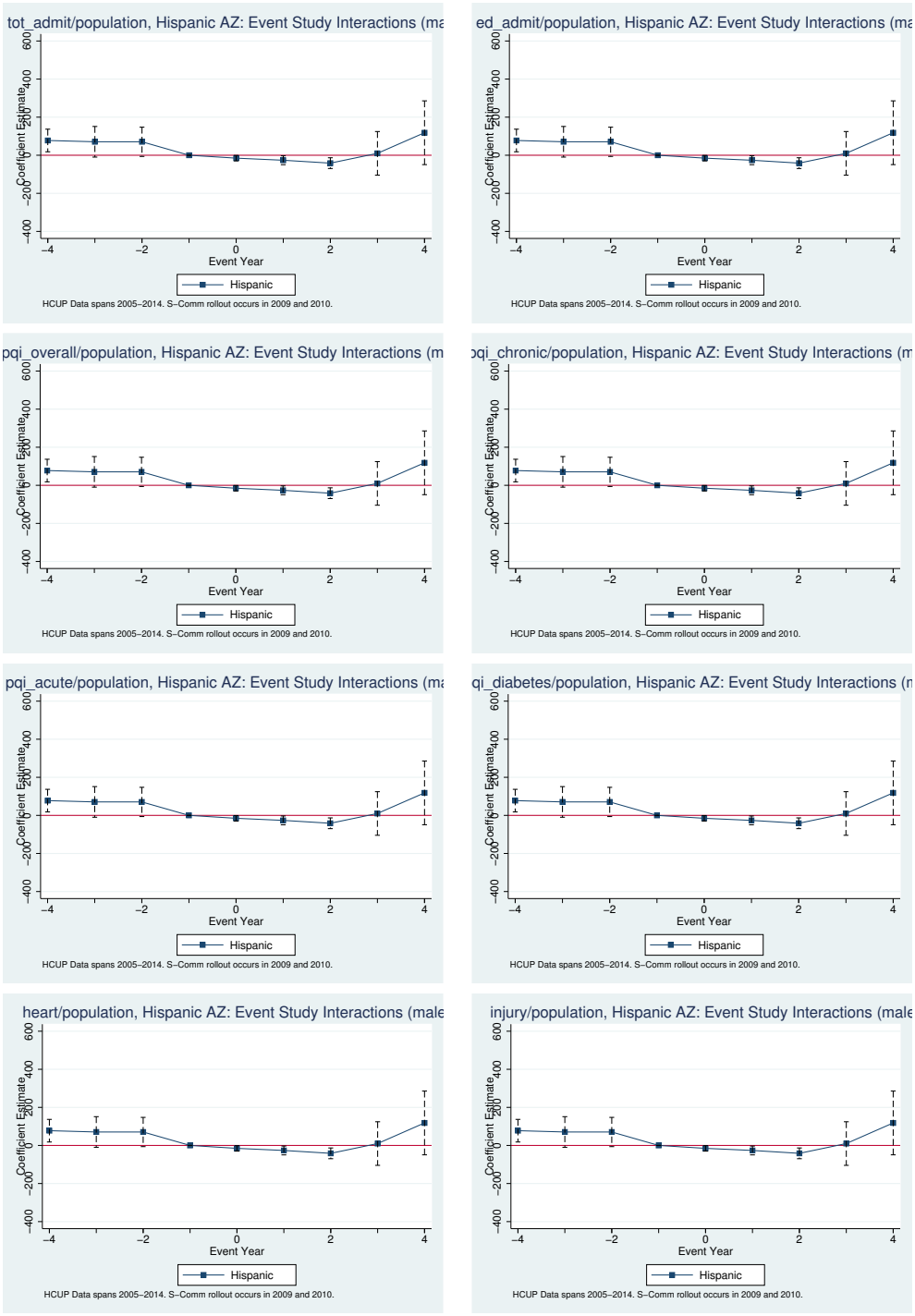
Notes: Figures display estimates from regressions presence of SC for patients of Hispanic ethnicity, by year relative to SC adoption. Regressions include county and year fixed effects, and controls for the population share under age 25 and ages 25-50, the unemployment rate, and the Hispanic share of the population. Sample split by county-level intensity of enforcement, where intensity is the rate of deportations under SC relative to the county population ages 18-64. Hospital admission data from the Arizona State Inpatient Database, 2005-2014. Population data from county-level counts from the SEER. Admissions, PQIs, heart attacks, and injuries are ethnicity-specific rates per 100,000 population. All regressions are weighted by 2000 county population. Standard errors clustered at the county level. Sample limited to non-elderly adults ages 18-64.

Figure A.4: Arizona SID: Event Studies by ethnicity, Medicaid and Uninsured



Notes: Figures display estimates from regressions on the interaction between the presence of SC and hispanic ethnicity, by year relative to SC adoption. Regressions include county and year fixed effects, and controls for the population share under age 25 and ages 25-50, the unemployment rate, and the Hispanic share of the population. Hospital admission data from the Arizona State Inpatient Database, 2005-2014. Population data from county-level counts from the SEER. Admissions, PQIs, heart attacks, and injuries are ethnicity-specific rates per 100,000 population. All regressions are weighted by 2000 county population. Standard errors clustered at the county level. Sample limited to non-elderly adults ages 18-64 with a primary expected insurance payer of Medicaid, self-pay, or no-charge (uninsured).

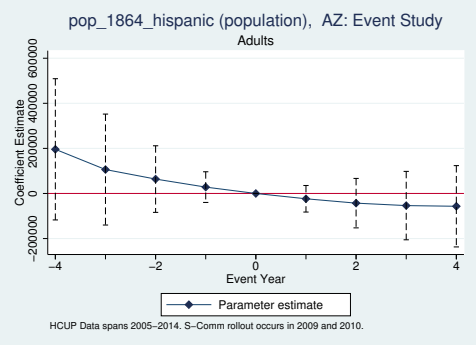
Figure A.5: Arizona SID: Event Studies by ethnicity, Male



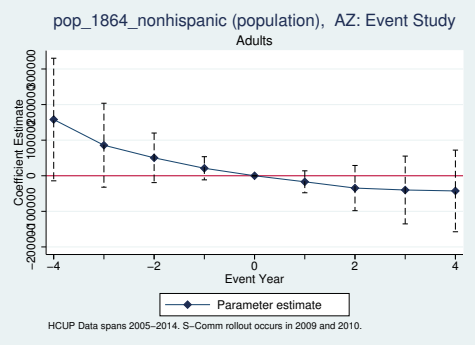
Notes: Figures display estimates from regressions on the interaction between the presence of SC and hispanic ethnicity, by year relative to SC adoption. Regressions include county and year fixed effects, and controls for the population share under age 25 and ages 25-50, the unemployment rate, and the Hispanic share of the population. Hospital admission data from the Arizona State Inpatient Database, 2005-2014. Population data from county-level counts from the SEER. Admissions, PQIs, heart attacks, and injuries are ethnicity-specific rates per 100,000 population. All regressions are weighted by 2000 county population. Standard errors clustered at the county level. Sample limited to male non-elderly adults ages 18-64.

Figure A.6: Arizona Population and Employment Event Studies

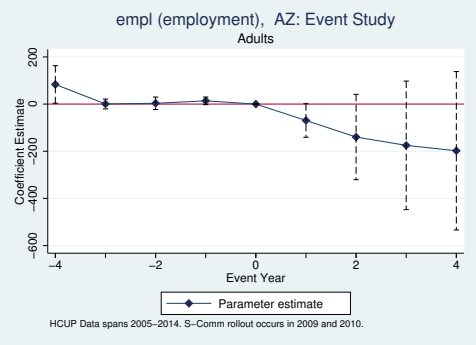
a. Population: Hispanic



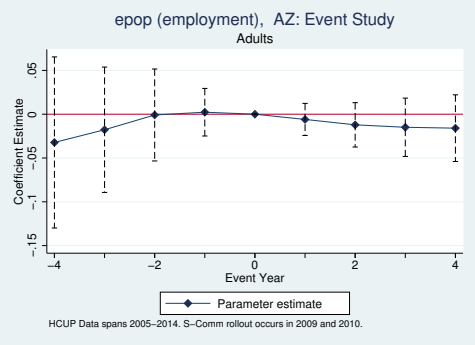
b. Population: non-Hispanic



c. Employment (total)



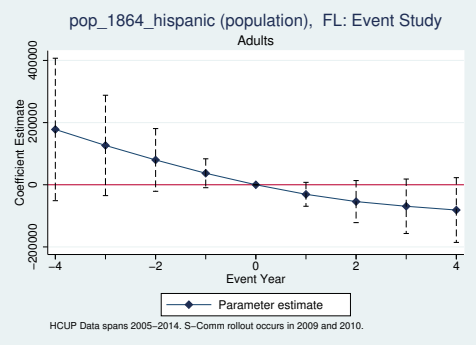
b. Employment/Pop.(total)



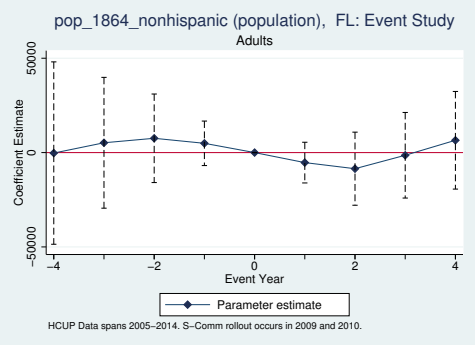
Notes: Figures display coefficients from regressions of population and employment outcomes on SC adoption. Regressions include county and year fixed effects. Population data from SEER; employment data from REIS. Sample covers Arizona counties from 2005-2014. SC rollout occurred in 2009-2010.

Figure A.7: Florida Population and Employment Event Studies

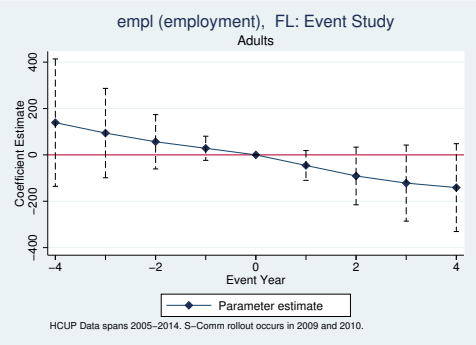
a. Population: Hispanic



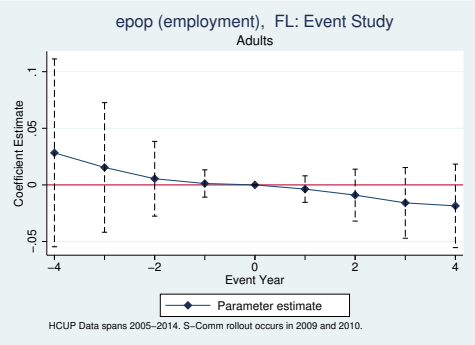
b. Population: non-Hispanic



c. Employment (total)



b. Employment/Pop.(total)



Notes: Figures display coefficients from regressions of population and employment outcomes on SC adoption. Regressions include county and year fixed effects. Population data from SEER; employment data from REIS. Sample covers Florida counties from 2005-2014. SC rollout occurred in 2009-2010.