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# Migration and Mortality

*Social Death, Dispossession, and  
Survival in the Americas*

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## Death and Disabilities in Divergent Deportation Contexts

*Revisiting the Hispanic Epidemiological Paradox*

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Once concentrated on the U.S.-Mexico border, immigration enforcement today reaches across the U.S. interior. The escalating investment in deportations has spread injury, fear, and isolation. For instance, although new immigrant arrivals typically enjoy health advantages compared to the general U.S. population, injuries sustained from “tactical infrastructure” on the border designed to cause harm have become all too common (Jusionyte 2018b), and once settled in the United States, workers who are hurt or become ill on the job tend to absorb the costs of bodily harm. After arrival, severe health consequences can continue to mount among immigrants working in meatpacking (Ribas 2016) and agriculture (Holmes 2013), as Nathan Mutic and Linda McCauley document in Chapter 6 in their examination of heat stroke among agricultural workers. Recognizing these workers’ vulnerable legal status, employers and insurance companies have turned to reporting their injured and deportable employees to immigration authorities in order to skirt their medical fees (Berkes and Grabell 2018). Clearly, the health consequences of immigration enforcement have the potential to erode immigrant health outcomes in myriad ways. In this chapter, we examine whether the rise of mass deportations across U.S. metro areas coincides with rising health challenges faced by immigrants.

The unprecedented volume of deportations since the late 2000s, which coincided with the aftermath of the Great Recession as well as a shift in

Hispanic noncitizens' countries of origin, may have introduced additional health hazards for immigrants. As enforcement escalates, do the health effects of immigration enforcement and restrictive policy making extend to death and disabilities? If so, which groups are most likely to report negative health outcomes in areas hit hardest by mass deportations? We examine whether enforcement predicts negative health among all Hispanics or only those most vulnerable to deportation: recently arrived Hispanic noncitizens. To examine the relationship between deportations and health, we analyze multiple data sources merged with Department of Homeland Security (DHS) data. Our analyses rely on data from Secure Communities, a nationwide program under Immigration and Customs Enforcement (ICE) that links arrestees' biometric data to federal databases capable of identifying noncitizens (Rosenblum and Kandel 2012). Given the discretion county officials could exercise in implementing the program (Pedroza 2019, 2013), there is wide variation in the reported deportation statistics. Specifically, we leverage county-level variation in Hispanic<sup>2</sup> mortality (i.e., crude death rates) from the Centers for Disease Control and Prevention (CDC) and cumulative deportation rates under the Secure Communities immigration enforcement program. Then, we examine differences in individuals reporting multiple disabilities—as recorded in the American Community Survey (ACS)—across metro areas with divergent enforcement contexts.

We find evidence that residents living in metro areas hit particularly hard by the rise of mass deportations were more likely to report health problems. Recently arrived Hispanic noncitizens are among the least likely to qualify for naturalization and protections from deportation (Rosenblum and Kandel 2012). In addition to being at elevated risk of deportation, they were also more likely to report multiple disabilities if they lived in metro areas where deportations became especially common. The rest of the Hispanic population, including Hispanic noncitizens who arrived in earlier waves predating the rise in mass deportation, was apparently spared these adverse health consequences. The results suggest that although the broader effects of enforcement can extend beyond the intended targets of enforcement, certain health outcomes such as disabilities have afflicted an especially vulnerable segment of the immigrant population. Although newly arrived Hispanic noncitizens are healthier than those who arrived in earlier eras and thus are more likely to have survived to older ages (Taylor et al. 2011), part of the price of settling in the United States seems to have risen, and today includes higher rates of disability. We propose injuries sustained en route to the United States and injuries sustained on the job may help explain the relationship between enforcement and disabilities.

## Research on Enforcement and Immigrant Health

In this section, we first discuss recent evidence on whether contextual effects matter for immigrant health outcomes. Then, we summarize reasons why immigrant groups might report health advantages relative to other populations—the so-called Hispanic epidemiological paradox (HEP)—and the conditions under which we observe a diminished immigrant health advantage.

### *Whether State and Local Contexts Can Shape the HEP and Immigrant Health*

Research on immigrant health suggests divergent contexts can affect immigrant health. Although prior work has found a weak relationship between anti-immigrant prejudice and mortality (Morey et al. 2018), mounting evidence suggests that the social determinants of health among immigrants (Castañeda et al. 2015) include policy and enforcement contexts (Perreira and Pedroza 2019). For instance, restrictive policies can accelerate stressors and erode support networks (Philbin et al. 2018; Morey et al. 2018; Hagan, Rodríguez, and Castro 2011; Rodríguez, Paredes, and Hagan 2017, 2019). The link between restrictionism and declining health might stem from an erosion of trust in health institutions (Cruz Nichols, Lebrón, and Pedraza 2018) and noncitizen workers becoming stuck in hazardous jobs (Hall and Greenman 2015; Orrenius and Zavodny 2009; Fernández-Esquer, Gallardo, and Diamond 2019) in contexts where finding a new job is made increasingly difficult by a rise in restrictionism (Lofstrom, Bohn, and Raphael 2011; East et al. 2018).

### *Past Research on the Paradox*

The HEP refers to unexpectedly favorable health outcomes among the Hispanic population in the United States, especially Hispanic immigrants (Markides and Eschbach 2005; Teruya and Bazargan-Hejazi 2013; Hummer and Chinn 2011). Researchers have found evidence of the HEP when examining various outcomes, ranging from longevity, mortality, and life span variability (Goldman, Gleib, and Weinstein 2017; Lariscy et al. 2016; Lariscy, Hummer, and Hayward 2015) to specific health risks (Markides et al. 2007).<sup>2</sup> The HEP has also been invoked when examining chronic conditions and pain among unauthorized immigrants compared to authorized immigrants (Hamilton, Hale, and Savinar 2019). Explanations for the HEP emphasize resilience and health-enhancing factors (Ruiz et al. 2016; Acevedo-Garcia

and Bates 2008; Riosmena, Kuhn, and Jochem 2017) as well as emigrant selection (Riosmena, Kuhn, and Jochem 2017; Riosmena, Wong, and Palloni 2013) and differences in health selection across immigrant groups (Akresh and Frank 2008). Relatedly, differences in who migrates back to their countries of origin (a “salmon bias”) may also account for such advantages (Abraido-Lanza et al. 1999; see also Arenas et al. 2015; Riosmena, Wong, and Palloni 2013; Turra and Elo 2008).<sup>3</sup>

### *The HEP Is Not Immutable and Can Erode*

Researchers have begun identifying the conditions under which living in the United States can become detrimental for immigrants (Castro 2007). Among these, duration of stay strongly predicts the trend toward increasing risk of mortality and chronic illness (Riosmena et al. 2015). Generation status (Giuntella 2016), segregation (Do et al. 2017), and living in established immigrant destinations compared to new immigrant destinations (Fenelon 2017; Brazil 2017) also help explain where health advantages either sustain or erode. In addition, the transition to old age can reduce health and disability advantages among older Hispanic immigrants (Sheftel and Heiland 2018; Markides et al. 2007). The advantages can recede in the absence of social networks (Cantu and Angel 2017; Montes-de-Oca et al. 2015; Eschbach et al. 2004) and health care utilization (Roy, Olsen, and Tseng 2020) and result in “longer—but harder—lives” (Boen and Hummer 2019, 434). Additionally, barriers to health access and utilization (Bacon, Riosmena, and Rogers 2017; Cervantes et al. 2018) and health-adverse factors such as high rates of obesity and diabetes can also erode the HEP (Goldman 2016). Finally, the health advantages we observe are not immutable and may have emerged in the 1960s (Palloni and Morenoff 2001) as a result of immigrant selectivity, and such an advantage might erode in the coming decades.

### *Contribution to Research on Contextual Determinants of Immigrant Health*

Studies that have analyzed the potential effects of immigration policy making on health have come to differing conclusions. On the one hand, immigration policy making does not necessarily lead to a tandem change in immigrant health access or outcomes (Allen and McNeely 2017; Koralek, Pedroza, and Capps 2009). Such nonrelationships could reflect resilient communities weathering tough times, or changes in immigrant behavior that evade data collection efforts, or both. On the other hand, among studies that do find policy making is related to health, three scenarios are discussed.

First, rising restrictionism may foretell worse outcomes for the general public. In this scenario, high deportation rates may have taken hold in places beset by economic downturns (O’Neil 2011; Joyner 2018; Parrado 2012), thus predicting worse health for everyone (Strully et al. 2020). After all, increasingly stringent enforcement tends to coincide with spikes in unemployment (O’Neil 2011; Joyner 2018; Parrado 2012). Indeed, Secure Communities negatively affected employment options among immigrants and the general U.S. population (East et al. 2018), possibly because locations with a ramp-up in deportations were already vulnerable to negative labor market trends.

Second, a growing body of research suggests restrictive immigration policy making can affect health among Hispanic noncitizens and Hispanic U.S. citizens alike. In response to a rise in enforcement, Hispanic immigrant households may report mistrust of mainstream institutions, declining health, and other negative outcomes (Alsan and Yang 2019; Watson 2014; Cruz Nichols, Lebrón, and Pedraza 2018; Vargas and Benitez 2019). Indeed, when asked about the current immigration policy climate, nearly half of Hispanic adults—and two-thirds of Hispanic immigrants—report worrying “some” or “a lot” that someone they know may be deported (Lopez and Rohal 2017), especially as the salience of deportations has become widespread (Sanchez et al. 2015). Under these conditions, Hispanics may have become generally wary of seeking health-promoting services, whether they were born in the United States or not (Stanhope et al. 2019).

Third, this chapter examines whether deportations predict disabilities only among those most likely to be directly affected by intensifying enforcement. For instance, the health and mental health consequences of Secure Communities on Hispanic immigrants has been found to be limited to immigrants living with noncitizen household members (Wang and Kaushal 2019). Likewise, the effects of Arizona Senate Bill 1070 on low birth weight were found to be limited to Hispanic immigrant women (Torche and Sirois 2018).

## **Data and Methods**

### *Health Data*

Following recent work (Sheftel and Heiland 2018), we analyze CDC data on deaths and ACS data on disability.<sup>4</sup> The data provide prevalence estimates for Hispanic death rates as well as for six measures of disability (i.e., cognitive, ambulatory, independent living, self-care, vision, and hearing difficulty). At the macro level ( $N = 2,145$  county-years between 2013 and 2016), we first predict county death rates as a function of cumulative deportation

rates using publicly available CDC data. At the micro level, we predict whether or not an individual reported two or more disabilities. Although we do not know when each person first experienced any difficulties, we interpret multiple disabilities as a proxy for cumulative health disadvantage.<sup>5</sup>

### Deportation Data

We propose that *cumulative* exposure to deportation events might predict adverse mortality and disability outcomes because such exposure is likely to present serious health challenges. We define the cumulative deportation rate ( $D$ ) of a county to equal the number of reported deportations since the activation of the Secure Communities program in that county's jail system, adjusting for (1) the number of days each area participated in the program and (2) the number of noncitizens:

$$D = \log \left[ \left( \frac{\text{cumulative removals and returns}}{\text{noncitizens per thousand}} \times \frac{\text{days since initial activation}}{365} \right) + 1 \right]$$

Lagged deportation rates ( $t - 2$  years) are merged with CDC and ACS data. Finally, we restrict analyses to the years 2013–2016 (a period during which over 90 percent of counties participated in the Secure Communities program).

In county-level analyses of CDC data, we predict death rates as a function of deportation rates. In ACS data, metro residents living in an identifiable county are assigned deportation rates corresponding to their county of residence. Residents without a county identifier and whose broader metro area straddles multiple counties are assigned a synthetic rate, which is the sum of the county-specific deportation rates weighted by the resident non-citizen population.<sup>6</sup>

### Individual and Household Determinants of Health

ACS responses allow us to examine individual-level variation in disabilities. Following prior research, we account for duration of stay (Riosmena et al. 2015) in the United States by measuring years since arrival among the foreign-born. We also acknowledge differences in disabilities across the life course (Sáenz 2015; Markides et al. 2007)—for example, among younger versus older Hispanic immigrants (Sheftel and Heiland 2018; Rodríguez, Paredes, and Hagan 2019; Cantu and Angel 2019; Olsen, Roy, and Tseng 2019)—and adjust for individual's age (and age-squared). Since recent immigrant arrivals are more likely to be male (Riosmena, Kuhn, and Jochem 2017), and since health outcomes often differ by sex (Acevedo-Garcia and

Bates 2008; Ruiz et al. 2016; Garcia, Reyes, and Rote 2019), we adjust for each person's sex (Female: 1; Male: 0). Educational attainment and living below the poverty line are both associated with health outcomes, and so we account for both. Individuals with disabilities can select into health insurance coverage and Supplemental Security Income (SSI), and we include indicators for both. We also account for differences in marital status because those who live with a spouse tend to also exhibit other health-promoting behaviors. Similarly, differences in occupation and employment status predict health outcomes, and so we account for sector and employment status. Finally, we include fixed effects for fifty-nine Hispanic origin groups in the ACS.

In our analyses of individual health outcomes, we differentiate between noncitizens who arrived in the United States after 2006 (i.e., recent arrivals at elevated risk of deportation) and those who arrived earlier (for a similar approach by timing of arrival, see Riosmena, Vinneau, and Beltrán-Sánchez 2019). The composition of earlier waves of Hispanic noncitizens differs from recent arrivals. For instance, among Mexican noncitizens, only 10 percent arrived after 2006. By contrast, recent arrivals comprise a notable proportion of Hispanic noncitizens from other countries: 43 percent of Cuban noncitizens arrived after 2006, compared to 33 percent of Dominicans, 29 percent of Colombians, 21 percent of Hondurans, 20 percent of Guatemalans, and 15 percent of Salvadorans.

### Analytic Approach

Since we are interested in the relationship between immigration enforcement and health, we focus on adult civilians living in metro areas (i.e., residents age twenty-five and older not in military occupations or in group quarters). In our analyses of CDC data, we regress Hispanic death rates on cumulative deportation rates. The macro-level results account for determinants of deportation activity: the relative size of a county's Hispanic population, the growth of the Hispanic population since 1990, and fixed effects per state and year (Pedroza 2019). Standard errors are clustered at the county level and results are weighted using noncitizen population estimates. In these analyses, we are limited to examining death rates among all Hispanics, regardless of nativity.

When predicting disabilities using ACS data, we first describe time trends in disability rates across metro areas. We then present multivariate regression results where each metro resident's likelihood of reporting multiple disabilities is compared to residents in the same metro area and then compared to individuals across all metro areas. The approach allows us to account for differences across 242 different metro areas. We also present results for 147 metro areas with at least 100 Hispanics in a given year. In

sum, the regression models account for variation across individuals (*i*) in each metro area (*m*) in a given year of ACS data (*t*):

$$Y_{i,m,t} = \alpha + \beta_1(\text{deportation}_{m,t-2}) + \sum \beta X_{i,m,t},$$

where “deportation” equals the rate of deportation in year *t* – 2 (preceding the year leading up to each administration of the ACS survey) and *X* is a set of individual and household variables.

### Results

When analyzing the relationship between county-level deportations and mortality, we find high rates of Hispanic deaths are *less* likely to be concentrated in counties with elevated immigration enforcement (Table 8.1). Consistent with past work (Brazil 2017; Fenelon 2017), counties with higher rates of Hispanic population growth reported lower Hispanic mortality rates. On the basis of these results, we might conclude that immigration enforcement does not erode Hispanic health. To analyze whether enforcement predicts worse health outcomes for specific segments of the Hispanic population, we turn to micro-level data.

Disability rates are unevenly reported across subsets of racial/ethnic groups. Table 8.2 displays the share of metro residents reporting multiple

TABLE 8.1: COUNTY-LEVEL HISPANIC CRUDE DEATH RATES BY CUMULATIVE DEPORTATION RATES, 2013–2016

Variables	Model 1: ordinary least squares (OLS)	Model 2: OLS (with mean metro effects)	Model 3: OLS (with mean metro effects)
Cumulative deportation rate	-23.7* (11.40)	-22.5** (6.98)	-23.2*** (6.49)
Hispanic percentage	537.3*** (104.75)	500.4*** (66.16)	539.1*** (69.12)
Hispanic growth (since 1990)	-635.5*** (175.71)	-692.9*** (129.59)	-756.6*** (135.72)
State and year fixed effects	No	Yes	Yes
Observations (no. of counties)	2,145	2,145	2,145
R-squared	0.5115	0.7913	0.8079

Source: Authors' analyses of county-level CDC compressed mortality data, available at <https://wonder.cdc.gov/cmfr-icd10.html>, and ICE Secure Communities data, in the author's possession.  
 Note: Robust standard errors are in parentheses. Standard errors are clustered at the county level.  
 \**p* < 0.05, \*\**p* < 0.01, \*\*\**p* < 0.001.

TABLE 8.2: PERCENTAGE OF METRO RESIDENTS REPORTING MULTIPLE DISABILITIES, BY CITIZENSHIP STATUS, RACE/ETHNICITY, AND DEPORTATION CONTEXT

Disabilities	Non-Hispanic			Hispanic		
	All metro residents	White U.S. citizen	Black U.S. citizen	Hispanic U.S. citizen	Hispanic noncitizen, arrived before 2007	Hispanic noncitizen, arrived after 2006
Multiple disabilities	7.39	7.64	9.85	7.34	3.42	2.30
Low-deportation context	7.30	7.41	9.69	7.85	3.01	1.58
High-deportation context	7.40	7.91	9.5	7.18	3.98	2.68

Source: Authors' analyses of IPUMS data, available at <https://ipums.org/projects/ipums-usa/d010.v8.0>, and ICE Secure Communities data, in the author's possession.  
 Note: Disability rates reflect sample of residents living in metro areas with a Secure Communities program (2013–2016). Deportation contexts reflect whether residents live in a metro area whose cumulative deportation rates are one standard deviation below or above the mean (2.13 ± 0.94).

disabilities by race/ethnicity, citizenship status, and deportation context. Multiple disability rates were reported by 7.39 percent of all respondents during the study period (2013–2016), but there was notable heterogeneity by subgroup. For example, and perhaps not surprisingly, Hispanic noncitizens had the lowest overall rates of multiple disabilities (3.42 percent). In addition, U.S. citizen, non-Hispanic, white residents had similar rates of multiple disabilities as Hispanic U.S. citizens (7.64 percent and 7.34 percent, respectively). U.S. citizen, non-Hispanic, Black metro residents reported especially high multiple-disability rates (9.85 percent).<sup>7</sup>

Bivariate patterns suggest a relationship between enforcement [mean cumulative deportation rate: 2.1, or  $(e^{2.1} - 1) = 7$  deportations annually per thousand noncitizens] and disabilities. In general, residents in low deportation contexts (i.e., cumulative deportation rates one standard deviation below the mean) did report multiple disabilities less often (7.30 percent compared to 7.40 percent) than those in high deportation areas, or a standard deviation above the mean. Next, we examine whether these relationships hold when accounting for other factors.

If deportations represent a proxy for declining conditions for the general population, then disabilities should be more common for everyone in high deportation areas. We find no such evidence (Table 8.3). Our results confirm a *negative* relationship between deportations and disabilities whether we omit (model 1) or adjust for a full set of determinants of health (model 2). Among non-Hispanic residents (models 3 and 4), deportation rates are also inversely related to disabilities, both among white (models 5 and 6) and Black U.S. citizens (model 8).

We also examine whether enforcement foretells adverse reports of disabilities among Hispanics. For context, among Hispanics in the sample (i.e., metro residents age twenty-five and over), 34 percent are not U.S. citizens; close to half (45 percent) are U.S.-born citizens; and the remainder are naturalized U.S. citizens (21 percent). We find no such evidence for most Hispanic groups. Consistent with our Hispanic mortality results, disabilities are less common among the general Hispanic population in metro areas with high deportation rates (model 10). In fact, when analyzing disabilities among Hispanics (including either U.S. citizens or noncitizens arriving before 2007), we find deportations predict *fewer* disabilities once we account for all covariates of health (models 10, 12, and 14). In sum, we find no evidence of generalized effects of enforcement on Hispanic deaths or disabilities. Rather, our results suggest the era of mass deportations comes with severe health consequences primarily for those at highest risk of exposure to immigration enforcement: *recently arrived* Hispanic noncitizens who immigrated during a time when enforcement escalated to unprecedented levels. Disabilities are more common in high-deportation-rate metro areas among

TABLE 8.3: LOG ODDS OF REPORTING MULTIPLE DISABILITIES AMONG METRO RESIDENTS (2013–2016) BY RACE/ETHNICITY, CITIZENSHIP STATUS, AND CUMULATIVE DEPORTATION RATE (CDR)

Variables	All metro residents			Non-Hispanics			Non-Hispanic white U.S. citizens			Non-Hispanic black U.S. citizens												
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9	Model 10	Model 11	Model 12	Model 13	Model 14								
CDR	-0.0007** (0.000)	-0.0020*** (0.000)	-0.0005* (0.000)	-0.0017*** (0.000)	-0.0011*** (0.000)	-0.0016*** (0.000)	0.0024** (0.001)	-0.0020** (0.001)	5.807,672 0.0031	5.807,672 0.1844	4,953,610 0.0031	4,953,610 0.1824	3,768,679 0.0032	3,768,679 0.1769	583,745 0.0052	583,745 0.1919	Yes No	Yes No	Yes No	Yes No	Yes No	Yes No
Observations																						
R-squared																						
Full controls																						
Hispanic-origin fixed effects																						

  

Variables	All Hispanics			Hispanic U.S. citizens			Hispanic noncitizens (arrived before 2007)							
	Model 9	Model 10	Model 11	Model 12	Model 13	Model 14	Model 13	Model 14	Model 14					
CDR	-0.0000 (0.001)	-0.0026*** (0.001)	0.0004 (0.001)	-0.0022** (0.001)	-0.0007 (0.001)	-0.0034*** (0.001)	222,071	222,071	222,071	0.1833	Yes	Yes	Yes	
Observations														
R-squared														
Full controls														
Hispanic-origin fixed effects														

Source: Authors' analyses of IPUMS data, available at <https://ipums.org/projects/ipums-usa/d010-r8.0>, and ICE Secure Communities data, in the author's possession. Note: Standard errors are in parentheses. The full controls are sex, age, age<sup>2</sup>, poverty and insurance status, SSI benefit receipt, marital status, educational attainment, and occupation and employment status. Model 14 accounts for U.S. tenure. \*p < 0.05, \*\*p < 0.01, \*\*\*p < 0.001.

Hispanic noncitizens who have not had the benefit of putting down long-term roots in the country.

Only among Hispanic noncitizens who are recent arrivals do we find that reporting more than one disability is more common in high-deportation-rate metro areas (Table 8.4). The results suggest disabilities are more common in high-enforcement metro areas among those most likely to be affected by deportations. Recall that Hispanic noncitizens who arrived after 2006 reported the *lowest* rates of multiple disabilities (2.30 percent across metros and 2.68 percent in high-deportation contexts, as shown in Table 8.2). Among recently arrived Hispanic noncitizens, rising cumulative deportations are associated with a 3.4 percent rise in the likelihood of two or more reported disabilities, even after we account for determinants of health and focus on 147 metro areas with 100 or more Hispanics (model 6).<sup>8</sup>

Consistent with prior research, reporting multiple disabilities is more common among those who have been in the United States longer, are older, are not in the labor force, or received SSI benefits. Results are substantially the same when we conduct robustness checks to determine whether the results are sensitive to decisions regarding our sample or approach.<sup>9</sup>

## Discussion and Conclusion

The accumulated weight of immigration enforcement did not affect every local community across the United States evenly. Where mass deportations took firm hold, certain members of the Hispanic population were more likely to report accumulated health disadvantages. Despite a relative advantage compared to other groups, Hispanic noncitizens who arrived in the United States recently have been alone in reporting more instances of multiple disabilities. Recently arrived noncitizens have also been an enforcement priority for deportation (Rosenblum and Meissner 2014; Rosenblum and Kandel 2012), which may have exposed this group to adverse health outcomes.

Because of data limitations, our analyses cannot explain why disabilities are more common in high-deportation-rate metro areas. CDC analyses are limited to macro-level mortality data among all Hispanics. In ACS data, we are able to analyze pooled cross-sections that contain information about when immigrants arrived in the United States and where they settled, but these data do not tell us exactly when they *first* began to experience disabilities. Consequently, meaningful explanations for our results must be able to provide cogent reasons for why a rise in disabilities was limited to recently arrived Hispanic noncitizens.

We anticipate that employment and migration contexts help account for our results. First, recently arrived noncitizens may be especially vulnerable

TABLE 8.4: LOG ODDS OF REPORTING MULTIPLE DISABILITIES FOR HISPANIC NONCITIZEN METRO RESIDENTS ARRIVING AFTER 2006

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Deportation rate	0.0074*** (0.002)	0.0063*** (0.002)	0.0059*** (0.002)	0.0052** (0.002)	0.0044** (0.002)	0.0036* (0.002)
Age		-0.0126*** (0.000)	-0.0126*** (0.000)	-0.0127*** (0.000)	-0.0116*** (0.000)	-0.0117*** (0.000)
Age <sup>2</sup>		0.0002*** (0.000)	0.0002*** (0.000)	0.0002*** (0.000)	0.0002*** (0.000)	0.0002*** (0.000)
Female		0.0027† (0.001)	0.0027† (0.001)	0.0027† (0.001)	-0.0029† (0.002)	-0.0030† (0.002)
Years in U.S.			0.0007* (0.000)	0.0007* (0.000)	0.0008** (0.000)	0.0008** (0.000)
Below poverty line					0.0024 (0.002)	0.0025 (0.002)
Any health insurance					0.0063*** (0.002)	0.0067*** (0.002)
Any SSI income					0.1274*** (0.008)	0.1291*** (0.008)
Married (spouse present)					-0.0065*** (0.002)	-0.0060*** (0.002)
Education (0: <12 years)						
12 years					-0.0027 (0.002)	-0.0020 (0.002)
1–2 years college					-0.0067* (0.003)	-0.0065* (0.003)
4+ years college					-0.0065* (0.003)	-0.0061* (0.003)
No schooling					0.0164*** (0.003)	0.0167*** (0.003)
Employment (0: not in labor force)						
Unemployed					-0.0150* (0.007)	-0.0141* (0.007)
Professional					-0.0168*** (0.003)	-0.0160*** (0.003)
Service					-0.0180*** (0.002)	-0.0173*** (0.002)
Farm					-0.0266*** (0.005)	-0.0262*** (0.005)
Production					-0.0193*** (0.003)	-0.0188*** (0.003)
Observations	37,082	37,082	37,082	37,082	37,082	36,231
R-squared	0.0147	0.1593	0.1594	0.1608	0.1704	0.1665

Source: Authors' analyses of IPUMS data, available at <https://ipums.org/projects/ipums-usa/d010.v8.0>, and ICE Secure Communities data, in the author's possession.

Note: Standard errors are in parentheses. Sample reflects residents in metro areas with Secure Communities program (2013–2016). Model 6 is limited to metros with 100+ Hispanics ( $N = 36,231$ ). Models 4–6 include detailed Hispanic-origin fixed effects.

\* $p < 0.05$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$ , † $p < 0.10$ .



to adverse working conditions. Having entered the United States since the Great Recession, Hispanic noncitizens in restrictive locations may have felt stuck in their jobs (East et al. 2018; Lofstrom, Bohn, and Raphael 2011). In response, exploitative employers (Valenzuela et al. 2006) may have exposed these employees to dangerous conditions at a higher rate with the expectation that noncitizens would keep injuries to themselves to avoid the threat of deportation (Berkes and Grabell 2018). Parallel research has documented how risk can translate to social suffering among farmworkers (Holmes 2013). Our study suggests a promising area of research regarding whether and how noncitizens in metro areas might likewise absorb the health costs of risky jobs: supplementary analyses reveal that the relationship between disabilities and deportations is especially pronounced among recent metro arrivals working in the service sector.

Second, recent arrivals may have also experienced dangerous conditions en route to the United States. Ethnographic research on the health risks of crossing the U.S.-Mexico border (Holmes 2013; Jusionyte 2018a) suggests that border crossers must contend with increasingly hazardous obstacles along the way. As Abby Wheatley notes in Chapter 13, the politics of survival continue even after arriving north of the U.S.-Mexico border. If leaving or fleeing one's country of origin has become not only a difficult but a hazardous decision, then we need to understand the premigration, migration, postmigration, and (among deportees reentering the United States, as examined by Amelia Frank-Vitale in Chapter 11) remigration decisions and circumstances of those who cross the U.S.-Mexico border or bypass traditional ports of entry to settle in U.S. metro areas.

Our results suggest an immigrant advantage in reported disabilities partially waned. The advantage may have eroded at a slightly faster pace in metro areas with high cumulative deportation rates than in metro areas with low deportation rates. Left unchecked, disabilities among recent non-citizen arrivals may rise further. Just as others have suggested that deportations can diminish immigrants' accumulated social capital (Hagan, Leal, and Rodríguez 2015; Rugh and Hall 2016), we likewise call attention to the implications of investing in mass deportations at the expense of immigrant health. In the long term, the social effects of enforcement can further erode health in ways we have only begun to reliably measure. For example, if finding safe passage to the United States—and a safe job once in the United States—became more difficult as deportations rose, then recently arrived noncitizens may find that they can ill afford to support their networks of friends and family, including older immigrants who are especially vulnerable to isolation. In addition, by exposing immigrants to infectious disease, COVID-19 can accelerate health inequalities among immigrants who are deemed essential and also concentrated in precarious labor with little or no

access to health care. By continuing to detain and expel noncitizens amid the pandemic, U.S. immigration officials contribute to the spread of COVID-19 among noncitizens in U.S. custody as well as in deportees' countries of origin. In the evolving context of mass deportations and a global pandemic, deportations may have only begun to take a toll on health in immigrant communities.

## NOTES

1. Convention when referring to individuals identifying as "Hispanic" has moved to using "Latino" or "Latina/o" or, more recently, "Latinx." Notwithstanding debates regarding such pan-ethnic labels, and since variation by either sex or gender are not the primary focus here, the chapter uses "Hispanic" to refer to people who—when surveyed by the U.S. Census—identify as "Hispanic, Latino, or other Spanish" culture or origin, regardless of race.

2. Evidence of a HEP is not unequivocal (Camacho-Rivera et al. 2015; Markides and Gerst 2011; Lum and Vanderaa 2010; Tarraf et al. 2020).

3. Such bias appears particularly applicable to Mexican immigrants (Palloni and Arias 2004) but may not apply to other Hispanic groups (Abraido-Lanza et al. 1999) or play only a limited role in accounting for the HEP in outcomes such as mortality (Turra and Elo 2008).

4. The data are available through IPUMS, at <https://ipums.org/projects/ipums-usa/d010.v8.0>.

5. As a check to ensure we are measuring cumulative disadvantage in a sensible way, we also predict whether individuals report three or more disabilities.

6. We conduct separate analyses to determine whether the results differ when we include a small share (8 percent) of residents that moved to a different county in the same state.

7. During this time period and in metro areas with Secure Communities, multiple disabilities were also inversely related to deportation context for other groups (e.g., Native Americans, Asian U.S. citizens). Asian noncitizens reported multiple-disability rates (3.29 percent) similar to Hispanic noncitizens, but these did not differ across deportation contexts.

8. Since the average annual increase in cumulative deportations (for this sample) was 0.215 and the mean disability rate for the same sample was 0.023 (2.3 percent), then the relationship between deportations and multiple disabilities (Beta: 0.0036; caution:  $p$ -value = 0.066) equals  $(0.215 \times 0.0036)/0.023 = 0.034$ , or 3.4 percent. This estimate is lower than the predicted 4.1–6.9 percent rise in likelihood of multiple disabilities predicted in models 1 through 5, or about half when comparing model 1 (with no covariates) and the final model (3.4 percent compared to 6.9 percent). In the context of the literature on enforcement, the results resemble the relationship between enforcement and poverty: heightened enforcement predicts a 4 percent rise in the likelihood of living in poverty among U.S.-born children with likely unauthorized parents (Amuedo-Dorantes, Arenas-Arroyo, and Sevilla 2018).

9. We conducted a number of robustness checks. The above results exclude those who moved and crossed county lines, but excluding them may bias our estimates toward zero if noncitizens vulnerable to health hazards leave high-deportation-rate areas. Among intra-state movers, we assign these residents their state-level deportation rate. The association

between deportations and disabilities remains about the same when we include these residents (3.6 percent). Furthermore, we also employed Bayesian multilevel models with random effects for year and metro area. On the basis of those results, rising cumulative deportation rates appear to be a marginally positive predictor of multiple disabilities. Similar in magnitude to the above results, the expected mean increase in odds of multiple disabilities is about 5 percent per 1-unit increase in the cumulative deportation rate.

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