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Article

A social determinants framework identifying state-level immigrant policies and their influence on health

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ABSTRACT

Background: Many conceptual frameworks that touch on immigration and health have been published over the past several years. Most discuss broad social trends or specific immigrant policies, but few address how the policy environment affects the context of settlement and incorporation. Research on the social determinants of health shows how policies across multiple sectors have an impact on health status and health services, but has not yet identified the policies most important for immigrants. Understanding the range and content of state-level policies that impact immigrant populations can focus health in all policies initiatives as well as contextualize future research on immigrant health.

Methods: Our framework identifies state-level policies across five different domains that impact the health of immigrants and that vary across states, especially for those without legal status. Our scan shows that immigrants are exposed to different contexts, ranging from relatively inclusive to highly exclusive; a number of states have mixed trends that are more inclusive in some areas, but exclusive in others. Finally, we examine how the relative inclusiveness of state policies are associated with state-level demographic and political characteristics.

Results: Contrary to the image that exclusive policies are a reaction to large immigrant populations that may compete for jobs and cultural space, we find that the higher the proportion of foreign born and Hispanics in the state, the more inclusive the set of policies; while the higher the proportion of Republican voters, the less inclusive.

Conclusions: Variation across immigrant policies is much larger than the variation in state demographic and political characteristics, suggesting that state-level policies need to be included as a possible independent, contextual effect, when assessing immigrant health outcomes. This policy framework can be particularly useful in bridging our understanding of how large macro processes are connected to the daily lives and health of immigrants.

1. Introduction

In the United States, policies in each state increasingly affect the lives of the nation's 22.4 million noncitizens and, in particular, the 11 million who are undocumented (Zong & Batalova, 2016). In 1996, the federal Illegal Immigration Reform and Immigrant Responsibility Act (IIRIRA) and the Personal Responsibility and Work Opportunity Reconciliation Act (PRWORA) gave states increased discretion over policies that determine the rights and public program eligibility of

noncitizens (Bitler & Hoynes, 2011; Fragomen, 1997). While the federal government retains sole authority over immigration law (who can enter the country and their legal status), immigrant laws and policies affecting noncitizens' health care access, education, workplaces, and more are also determined by state-level legislation and regulations (Motomura, 2014; Wallace & Young, 2018). The growing body of knowledge on social determinants of health shows that policies across multiple sectors have an impact on well-being (Apouey, 2013; Marmot & Jessica, 2014; Phelan, Link, & Tehranifar, 2010; Shi, Tsai, & Kao,

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2009); the health in all policies approach emphasizes that non-health policies have an impact on population health (Rudolph Linda, Connie Mitchell, Karen Ben-Moshe, & Lianne Dillon, 2013). State-level immigrant policies can extend rights and programs to categories of immigrants otherwise excluded by federal policies, providing them access to critical safety net resources, or they can reinforce federal policies and establish state rules that restrict immigrant rights or program eligibility, further marginalizing low-income immigrant communities. More than any single policy or program, it is a state's combination of policies that shape the context of settlement and incorporation, and reinforce attitudes towards immigrants. Within the different policy contexts across US states, immigrants may be included through extended social and economic rights, such as the ability to pursue higher education, or excluded by lack of protections, such as in the workplace, or excluded through discrimination and active surveillance and enforcement by local law enforcement (Almeida, Katie, Pedraza, Wintner, & Viruell-Fuentes, 2016; Flores, 2010; Kline, 2017). As a result, the determinants of immigrant health vary across states.

The relationship between immigrants' legal status and health has increasingly become a topic of public health concern (Castaneda et al., 2015; Hardy et al., 2012; Martinez et al., 2013; Menjivar & Kanstroom, 2014; Torres & Young, 2016; Young & Pebley, 2017). For example, studies have found that undocumented immigrants, compared with citizens and documented immigrants, are less likely to have health insurance and receive timely preventative or, in the case of pregnant women, prenatal care, and are more likely to experience depression or psychological distress (Arbona et al., 2010; Korinek & Smith, 2011; Ortega et al., 2007; Potochnick & Perreira, 2010; Roche, Vaquera, White, & Rivera, 2018; Rodriguez, Bustamante, & Ang, 2009; Stevens, West-Wright, & Tsai, 2010; Vargas Bustamante et al., 2012). While undocumented immigrants are in a position of unique vulnerability (Quesada, Hart, & Bourgois, 2011), other noncitizens may also experience worse outcomes compared with citizens. One study found that Lawful Permanent Residents, who lack full citizenship, experienced worse health in later life than their counterparts who had naturalized (Gubernskaya, Bean, & Hook, 2013). Another found a greater likelihood of depression and psychological distress among all noncitizens, compared with naturalized and US born citizens (Gee, Morey, Walsemann, Ro, & Takeuchi, 2016). In addition, there is evidence that citizens who are in mixed status families, such as US born children with undocumented parents, experience worse outcomes compared with other citizens, such as lower rates of insurance and poor developmental outcomes (Stevens et al., 2010; Yoshikawa, Godfrey, & Rivera, 2008). This growing body of research suggests that the stratification by citizenship and legal status is associated with varying levels of inequality or marginalization – and health disparities – among immigrant populations (Torres et al., 2016).

The differences between citizens and noncitizens, and between documented and undocumented noncitizens, vary across place and context. Each legal status – and how it might affect well-being – is shaped by the differential policies that grant rights and opportunities to those who are not citizens (Gee & Ford, 2011; Motomura, 2007) and create inclusive or exclusive immigration climates. In states with more inclusive policies, noncitizens are treated more like citizens, with access to some of the same resources and protections that mitigate discrimination or concerns about enforcement and deportation (Motomura, 2007). In states with restrictive policies, as has been increasingly highlighted in health research, noncitizen groups are more likely to be uninsured and low income, as well as experience greater discrimination and racial profiling due to overall anti-immigrant climates (Anderson & Finch, 2014; Motomura, 2007; Rhodes et al., 2015; Young, Elena, Leon-Perez, Wells, & Wallace, 2017; Young, Elena, León-Pérez, Wells, & Wallace, 2018). While undocumented noncitizens face the most barriers, the policy context also influences the racialization of people of color who are documented or US born and who may experience racial profiling and discrimination despite their citizenship or

legal status (Arnold, 2007; García, 2017; Romero, 2011; Viruell-Fuentes, 2007).

Understanding the landscape of state immigrant policies is critical to understanding the factors that shape health among noncitizens and the potential variation in health across US states. To examine the role and influence of state immigrant policies in relation to the social determinants of health, we: 1) provide a framework for understanding immigrant policy as a social determinant of health, 2) apply the framework to measure and assess policies in each US state, and 3) examine state immigrant policies in relation to other state-level social determinants of health.

1.1. A framework of immigrant policy as a social determinant of health

State immigrant policies are laws, regulations, and court rulings within various areas of public policy that create differential rights and opportunities based on an immigrant's legal status or citizenship. Immigrant policies play a role at both the institutional and individual levels in the well-being of immigrants (Castaneda et al., 2015; Galeucia & Hirsch, 2016; Torres et al., 2016). They can work by shaping the broad social and economic conditions that immigrants are most exposed to, conditions that are generally recognized as social determinants of health (Marmot & Jessica, 2014). Immigrant policies may also have a more proximal impact in providing access to health care and other health related resources.

As shown in Fig. 1, immigrant policy, like other forms of public policy, has direct effects on many of the institutions where immigrants live and work. These institutions shape individuals' access to opportunities that promote health, such as educational advancement, or exposure to circumstances that may harm their health, such as being constrained to a segmented labor market where immigrants with low educational levels are limited to dangerous occupations (Braveman, Egerter, & Williams, 2011; Phelan et al., 2010). The overall set of policies that influence key institutions reflects and helps create an ideological context that can be characterized as a "climate" of settlement and incorporation for immigrants. The resulting climate shapes the racialization of people of color (García, 2017; Romero, 2011) and creates social and economic security or insecurity, promotes immigrants' certainty or uncertainty about their daily lives, and shapes their perspectives about the trustworthiness of public institutions (Massey & Sánchez, 2010).

Social determinants at the *institutional and systems* level are created by multiple social and economic structures that shape individuals' lives and life chances, from housing markets to workplaces to schools to the criminal justice system. These structures can produce inequitable conditions that result in disparate opportunities based on individuals' legal status, as well as other social categorizations such as race, class, or gender. At the *individual-level*, distinct and inequitable experiences of

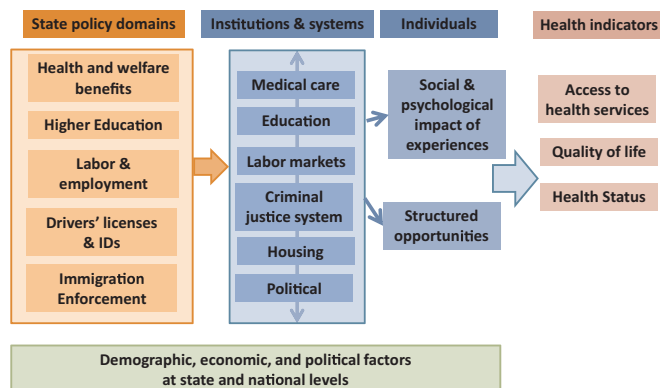


Fig. 1. A social determinants framework identifying state-level immigrant policies and their influence on health.

social structures also have a social and psychological effect on individuals as they navigate social and economic institutions, develop an identity, and make sense of their position in society (Rachel et al., 2016). This can create general stress and anxiety, as well as influence decisions about health behaviors and public service use.

State-level immigrant policies that affect the rights and opportunities of undocumented immigrants currently exist in five broad public policy domains: 1) public health and welfare benefits; 2) higher education; 3) labor and employment policies; 4) drivers' licenses and identification systems; and 5) immigration enforcement. Many areas of policy may have an impact on the health of communities (Rudolph et al., 2013), but it is within these five primary domains that state-level policy makers currently have discretion to create differential access and opportunities based on citizenship or legal status (Motomura, 2014).

The policies in these domains function to establish rights, eligibility and other criteria based on a person's citizenship or legal status and include or exclude undocumented and other immigrants through different social and institutional mechanisms. Some state policies explicitly exclude noncitizens by aligning with federal policies that bar individuals from resources or eligibility based on legal status. For example, the federal policy for funding Medicaid excludes coverage for the undocumented and requires a five year wait for Lawful Permanent Residents (LPR). Nineteen states retained these exclusions and offer no medical coverage for low-income pregnant women who are undocumented or recently arrived LPRs. In contrast, inclusive state policies proactively and explicitly opt individuals in, such the 15 states that extend Medicaid to LPR women without the five year wait, despite not receiving federal Medicaid matching funds for their care. An additional 17 states provide Children's Health Insurance Program (CHIP) through a federal option or other coverage to low-income pregnant women regardless of legal status or year of entry (2016). Many state policies are implicitly inclusive or exclusive by establishing requirements that are linked with legal status. For example, states that bar undocumented immigrants from obtaining driver's licenses do so by requiring forms of identification, such as a Social Security number, that the undocumented do not possess.

Public health and welfare benefits, access to higher education, and labor and employment protections directly affect access to health care and other social determinants of health (Braveman et al., 2011; Marmot & Jessica, 2014; Rudolph et al., 2013). Driver's licenses/identification and the federal immigration enforcement program, Secure Communities¹, represent two areas of immigration policy that have been under debate in recent years in many states that have a more indirect health impact. A driver's license provides an undocumented immigrant with mobility and identification that facilitates access to banking and other economic resources, including a different array of occupational opportunities. In contrast, policies such as Secure Communities required state and local law enforcement to collaborate with federal immigration authorities, creating a "chilling effect" that discourages immigrants from using public services and being in public places (Watson, 2010), in addition to increasing the fear and stress among undocumented immigrants and their families that can have health impacts (Arbona et al., 2010; Cavazos-Rehg, Zayas, & Spitznagel, 2007).

While immigrant policies tend to focus on a specific noncitizen group, such as the undocumented or LPRs with less than 5 years of residence in the US, there is evidence that the exclusion or extensions of rights of one noncitizen group has an impact on other noncitizens and individuals in mixed status families. For example, current immigrant policies exist within a broader national context of anti-immigrant climates, creating discrimination against noncitizens in general

(Esbenshade & Obzurt, 2008). There is evidence that restrictive policies targeting undocumented immigrants have a "spill-over" effect on documented noncitizens, as well as citizens in mixed status families (Martinez et al., 2013; Rhodes et al., 2015; Stevens et al., 2010; Yoshikawa et al., 2008). This may include undocumented parents being deterred from seeking services for their citizen children due to concerns about enforcement (Rhodes et al., 2015) and immigrants, regardless of legal status, experiencing racial discrimination in a variety of contexts (Anderson & Finch, 2014). In addition, immigrant policy climates place immigrants, and Latinos, in particular, in a position of "racialized legal status" where their race or ethnicity is conflated with being undocumented (Asad & Clair, 2017; García, 2017). Therefore, while any single policy has the most immediate impact on the group targeted, it also plays a role in shaping the overall context that impacts the experiences of others within a state, placing at social disadvantage both those who are undocumented and documented.

Further, immigrant policies across social, economic, and political sectors work together to shape outcomes for immigrants. Much of the recent research on immigrant policy and health has focused on single policies, such as local law enforcement cooperation with national immigration agencies; yet, policies have impacts across sectors and the combination of policies in each state together shape the overall environment of rights and opportunities of noncitizens even more so than any one set of policies. The accumulated effect creates a further synergy of negative perceptions of immigrants that is difficult to dispel. For example, in states that allow many undocumented residents to pay in-state tuition to public colleges, also offer access to a driver's license that allows young adults to better convert their increased access to higher education into better paying jobs that, in turn, will improve their economic well-being, their access to health insurance coverage, and other health-promoting opportunities (Potochnick, 2014; Rhodes et al., 2015). These policies, in turn, help the broader community benefit from an improved tax base resulting from higher levels of employment. Similarly, research suggests that experiences, such as stress due to legal status and living in an anti-immigrant environment, can have a life-long and cumulative negative impact (Torres et al., 2016). The fear of deportation, for example, can have a chilling effect that discourages immigrant women from seeking well-child medical care for their US-born citizen infants (Rhodes et al., 2015; Watson, 2010), which could lead to the delayed detection of illnesses or developmental problems (Yoshikawa et al., 2008). In turn, these problems may have deleterious effects on non-health outcomes, such as lower educational attainment. Thus, different areas of state-level public policy work directly, indirectly, and in synergy with each other to influence the opportunities and experiences of immigrants, producing inequitable conditions across different legal statuses and between states.

Immigrant policies may be interrelated with other structural and political factors within states. Research that examines the factors that drive immigrant policy indicate that the creation of policies results from social, economic and political forces within each state (Gulasekaram & Ramakrishnan, 2012; Marquez & Schraufnagel, 2013; Thangasamy, 2010). For example, some evidence suggests that policy makers opt for more restrictive policies in highly politically polarized states where policies that are anti-immigrant may be used as wedge issues by politicians or parties (Gulasekaram & Ramakrishnan, 2012). Other studies suggest that an increase in restrictive policies is associated with demographic changes, although not all states with exclusionary policies are new destination locations with highly visible recent immigration. Studies have variously identified anti-immigrant policies as also being associated with rapid increases in the immigrant or Latino population, with poor economic conditions where immigrants can be accused of competing for jobs with native-born residents, and with large numbers of older voters who may be concerned with social changes associated with immigration (Marquez & Schraufnagel, 2013; Myers, 2007; Thangasamy, 2010). As with the literature on the impact of immigrant policy on the health and welfare of immigrants, this literature on the

¹This immigration and customs enforcement program existed from 2008–2014 and was superseded by a similar program called the Priority Enforcement Program prior to being reinitiated in January 2017. See <https://www.ice.gov/secure-communities>.

determinants of immigrant policy tends to focus on predicting single policies or policies in a specific domain.

Overall, these policies define the different environments in which immigrants live throughout the nation's states. It is critical to understand the overall policy environment that influences the lives of immigrants, either directly on their health access and decision-making, or more indirectly, as it impacts social and economic structures.

2. Methods for measuring state immigrant policy and assessing its relationship to policy predictors

The above framework provides a conceptual approach to assessing the impact of policy at both individual and structural levels and the joint impact of multiple policies. To improve our understanding of the variation in immigrant policy environments across the US, we applied the framework to measure the policy environment in each of the states and the District of Columbia. We then conduct a descriptive analysis to examine patterns in the relationship between these environments and a selection of state characteristics that are both factors that may influence health and that may be associated with trends in immigrant policy-making.

2.1. Policy scan

To measure the policy environment across states, we conducted a scan of immigrant policies in the 50 states and the District of Columbia that were in effect by December 31, 2013. We selected a total of 11 policies in the five policy sectors: 1) public health and welfare benefits; 2) higher education; 3) labor and employment policies; 4) drivers' licenses and identification systems; and 5) immigration enforcement. Because of the changes in the structure of immigrant policy-making following PWORA and IIRRIA in 1996, the majority of these policies were enacted after this period. Policies were created through a variety of mechanisms, including legislation, voter initiative, state regulatory action (e.g., university Board of Regents), and court rulings. For the purposes of this review, we focused on the outcome of the policy – identifying whether or not the rights, protections, or eligibility were extended to noncitizens, rather than the specific policy-making mechanism.

As described in Table 1, we created indicators that identified an outcome for each policy which allowed us to determine if the policy existed (Yes) or did not exist (No policy) in each state. Each indicator outcome was coded as inclusive (1), exclusive (-1), or neutral (0) depending on its inclusionary or restrictive impact on immigrants' rights to programs and social protections. Policies were determined to be inclusive if they expanded a right or eligibility and exclusive if they restricted a right or eligibility based on immigrant legal status. Neutral impacts were those in which there was an intermediary level between two different restrictive and inclusionary policies and where the lack of a policy did not represent a proactive decision to exclude immigrants (e.g., state opposition to REAL ID is coded as inclusive, while the lack of a legislative resolution on the issue is coded as 0 since in this case no action is not the same as supporting the federal position).

We then determined if the policy existed in each state through a systematic review of publicly available policy reports (See Table 1) (NCSL, 2014a; NCSL, 2014b; NCSL, 2014c; NCSL, 2014d; NILC, 2013; NILC, 2014; Schumann, 2004; USDA, 2012). When needed, we verified the existence of a policy using direct searches in online state legislative or regulatory codes. To capture the overall state policy environment, we applied the coding scores to each state and calculated an aggregate score of the policies for each state, with a possible range of +10 to -8. The complete scoring and methodology is described elsewhere (Blinded). The score is an ordinal, rather than interval scale as existing research precludes weighting each policy for varying impacts on health.

2.2. State characteristics data set

To understand the extent to which immigrant policy contexts correspond with or are related to other state-level characteristics, we identified key measures of demographic, economic, and political characteristics based on the literature. State demographic and economic characteristics were the percent of the state that was foreign born, Hispanic, non-Hispanic White, over age 65, below 100% federal poverty threshold (FPL), and unemployed, each obtained from the 2014 American Community Survey, and percent undocumented, obtained from the Pew Hispanic Center (Passel & Cohn, 2016). The percent of votes won by the Republican presidential candidate in 2012 (Wooley & Peters, 2016) is used as a proxy for partisanship following the measure used in other research (Gulasekaram & Ramakrishnan, 2012).

2.3. Analysis plan

We conducted a descriptive analysis of the relationships between the state policy inclusion score and the state-level characteristics that are related to both social determinants of health and immigrant policymaking. We tested Poisson regression models with demographic, economic, and the political variables to assess the level of their association with the state immigrant policy context. For ease of interpretability we present results as incident rate ratios.

3. Results

The results show how we applied the immigrant policy framework (Fig. 1) to identify and measure state immigrant policy environments and examine their relationship to other state-level environments.

3.1. State immigrant policy inclusion scores

The mean score across all states was -2.5, with the possible range from -8 (a state with all exclusive and no inclusive policies) to 10 (a state with all inclusive and no exclusive policies) (Table 2). Most of the states with high scores (most inclusive) were expected, such as California and Illinois; however, Texas is also among the most inclusive states as a result of several inclusive educational and health policies. New York scored below Texas due to its inclusive health and welfare policies that were countered by mixed policies in other areas such as education. States with the lowest scores (most exclusive) included some that were expected, such as Alabama and Arizona, and some that were not, such as Ohio and Indiana. The state with the lowest score (most exclusive), Ohio, had two labor and employment policies that netted a score slightly above the lowest possible score of -8.

3.2. State immigrant policy and demographic, economic, and political characteristics

Table 3 presents the association between the inclusion score and state immigration demographics in (Model A), other demographics (Model B), economic indicators (Model C), and political characteristics (Model D). In the individual models, percent foreign-born ($\beta=0.07$, $p < 0.01$), percent Hispanic ($\beta=0.02$, $p < 0.01$), percent unemployed ($\beta=0.21$, $p < 0.01$), and Republican voting ($\beta=-0.02$, $p < 0.01$) were each associated with the state level of inclusion. The other state-level characteristics were not associated with inclusion scores in the domain-specific regressions.

In the final model (Table 3, Model E), the inclusion score was positively associated with the percent foreign-born and Hispanic in a state and negatively associated with percent Republican-voting. Model incident rate ratios (IRRs) indicate that, an additional percent of the state that was foreign-born (IRR=1.07, $p < 0.05$) is associated with a 7% increase in the inclusion score. A unit increase in the percent of the state that was Hispanic (IRR=1.02, $p < 0.05$) was associated with a 2%

Table 1
Policy scan areas, policy indicators, and coding.

Policy Areas	Policy Indicator	Exclusive (-1)	Coding Neutral (0)	Inclusive (1)
Policy Area 1: Public Health and Welfare Benefits	Does state provide low-income children Medicaid or SCHIP regardless of legal status? ^a	No policy	–	Yes
	Does state provide care to pregnant women regardless of legal status? ^a	No policy	–	Yes
	Does state count a prorated share of ineligible non-citizen income? ^b	No	–	Yes
Policy Area 2: Higher Education	Does the state provide tuition equity to undocumented students? ^c	No policy	–	Yes
	Does the state provide access to scholarships or financial aid for undocumented students? ^d	No policy	–	Yes
Policy Area 3: Labor and Employment	Does the state mandate employers use E-Verify? ^d	Yes	No policy	–
	Does the state prohibit employers from using E-Verify? ^d	–	No policy	Yes
	Does state include undocumented immigrants in the definition of employee? ^e	No	No policy	Yes
Policy Area 4: Drivers' Licenses and IDs	Does the state offer drivers' licenses for undocumented immigrants? ^f	No policy		Yes
	Does the state have a statutory opposition or resolution in opposition to compliance with REAL ID? ^f		No policy	Yes
Policy Area 5: Immigration enforcement	Does the state limit participation in Secure Communities? ^g	No policy		Yes

Sources:

- ^a Health Care Coverage Maps, National Immigration Law Center, Available at: <https://www.nilc.org/issues/health-care/healthcoveragemaps/>
- ^b Supplemental Nutrition Assistance Program State Options Report, United States Department of Agriculture, Food and Nutrition Service, 10th Edition (Aug 2012), Available at: https://www.fns.usda.gov/sites/default/files/10-State_Options.pdf
- ^c Undocumented Student Tuition: State Action, National Council of State Legislatures, Available at: <http://www.ncsl.org/research/education/undocumented-student-tuition-state-action.aspx#2>
- ^d E-Verify, Immigration Project, National Council of State Legislatures, Available at: <http://www.ncsl.org/research/immigration/everify-faq.aspx>
- ^e “Working in the Shadows: Illegal Aliens’ Entitlement to State Workers’ Compensation,” (2004) Schumann J, 89 Iowa Law Review pp 709–739^f States offering driver’s licenses to immigrants, Immigrant Policy Project, National Council of State Legislatures, Available at: <http://www.ncsl.org/research/immigration/states-offering-driver-s-licenses-to-immigrants.aspx>
- ^f State Legislative Activity in Opposition to the Real ID, Immigrant Policy Project, National Council of State Legislatures, Available at: <http://www.ncsl.org/documents/standcomm/sctran/REALIDComplianceReport.pdf>
- ^g “Inclusive Policies Advance Dramatically in the States,” (2014) National Immigration Law Center, Available at: <https://www.nilc.org/wp-content/uploads/2016/02/inclusive-policies-advance-in-states-2013-10-28.pdf>

Table 2
State immigrant policy inclusion scores by state.

Score	States with score
9	California
7	Illinois
4	Washington
2	Colorado, Texas
1	District of Columbia, Minnesota, New Mexico, New York
0	Oregon
-1	Connecticut, Maryland, Massachusetts, Michigan, Oklahoma, Rhode Island,
-2	Arkansas, Hawaii, Utah, Nevada,
-3	Florida, Louisiana, Montana, Nebraska, New Jersey, Vermont, Wisconsin
-4	Alaska, Maine, New Hampshire, North Dakota, South Carolina, South Dakota, Tennessee
-5	Delaware, Georgia, Idaho, Iowa, Kansas, Kentucky, Missouri, North Carolina, Pennsylvania, Virginia, Wyoming
-6	Alabama, Arizona, Indiana, Mississippi, West Virginia
-7	Ohio

Mean score: – 2.5; Median score: – 3

increase in inclusion score. Finally, a unit increase in the percent of Republican voters in 2012 (IRR = 0.98, p < 0.05) was associated with a 2% decrease in inclusion score.

4. Discussion

Our framework fills gaps in existing conceptualizations of the social determinants of immigrant health. Most frameworks focus on specific macrosocial drivers of immigrant health and social position, such as the intersection of legal status and race (e.g., Asad and Clair), the impact of immigration-related discrimination on health (e.g., Viruell-Fuentes et al., 2007) or structural vulnerability (e.g., Quesada, et al., 2011);

these frameworks lay out social processes, but do not identify the actual mechanisms that create and reproduce those vulnerabilities. While a fundamental cause analysis (e.g., Phelan et al., 2010) focuses on how the resources individuals have to maintain health/ treat disease are stratified by a person’s position in society (especially by class and race), our framework provides additional insights by highlighting the network of state-level public policies domains that shape the life chances for immigrants in particular. Our framework fits between the broader structural theories (e.g., racism and health) and more local process studies of how institutional practices impact immigrants’ health by highlighting the way that governmental action (public policies) directly and indirectly shapes social inclusion and exclusion specifically of immigrant populations by creating a web of policies across institutions and systems that constitute a context of settlement and immigrant incorporation. While a body of research documents how multiple non-health policies impact health (Collins & Koplan, 2009), to our knowledge no one to date has brought this type of analysis to focus on the policy domains that shape the life chances specifically of immigrants.

While federal immigration law sets the policy stage, state immigrant policies create differential access to rights and opportunities based on an individual’s citizenship and legal status. Most research about the health impact of public policies on immigrants have focused on single policies (e.g., Medicaid coverage for undocumented children) or, at best, sectors (e.g., enforcement). Some research limits their analysis to legislatively enacted laws (Wills & Commins, 2018), but we also include administrative actions and court decisions that create policies that are experienced by immigrants, both documented and undocumented.

The strength of our approach is that we focus the typical health in all policies framework on the multiple sectors that uniquely shape the context in which immigrants live and their position in each US state based on their citizenship and legal status. State immigrant policies are, therefore, a key component of the social determinants of immigrant

Table 3

Poisson regression models testing the association between state policy inclusion score (continuous) and 2013 state (A) immigration, (B) demographic, (C) economic, (D) 2012 political, and (E) combined characteristics.

	Model A		Model B		Model C		Model D		Model E	
	IRR	95% CI	IRR	95% CI	IRR	95% CI	IRR	95% CI	IRR	95% CI
Immigration										
% Foreign Born	1.07 [*]	1.04–1.1							1.03 [*]	1.009–1.06
% Undocumented	0.97	0.87–1.09								
Demographic										
% Hispanic			1.02 [*]	1.01–1.04					1.02 [*]	1.009–1.03
% White			0.99	0.99–1.0						
% Over age 65			0.93	0.87–1.0						
Economic										
% Below 100% FPL					0.96	0.91–1.01				
% Unemployed					1.23 [*]	1.05–1.43			0.94	0.82–1.07
Political										
% Voted Republican in 2012							0.98 [*]	0.96–0.99	0.98 [*]	0.97–0.99

Sources:

Data on state policy inclusion produced by authors' policy scan

Data on foreign born, Hispanic, White, over age 65, below Federal Poverty Level (FPL), and unemployed population from the 2014 American Community Survey

Data on undocumented population from [Passel and Cohn \(2016\)](#)

Data on Republican voting in 2012 from The American Presidency Project (<https://www.presidency.ucsb.edu/statistics>)

* p < 0.05

health. This framework and measures identify the sectors in which states currently have discretion to enact policies and establishes a definition for immigrant policy as public policies that shape the rights, protections, and eligibility of noncitizens. This provides a foundation for future research to assess the variation in specific health outcomes across these distinct policy environments. It can also be used to continue to assess and measure changes in state policy contexts, either as additional states adopt current policies or as new policies emerge.

Our policy scan confirms that the nation is made up of varied contexts for noncitizens, as each state has a unique combination of policies. People are exposed to multiple policies simultaneously, making a composite measure of the policy context conceptually more accurate as a contextual factor than any single policy indicator. As the distribution of scores shows, states can be relatively inclusive in some areas (e.g., education), but exclusive in others (e.g., health and welfare). These policies shape the conditions under which immigrants can access services, the level of receptivity to immigrants (or lack thereof) by different institutional resources, the way that these policies and the publicity about them create a social climate that impacts the level of immigrant engagement in their community, and the resultant level of overall stress and vigilance required by immigrants when such policies are not inclusive. In general, the higher the proportion of foreign born and Hispanics in the state, the more inclusive the set of policies. While unemployment is associated with more exclusive policies by itself, this rapidly changing economic indicator was not significant when tested jointly with the political and demographic variables. But these associations are relatively modest.

Our findings also indicate that state immigrant policies are subject to unique dynamics, independent of other state factors. For example, Texas is recognized nationally for its restrictive immigrant policies. Simultaneously, it has some inclusive policies for reasons not entirely related to its large Hispanic and immigrant populations (that favor inclusive policies), such as support for unborn child policies that favor prenatal care for all women regardless of legal status ([Gray, 2008](#)). In contrast, Ohio does not have a reputation of immigrant hostility, leading us to expect more moderate immigrant policies than its last place showing. While being a swing state in presidential elections, suggesting a moderate electorate, it has a supermajority of Republicans in both legislative houses and a Republican governor ([Jacobson, 2013](#)), as well as a relatively small proportions of immigrants and Hispanics. This pattern of findings may seem counterintuitive at first, since

exclusive policies are often viewed as a response to changing demographics ([Myers, 2007](#)). By 2013, however, the immigration wave of the 1990s had become an established population in many key states (e.g., California and New York) and policies had evolved to be responsive to those large populations that included families with a growing number of voters and businesses that relied on their labor. As a result, the most exclusive policies (e.g., where exclusive policies impact relatively powerless groups that few businesses rely upon) are now often in states with relatively small immigrant populations; Florida and Arizona are notable exceptions where the politics appears to be more important than demographics. These variable trends, and even more so the exceptions to the trends, of inclusion in some states demonstrate the importance of examining multiple policies, and not assuming that a single policy or sector reflects the complete landscape of policies that impact both social determinants, and in turn, health.

The independence of inclusive immigrant policies from common economic indicators indicates that the policies are also not simple proxies for other social determinants of health, such as economic climate. The inclusion score is modestly associated with the size of the immigrant and the Hispanic population, and inversely associated with a larger Republican-leaning electorate as expected. Other factors suggested, including a larger elderly population and poor economic conditions, are not associated with the composite score. This does not mean that individual policies are not passed in response to some of these circumstances, but rather that the overall set of policies is independent of a single indicator in these areas.

State immigrant policies in the sectors of public health and welfare benefits, higher education, labor and employment, drivers' licenses and identification, and immigration enforcement will continue to change and shape the lives of immigrants. While there have been periods of high and low policy activity around immigrants in the past, the election of President Trump has made federal policy on undocumented immigrants harsher and more exclusive ([Kulish et al., 2017](#)), which has in turn led to an increased level of policy activity from states and localities on immigrant benefits and rights. For example, in the last two years, California state policy makers have expanded policies that limit state law enforcement agencies from collaborating with ICE, while Texas passed a bill to mandate this collaboration ([McHugh, 2018](#)).

In addition, even in inclusive states the increasingly anti-immigrant climate nationally may contribute to immigrants' heightened vigilance and avoidance of available opportunities. For example, the proposal to

expand the public programs that count as a “public charge” would make it more difficult for unauthorized immigrants to regularize their status or LPR immigrants to sponsor relatives to immigrate legally. This would be a highly visible and consequential federal policy change that would heighten the national exclusionary context (KFF, 2018). The sweeping impact of that change could motivate new types of state policies and approaches designed to moderate that national policy in ways that protect immigrant health.

Our framework can be used to track these types of policy changes and the resulting increase in disparities across states for immigrants in the overall policy contents. The organizations that we cite as the sources of most of our policy scan regularly update their information. Our two primary sources of information regularly update their policy scans: National Immigration Law Center has updated data on drivers’ licenses, higher education access, and health care coverage for children and pregnant women (NILC, 2014); the National Conference of State Legislatures publishes a summary of state legislation at the end of every year.

Local governments and institutions may also become increasingly important in creating policies for immigrants. Shortly after the election of President Trump, many cities and universities declared or re-committed themselves as “sanctuaries,” pledging varying levels of noncompliance with federal efforts to conduct immigration raids or arrests (Njmabadi, 2016; Sanburn, 2016). While sanctuary city policies cannot entirely preclude the presence of enforcement policy, they can mitigate the extent to which ICE is able to collaborate with local law enforcement agencies (Graber & Marquez, 2016). Localities may also play a role in the other policy domains we identified as well, including health care (e.g. through county hospitals), education (e.g. community colleges), identification (e.g. some communities have established local ID’s that unauthorized residents can obtain), and employment (e.g. conditions attached to city/county contracts).

While we have identified a set of policies that are likely to impact the health of undocumented and other immigrants, more research is needed to determine the extent to which policies, whether inclusive or exclusive, are implemented as written and the extent to which immigrants’ lives and actions are impacted by the presence of those policies. For example, reporting undocumented immigrants to Immigration and Customs Enforcement (ICE), if they file wage theft complaints, may be illegal retaliation in some states, but if the action is never prosecuted, then having the policy on the books is only symbolic. Similarly, immigrants may not access services for which they are eligible due to lack of knowledge regarding the services, lack of experience in accessing public services in the U.S., concerns over issues of public charge, and fears of deportation. On the other hand, state policies may be mitigated somewhat by community groups that develop ways to partially work around exclusive policies. For example, most states do not provide state-funded college financial aid to undocumented students who graduated from high school there, but community advocates can help identify alternative funding sources, such as private foundations or individual donors, to support college attendance (MALDEF, 2016). Similarly, there are examples of local advocacy by community organizations and individuals to protect immigrants from enforcement actions, such as a local newspaper reporter in Atlanta who updates information on ICE locations to Facebook and has 250,000 followers (Yee & Vivian, 2017).

Studying how immigrants and providers navigate these environments also needs further inquiry to ascertain how mixed policy environments impact social determinants of health, and in turn, health outcomes. We expect that more inclusive policy environments not only promote improved access to medical care, but that both physical and mental health outcomes among immigrants will be better over the long-term.

This study has some limitations that should be noted. The inclusion score is designed to show relative inclusiveness, rather than the level of absolute inclusiveness. There are policies within the five areas in our

framework that we did not include because of a lack of state-level variation that nevertheless are likely to impact social determinants of health for undocumented immigrants, such as their exclusion from housing subsidies, ineligibility for food stamps, and inability to buy health insurance on the state health exchanges. In addition, because we relied on existing policy and legal sources as our first source of information on policies, there may be policies within the five areas that were not included, such as enforcement policies requiring that police determine legal status when stopping or arresting individuals or labor policies that protect employees from immigration-related employer retaliation. In addition, our scan is limited to policies enacted but without information on the precise scope of the policies or extent of their implementation. For example, the financial threshold for Medicaid eligibility varies by state, yet we only code whether Medicaid was extended to LPRs in their first five years. In some states this will cover a greater proportion of the recent immigrant population than others. Similarly, as noted above, we have no data on how vigorously states enforce their policies. We believe, nevertheless, that our inclusion score appropriately indicates representative policies across the five domains and provides an accurate summary of the variation in the overall policy environment that immigrants will experience.

5. Conclusions

It is increasingly accepted that health depends on the quality of the environments where people are born, grow up, live, work, and age—the social determinants of health. State-level policies that differentially impact undocumented and other immigrants should be considered a social determinant of health for that population. Our framework highlights policy sectors that have particular relevance for immigrants, their families, and their communities; demonstrates that there is significant variation by state in these policies that are not largely explained by other state-level characteristics; and promotes an intersectoral approach to understanding how immigrant specific contextual factors can mediate broader social determinants of health (e.g., racism, class inequality).

This study documents that a significant number of immigrant-health related state policies currently exist across different institutional sectors, that there is significant variation among states in those policies, and the policies cannot be fully represented by the demographic or political characteristics of the state, nor resources available. Researchers need to consider the health impact of a wide variety of non-health-related policies and the cumulative impact of those policies on residents who were born abroad, regardless of immigration and legal status, to adequately understand the social determinants of immigrant health.

Declarations of conflict of interest

None.

Declarations of interest

None.

Ethics statement

The authors adhere to the ethics in publishing policy. This study involved data on US states and does not include any data on individual persons.

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