

Effects of the 2016 US Presidential Election and Racialized Policing on Mental Health among Latinx in Connecticut by Documentation Status: A Mixed Methods Research Project Integrating Findings from Electronic Health Record Data and Patient/Participant Voices

by

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DEDICATION

For my mother, Minakshi, and in memory of my father, Pratap.

Without your courage and your sacrifices, my dreams would not be possible.

Your distinctive history is my inherited legacy.

Thank you.

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LIST OF ACRONYMS

ACA	Affordable Care Act
CBP	Customs and Border Protection
CHCI	Community Health Center, Inc.
CT	Connecticut
DACA	Deferred Action for Childhood Arrivals
DALY	Disability adjusted life years
DSM-IV	Diagnostic and Statistical Manual of Mental Disorders (4 th edition)
EHR(s)	Electronic health record(s)
EO(s)	Executive order(s)
FQHC(s)	Federally Qualified Health Center(s)
FBI	Federal Bureau of Investigation
GVIF	Generalized variance inflation factor
HIT	Health information technology
HITECH	Health Information Technology for Economic and Clinical Health
ICE	Immigration and Customs Enforcement
ITIN	Individual tax identification number
KPT hit-rate	Knowles, Persico, and Todd hit-rate
MAR	Missing at random
MCAR	Missing completely at random
MNAR	Missing not at random
OMB	Office of Management and Budget
PHQ-2	Patient Health Questionnaire-2
PHQ-9	Patient Health Questionnaire-9
RA(s)	Research assistants
SDH	Social Determinants of Health
SEP	Socioeconomic position

SES	Socioeconomic status
SSN(s)	Social security number(s)
TRUST Act	Transparency and Responsibility Using State Tools Act
UM	University of Michigan
US	United States
USD	United States Dollar
VIF	Variance inflation factor
WHO	World Health Organization
YDL	Years lived with disability
YLL	Years of life lost

ABSTRACT

This dissertation addresses gaps in knowledge about the effects of the 2016 US presidential election and racialized policing on mental health among Latinx residents of Connecticut by documentation status and when compared to non-Latinx White residents. In partnership with a federally qualified health center (FQHC) and for the quantitative strands, this convergent parallel mixed methods research project leveraged data from electronic health records (EHRs). Data related to racial and ethnic profiling practices by police were leveraged from a statewide study. Primary data were collected for the qualitative strands through in-depth interviews with Latinx participants.

The use of EHR data for empirical research raises important considerations, particularly with respect to navigating practical problems with population representativeness, data capture, data accuracy, and data completeness. First, I describe challenges encountered in working with the EHR database associated with data on race and ethnicity, documentation status, depression screeners, and missing data, including the capture/operationalization of the variables in the EHRs, challenges faced with the interpretation of results, and strategies implemented to address those challenges. Informed by lessons learned, I offer recommendations for FQHCs to support improvements in data collection processes and for researchers interested in using EHR data for empirical research (Study 1 | Chapter II).

Next, I examine the effect of the anti-immigrant environment under the Trump administration on Latinx mental health (Study 2 | Chapter III). Findings from the quantitative strand of the cross-sectional study suggest that undocumented Latinx immigrants had significantly lower depression scores relative to documented Latinx and non-Latinx Whites and that any changes in depression scores pre- and post-election were nominal among study populations. Findings from the qualitative strand suggest that (a) the election may have had an impact on anxiety, fear, and stress (versus depression) among undocumented Latinx immigrants; (b) abiding restrictive immigration- and enforcement-related policies and laws linked to documentation status may have a sustained impact on mental health relative to overt temporal immigration enforcement or rise in anti-immigrant rhetoric; and (c) sanctuary states may play a role in buffering the impact of federally sponsored anti-immigrant policies and laws.

Finally, I examine the effect of racialized policing on Latinx mental health (Study 3 | Chapter

IV). Findings from the quantitative strand of the cross-sectional study suggest that undocumented Latinx had lower depression scores compared to documented Latinx and non-Latinx Whites, independent of policing practices in towns/cities of residences. Findings from the qualitative strand suggest that among undocumented immigrants (a) interactions with police may have an impact on anxiety, stress, and trauma (versus depression); (b) the potential for negative interactions with police during heightened local immigration activities are chief concerns; and (c) the mental health implications of interactions with the police are often grounded in racialization processes, the resulting racism and associated discriminatory practices.

Though not without limitations, collectively the findings suggest a number of persistent, socially determined conditions that shape the lived experience of Latinx in the US, with implications for their mental health and well-being. The findings also suggest that public health interventions can be undertaken at the institutional, community, and policy levels to promote mental health among US-based Latinx individuals, including undocumented immigrants, as detailed within.

CHAPTER I

Introduction

From its inception, the history of the United States (US) is inextricably linked to immigration. Over time, the source countries have shifted from those in Europe and Canada to those in Latin America, South and East Asia, Sub-Saharan Africa and the Middle East (Radford & Krogstad, 2019; Radford & Noe-Bustamante, 2019). These historical shifts have been underscored by varying levels of promoting, regulating, controlling, and restricting immigration by the US government through a compilation of immigration policies and legislative initiatives (Hilfinger Messias, McEwen, & Boyle, 2015; Pew Research Center, 2015).

As of 2017, accounting for 13.6% of the nation's population, there were 44.4 million immigrants with differing immigration statuses residing in the United States: 77% *lawful* immigrants (45% naturalized citizens, 12.3% permanent residents, 5% temporary residents) and 23% unauthorized/undocumented (*illegal*) immigrants¹ (Batalova & Alperin, 2018; Radford, 2019; Radford & Krogstad, 2019). More than 50% of immigrants in 2017 had origins in Latin America (Radford & Krogstad, 2019). Self-identified Latinx² – foreign-born and US-born – comprised 18% (60 million) of the total US population (Noe-Bustamante & Flores, 2019), accounted for 38% of those who had immigrated to the US within the last 5 years (Radford & Krogstad, 2019), and constituted the highest share (78%) of undocumented immigrants (Passel & Cohn, 2019). Moreover, two-thirds of the undocumented immigrants had resided in the country for 10 years or more (Krogstad, Passel & Cohn, 2019).

Empirical research demonstrates that despite their relative low rank in indicators of socioeconomic position (SEP) (e.g., education, income, wealth), Latinx in the US, *as an aggregate group*, tend to have health outcomes (e.g., infant mortality, cancer, cardiovascular

¹ Undocumented immigrants are defined as foreign nationals who lack legal authorization to be in the United States. These individuals either entered the United States without undergoing required immigration procedures or entered the United States on a temporary visa and overstayed the expiration date of the visa.

² Within the US context, the demonym Latino/a represents persons from Mexico, countries in Central and South America, the Spanish-speaking Caribbean (i.e., Cuba, Puerto Rico, Dominican Republic). For the purposes of this paper, the term Latinx is the gender-neutral neologism being used to represent people of Latin American cultural and ethnic identities in the United States.

disease) that are comparable to, or in some cases better than, their US non-Latinx White counterparts (Abraido-Lanza, Dohrenwend, Ng-Mak, & Turner, 1999; Cortes-Bergoderi et al., 2013; Hummer, Powers, Pullum, Gossman, & Parker Frisbie, 2007; Philips, Belasco, Markides, & Gong, 2013). Empirical evidence, however, also suggests that the observed health advantages for Latinx in the US decline by immigrant generation, and, for Latinx immigrants, by length of time in the US (Vega, Rodriguez, & Gruskin, 2009).

Scholarship centered on interpreting the eventual declines in health outcomes, and the resulting health disparities in Latinx communities, has often invoked cultural explanations focused on the concept of acculturation (Berry, 2019; Cortes-Bergoderi et al., 2013; Olmedo, 1979). Central to this concept lies the assumption that as cultural behaviors, attitudes, values, and practices associated with the country of origin (i.e., in Latin America) are shed and those of the receiving country (i.e., US) adopted, individual or group health behaviors and health status worsen (Escarce, Morales, & Rumbaut, 2006). While the use of acculturation as a risk factor for poor health has been a mainstay concept in the examination of health outcomes among US-based immigrant groups, there are a number of limitations to this explanatory paradigm.

The persistent focus on culture-driven models squarely places the onus of culture on the individual or group and ignores the broader structural contexts that, by (re)producing social and economic inequalities, perpetuate inequities and disparities in health outcomes (Schulz & Mullings, 2006; Viruell-Fuentes, Miranda, & Abdulrahim, 2012; Zambrana & Carter-Pokras, 2010). By locating culture within individuals and cultural traits to group members of a particular group, culture-driven models embed the cause of health disparities within individuals and/or groups rather than in sets of social relations and fail to uncover the influence of political, economic, legal, and social conditions in the environment on quality of life, health risks, and health outcomes (Schulz & Mullings, 2006; Viruell-Fuentes et al., 2012; Zambrana & Carter-Pokras, 2010).

Culture-driven models also peripheralize the role of social determinants of health, disregard the effects of racialization processes, discount the influence of the wider political economic fields of power, history, and state, and omit the importance of “mutually constitutive and interconnected” (Schulz & Mullings, 2006, p.6) social categories such as race, class, gender, SEP, and immigration status on health outcomes (Minkler, Wallace, & McDonald, 1994; Viruell-Fuentes, 2007, 2011; Viruell-Fuentes et al., 2012; Zambrana & Carter-Pokras, 2010).

For contemporary immigrants and specifically those who are undocumented, a focus on individual or group culture-driven models may also fail to consider the socio-historical context of migration and the subsequent economic and social integration into the host country as factors that impact health outcomes. Thus, while culture may indeed play a role in shaping health outcomes, it is imperative to move beyond this myopic focus on individual or group culture-driven risk factors to identifying, understanding, and addressing the myriad attributes and constraints of the surround, the multifactorial contemporary and historical features of setting in everyday life, and their impact on Latinx health outcomes (Geronimus et al., 2016).

Moving away from individual or group culture-driven models, some scholars have more recently focused their critical, empirical inquiries on understanding the impact of upstream structural-, community-, and interpersonal-level factors on the health and overall well-being of Latinx. Extant Latinx health centered scholarship, however, has largely focused on US-born co-ethnics and lawful immigrants. Research related to the health and overall well-being of undocumented Latinx immigrants is steadily emerging in scholarship across multiple disciplines.

The health effects of restrictive immigration and enforcement related policies and laws on Latinx immigrants have recently come into acute focus through empirical research. The focus of this public health research has principally been on access to and utilization of health care and social services (Beniflah, Little, Simon, & Sturm, 2013; Castañeda & Melo, 2014; Marshall, Urrutia-Rojas, Mas, & Coggin, 2005; Nichols, Lebrón, & Pedraza, 2018; Ortega et al., 2007; Ortega et al., 2018; Rhodes et al., 2015; Toomey et al., 2014; Vargas, 2015).

Rhodes and colleagues (2015) found that, compared to non-Latinx mothers, Latinx mothers in North Carolina significantly delayed prenatal care after local police took responsibility for enforcing federal immigration laws (Rhodes et al., 2015). Similarly, following passage of an immigration enforcement bill in Georgia, Beniflah and colleagues (2013) observed that fewer Latinx patients presented to a pediatric emergency department. The authors did not observe similar changes among other ethnic groups in the study (Beniflah et al., 2013). Moreover, higher use of emergency departments by undocumented immigrants is well-documented in the literature. Thus, this finding has implications in terms of limiting overall access to healthcare. Enforcement of immigration laws in Arizona were also found to contribute to significant decreases in use of preventive health care and public assistance among Latinx adolescent mothers (Toomey et al., 2014).

Interior immigration enforcement activities, such as raids and deportations, have been found to negatively impact health care seeking behaviors, as well as health (Lopez et al., 2017; Nichols et al., 2018). Moreover, they have been associated with a heightened sense of fear in immigrant communities and led individuals to avoid interactions with public entities (Lopez, 2019; Pedraza, Cruz Nichols, & LeBrón, 2017; N. Rodriguez, Paredes, & Hagan, 2017). Past studies have overwhelmingly found fear of deportation to be a significant factor in avoidance of or delays in needed health care and social service services among Latinx communities (Baker & Chappelle, 2012; Doshi et al., 2022; Fleming, Lopez, et al., 2019; Konczal & Varga, 2011; Marshall et al., 2005; Rhodes et al., 2015; Vargas Bustamante et al., 2012).

This emerging research has mostly been conducted in states that have implemented grossly stringent anti-immigrant laws and policies (e.g., Alabama, Arizona, Georgia, North Carolina), in border communities (e.g., Michigan, California), or in the aggregate, that is, examination of multiple states through secondary analyses of national data (Beniflah et al., 2013; Fleming, Villa-Torres, Taboada, Richards, & Barrington, 2017; Hatzenbuehler et al., 2017; LeBrón et al., 2018; Toomey et al., 2014; Vargas Bustamante et al., 2012; J. S. H. Wang & Kaushal, 2019; White, Blackburn, Manzella, Welty, & Menachemi, 2014). Due to data and other methodological constraints, researchers, particularly those implementing quantitative studies, have often been unable to delineate the documentation status of participants in their respective studies and have centered their findings on Latinx (immigrants) more broadly.

Investigators have also turned their scholarly attention to the effects of a heightened anti-immigrant sociopolitical milieu during and following the 2016 United States presidential election on the health of Latinx. This milieu is characterized by an intensification of xenophobic and nativist rhetoric/sentiments, a proliferation of restrictive immigrant- and immigration-focused policies, and an amplification of enforcement of immigration laws at the interior and the border through racialized policing and other denigrating tactics (Bialik, 2018; Dickerson & Kanno-Youngs, 2019; Finley & Esposito, 2020; Finnegan & Barabak, 2018; Nixon, 2018; Pierce, 2019; Pierce, Bolter & Selee, 2018). This critical area of public health research, however, is incipient. Building on scholarship focused on understanding the effects of upstream structural- and community-level factors on the health of Latinx, the central focus of this dissertation is to advance knowledge about the effects of the heightened anti-immigrant milieu during and after the 2016 US presidential election, including implications of racialized policing, on mental health

of Latinx residents in Connecticut (CT) by documentation status, focusing on depression, a leading cause of disability worldwide. In the next section, depression is explored in greater depth including among Latinx by subgroups and in comparison to non-Latinx Whites.

Focus on Depression: Implications & Significance

Depression, a major contributor to the overall burden of disease and a leading cause of disability as measured by Years Lived with Disability (YLDs) and Disability Adjusted Life Years (DALYs)³, is on the rise globally with more than 264 million people affected (S. L. James et al., 2018; WHO, 2020). In 2017, an estimated 17.3 million adults (18 years or older) in the US had at least one major depressive episode (NIMH, 2019). Using results from the 2016 Global Burden of Disease study and after adjusting for age, Mokdad and colleagues (2018) found depression to be the second leading cause of YLDs and the ninth leading cause of DALYs among adults in the US, exceeding disability due to diabetes, certain cancers, stroke and asthma (Mokdad et al., 2018).

A complex interaction of social, psychological, and biological factors can predispose individuals to depression, result in substantial functional impairment that interfere with or limit one's ability to carry out daily tasks, and contribute to comorbid conditions. Risk factors for depression include personal and family history of depression, experience of adverse life events, trauma or stress, and the presence of certain physical illnesses, as well as the use of specific medications (NIMH, 2018). In the US, as elsewhere, mental health is not subjected to the same parity as physical health in terms of budgeting, medical education, and practice (WHO, n.d.a). Failure to detect and treat depression equitably among populations in the US has the potential to perpetuate mental health disparities and result in inordinate social, economic, and public health costs. Those costs can surpass expenditures affiliated with timely detection and treatment (Donohue & Pincus, 2007).

The World Health Organization (WHO) Constitution envisages "...the highest attainable standard of health as a fundamental right of every human being" (WHO, 2017). Moreover, within a rights-based framework, health is "a state of complete physical, *mental*, and social well-being and not merely the absence of disease or infirmity" (WHO, n.d.b). A rights-based approach

³ Years Lived with Disability (YLDs) are a measurement of the burden of disease and are calculated by multiplying the prevalence of a disorder by the short- or long-term loss of health associated with that disability. The burden of disease from mortality and morbidity can also be reported as disability-adjusted life years (DALYs). DALYs are calculated as the sum of Years of Life Lost (YLL) due to premature mortality and the Years Lived with Disability (YLD) in the population.

requires that the right to mental health be enjoyed without discrimination on the grounds of race, gender, age, ethnicity, sexuality, legal or any other status. Such an approach obligates nation states to advance the right to mental health through allocation of maximum available resources and compels them to prioritize those most at risk towards greater equity in health. However, in the United States this right is both differentially recognized and realized among residents within its borders, including undocumented Latinx who face significant obstacles to accessing health promoting resources and whose right to health, including mental health, is invariably violated.

In addition to human rights- and justice-based assertions, some scholars have underscored the high social, economic, and public health costs of depression. Using the National Survey on Drug Use and Health and administrative claims data, Greenberg and colleagues (2015) estimated the incremental economic burden of individuals with depression, specifically focusing on changes between 2005 and 2010. The authors found that between 2005 and 2010, the economic burden of depression in the United States increased by 21.5%, from \$173.2 billion to \$210.5 billion (Greenberg, Fournier, Sisitsky, Pike, & Kessler, 2015). Of those costs, 45%-47% were attributable to direct costs (medical and pharmaceutical services directly related to depression), 5% to suicide-related costs, and 48%-50% to workplace costs such as those described in the following paragraph (Greenberg et al., 2015).

The impact of depression on work impairment and disability is well documented. Individuals with depression, for example, have been found to lose an average of 5.6 hours of productive time at work per week compared to 1.6 hours in non-depressed workers (Stewart, Ricci, Chee, Hahn, & Morganstein, 2003). This results in an average of 225 million lost workdays and \$36.6 billion of salary equivalent lost productivity per year (Kessler et al., 2003). The association between depression and an increase in sick days has consistently been reported in the literature (Druss, Rosenheck, & Sledge, 2000; Stewart et al., 2003).

Depression has also been consistently reported to be associated with elevated morbidity and mortality, either as a causal risk factor or as a consequence of chronic physical disorders. Depression is significantly associated with cardiovascular disease, diabetes, hypertension, arthritis, chronic respiratory disorders, cancer, asthma, and a variety of chronic pain conditions (Anderson, Freedland, Clouse, & Lustman, 2001; Celano & Huffman, 2011; Chapman, Perry, & Strine, 2005; Derogatis et al., 1983; Dew, 1998; McWilliams, Cox, & Enns, 2003; Nemeroff, Musselman & Evans, 1998; Ortega, Feldman, Canino, Steinman, & Alegría, 2006; Wells,

Golding & Burman, 1989). These associations represent additional costs related to depression and have significant individual and public health significance. As a predictor of certain chronic conditions, depression leads to increased prevalence of those physical disorders, along with their human (e.g., impairments, increased mortality risk) and economic costs (Kessler, 2012). Conversely, as a consequence, comorbid depression is often associated with a worse trajectory of the physical disorder (Kessler, 2012). While multiple reasons may explain this latter association, nonadherence to recommended treatment regimens has been consistently documented in clinical samples (Mancuso, Rincon, McCulloch, & Mary, 2001; Peyrot & Rubin, 1997).

Perhaps the most significant consequence of depression is increased mortality. Depression is a risk factor for cardiovascular mortality due to stroke and heart attack among people with cardiovascular disease (Barth, Schumacher, & Herrmann-Lingen, 2004; Gump, Matthews, Eberly, & Chang, 2005; Lespérance, Frasure-Smith, Talajic, & Bourassa, 2002; van Melle et al., 2004). Individuals with depression have a high suicide risk and are eleven times more likely to attempt suicide than individuals without depression (Bostwick & Pankratz, 2000; Kessler, Borges, & Walters, 1999; Moller, 2003; Rihmer, 2007). Taken together, the direct and indirect social, economic, and public health costs of depression underscore the magnitude of its burden. The true burden, however, is likely underestimated as subtle costs such as strain on family members/caregivers and costs associated with those who remain untreated are generally unaccounted for (Kessler, 2012). Despite the availability of effective psychosocial and pharmacological interventions for depression, slightly more than half of adults with depression receive treatment and only a minority of them are adequately treated (Kessler et al., 2003; P. S. Wang, Simon, & Kessler, 2008). Data related to the treatment of depression among undocumented Latinx is woefully sparse. A heterogeneous body of literature, however, underscores copious barriers to health care, including mental health care, among undocumented Latinx and their US born co-ethnics.

Depression among Latinx

In their assessments of major depression among Latinx in the US, researchers have published mixed findings. Some investigators, for example, have reported that Latinx have higher levels of major depression compared to non-Latinx Whites (Dunlop, Song, Lyons, Manheim, & Chang, 2003), while others have reported lower levels of depression among Latinx (Breslau et al., 2006; Hasin, Goodwin, Stinson, & Grant, 2005; Riolo, Nguyen, Greden, & King,

2005) or no group difference (A. Hernandez, Plant, Sachs-Ericsson, & Joiner, 2005; Turner & Gil, 2002; Zhang & Snowden, 1999). The category “Latinx” encompasses a wide range of individuals and groups with very different trajectories and experiences. To more clearly understand the variations in depression across groups and contexts, a number of scholars have focused on intra-ethnic differences in the prevalence of depression (Alegría et al., 2008; Alegria et al., 2007; Vega, Sribney, Aguilar-Gaxiola, & Kolody, 2004). Thus, a review of existing literature on depression among Latinx in the US follows below, beginning with a comparison between Latinx and non-Latinx Whites and then moving to an examination of differences among groups clustered into the Latinx category.

Differential Risk for Depression: Latinx vs. non-Latinx Whites

Mendelson and colleagues (2008) conducted a meta-analytic review to assess lifetime prevalence of depression and current depressive symptoms in comparisons between Latinx and non-Latinx Whites in the US (Mendelson, Rehkopf, & Kubzansky, 2008). Data related to lifetime prevalence of depression were derived from eight community-based national and regional quantitative studies. Seven of the eight studies reported either lower lifetime prevalence of depression among Latinx compared to non-Latinx Whites (N=3) or no ethnic difference in prevalence (N=4) (Blazer et al., 1994; Breslau et al., 2006; Hasin et al., 2005; A. Hernandez et al., 2005; Riolo et al., 2005; Turner & Gil, 2002; Zhang & Snowden, 1999). The remaining study in their review (Dunlop et al., 2003), findings from which indicated a higher lifetime prevalence of depression among Latinx, assessed a sample of older adults (aged 54-65) unlike the other studies – see Appendix A. Overall, Mendelson and colleagues conclude that Latinx and non-Latinx Whites did not differ significantly with respect to lifetime prevalence of depression (Mendelson et al., 2008).

In their assessment of current depressive symptoms between Latinx and non-Latinx Whites, Mendelson and colleagues (2008) examined data from 23 community-based national and regional quantitative studies – see Appendix B. The authors found that Latinx experienced higher levels of current depressive symptoms compared to non-Latinx Whites (Mendelson et al., 2008). The magnitude of the difference between the two groups, although significant, was reported to be relatively small and thus not clinically meaningful (Mendelson et al., 2008).

Using data from the National Health and Nutrition Examination Survey 2007-2016, Brody and colleagues (2018) also reported that the prevalence of depression was not statistically

different between Latinx and non-Latinx White adults (Brody, Pratt & Hughes, 2018). Findings from these population-based studies on depression and depressive symptoms potentially contribute evidence to the Latino/epidemiologic paradox. That is, the findings suggest that despite the greater stress potentially associated with minority status, self-reported depression and/or depressive symptoms among Latinx in these studies were comparable to or lower than their non-Latinx White counterparts.

There are, however, some important considerations when interpreting the findings from the meta-analysis and the recent NHANES study. First, there were differences in the classification of depression and instrumentation across studies; in at least one study, lifetime prevalence of depression was the outcome of interest, while others examined current self-reports. Second, while most studies employed national or regional surveys, geographic variation was not considered in the analysis. Third, although these population-based studies lend insights, the most recent study among those considered for the meta-analysis was conducted in 2006, that is, at a time *distinct* from the sociopolitical milieu under consideration in this dissertation. Finally, while the recent NHANES study provides more current estimates, there may be potential for reporting bias with data collection procedures given that depression assessments were carried out by interviewers. Given these limitations, and as described in the following section, more thorough considerations of differential risk within and between Latinx subgroups by various characteristics, such as nativity, gender, age, generation/time in the US, as well as socio-contextual factors, demonstrate alternate presentations in the prevalence of depression and depressive symptoms.

Differential Risk for Depression: Latinx Subgroups

Although, in the aggregate, Latinx in the US have been reported to have outcomes related to depression and depressive symptoms that are comparable to, or in some cases better than (and as noted above, in some cases worse than), their US non-Latinx White counterparts, the consolidation of heterogeneous ethnic groups may potentially be misleading and reduce the value of epidemiologic data. Prevalence of depression, for example, has been found to be higher among US-born Latinx compared to foreign-born Latinx (Alegría et al., 2008; Alegria et al., 2007; González, Tarraf, Whitfield, & Vega, 2010); this finding, however, does not seem to hold in older age when depression among foreign-born ethnic groups has been found to exceed their US-born co-ethnic groups (González et al., 2010). Moreover, in addition to nativity, fluency in

English and length of time in the US have been found to predict a higher prevalence of depression (Alegria et al., 2007; Vega et al., 2004).

Empirical evidence also suggests that the prevalence of depression among Latinx varies by country of origin. For example, depression has been found to be higher among Puerto Ricans compared to Mexicans and Cubans (Alegria et al., 2007). Gender differences in depression and depressive symptoms have also been noted in current literature. Latinx women, independent of ethnic subgroup, appear to be significantly more at risk for both compared to Latinx men (Alegria et al., 2007; Hasin et al., 2005). Moreover, with the rapidly expanding number of Latinx in the US and the resulting increased interest in their health, scholars have also queried the role of various sociodemographic, immigration and contextual vulnerabilities (e.g., socioeconomic status (SES), discrimination, acculturation, violence, education) and assets (e.g., familism, social support, religiosity) on depression and depressive symptoms. More recently, as described in the following section, public health and other researchers have also focused their attention on immigration by examining the effects of restrictive immigrant-, immigration- and enforcement-related policies, laws, and rhetoric on US-born and foreign born Latinx mental health.

Differential Risk for Depression and Other Mental Health Outcomes: Immigrant-, Immigration-, & Enforcement- Related Policies, Laws & Rhetoric

Scholars in public health and other academic disciplines have examined, through qualitative and/or quantitative empirical research, as well as systematic literature reviews, the effects of immigrant-, immigration- and enforcement-related policies, laws and rhetoric on mental health of Latinx in the US. Depending on the empirical study or systematic review, the literature varies with respect to the focal population (e.g., Latinx generally, Latinx by documentation status), mental health outcome(s) examined (e.g., depression, anxiety, psychological distress), and by geographic region(s) (e.g., within and outside the US).

In their systematic review of global literature to assess how immigration policies and laws affect access to health services and health outcomes among undocumented immigrants, Martinez and colleagues (2015) appraised a total of 40 articles of which 10 were related to health outcomes, including mental health. The majority of the mental health related studies established an association between restrictive immigration policies and poor mental health outcomes, including increased depression, anxiety, post-traumatic stress disorder, and overall stress (Martinez et al., 2015). Further, the prevalence of negative mental health outcomes was found to be higher in localities and jurisdictions with anti-immigrant policies in comparison to localities

and jurisdictions with neutral or welcoming immigrant/immigration policies within the same country (Martinez et al., 2015). While, admittedly, the findings from this systematic review encompassed transnational studies, research conducted in the US within the context of immigration policies and laws also echoes similar results, as described next.

In their quantitative study, Hatzenbuehler et al. (2017) examined the impact of state-level immigration policy climate in 31 US states on the mental health outcomes (i.e., days of poor mental health and psychological distress) of Latinx generally, not delineated by documentation status. Overall, the authors reported that participants residing in states with more exclusionary immigration policy climates had higher rates of poor mental health days in the past month than those residing in states with less exclusionary policy climate, and this association was found to be significantly higher among Latinx compared to non-Latinx participants (Hatzenbuehler et al., 2017). Moreover, among Latinos, the authors reported a higher rate of poor mental health days among those living in states with more exclusionary immigration policy climate than among those living in states with less exclusionary policy climate (Hatzenbuehler et al., 2017).

Wang & Kaushal (2019) examined the effects of two local immigration enforcement policies on psychological distress between Latinx immigrants and US-born non-Latinx Whites. Restricted by limitations of using national-level data sets which often do not provide information on documentation status, the authors attempted to identify groups with high likelihood of being undocumented. They dichotomized Latinx immigrant adults into two groups – those with at least one noncitizen family member and those with *only* noncitizen family members – with the latter group *predicted* to have a higher probability of being undocumented or having undocumented family members. The authors of this national-level, quantitative study concluded that each respective local immigration enforcement policy significantly increased the proportion of Latinx immigrants with psychological distress and that this distress was often found to be higher among Latinx immigrants with only noncitizen family members (J. S. H. Wang & Kaushal, 2019). Furthermore, at the national and the regional levels, findings from quantitative and/or qualitative empirical research demonstrate the negative impact of anti-immigrant and immigration policies/laws on various mental health outcomes not only among foreign-born Latinx immigrants but also among their US-born co-ethnics (Eskenazi et al., 2019; Salas, Ayón, & Gurrola, 2013; Szkupinski Quiroga, Medina, & Glick, 2014; Vargas, Sanchez, & Juárez, 2017).

The corpus of quantitative research on depression among undocumented Latinx

immigrants, where documentation status is more reliably delineated, is modest. Further, the findings from extant studies are mixed. In their examination of the extent to which depression differed among Latinx by documentation status and time in the US, Young & Pebley (2017) reported no differences in depression by documentation status and by documentation status and time in the US (Young & Pebley, 2017). Their study, however, is not without limitations. As the authors note, with insufficient sample size for each sub-group in their study (N=1396; sub-groups =4), the study was likely underpowered to detect meaningful differences. Thus, studies with larger sample sizes are critically important to better understanding depression among Latinx in the context of their documentation status particularly within the purview of immigrant-, immigration- and enforcement-related policies, laws and rhetoric.

Conversely, findings from an empirical inquiry by Yamanis and colleagues (2018) into the associations between minority stressors, including documentation status, and depressive symptoms among Latinx transgender women suggest significant differences in depression by documentation status (Yamanis et al., 2018). That is, undocumented study participants had significantly higher mean depressive symptoms scores compared to documented study participants. There are, however, limitations associated with this study as well. For example, the study employed a relatively small sample size (N=38). Further, Yamanis and colleagues (2018) did not assess whether the higher depressive symptoms were specifically attributed to documentation status. This gap in their investigation is critical given the focal population – transgender women – and the established disproportionately elevated rates of depression among this population often stemming from gender dysphoria, discrimination, violence, and other forms of stigma (Bockting, Miner, Swinburne Romine, Hamilton, & Coleman, 2013; Clements-Nolle, Marx, Guzman, & Katz, 2001; Valentine & Shipherd, 2018).

Notwithstanding the mixed findings from the aforementioned limited number of studies among undocumented Latinx, current literature signals a strong likelihood of worsening mental health outcomes generally and with increasingly stringent anti-immigrant and immigration sociopolitical environments. Focused on multiple categories of mental health disorders, this nascent area of research continues to expand slowly. However, beyond understandings informed through rich qualitative studies, there is a paucity in quantitative empirical inquiries focused on *undocumented* Latinx and *depression* – a leading cause of disability worldwide and a major contributor to the overall global burden of disease (WHO, 2020).

Resisting the flawed reliance on essentialist approaches that reify shared biology and/or shared culture to explain disparities in health outcomes between socially constructed racial groups, this dissertation research is grounded by a conceptual model that encapsulates mechanisms informed by theoretical frameworks and by existing empirical evidence for how manifold, multilevel factors may intersect to potentially impose increased risk for depression among Latinx, with a specific focus on those who are undocumented. The conceptual model, in essence, guides the analytical plans for two of the three dissertation research studies which focus on the upstream factors (i.e., at the macro and meso levels) and their impacts on population-level mental health outcomes. The third study is dedicated to examining and addressing data related challenges when leveraging electronic health records (EHRs) for observational research studies, as done with this dissertation and described in detail in Chapter II. While all the listed proximate level variables in the conceptual model will not be tested in relevant studies, they have been included to demonstrate potential pathways through which distal factors may affect Latinx mental health. An overview of the theoretical frameworks guiding the conceptual model, including the synergies and discords between them, is followed by a closer examination of the conceptual model and descriptions of each dissertation chapter and the related research study.

Theories & Frameworks

Grounded in Ecological Systems Theory, the Social-Ecological Framework undergirds the conceptual model (Figure I.1). This framework assumes that there are multiple levels of influence on health outcomes and that these levels are interactive and reinforcing (Bronfenbrenner, 1979; McLeroy, Bibeau, Steckler, & Glanz, 1988). Within the context of this dissertation (and as described in *Conceptual Model: A Closer Examination*), an ecological perspective fosters focus on the individual *and* beyond to encompass the interaction between and the interdependence of a wide range of factors, including the physical and sociocultural environments, that potentially serve as determinants of mental health outcomes among Latinx. That is, ecological perspectives recognize individuals as embedded within a larger environmental context, attempt to describe the interactive characteristics of individuals and the physical, social, and cultural aspects of the environment, posit that the multilayered environmental context, characterized by political, economic, and social systems, have a cumulative effect on health over time, and that this context may influence the health of individuals or groups differently, potentially engendering health disparities (Sallis & Owen, 2002; Stokols, 1992).

Ecological theories and perspectives, through the use of broader, multilevel approaches, implore a shift from the sole focus on proximal, individual determinants to individual *and* environmental determinants (i.e., social networks and social support systems, transactions with organizations/institutions, relationships among organizations/institutions, law and policies at the local-, state-and/or national-level) of health outcomes. As such, ecological perspectives support comprehensive approaches to understanding, explicating, and addressing health outcomes. Moreover, ecological frameworks serve as useful tools for exploring distal social and structural determinants that, directly or indirectly, promote or undermine the health of individuals and/or communities over time by shaping and influencing the more proximate determinants.

Social & Structural Determinants of Health & Theory of Fundamental Causes

The WHO's Commission on Social Determinants of Health has defined social determinants of health (SDH) as the "conditions in which people are born, grow, live, work, and age" and identified them as "drivers of health inequities" resulting in systematic, unnecessary, unjust, and avoidable differences in health status between groups/communities (WHO, n.d.c). Various theoretical traditions and conceptual pathways have been employed in public health research and policy to simultaneously examine social factors that promote or undermine the health of individuals and populations *and* the social processes that underlie the unequal distribution of these social factors between groups (Graham, 2004). This heterogeneity in existing SDH frameworks, characterized by variance in theoretical and conceptual approaches, ultimately conforms through an emphasis on the concept of social position, an individual's location within the hierarchical structure of their society (Graham, 2004; WHO, 2010).

Social position, which includes dimensions such as gender, ethnicity, nationality, and socioeconomic position, is the point at which social structure differentially affects people's access to key resources for health. For example, at the individual and community levels, SEP, which refers to the aggregation of diverse economic (resource-based) and social (prestige-based) components of well-being (Krieger, Williams, & Moss, 1997), is a major determinant of overall health. In the literature, lower SEP has consistently and persistently been associated with poorer health and short-term survival (Hudson, Puterman, Bibbins-Domingo, Matthews, & Adler, 2013; Krieger, Chen, Coull, & Selby, 2005; Lantz et al., 1998; Sorlie, Backlund, & Keller, 1995).

Within the WHO SDH framework, social determinants are distinguished from structural determinants. While they vary depending on the framework, upstream social factors recognized

to potentially impact downstream health outcomes include but are not limited to: (a) education, (b) poverty, (c) access to health care, (d) social cohesion, (e) discrimination, (f) crime and violence, and (g) quality of housing (ODPHP, 2016). Structural determinants encompass the social and political mechanisms (e.g., governance, economic-, public-, social-policy, and social and cultural values) that generate, configure, and maintain SEP within hierarchies of power, prestige, and resources. As research particularly centered on multifaceted and dynamic processes through which various upstream social factors shape health continues to accumulate, extant scholarship advances current understanding of those factors that are *fundamental*, that is, the upstream social factors that put people at *risk of risks* (Link & Phelan, 1995).

The Theory of Fundamental Causes, origins of which stem from an elaboration on the persistent association between SES and disease, was first presented by House and colleagues (House, Kessler, & Herzog, 1990; House et al., 1994). This theory augments foundational SDH approaches. In their conceptual framing of fundamental social causes of disease, Link & Phelan (1995) put forth two critical and related arguments: one centered on contextualizing individually-based risk factors and the other on identifying and considering social conditions⁴ that are *fundamental* social causes of disease. Their former proposition of contextualizing risk factors echoes conceptions foundational in ecological approaches by reinforcing a movement away from the sole focus on individual risk-based epidemiological and behavioral factors. Link & Phelan implore that the *context* also be examined to better understand “why people come to be exposed to risk/protective factors and to determine the social conditions under which individual risk factors are related to disease” (Link & Phelan, 1995, p.85). Related to this focus on social origins of risk, Link & Phelan also task scholars to identify and consider those social conditions that more forcefully and persistently influence health. Defined as fundamental social causes of disease, the pathways through which these factors operate are complex.

In their early conceptualization of the theory, Link & Phelan (1995) posit that SES (and other fundamental social causes) involves resources, such as money, power, prestige, knowledge, social networks and social support, that determine the extent to which people are able to limit exposure to or minimize negative ramifications from disease (Link & Phelan, 1995). Those in higher social positions (e.g., members of the hegemonic race or higher economic strata) command more “resources [and] are best able to avoid risks, diseases, and consequences of

⁴ Link and Phelan define social conditions to include factors such as race, SES, gender, social support.

disease. Thus, no matter what the current profile of diseases and known risks happens to be, those who are best positioned with regard to important social and economic resources will be less afflicted by disease” (Link & Phelan, 1995, p. 87).

Resources, such as money and knowledge, are an essential feature of fundamental social cause theory and are important determinants of risk factors. As such, fundamental social causes are ones that influence multiple diseases through multiple intervening risk factor mechanisms. Thus, even with the eradication of the intervening proximal mechanism(s), within this theoretical framework, associations between the fundamental social cause and multiple diseases will persist, differentially impacting communities as new mechanisms replace preexisting ones and because inequalities in access to resources endure. Link & Phelan’s seminal work explains the persistence of health disparities over time even as risk factors, mechanisms, and diseases change.

Investigations into various other social conditions, such as stigma and racism, and their role as fundamental causes in perpetuating population health inequalities have since been considered. Hatzenbuehler and colleagues (2013), for example, have argued and called for more theoretical and empirical attention to stigma as a fundamental cause of health inequalities (Hatzenbuehler, Phelan, & Link, 2013). Further, Williams & Collins (2001) have posited that institutionalized racism in the form of residential segregation is a fundamental cause of health disparities between Blacks and Whites in the US (Williams & Collins, 2001). More recently and through evaluation of empirical data on racial differences in health outcomes, health risks, and health-enhancing resources, Phelan & Link (2015) concluded that the enduring association between race and health in the US results from two fundamental associations: one between systemic racism and racial differences in SES and second between SES and inequalities in health outcomes (Phelan & Link, 2015). In addition to these powerful links, the authors also identified a direct association between systemic racism and health largely through disparities in factors such as power, prestige, neighborhood context, and health care (Phelan & Link, 2015).

As empirical and theoretical evidence pertaining to fundamental social causes of disease evolves and given the extant evidence, it became imperative to utilize frameworks and theories that support insights into the role of distal social and structural factors on mental health in this dissertation. Existing SDH models are rightfully plagued by the tension of simultaneously representing the social factors that promote or undermine health of individuals and populations *and* the social processes that underlie the unequal distribution of these social factors between

groups (Graham, 2004). This tension is warranted given the irrefutable influence of the latter on health. As described below, three interrelated theories are utilized in this dissertation to situate these social processes: Racial Formation Theory, Systemic Racism Theory, and the Political Economy of Health. Moreover, these interrelated theories in concert with the aforementioned theoretical underpinnings further ground the conceptual model.

Racial Formation Theory & Systemic Racism Theory

As theories on race and racial dynamics within the US context, the conceptual dimensions of racial formation theory and systemic racism theory offer distinct frameworks that both conform to and oppose one another. Taken together, however, these two theories support a panoramic survey of the complex and convoluted concepts that are race and racism. Next, the two theories are distilled further focusing on the distinct conceptual features of each, paying special attention to elements that are pertinent to this dissertation.

Breaking away from theories that essentialize or discount race, Omi & Winant's racial formation theory describes race primarily as a *social construction* (Omi & Winant, 1994). Through this conceptualization, Omi & Winant disrupt the bipolar paradigm of situating race as an 'essence' or an 'illusion' and go onto to define race as "a concept which signifies and symbolizes social conflicts and interests by referring to different types of human bodies" (Omi & Winant, 1994, p.55).

In developing racial formation theory, Omi & Winant offer several important concepts for explaining race and racism, particularly 'racial formation' and 'racial project'. Racial formation is conceptualized as the sociohistorical creation of racial meanings and, from this perspective, race is a matter of both social structure and cultural representation. Racial projects are viewed as competing sociopolitical contestations occurring among different racial-ethnic groups. The authors link these concepts and through this linkage, they differentiate between race and racism, arguing that race has no fixed meaning and that it is constructed and transformed through sociohistorical competing racial projects, those that occur among different racial-ethnic groups. The authors also underscore the state's role in shaping racial meaning, related realities and emphasize the centrality of racial matters in the US.

While they argue that racial experience is shaped by racialized social, political, and economic structures, Omi & Winant do not as explicitly outline or delve into the power and structural realities of racism. The concept of racial projects, for example, presupposes co-equal

racial-ethnic groups and racism is suggested to be mainly about, albeit important, individual prejudices and discriminatory actions (Feagin & Elias, 2013). That is, in their theoretical work, Omi & Winant pay insufficient attention to structural racism and the resulting unequal distribution of power, prestige, and resources.

Racial formation theory's emphasis on the social construction of race, the centrality of racial matters, the role of the state in racialization processes, and the micro level manifestations of racism are essential for the framing and the preliminary grounding of this dissertation. Omi & Winant's seminal theoretical framework for understanding the construction of race offers a more complete understanding when in concert with another framework – the systemic racism theory, which focuses on the rootedness of racism. That is, racial formation theory and systemic racism theory are complementary and most valuable in combination.

Systemic racism is conceptualized as the “foundational, large-scale and inescapable hierarchical system of US racial oppression devised and maintained by Whites and directed at people of color” (Feagin & Elias, 2013, p.936). Through historical and empirical realities, systemic racism theory explicitly foregrounds the US racial hierarchy in which Whites, especially elite Whites, continue to be the most powerful and the most socially, politically, and economically influential. Moreover, it is within this centering of power in the hegemonic race (i.e., Whites) that explicit attention is focused on social structures, material conditions, and everyday practices and experiences to understand racial oppression as it is (re)produced in the US race-based hierarchical system (Feagin & Vera, 1995; Feagin, 2006).

In essence, systemic racism theory advances the conceptions put forth by Omi & Winant and draws attention to the role of social position – one defined through intersecting identifiers including the socially constructed categories of race – in generating and shaping inegalitarian racial hierarchies through positions of power occupied by Whites in various sectors, such as the state and civil society. Thus, systemic racism theory posits that the dominant racial project has largely centered on structuring and restructuring socio-cultural, political, and economic oppression of people of color. The theory's emphasis on structures of power and prestige is essential to further ground this dissertation. Moreover, systemic racism theory's attention to socio-cultural, political, and economic axes of oppression and the related implications for health can be further theorized and conceptualized through another theory, namely the political economy of health framework.

Political Economy of Health

The theoretical dimensions of the political economy of health framework underscore the dependence of health outcomes on political, economic, and socio-cultural factors, rather than on the individual solely. This framework examines how these factors interact to determine unequal distribution of wealth, power, and life opportunities (Minkler et al., 1994). Conceptualized as being the outermost force to affect the health of individuals and given the focus on the broad structural context on societal patterns of inequality, and on social position, this framework provides a critical complement to the aforementioned theories and frameworks. In addition to this, the underlying theoretical assumptions of this framework centered specifically on the role of history, power and class relations, and the role of the state in defining, legitimating, and treating health problems is crucial in advancing analysis of macro level processes that inherently determine health and well-being of Latinx, including undocumented immigrants. Guided by the theoretical assumptions of this framework, the dissertation is anchored within these broader processes, as explicated in the following section on the conceptual model (Figure I.1), which is informed by the aforementioned theoretical frameworks and by existing empirical evidence.

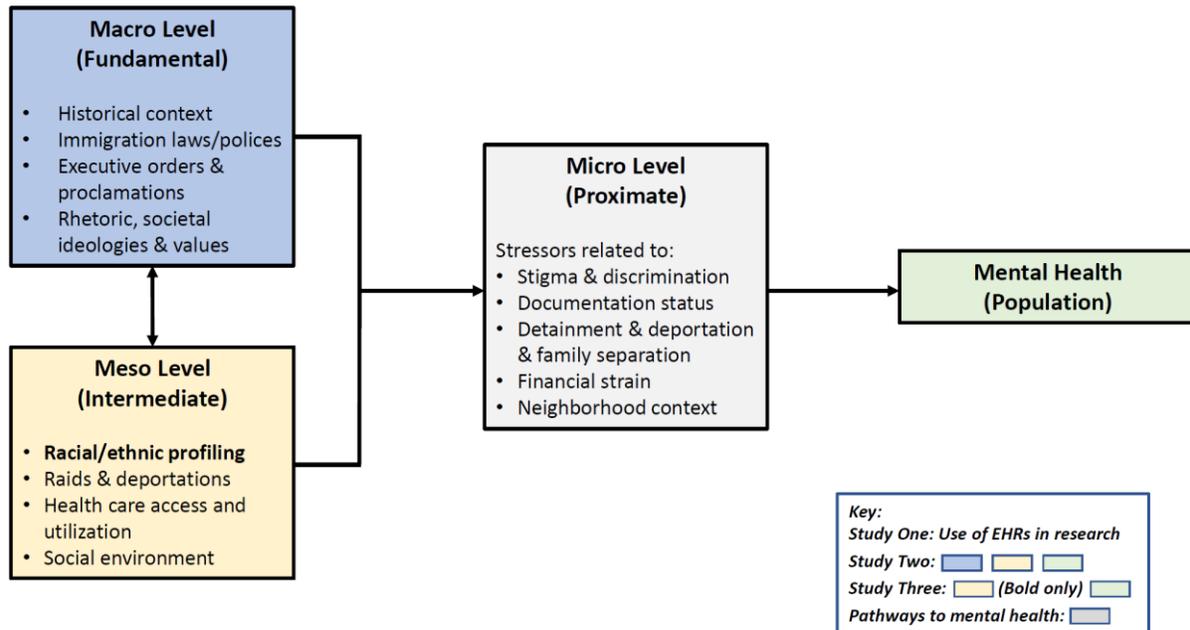
Conceptual Model: A Closer Examination

Distally, a confluence of macro/fundamental- and meso/intermediate-level factors exert an upstream influence on health through more micro/proximate level factors. While all the listed proximate level variables are not tested within the purview of this dissertation, they are nonetheless depicted in the conceptual model to demonstrate potential pathways through which the distal factors may affect mental health (i.e., depression). Instead, this dissertation examines two foci: macro/fundamental- and meso/intermediate-level contexts and the related factors.

Macro Level

Historical context – From the inception of the United States, race – a social construct – has been a profound determinant of one’s power, rights, location, and identity. Racial formation, defined as “...the sociohistorical process by which racial categories are created, inhabited, transformed, and destroyed” (Omi & Winant, 1994, p.55), has been used to perpetuate practices that benefit the hegemonic race (i.e., Whites) by signifying differences among people through racialization of identities via phenotypic (e.g., skin tone) and cultural (e.g., Spanish language usage) markers, creating social hierarchical structures, and defining some groups as deserving and others as undeserving.

Figure I.1: Conceptual Model



Structural forces (e.g., Supreme Court decisions) have been used to *script* race, perpetuate the social construction of race, and force different racialized groups to occupy various positions in the US racial hierarchy (Molina, 2014). Across time, *racial scripts* have worked to dehumanize and demonize minority groups while laws and policies, including those related to immigration, have determined immigrants’ place in the US social and/or racial order (Molina, 2014). Historically and contemporarily, these laws and policies have reproduced and reinforced pre-existing US racial hierarchies, dictated access to citizenship, defined legality of being, and controlled access to services and resources. It is within this historical context that health outcomes among Latinx, a racialized minority, are examined in this dissertation with specific attention to depression and documentation status. This examination is grounded in racial formation processes, which have evolved from racial essentialism to othering human bodies through social constructions that conspire to centralize White power, prestige and control, because the question of documentation status is inextricably and overwhelmingly tied to specific racial or ethnic minorities in contemporary US – those that have been relegated as *others*, including Latinx.

Immigration laws/policies – Immigration policies have *often* been used to racialize incoming groups and sustain social hierarchy (Cobas et al., 2009; Lipsitz, 1995). The first significant change in restriction or regulation of immigrants to the US is marked by the

Immigration Act of 1924 and the establishment of Border Patrol (Hilfinger Messias, McEwen, & Boyle, 2015). While early immigration policies focused primarily on immigrants' bodies and health status at the port of entry, in 1924 the possession of documentation from US consulates authorizing entry took precedence with the establishment of specific quotas based on hierarchy of race⁵ and national origin (Hilfinger Messias, McEwen, & Boyle, 2015). It is this system, where legal status meant being in the right place in the queue, that gave birth to the *undocumented immigrant*.

Changes in restriction or regulation of immigrants to the US continued throughout the following years with the Illegal Immigration Reform and Immigrant Responsibility Act and the Personal Responsibility and Work Opportunity Reconciliation Act established in the mid-1990s. In concert, these acts grossly limited immigrants' rights by simultaneously expanding pathway requirements to legal status and grounds for deportation and by restricting access to public benefit programs such as Medicaid and food stamps. Shortly after their constitution, the terrorist attacks of September 11, 2001 resulted in the incorporation of a counterterrorism approach to immigration policies and, through the Homeland Security Act of 2002, led to the establishment of the Department of Homeland Security and the Bureau of Customs and Border Protection (CBP) and Immigration and Customs Enforcement (ICE). Within the purview of these two entities (i.e., ICE and CBP), the emphasis of immigration policies and laws has been on border security and removing undocumented immigrants from the interior of the US.

Over the past several decades, immigration policies and laws have focused on restricting entry into the US or restricting life within the US for those already in the country, especially undocumented immigrants, thereby eliminating access to resources, education, employment, and services (all fundamental to health). There are two important and notable recent trends in the context of US immigration policies and laws. The first, dating before and continuing beyond the 2016 election, is the progressively increasing role of state and local governments in legislating policies related to immigrants, their rights, and access to services and resources (e.g., Arizona SB1070, Alabama HB56). The second is presidential immigration policy making through executive power (e.g., Border Security and Immigration Enforcement Improvements, Enhancing

⁵ As with entry into the US, the process conferring US citizenship through naturalization for those legally in the country through the early 20th century was also steeped in race-based hierarchy. Rights and privileges conferred through US citizenship were only possible for *persons of African descent* or for those deemed *White* by US courts. This notion of *Whiteness* was often unclear – who is/isn't White? The racialization of naturalization practices is wholly tangible in US Supreme cases of Takao Ozawa and Bhagat Singh Thind.

Public Safety in the Interior of the United States, Inadmissibility on Public Charge Grounds).

Recognition of shifts at the state and local governments is important for two principal reasons. First, these shifts have affected undocumented immigrants substantially by limiting access to health promoting resources and have negatively impacted their mental health outcomes as previously detailed (Hilfinger Messias, McEwen, & Clark, 2015; Kullgren, 2003; Martinez et al., 2015). Second, these shifts may serve as proxies for the anti-immigrant sentiments already present in communities throughout the US, those that are arguably exacerbated by a barrage of anti-immigrant and anti-immigration executive orders (EOs) and proclamations following the 2016 US presidential election.

Executive Orders & Proclamations – A number of significant and consequential anti-immigrant policies have been differentially realized since the 2016 presidential election in attempts to remake the immigration system through EOs and proclamations. Departing sharply from several immediate past presidents, by the first 33 months in office, a greater share of Trump’s EOs (8%) and proclamations (2.4%) were centered on immigration policy – Appendix C (Waslin, 2020). Two of the nine EOs through September 2019 related to enhancing immigration enforcement both at the border and the interior, likely resulting in varying and detrimental effects on health and overall well-being of immigrants.

The zero-tolerance policy at the border, for example, prioritized prosecution of immigration crimes through the Justice Department. Under this policy, more than 2,700 children were separated from their parents and placed in government custody (Pierce, 2019; Pierce et al., 2018). This practice of family separations continued as deemed necessary by Border Patrol (Pierce, 2019). Efforts to enhance security and immigration enforcement at the border resulted in a militarization of the border. In early 2019, approximately 2,100 National Guard members and 4,350 active-duty military personnel were stationed at the border (Pierce, 2019). In addition, there was an increase in the number of Border Patrol officers. Further, fragmented construction of barriers along the southern border (i.e., walls, fences) continued throughout Trump’s tenure.

Equally restrictive, the executive order on enhancing public safety in the interior US entails a number of provisions centered on removal of undocumented individuals. This enforcement activity, also implemented under the Obama administration, was broadened to

include *all* undocumented or otherwise deportable individuals.⁶ Related to this, the Trump administration prioritized expansion of the 287(g) program under which local jurisdictions have the option to participate in immigration enforcement. As of January 2021, ICE had 287(g) Jail Enforcement Model⁷ agreements with 72 law enforcement agencies, nearly a 140 percent increase from the 30 agreements in effect in early 2017, and ICE also had 287(g) Warrant Service Officer⁸ agreements with 76 law enforcement agencies (Bolter, Israel & Pierce, 2022).

The Trump administration also reinstated the Secure Communities enforcement program through executive action. This federal-state information sharing program requires state and local law enforcement agencies to submit fingerprints of all arrested individuals to the Federal Bureau of Investigation (FBI), who shares the data with ICE for enforcement. In essence, this program gives ICE a remote presence in state- and local-law enforcement agencies.

Immigration enforcement was often threatened and/or highly publicized before its actual realization under the Trump administration. One example of this is the Inadmissibility on Public Charge Grounds rule which eventually took effect in early 2020. This rule, which relies on a rubric to determine potential dependence on the US government, is used to arbitrate admissibility into the US or vet qualifications for possibility of permanent legal status for those already in the country. Well ahead of its adoption, the then proposed rule caused mass fear, uncertainty, and confusion among mixed-status families and undocumented immigrants resulting in under- or dis-use of health and social services despite legitimate eligibility (Capps, Fix, & Batalova, 2020).

Overt national immigration enforcement threats and actual actions have been countered by various state- and local-governments through the institution of sanctuary states/cities. State and/or municipal jurisdictions limit their cooperation with the national government's (e.g., ICE) effort to enforce immigration policies and laws. However, in response and under EO on interior enforcement, the Trump administration carved pathways to limit essential federal funding for these jurisdictions, potentially inhibiting the health and well-being of all constituents, not just undocumented residents, by limiting full realization of social determinants of health such as housing and education.

⁶ Under the latter years of the Obama administration, deportations were prioritized for noncitizens who had criminal records, were recent illegal border crossers, or among those with recent removal orders.

⁷ Jail Enforcement Model: ICE trains state and local officers (e.g., police) to perform various immigration enforcement functions. Once deputized to act as immigration officers, they can interrogate suspected noncitizens who have been arrested on state or local charges regarding their immigration status and place immigration detainees on those thought to be subject to removal.

⁸ Warrant Service Officer: State and law enforcement officers are trained and authorized to execute ICE administrative warrants and perform the arrest functions of an immigration officer within the law enforcement agency's jails and/or correctional facilities.

The Trump administration expanded immigration enforcement efforts in worksites by upgrading the E-Verify system, which allows employers to check whether new hires are authorized to work, and by increasing the number of ICE agents, as well as the number of worksite raids – see section on *Meso Level* (Pierce, 2019). Thus, independent of how they are engendered, immigration policies and laws – fueled by anti-immigrant rhetoric that evolved as a result of “economic and social problems” in the country – have historically and contemporarily constructed (undocumented) immigrants as illegal, immoral, and undeserving and racialized them as a threat to the nation’s health (Kullgren, 2003; Martinez et al., 2015; Nakamura, 2018).

Rhetoric, Societal Ideologies & Values – Anti-immigrant rhetoric and hate speech, specifically directed at Muslim and Latinx immigrants, had been used by Trump, his administration, and others to dehumanize, denigrate, and criminalize people of color. These racial projects had been used to justify a compendium of executive orders and proclamations that perpetuate and preserve existing racial hierarchies, expand power and structural inequalities, discourage immigration, and limit immigrants’ rights. They were also linked to a rise in hate crimes among Latinx (as well as other groups) (Levin, Nolan & Reitzel, 2018).

Racist and nativist attitudes were popularized, with a number of Americans responding to unfounded claims by President Trump that (undocumented) immigrants are “rapists”, “drug dealers”, and that they fuel crime and threaten economic security (Jacobs, 2018; Nakamura, 2018). In national polls, ideologies and values related to immigrants and the national immigration debate were split along political lines, with more conservative individuals supporting anti-immigrant actions (e.g., family separation, building a wall, fining employers who hire undocumented immigrants) (NPR, 2018). Moreover, compared to Democrats, Republicans were more likely to believe that undocumented immigrants are taking advantage of programs such as welfare, Medicaid, or food stamps (NPR, 2018).

While dynamic over time, the substantial influence and power of these ideologies/values are reflected as they are translated to restrictive national, state- and local- level anti-immigrant initiatives and in sociocultural milieus characterized by increasing overt xenophobic attitudes/actions. The belief that undocumented immigrants are more likely to be criminals seeped into the larger culture, notarizing stereotypes such as *criminal illegal alien*, engendering discriminatory, marginalizing treatment, harming health, and grossly violating rights (Flores & Schachter, 2018; Jacobs, 2018). The influence of the macro/fundamental level context on health

will be further explored in Chapter III through a review of the empirical evidence. Its influence on the meso/intermediate level context follows next, with an examination of the factors that are relevant to this dissertation.

Meso Level

Racial/Ethnic Profiling – US Federal legislation⁹ against racial profiling – the *Traffic Stops Statistics Act of 1997, H.R. 118* – was passed in 1998, however the practice continues to intensify (Harris, 2020). “Racial profiling” is defined as “the law enforcement practice of using race, ethnicity, national origin, or religious appearance as one factor, among others, when police decide which people are suspicious enough to warrant police stops, questioning, frisks, searches, and other routine police practices” (Harris, 2020, p.10). Historically, this practice has disproportionately affected Black and Brown drivers, with traffic infractions used as a means to investigate unsubstantiated crimes (Harris, 2020).

A systematic tactic, racial profiling, was often used to target drug smugglers on US interstates. Following the September 11, 2001 terrorist attacks, racial profiling was repurposed to identify potential terrorists (Harris, 2020). More recently, following the passage of the 1996 Illegal Immigration Reform and Immigrant Responsibility Act and the introduction of program 287(g), the tactic of racial profiling has been redirected to suppress illegal immigration to the US through local immigration enforcement. Program 287(g) was aggressively and successfully promoted by the Trump administration under EO on interior enforcement.

The aforementioned practices in racial profiling are racial projects in action perpetuated by state and local law enforcement actors who often rely on *othering* through racialization processes to expand and preserve existing racial hierarchies. Racial profiling practices, independent of whether they occur in the purview of immigration enforcement, have been found to result in profound discriminatory and unconstitutional policing, hyper-surveillance of select communities, and loss of police legitimacy and related trust (Harris, 2020; Morales & Curry, 2020). Further, negative encounters with police have been reported to contribute to hesitancy to report crimes and to social isolation (Theodore & Habans, 2016), as discussed in greater detail in Chapter IV.

Raids & Deportations – Tangible representations of interior enforcement activities, raids

⁹ The legislation requires recordkeeping of each traffic stop (e.g., race and ethnicity of motorist, alleged traffic infraction, whether a search was instituted, results of the search, whether a warning or citation was issued, and whether arrest was made as a result of the stop/search).

and deportations were central hallmarks of the Trump administration's immigration regime. Just between January 20 and September 30, 2017, ICE removed 61,000 immigrants from the interior, a 37 percent increase from those months in 2016 (Pierce et al., 2018). More than 110,000 undocumented immigrants in the US were arrested by ICE during the same period, a 42 percent increase over that period in 2016 (Bialik, 2018). This trend in arrests, which continued during the last three months of 2017 and increased by 11 percent at the end of the 2018 fiscal year, has been attributed to the expansion in the number of ICE agents and their broader authority to detain undocumented immigrants, including those without criminal records (Gramlich, 2020; Nixon 2018). Many arrests occurred during worksite raids, which proliferated under the Trump administration. Although concentrated in the Southeast and Midwest, worksite raids have been carried out from coast to coast. The administration also had a history of threatening targeted nationwide immigration raids (Dickerson & Kanno Youngs, 2019).

As state sanctioned racial projects, raids and deportations perpetuate racial hierarchies, increase structural inequalities, and reinforce power differentials. Whether actualized or threatened, raids and deportations have been found to significantly and negatively impact health care seeking behaviors, as well as health (Lopez et al., 2017; Nichols et al., 2018). Moreover, these interior enforcement activities produced broad community effects, were associated with a heightened sense of fear in immigrant communities and led individuals to avoid activities that involve interactions with public entities (Pedraza et al., 2017; N. Rodriguez et al., 2017).

Increasing deportation rates have also been associated with reductions in enrollment in health-promoting programs such as Medicaid and Women, Infants & Children among those who qualify, signaling a "Chilling Effect" – the inhibition or discouragement of the legitimate exercise of rights by the threat of legal sanction (Page & Polk, 2017; Vargas, 2015; Vargas & Pirog, 2016; Watson, 2014). Past empirical studies have overwhelmingly reported fear of deportation to be a significant factor in avoidance of or delays in needed health care services among Latinx, signaling potentially high levels of unmet health needs particularly among undocumented immigrants (Baker & Chappelle, 2012; Doshi et al., 2022; Doshi et al., 2020; Fleming, Lopez, et al., 2019; Konczal & Varga, 2011; Marshall et al., 2005; Rhodes et al., 2015; Vargas Bustamante et al., 2012).

Health Care Access & Utilization – The sociopolitical milieu in concert with restrictive immigrant- and immigration-related economic and social policies also present unprecedented

challenges related to access and utilization of health care among Latinx particularly for those who are undocumented. Emerging research demonstrates cascading negative effects of immigration related stressors. Barriers include limited social and economic resources, restricted mobility due to fear that driving may lead to detainment/deportation, overt surveillance, living in overall fear of detainment and deportation, experiences of marginalization and stigma, and fear and mistrust of the health care system (Doshi et al., 2022; Doshi et al., 2020; Fleming, Lopez, et al., 2019; Gurrola & Ayón, 2018; Hilfinger Messias, McEwen, & Clark, 2015; Marshall et al., 2005; Martinez et al., 2015; Nichols et al., 2018; Rhodes et al., 2015; Toomey et al., 2014; Vargas Bustamante et al., 2012; White, Yeager, Menachemi, & Scarinci, 2014). As a result, undocumented immigrants experience delays in entry into and fragmented utilization of needed care (Doshi et al., 2022; Doshi et al., 2020; Fleming, Lopez, et al., 2019; Rhodes et al., 2015; R. M. Rodriguez et al., 2019; White, Yeager, et al., 2014) signaling potentially high levels of unmet health needs (Konczal & Varga, 2011; Marshall et al., 2005; Rhodes et al., 2015; Vargas Bustamante et al., 2012), those that likely contribute to downstream excess in morbidity and mortality. Furthermore, policies engendered through EOs, such as the Inadmissibility on Public Charge Grounds rule, have high potential to perpetuate the aforementioned chilling effect, specifically among mixed-status families, drive up health care costs, increase use of emergency departments, and heighten risk of infectious disease epidemics resulting in wide-reaching and long-lasting public health implications.

Social Environment – This community-level factor exerts influence on and is influenced by macro-level factors (e.g., immigration policies/laws, societal values and ideologies). In turn, the social environment may influence proximate factors to impact Latinx mental health. In a heightened anti-immigrant sociopolitical environment, characterized by proliferation of restrictive immigrant- and immigration-focused policies, amplification of enforcement practices, and intensification of xenophobic and nativist rhetoric/sentiments, emerging research suggests health-diminishing consequences for Latinx, including for those who are undocumented.

Recent studies, for example, have reported fractures in community cohesion as a consequence of immigration enforcement practices (Benavides et al., 2021; Fleming, Lopez, et al., 2019; Gurrola & Ayón, 2018). Moreover, through participant interviews, these qualitative studies have noted inter-community tensions and vertical discrimination to be largely driven by xenophobia, while intra-community tensions and horizontal discrimination are linked to “fear of

discovery” as a result of associations with others impacted by immigration enforcement (e.g., deportations).

These recent findings signal the potential for macro and community level factors to negatively impact possible salubrious effects of social relationships on mental health by muting or constraining social support, eroding social cohesion, and splintering bridging and bonding ties (S. Cohen, 2004; Gottlieb & Bergen, 2010; Gurrola & Ayón, 2018; House, 1981; Israel & Rounds, 1987; D. Kim, Subramanian, & Kawachi, 2006; Reblin & Uchino, 2008; Teoh & Hilmert, 2018; Uchino, 2006). These findings are particularly salient for contemporary immigrants and specifically those who are undocumented. Their social isolation as a result of family separation has the potential to be compounded by a heightened, highly contentious anti-immigrant and anti-immigration climate which can pose multitude of barriers to developing and maintaining health-promoting relationships within and outside Latinx communities.

Potential Pathways to Mental Health Outcomes

A heightened anti-immigrant sociopolitical milieu, one characterized by an intensification of xenophobic and nativist rhetoric/sentiments, a proliferation of restrictive immigrant- and immigration-focused policies, and an amplification of enforcement of immigration laws at the interior and the border, may affect the mental health status of Latinx, especially those who are undocumented, in several ways. First, enforcement of anti-immigrant and anti-immigration policies and laws increase the risk of deportation and forced family separation and likely increase stress, fear, and anxiety among undocumented Latinx immigrants and their families. This, in turn, may adversely affect their mental health. Moreover, existing research also demonstrates that reduced mobility due to fear can lead to substantial delays in access to needed care (Doshi et al., 2022; Doshi et al., 2020; Fleming, Lopez, et al., 2019; Rhodes et al., 2015; R. M. Rodriguez et al., 2019; White, Yeager, et al., 2014).

Second, undocumented immigrants may adapt protective behaviors to minimize exposure to the risk for deportation. Emerging studies have reported behavior changes such as reduced driving time on the road, home confinement, and decreased time in public spaces (Doshi et al., 2022; Doshi et al., 2020; Fleming, Lopez, et al., 2019; Rhodes et al., 2015). Such practices have the potential to negatively affect mental health.

Third, the combined fear of being at increased risk for deportation and employment related barriers (e.g., E-Verify) likely reduces undocumented immigrants’ economic

opportunities and increases risk of workplace exploitation. This, in turn, can have negative mental health effects.

Finally, social policies that signal social exclusion of specific groups (e.g., Latinx independent of documentation status) may stimulate overt interpersonal discrimination, victimization, and micro-aggressions potentially leading to increased perceived or experienced stigma, prejudice, and discrimination (Almeida, Biello, Pedraza, Wintner, & Viruell-Fuentes, 2016; Ayón & Becerra, 2013; Morey, 2018; Szkupinski Quiroga et al., 2014). This stressful environment can exacerbate the excess stress already experienced by Latinx – minority stress – as a result of their membership in the targeted stigmatized group (Meyer, 2003). Anchored in a lower social position by the majority group, Latinx may internalize the stigma, prejudice, and discrimination stemming from overt/covert racism (D. James, 2020; C. P. Jones, 2000). The resulting stress processes, in turn, have been linked to depressive symptoms in existing literature (Hatzenbuehler et al., 2013; Meyer, 2003; Viruell-Fuentes et al., 2012).

Dissertation Overview & Format

This dissertation addresses gaps in knowledge about the effects of the 2016 US presidential election and racialized policing on Latinx mental health through examinations of depression outcomes among and between Latinx residents of Connecticut by documentation status and when compared to non-Latinx White residents. This convergent parallel mixed methods community-based research project leveraged secondary data, demographic (e.g., race/ethnicity, age, sex at birth, marital status) and mental health (i.e., depression), from a conglomerate of sites under the purview of Community Health Center, Inc., (CHCI) a federally qualified health center (FQHC). Quantitative data were pooled from medical and behavioral electronic health records of patients. Primary data were collected for the qualitative strands of each study through in-depth interviews with CHCI Latinx patients.

Although the possibilities for leveraging larger quantities of clinical data from EHRs for empirical research among undocumented immigrants are encouraging, the quality of these data – which are not collected for research purposes, raises important considerations for researchers, particularly with respect to navigating practical problems with population representativeness, data capture, data accuracy, and data completeness. ***Chapter II*** is focused on challenges encountered in using EHR data for the studies associated with this dissertation, including steps taken to address challenges, lessons learned, and future recommendations for FQHCs and

researchers. *In Chapter III*, the effect of the anti-immigrant environment under the Trump administration on Latinx mental health is examined through a convergent parallel mixed methods design, focusing on depression and on documentation status. Data, extracted from patient EHR records over a seven year period (2013-2019), were analyzed to assess change in depression outcomes among Latinx patients, by documentation status, compared to non-Latinx White patients. In the qualitative strand of the study, the participants were specifically asked about changes in mental health care needs pre- and post-2016 US presidential election, including changes in factors that affect mental health. Participants were also asked about ways in which mental health in Latinx communities can be better supported outside the health care clinics (e.g., at the macro level), specifically among those who are undocumented. The quantitative and qualitative strands of the research study were implemented concurrently, kept independent during analysis, and eventually integrated to ensure the comprehensiveness and triangulation of the results. Chapter III concludes with a discussion of the implications of the findings, details limitations of the study, and identifies areas for future research. *In Chapter IV*, the impact of differential adherence by local law enforcement agencies to the Connecticut anti-racial/ethnic profiling traffic stop law on Latinx mental health is examined through a convergent parallel mixed methods design, focusing on depression and on documentation status. Data, extracted from patient EHRs over a seven year period (2013-2019) and aggregated by residential town/policing practices, were analyzed to assess change in depression outcomes among Latinx patients, by documentation status, compared to non-Latinx White patients. Data related to town/city level racial and ethnic profiling practices by local law enforcement agencies was leveraged from an on-going statewide study mandated by Connecticut's anti-racial profiling law. In the qualitative strand of the study, the participants were specifically asked about their perceptions and experiences with local law enforcement agencies (e.g., police) and the related impact on their mental health, including over time. The quantitative and qualitative strands of the research study were implemented concurrently, kept independent during analysis, and eventually integrated to ensure the comprehensiveness and triangulation of the results. Chapter IV concludes with a discussion of the implications of the findings, details limitations of the study, and identifies areas for future research. *In Chapter V*, the concluding chapter, findings from the analytic chapters are integrated, limitations are identified, and contributions to the literature, areas of future research, as well as public health and policy implications are discussed.

CHAPTER II

The Use of Electronic Health Record Data for Research on Mental Health among Latinx by Documentation Status: Identifying and Addressing Challenges to Advance Health Equity

Background

There are an estimated 11 million undocumented immigrants¹⁰ residing in the United States (US) (Migration Policy Institute, n.d.a). Empirical research committed to understanding their health and well-being can be restricted by a number of factors including the contentious US milieu on immigration and the nominal allocation of US federal research funding to this population. Moreover, likely due to vulnerabilities related to their immigration status and the fear of being found out, detained, and/or deported, undocumented immigrants have been minimally engaged in (quantitative) research through primary data collection processes. Given, the potential for negative consequences related to their documentation status and considering the associated risks/benefits of directly ascertaining documentation status, researchers engaged in empirical investigations among immigrant communities often have not delineated the documentation status of their study participants. In fact, only a handful of research studies have reliably ascertained documentation status through pointed questions (e.g., are you a US citizen?) (Ortega et al., 2007; Vargas Bustamante et al., 2012) or through a rule out system (e.g., a series of yes-no questions outlining current legal status) (Garcini et al., 2016; Young & Pebley, 2017).

Some scholars have leveraged national and regional datasets for their inquiries into the health of undocumented immigrants and in doing so, have used a combination of *proxy variables*¹¹ (e.g., health care insurance status, language preference) to determine the documentation status of the immigrant participants represented in the datasets. Through the use of proxy variables, researchers can infer the documentation status of their study participants with

¹⁰ Undocumented immigrants are defined as foreign nationals who lack legal authorization to be in the United States. These individuals either entered the United States without undergoing required immigration procedures or entered the United States on a temporary visa and overstayed the expiration date of the visa.

¹¹ Proxy variables – Variables that are not directly relevant to the empirical research study but serve in a place of an unobservable or an unmeasurable variable.

a certain level of confidence (described below in the section *Documentation Status*). There, however, may be potential limitations with the use of national and regional datasets, including the absence of relevant proxy variables needed to meaningfully infer documentation status. Within the context of these limitations, there exists the possibility to leverage large quantities of real-world clinical data from electronic health records (EHRs)¹² to facilitate cost-effective empirical investigations focused on the health and well-being of undocumented immigrants.

Except for emergency medical care, undocumented immigrants are ineligible for federally funded public health insurance programs, such as Medicare, Medicaid, and the US Affordable Care Act (ACA). Through use of their own funds, some states and local governments offer health care coverage to undocumented immigrants. Safety-net providers, such as public and not-for-profit hospitals, migrant health centers, and federally qualified health centers (FQHCs) are often central points of access among undocumented immigrants seeking health care and social services. Services provided through FQHCs, arguably the largest safety-net providers of primary care and supportive services to underserved and vulnerable populations, are vital to the health and well-being of undocumented immigrants in the US. As real-world data sources, the use of FQHC EHRs can provide opportunities for the inclusion/identification of those undocumented immigrants who access/are linked to health care in quantitative research studies, in order to facilitate understanding into their health and help address gaps in extant literature.

As secondary data sources that can be linked with primary data or other administrative datasets, EHRs offer opportunities to accelerate, streamline, and enhance empirical research. Investigators, for example, have capitalized on the widespread use of EHRs to investigate the effects of natural experiments, such as the implementation of health promoting policies, on health outcomes (Johnson & Beal, 2013). Social epidemiologists have studied the influence of communities and neighborhoods on various health outcomes by linking census data to EHR data through geocoded patient addresses (Chang et al., 2015; Geraghty, Balsbaugh, Nuovo, & Tandon, 2010; Nau et al., 2015; Roth, Foraker, Payne, & Embi, 2014; Schwartz et al., 2011). EHR data has been used to evaluate the associations between exposures to risks and resources in the physical environment (e.g., air pollution, green space) and health outcomes (e.g., diabetes,

¹² According to the Institute of Medicine, “an EHR system includes (1) a longitudinal collection of electronic health information for and about persons, where health information is defined as information pertaining to the health of an individual or health care provided to an individual; (2) immediate electronic access to person- and population-level information by authorized, and only authorized, users; (3) provision of knowledge and decision support that enhance the quality, safety, and efficacy of patient care; and (4) support of efficient processes for healthcare delivery” (IOM, 2003).

hypertension) (Liu, Wilson, Qi, & Ying, 2007; Männistö et al., 2015; May, Carim, & Yadav, 2011; Robledo et al., 2015). Researchers have also employed EHR data to study stigmatized conditions, such as mental health, where participant recruitment and follow-up may pose challenges (McCoy et al., 2015). Further, through the use of EHRs, researchers can study and advocate for the health of populations who have historically been underserved, underrepresented, and might otherwise be difficult to engage in research, including undocumented immigrants.

Although the possibilities for leveraging clinical data from EHRs for empirical research among undocumented immigrants are encouraging, the use of such data, limited to those who access health care services and which are not collected for research purposes, raises important considerations, particularly with respect to navigating practical problems with population representativeness, data capture, data accuracy, and data completeness. In this paper, I briefly detail the evolution in the use and uptake of EHRs by FQHCs, describe the two research studies for which I used EHR data and on which this discussion is based, unpack the issues that I encountered in these empirical studies using de-identified exemplar data as illustrations, and share the strategies that I implemented to address the complexities encountered in the EHR data.

In my dissertation research studies, I utilized EHR data from a Connecticut-based federally qualified health center, Community Health Center, Inc. (CHCI). CHCI provides primary and specialty health care through a confluence of provision sites to over 100,000 individuals (N. Ciaburri, personal communication, June 15, 2020). Based on lessons learned through this partnership, I share recommendations for researchers using EHR data to examine mental health outcomes among immigrant and non-immigrant users of FQHCs and for FQHCs to support improvements in data collection processes. The ultimate goals here are to share tangible approaches in EHR data utilization that expressly respond to national calls to disrupt health disparities through clinical practice and empirical research, and to fortify synergies between researchers and safety-net providers to further realize the joint goal of advancing health equity.

Evolution in the Use and Uptake of Electronic Health Records by FQHCs

Electronic health records have become essential technology for healthcare settings in the US. The US federal government's ongoing investments in health information technology (HIT) has shifted the use and functionality of electronic health records from a focus largely on patient billing to a focus also on HIT processes that support the overall US health system through effective, quality, coordinated, and cost-efficient patient-centered care (Fiscella & Geiger, 2006;

S. S. Jones, Rudin, Perry, & Shekelle, 2014; Lobach & Detmer, 2007). Under the 2009 American Recovery and Reinvestment Act, the passage of the Health Information Technology for Economic and Clinical Health Act (HITECH Act) coupled with government-led incentives for electronic health record adoption and demonstration of its meaningful use propelled its diffusion into health care settings, including hospitals, private practices, and FQHCs (Adler-Milstein & Jha, 2017; Raman et al., 2018). As a result of significant support from the Health Resources and Services Administration, high proportions of FQHCs reported adoption of EHRs following passage of the HITECH Act, including the use of many advanced EHR functionalities (E. B. Jones & Furukawa, 2014; Wittie, Ngo-Metzger, Lebrun-Harris, Shi, & Nair, 2016). The adoption of EHR technologies by healthcare communities have many potential benefits for patients, providers, and public health researchers. The potential benefits of EHR technologies for patients and providers include more efficient and coordinated health care delivery, fewer medical errors, streamlined clinical workflow, better health management, improved care quality, reduced costs, and improved data tracking, as well as data accessibility (Hanna, 2005). For researchers, as described above, EHRs are an increasingly important source of real-world health care data that can be leveraged for experimental and observational research studies, as I did in my studies.

Description of Empirical Research Studies

As outlined next, the variables of interest overlapped considerably between my two dissertation research studies although their focus differed; in Study 1, I examined the impact of sociopolitical factors on mental health outcomes and in Study 2, the impact of community-level factors on mental health outcomes. Specifically, I focused on the following research questions: Study 1 – What effects, if any, did the 2016 US presidential election have on depression among documented Latinx, undocumented Latinx, and non-Latinx White residents in Connecticut?; Study 2 – What effects, if any, does racialized policing have on depression among documented Latinx, undocumented Latinx, and non-Latinx White residents in Connecticut? Next, the two studies are described in more detail.

Study 1: The Election of Donald J. Trump: Effects on Mental Health of Latinx in Connecticut by Documentation Status

In this convergent parallel mixed methods study (Creswell & Plano Clark, 2011; Creswell, Klassen, Plano Clark, & Smith, 2011; Guest & Fleming, 2014), I examined the effect of the anti-immigrant environment under the Trump administration on depression among documented Latinx, undocumented Latinx, and non-Latinx White residents in Connecticut.

Specifically, the quantitative strand of the study involved secondary data analysis of demographic (e.g., race/ethnicity, marital status) and mental health data (i.e., depression) pooled from medical and behavioral health records of documented Latinx, undocumented Latinx, and non-Latinx White patients (18 years of age or older) served by CHCI. The analyses focused on the years 2013 through 2019. The dependent variable was depression, as assessed by two screeners (PHQ-2 and PHQ-9; described below in the section *Depression Screening*). The independent variables included time, race and ethnicity, and documentation status. Finally, the covariates included sex at birth, marital status, and age. A subset of Latinx individuals, current patients at CHCI who agreed to participate in the qualitative strand of the study, were specifically asked about changes in mental health care needs pre- and post-2016 US presidential election, including changes in factors that affected their mental health. These participants were also asked about ways in which mental health in Latinx communities can be better supported outside the health care clinics (i.e., at the macro level), specifically among Latinx individuals who are undocumented.

Study 2: Implications of Racialized Policing in a Heightened Anti-Immigrant Era on Mental Health of Latinx in Connecticut by Documentation Status

In this convergent parallel mixed methods study (Creswell & Plano Clark, 2011; Creswell, Klassen, Plano Clark, & Smith, 2011; Guest & Fleming, 2014), I analyzed the impact of differential adherence by Connecticut-based local law enforcement agencies (i.e., police) to the state-level anti-racial/ethnic profiling traffic stop law on depression outcomes among documented Latinx, undocumented Latinx, and non-Latinx White residents of Connecticut. Specifically, similar to Study 1, the quantitative strand of the study involved secondary data analysis of demographic (e.g., race/ethnicity, marital status) and mental health data (i.e., depression) pooled from medical and behavioral health records of documented Latinx, undocumented Latinx, and non-Latinx White patients (18 years of age or older) served by CHCI. The dependent variable was depression, as assessed by two screeners (PHQ-2 and PHQ-9; described below in the section *Depression Screening*). The independent variables included policing practices, race and ethnicity, and documentation status. Finally, the covariates were the same as in Study 1. A subset of Latinx individuals, current patients at CHCI who agreed to participate in the qualitative strand of the study, were specifically asked about their perceptions and experiences with local law enforcement agencies and the related impact on their mental health, including over time.

Challenges, Observations & Lessons Learned

Several challenges emerged as analysis of the EHR data for the aforementioned research studies unfolded. As described below, inconsistencies in the capture of analytic variables over time were observed in the database. For example, the database included inconsistencies for a subset of individuals in the capture of the predictor variables race and ethnicity, the proxy variables related to the predictor variable documentation status, and the screeners (i.e., PHQ-2 and PHQ-9) for the outcome variable, depression. These variables were central to the research questions associated with the studies presented in Chapters III and IV. These inconsistencies posed consequential challenges for the use of the studies' central variables to address key research questions. Below, for each of the inconsistencies encountered, I describe development of proxies for data not captured in the EHR and challenges associated with missing data on the outcome variable. Specifically, I describe challenges encountered in working with the EHR database associated with data on race and ethnicity, documentation status, depression screeners, and missing data more broadly. I describe the capture/operationalization of the variables in the EHRs, challenges faced with the interpretation of results, and strategies implemented to address those challenges. Informed by lessons learned in this process, in the section *Discussion*, I offer recommendations for FQHCs interested in implementing improvements in data collection and management processes, and for researchers interested in using EHR data for empirical research.

Race & Ethnicity Data

Capture in EHR

CHCI utilizes multiple data fields in different systems (e.g., scheduling/registration, EHRs) to capture patients' race and ethnicity. Multiple fields are used, in part, to ensure that multi-racial and multi-ethnic patients have the ability to denote their racial and ethnic identities comprehensively. A number of challenges emerged in my efforts to apply patients' race and ethnicity as reflected in the EHRs in the analytic process. These included challenges associated with the conflation of race and ethnicity in the database, capture of multi-racial and multi-ethnic identities, and inconsistencies in the reporting of race and ethnicity for a given individual record in the database. For illustration purposes, exemplar data are presented as unique cases in Table II.1 and are described in more detail below. These inconsistencies, multiplied across thousands of data records, contributed to challenges to the interpretation of data and analyses conducted to address research questions associated with my dissertation studies, respectively.

Table II.1: Capture of Race & Ethnicity Variables

Patient ID	Race 1	Race 2*	Ethnicity 1**	Ethnicity 2***	Application of Rules
0001	American Indian or Alaska Native (AIAN)	Combination of responses	Hispanic or Latino		Latinx
0002	American Indian or Alaska Native	Combination of responses	Not Hispanic or Latino		Multiracial or AIAN
0003	Asian	Combination of responses	Hispanic or Latino		Latinx
0004	Asian	Undetermined Hispanic	Not Hispanic or Latino		Dependent on last name
0005	Asian	Combination of responses	Not Hispanic or Latino		Multiracial or Asian
0006	Asian	Not Hispanic or Latino	Hispanic or Latino		Dependent on last name
0007	Black or African American (AA)	Combination of responses	Hispanic or Latino	Country names	Latinx
0008	Black or African American	Combination of responses	Not Hispanic or Latino		Multiracial, Black or AA
0009	Black or African American	Undetermined Hispanic	Not Hispanic or Latino		Dependent on last name
0010	Multiracial	Combination of responses	Hispanic or Latino		Latinx
0011	Multiracial	Blank	Not Hispanic or Latino		Multiracial
0012	Multiracial	Blank	Unreported or Other		Missing
0013	Native Hawaiian or Pacific Islander (NHPI)	Undermined Hispanic	Hispanic or Latino		Latinx
0014	Native Hawaiian or Pacific Islander	Blank or Black or AA	Not Hispanic or Latino		Multiracial or NHPI
0015	None	Undetermined Hispanic	Hispanic or Latino		Latinx
0016	None	Combination of responses	Not Hispanic or Latino		Missing or based on race response
0017	Other, Patient declined, State prohibited, Undetermined	Combination of responses	Hispanic or Latino	Country names	Latinx
0018	Other, Patient declined, State prohibited, Undetermined	Combination of response	Not Hispanic or Latino		Missing or based on race response
0019	Undetermined Black Hispanic	Undetermined Hispanic	Hispanic or Latino		Latinx
0020	Undetermined Black Hispanic	Black or AA	Not Hispanic or Latino		Dependent on last name
0021	Undetermined Hispanic	Combination of responses	Hispanic or Latino	Country names	Latinx
0022	Undetermined Hispanic	Combination of responses	Not Hispanic or Latino		Dependent of last name
0023	Undetermined White Hispanic	Undetermined Hispanic	Hispanic or Latino	Country names	Latinx
0024	Undetermined White Hispanic	Combination of responses	Not Hispanic or Latino		Dependent of last name
0025	Unknown or Unreported	Combination of responses	Hispanic or Latino		Latinx
0026	Unknown or Unreported	Combination of responses	Not Hispanic or Latino		Missing or based on race response
0027	White	Combination of responses	Hispanic or Latino	Country names	Latinx
0028	White	Undetermined Hispanic	Not Hispanic or Latino		Dependent on last name
0029	White	Combination of responses	Not Hispanic or Latino		Non-Latinx White
0030	White	Country names	Hispanic or Latino		Latinx
0031	White	Country names	Not Hispanic or Latino		Non-Latinx White

*Combination of responses could include any one of the following: multiracial, undetermined, undetermined Hispanic, AIAN, Asian, Asian Indian, Chinese, Filipino, Japanese, Black or AA, NHPI, White, Italian, Afghanistani, other, patient declined, unspecified

**Other responses captured under the Ethnicity 1 column: Dominican, Ecuadorian, Guatemalan, Hispanic or Latino, Mexicano, other or undetermined, patient declined, Puerto Rican, state prohibited, unreported, Venezuelan

***Other responses captured under the Ethnicity 2 column: Hispanic or Latino, Spaniard, Mexican, Colombian, Ecuadorian, Puerto Rican, Dominican, Not Hispanic or Latino

Challenges to Interpretation

Conflation of race and ethnicity. One issue with the capture of patients' race and ethnicity in the CHCI EHRs was the conflation of the race and ethnicity variables. Ethnicity was sometimes recorded in the race column replacing information related to race using federally designated racial categories. An illustration of this challenge is shown in Table II.1; Patient IDs 0010, 0015, 0017, 0021, 0025. This contributed to challenges for researchers in attributing a racial classification of given study participants.

Capturing multi-racial & multi-ethnic identities. Despite the intentions to capture patients' details about multi-racial and/or multi-ethnic identities, patients were sometimes identified to be "multi-racial" in the electronic health records data, without any further specifications on the race. An illustration of these challenges is shown in Table II.1; Patient IDs 0010-0012. This made it difficult to discern the specific multi-racial identities and, at times, ethnicity(-ies) for individuals.

Inconsistencies between reported race & ethnicity. Patients' race and ethnicity data were also reflected in ways that led to challenges to their joint interpretation. An example of this is shown in Table II.1; Patient ID 0004, where race 1 is classified as Asian, race 2 is classified as undetermined Hispanic, ethnicity 1 is classified as not Hispanic or Latino, and ethnicity 2 is left blank. Similar challenges, in varying forms, are illustrated in Table II.1 for Patient IDs 0006, 0009, 0020, 0022, 0024, 0028. For some, race and ethnicity were captured through country names (e.g., Italian, Mexican) as illustrated in Table II.1; Patient IDs 0007, 0017, 0021, 0023, 0027, 0030, 0031. For these individuals, it was unclear whether the country response variable represented country of birth, country of ancestry, adopted country, or some other. These variations contributed to challenges in classifying a subset of individuals in the database in terms of commonly used racial and ethnic categories.

Strategies to Address

Given the focus of the research studies on non-Latinx White, documented Latinx, and undocumented Latinx individuals served by CHCI and to navigate the inconsistencies encountered in the EHR data, I developed and applied the following decision rules to code the predictor variables race and ethnicity into categorical/discrete variables for analytic purposes:

- Rule 1: Code anyone with the response "Hispanic/Latino" in any EHR data column related to race and ethnicity (i.e., Race 1, Race 2, Ethnicity 1, and Ethnicity 2) as Latinx only if Not Hispanic/Latino is not also captured in any remaining columns; (e.g., Table

II.1; Patient IDs 0001, 0003, 0019). Approximately, 43% of the entire clinic extracted database was coded Latinx using this rule (N=48,368).

- Rule 2: Code anyone with the response “White” in any EHR data column related to race and ethnicity (i.e., Race 1, Race 2, Ethnicity 1, and Ethnicity 2) as White, if there is no indication of Hispanic/Latino; (e.g., Table II.1; Patient IDs 0029, 0031). Approximately, 32% of the entire clinic extracted database was coded White using this rule (N=36,052).
- Rule 3: Code anyone without any concrete identifiable information in the EHR data columns related to race or ethnicity as missing. Some examples of this include:
 - Race 1=multiracial and Ethnicity 1=not Hispanic or Latino
 - Race 1=missing, Race 2=unreported, and Ethnicity 1=not Hispanic or Latino. Approximately, 10% of the entire clinic extracted database was coded missing using this rule (N=11,725).
- Rule 4: Code anyone with negating responses between EHR data columns related to race and ethnicity (e.g., Hispanic/Latino in Race 1 column and Not Hispanic/Latino in Ethnicity 1 column) using individuals’ full names. For these individuals, the US Census Bureau’s Spanish surname list (Word & Perkins, 1996) was used to facilitate the coding process. Full names were used for coding purposes for approximately 1.3% of entire clinic extracted database (N=1,417).

In approaching this data, I first focused on the Race 1 and Ethnicity 1 columns, filtering each column to pinpoint the race and ethnicity of each patient in the entire extracted EHR database (N=112,507). The Race 2 column offered additional insights in the application of the decision rules, unlike the Ethnicity 2 column which was sparsely populated with relevant data. Once coded, the analysis centered on non-Latinx White patients, documented Latinx patients, and undocumented Latinx patients, as granularity beyond this was not possible, and only included patients with data required to carry out the various analyses described in Chapters III and IV.

Documentation Status

Capture in EHR

FQHCs do not ask patients’ documentation status because the perceived risks associated with capturing this information outweigh the benefits due to immigration enforcement activities and the related cascading consequences of undocumented patients being identified, detained, and/or deported. Furthermore, provision of health care at FQHCs is independent of whether patients have legal authorization to be in the US, making this information unnecessary to know. Thus, a single variable that captures this data point in EHRs often does not exist. Given the study design (i.e., secondary data analysis) and the charged sociopolitical milieu surrounding immigration in the US, reliably ascertaining documentation status through pointed questions (e.g., are you a US citizen?) (Ortega et al., 2007; Vargas Bustamante et al., 2012) or through a

rule out system (e.g., a series of yes-no questions outlining current legal status) (Garcini et al., 2016; Young & Pebley, 2017), as has been reflected in some previous studies, was infeasible for my studies. In lieu of these methods for determining documentation status, proxies such as health care insurance coverage, social security number, possession of institutional resources (e.g., driver's license, bank account), country of birth, and preferred language have been used in past empirical studies (Appleby, Luchins, Freels, Smith, & Wasmer, 2008; DuBard & Massing, 2007; Korinek & Smith, 2011; Linden, Cano, & Coritsidis, 2012; Lowry et al., 2010; Mitchell et al., 2012; Poon, Dang, Davila, Hartman, & Giordano, 2013; Szkupinski Quiroga et al., 2014; Vargas Bustamante et al., 2012; Yoshikawa, Godfrey, & Rivera, 2008). There are several data fields in CHCI's EHRs that, when collectively utilized, can serve as proxies for documentation status. These include social security number (SSN), veteran status, preferred language, time in the country, and health care insurance coverage. Individually, most of these variables do not provide sufficient information to ascertain documentation status. However, when scrutinized in combination, certain patterns can allow researchers to infer documentation status more confidently. Below, inconsistencies in the capture of proxy variables and associated limitations of their full use in inferring documentation status of the patients served by CHCI are described.

Challenges to Interpretation

Social Security Number. Unlike US citizens, permanent residents, and non-immigrant workers, undocumented immigrants in the US are not eligible to apply for a social security number. Although CHCI asks patients to share their SSN during patient intake, patients are not required to answer this field or show proof by furnishing a social security card. There exists the possibility that a patient may report that they have a SSN when, in reality, they do not have one. Thus, among patients for whom a SSN is recorded in the related data field, it is difficult to verify the validity of their response. For patients who do not report a social security number in response to this inquiry, it is not clear from the data capture whether they do not have a social security number or whether they have chosen not to respond. CHCI does not distinguish the reason for the non-response in this field. Further, there may be instances when patients report their individual taxpayer identification number (ITIN) when requested to share their social security number. The ITIN is issued by the US Internal Revenue Service to individuals who are ineligible to obtain a social security number, including undocumented immigrants. This nine-digit number begins with the number '9'. Thus, it can be easily identified in CHCI patients' records and can

potentially serve as a proxy for documentation status in concert with other proxies. However, due to the aforementioned inconsistencies in the capture of SSNs among patients, this data field in CHCI’s EHR records could not be fully utilized to proxy documentation status (Table II.2).

Table II.2: Capture of SSN, Veteran Status, Preferred Language & Time in Country Variables

Patient ID	SSN	SSN:“9”	Veteran	Preferred Language	Time in the Country	Date Recorded
1001	Yes	No	Yes	English	Entire life	N/A
1002	Yes	Yes	No	Portuguese	More than 7 years	8/15/2013
1003	No	N/A	No	English	Missing	N/A
1004	No	N/A	No	Spanish	4-7 years	1/31/2018
1005	No	N/A	No	Spanish	Less than 1 year	5/1/2021

Veteran Status. With the exception of recipients of Deferred Action of Childhood Arrivals (DACA) with highly specialized skills (e.g., specific foreign language expertise or health training) (Tilghman, 2014), undocumented immigrants are ineligible to serve in the US military. As with social security number status, CHCI also asks about veteran status on their patient intake form. However, patients are not required to complete this field. Further, for patients who choose not to answer this question, the response is recorded as *no* instead of being left blank (Table II.2; Patient IDs: 1003, 1004, 1005). It is difficult to disentangle whether the patient has chosen not to answer or whether they are not a veteran. Thus, the manner in which veteran status data is captured limits its full use to infer documentation status in concert with other proxies.

Preferred Language. Language preference other than English in combination with other proxies could be used to infer documentation status. CHCI does query its patients on their preferred language. However, patients are not consistently asked about their language preference. Further, providers at times assume on behalf of the patients (Table II.2; Patient IDs 1002-1005). Thus, the reliability of this data field and its use as a proxy for documentation along with other variables is minimized given the high potential for providers’ to inaccurately characterize their patients’ preferred language when doing so in isolation and without input from their patients.

Time in the Country. This data field and the related date of record of when the question was asked has seemingly high promise to be used in concert with other proxies to imply documentation status because they can be informative in identifying patients who are foreign born. However, CHCI care providers do not consistently ask this question of all their patients. As with the aforementioned data fields, this data field also could not be fully utilized to proxy documentation status among CHCI patients.

Health Care Insurance Coverage. Except for emergency medical care, undocumented

immigrants are ineligible for federally funded public health insurance programs, such as Medicare, Medicaid, and the US Affordable Care Act (ACA). Coverage through private health care insurance, either individually purchased or employer sponsored, is challenging for many undocumented immigrants due to the associated costs. The ACA explicitly excludes undocumented immigrants from purchasing health coverage through the State Health Insurance Exchanges, thus eliminating more affordable health care coverage options (Edward, 2014; Fernández & Rodriguez, 2017; Raymond-Flesch, Siemons, Pourat, Jacobs, & Brindis, 2014; Wallace et al., 2012). Undocumented immigrants have limited access to employer-sponsored health insurance as they often are employed in low-wage jobs and industries that are less likely to offer this option (Artiga & Diaz, 2019). Accordingly, researchers have consistently found documentation status to be a strong health care insurance coverage predictor, with undocumented immigrants having significantly lower rates of coverage (Artiga & Diaz, 2019; Carrasquillo, Carrasquillo, & Shea, 2000; Goldman, Smith, & Sood, 2005; Ortega et al., 2007; R. M. Rodriguez et al., 2019; Vargas Bustamante, Chen, Fang, Rizzo, & Ortega, 2014). CHCI maintains good longitudinal records on health care insurance coverage among their patients.

Strategies to Address

Documentation status among Latinx patients was assessed through the proxy of health care insurance coverage. Medicaid, however, is a viable option for lawfully present immigrants and green card holders after a waiting period of five years. Therefore, this possibility of health care insurance coverage through federally funded public health programs may result in coverage changes for some patients over time depending on their eligibility. As a federally qualified health center and for billing purposes, CHCI maintains good longitudinal records of health care insurance coverage among its patients. To minimize misclassification of uninsured patients who may be within the five-year Medicaid eligibility waiting period as being undocumented, I applied a decision matrix (Figure II.1) to assess health care insurance coverage status.

Under each study year (2013-2019) respectively, uninsured patients (i.e., non-Latinx White or Latinx individuals) were identified and their patient records examined to ascertain when they were first enrolled at CHCI. Patients enrolled at CHCI in 2007 or prior would have satisfied the five-year waiting period within the context of the studies' start year (2013). Thus, those patients did not require any further assessment of their health care insurance coverage. For patients enrolled at CHCI after 2007, I determined their enrollment year and reviewed

patient records beyond the five-year Medicaid eligibility waiting period to assess whether there were any changes in health care insurance coverage (Table II.3).

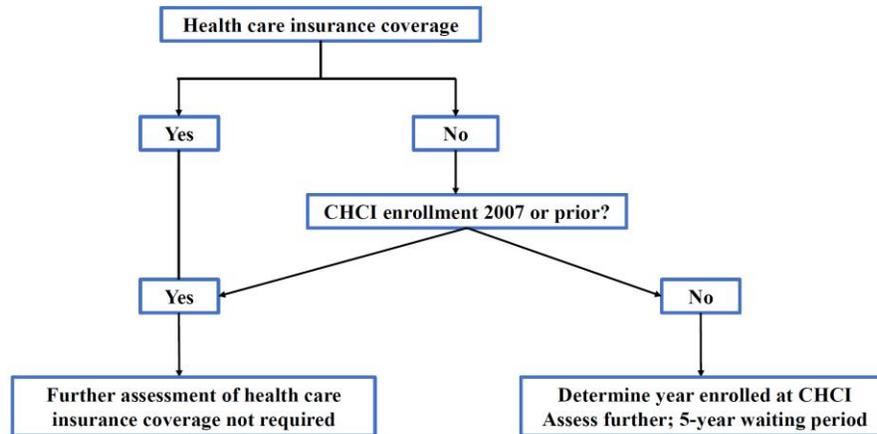


Figure II.1: Decision Matrix – Approach on Assessing Health Care Insurance Status

Lawfully present patients enrolled at CHCI in 2015 through 2019 may not have satisfied the waiting period for Medicaid eligibility at the time of the studies’ conclusion (2019) and as a result may be reflected as being uninsured in their medical records. To facilitate understanding on how best to approach patients enrolled at CHCI in 2015 or later, I investigated patterns in health care insurance coverage among uninsured patients in years prior to 2015.

Table II.3: Rubric – Determining Changes in Health Insurance Coverage of Uninsured Patients

<i>Year Enrolled</i>	<i>Year Eligible (Medicaid)</i>	<i>Assessment Plan</i>
2007 (or prior)	2012	None, Medicaid waiting period satisfied
2008	2013	Review insurance status beyond eligibility year
2009	2014	Review insurance status beyond eligibility year
2010	2015	Review insurance status beyond eligibility year
2011	2016	Review insurance status beyond eligibility year
2012	2017	Review insurance status beyond eligibility year
2013	2018	Review insurance status beyond eligibility year
2014	2019	Review insurance status beyond eligibility year
<i>Determining documentation status in lieu of information on health care insurance coverage</i>		
2015	2020	Informed by preceding analysis
2016	2021	Informed by preceding analysis
2017	2022	Informed by preceding analysis
2018	2023	Informed by preceding analysis
2019	2024	Informed by preceding analysis

Overwhelmingly, I found that the health care insurance coverage status of the uninsured patients did not change over the years; they remained uninsured. I further evaluated the uninsured patients by assessing two additional proxy variables, when available: their time in the country and the date when that information was captured. The vast majority of uninsured Latinx patients reported varying periods of time in the country, while the vast majority of uninsured

non-Latinx White patients reported being in the country their entire life. Informed by this finding and given that the top countries of birth for undocumented immigrants in the Connecticut are Latin American countries (Migration Policy Institute, n.d.b), *uninsured non-Latinx White* patients (N=1,443) in the entire clinic extracted database were coded as being *documented*. In sum, the following rules were applied to determine documentation status of uninsured Latinx patients served by CHCI after assessing whether the 5-year waiting period for Medicaid eligibility was satisfied given that lawfully present immigrants and green card holders have a waiting period of five years before eligibility for Medicaid can be determined.

- Rule 1: Code uninsured Latinx patients enrolled at CHCI in 2007 or prior as undocumented. They would have satisfied the five-year waiting period within the context of the studies' start year (2013).
- Rule 2: For Latinx patients enrolled at CHCI between 2008 and 2014, determine their enrollment year and review patient records beyond the five-year Medicaid eligibility waiting period to assess whether there have been any changes in health care insurance coverage. Code as undocumented if no changes in health insurance coverage; that is, if Latinx patient continues to be uninsured.
- Rule 3: For uninsured Latinx patients enrolled at CHCI between 2015 and 2019, code as undocumented. This decision was informed by an investigation of patterns in health care insurance coverage among uninsured Latinx patients in years prior to 2015. I found that health care insurance coverage status of uninsured Latinx patients whom I examined did not change over the years. Moreover, among those who had time in the country data available, the vast majority reported varying time periods in the country, signaling that they were foreign born.

Although it was possible to leverage health care insurance coverage to proxy documentation status, the overlap of the research studies' observation period (2013-2019) and the 5-year waiting period for federally subsidized health care coverage programs for lawfully present immigrants presented some limitations. Thus, there exists some potential for misclassification when discerning documentation status among CHCI uninsured Latinx patients, especially since the other aforementioned proxies (e.g., social security number, preferred language) could not be fully utilized in concert with health care insurance coverage variable.

Depression Screening

Capture in EHR

CHCI uses both the Patient Health Questionnaire-2 (PHQ-2) (Kroenke, Spitzer, & Williams, 2003) and the Patient Health Questionnaire-9 (PHQ-9) (Kroenke & Spitzer, 2002; Kroenke, Spitzer, & Williams, 2001) as measures for depression. Per CHCI protocol, the health

care provider is supposed to implement the PHQ-9 when patients screen *positive* on the PHQ-2. Below, a brief description of each assessment is provided, followed by a description of issues encountered with the capture of both assessments in the EHRs and the decision rules that were applied to navigate the inconsistencies in the EHR data related to the depression screeners.

Description of Depression Screeners. The PHQ-2 (Appendix D) consists of the first 2 items of the PHQ-9 (Kroenke & Spitzer, 2002; Kroenke et al., 2001). The items assess low mood and low interest/pleasure. Respondents are asked to estimate the frequency of these 2 symptoms over the past 2 weeks with 4 response options: “not at all” (scored 0), “several days” (scored 1), “more than half the days” (scored 2), and “nearly every day” (scored 3). The PHQ-2 score is obtained by adding the score for each question. Scores can range from 0 to 6, with a screening cut-off of ≥ 3 which has shown to have a sensitivity of 83% and a specificity of 92% for major depressive disorder (Kroenke et al., 2003). When assessed with clinical populations (e.g., primary care clinics, obstetrics/gynecology) in geographically diverse settings, the PHQ-2 has demonstrated high criterion and construct validity (Kroenke et al., 2003).

The PHQ-9 (Appendix E) consists of the actual criteria on which the diagnosis of *DSM-IV* depressive disorders is based. This nine-item questionnaire¹³ has been shown to establish provisional diagnoses of depression and to assess depression severity (Kroenke & Spitzer, 2002; Kroenke et al., 2001). As a diagnostic measure, the questionnaire has demonstrated high levels of criterion and construct validity when assessed with clinical and general populations (Löwe, Kroenke, Herzog, & Gräfe, 2004; Löwe, Spitzer, et al., 2004; Martin, Rief, Klaiberg, & Braehler, 2006). Similarly, as a measure of depression severity, the PHQ-9 has also shown good criterion and construct validity (Kroenke et al., 2001). Furthermore, when assessed across racially and ethnically diverse groups (e.g., Latinx, African American, Chinese American, non-Latinx White) in the United States, the PHQ-9 has demonstrated good internal consistency ($\alpha=0.79$ to 0.89); that is, it functions fundamentally the same in subjects from these groups (Huang, Chung, Kroenke, Delucchi, & Spitzer, 2006). With a sensitivity for depression of 88%, a specificity of 88%, and a positive likelihood ratio of 7.1, a score of ten or greater is recommended as the screening cut-off point (Kroenke & Spitzer, 2002). As a continuous variable, the PHQ-9 scores range from 0-27 with mean higher scores representing more severe depression (Kroenke et al.,

¹³ A tenth item at the end of the diagnostic portion of the PHQ-9 assesses functional impairment generally.

2016; Martin et al., 2006).

Per protocol, each CHCI patient should be screened for depression once during their annual visit. In practice, however, many CHCI patients are screened for depression multiple times per year. In the EHR data, in some instances, the depression screenings were found to occur within days, weeks or months of one another. Informed by an evaluation of the multiple proximal scores and the recognition of similarities between the scores for a given patient, in my analysis I took the first PHQ-2 and PHQ-9 score for each patient who was screened more than once in a given year. With respect to scoring, CHCI sometimes used the recommended scoring rubric for the PHQ-2 and at other times dichotomized the scoring to a *yes* and *no*. If the patient responded *yes* to one or both questions on the PHQ-2 then, per protocol, the patient was given the PHQ-9. It was often unclear when the recommended PHQ-2 scoring rubric was used and when CHCI used its own system. CHCI seems to have followed the recommended scoring rubric for the PHQ-9. Scores in the database were inconsistent with implementation of the PHQ-9 as a follow-up to high PHQ-2 scores. To navigate the inconsistencies in the data and to create a depression variable that captured as many participants as possible, the following rules were applied to the various presentations of the data as reflected in the extracted database:

- Rule 1: Patient scores the cut-off on the PHQ-2 (depending on the scoring system used by CHCI) and is given the PHQ-9 assessment. Thus, the first score in the EHR for both the PHQ-2 and PHQ-9 are on the same date.
 - Solution: Use the PHQ-9 score for analysis
- Rule 2: Patient does not score the cut-off (depending on the scoring system used by CHCI) on the first PHQ-2 score in the EHR but there is a PHQ-9 score for the patient. Possible reason for this is that the patient was screened using the PHQ-2 at another time during the year and that assessment resulted in a PHQ-9. Observations in EHR data containing all the PHQ-2 and PHQ-9 screenings for a given patient indicate: (a) there is a PHQ-2 score for the first recorded PHQ-9 score, however, those screenings were done at a later date compared to the initial PHQ-2 assessment, (b) there isn't a PHQ-2 score recorded on the date that the first PHQ-9 was recorded (it is unclear why this was the case); or (c) there is a PHQ-2 score of "0" but there still exists a PHQ-9 score on the same date (it was difficult to explain this).
 - Solution: Use the first PHQ-9 for analysis since one exists and has been captured in the EHR
- Rule 3: Patients who scored "1" on the PHQ-2 at times have a PHQ-9 score and at other times do not. In the EHR, it is not possible to discern which scoring system was used, whether the recommended scoring rubric or the CHCI one. Solution:
 - Use PHQ-9 when available, otherwise

- Code as *not depressed* given the recommended cut-off ≥ 3 (Kroenke et al., 2003)
- Rule 4: Patients who scored “2” on the PHQ-2 at times have a PHQ-9 score and at other times do not. In the EHR, it is not possible to discern which scoring system was used, whether the recommended scoring rubric or the CHCI one. Solution:
 - Use PHQ-9 when available, otherwise
 - Code as *not depressed* given the recommended cut-off ≥ 3 (Kroenke et al., 2003)
- Rule 5: Patients who scored “3 or higher” on the PHQ-2 at times have a PHQ-9 score and at other times do not. In the EHR, it is not possible to discern which scoring system was used, whether the recommended scoring rubric or the CHCI one. Solution:
 - Use PHQ-9 when available, otherwise
 - Code as *depressed* given the recommended cut-off ≥ 3 (Kroenke et al., 2003)

In sum, I scored the outcome variable, depression, as a continuous variable using only the PHQ-9 score where available. I also scored the outcome variable, depression, as a dichotomized variable (0 = not depressed and 1 = depressed) using both the PHQ-9 score (cutoff for depression ≥ 10) and the PHQ-2 score (cutoff for depression ≥ 3). The PHQ-2 score was utilized to maximize use of all available data, as well as the sample size, by including patients without a PHQ-9 score when operationalizing the response variable as a dichotomous variable.

Missing Data

Capture in EHR

Missing data is a challenge for all empirical studies; however, this is especially true for research studies grounded in secondary data analyses of EHR data (Beaulieu-Jones et al., 2018; Callahan, Shah, & Chen, 2020; Farmer et al., 2017; Haneuse, Arterburn, & Daniels, 2021). Since EHRs are principally designed to support clinical and/or billing systems, systematic data collection processes and quality control checks that are characteristic of research studies grounded in primary data collection are often absent. There are many reasons that can help explain missing data in FQHC EHRs. Gaps in patients’ records may be a result of loss to follow-up, patient’s relocation to another geographic locale, patient’s transition to another care provider within the same locale, less engagement in health care by healthier patients or sicker patients, changes in patient’s eligibility for insurance coverage (e.g., shifts in Medicaid eligibility due to changes in income requirements), and variability in patient’s ability to pay out-of-pocket (e.g., for uninsured patients who may or may not be on a sliding fee scale) (Callahan et al., 2020). Alternatively, data may be missing due to administrative and/or technical errors such as

incomplete linkage of different records belonging to one patient, errors in populating data fields in patients' records, lack of collection (e.g., patient was never asked), or lack of documentation (e.g., patient was asked but the response was never recorded in the EHR) (Callahan et al., 2020).

Missing data can be characterized as missing completely at random (MCAR), missing at random (MAR), or missing not at random (MNAR) (Perkins et al., 2018).¹⁴ EHR data are more likely MNAR; missing due to patient-related factors such as patient being too sick to seek health care or patient being uninsured. Missingness in the data risks the introduction of bias, including selection bias, in research studies utilizing EHRs (Haneuse et al., 2016). The introduction of selection bias, in turn, can affect the external validity of the results from the analysis.

Within the context of variables associated with the dissertation research studies, I was challenged most by the missingness in the dependent variable, depression screeners (PHQ-2 and PHQ-9). The observation period for both studies spanned seven years. CHCI protocol indicates that each patient should be screened for depression during their annual visit. However, I encountered substantial missing data with the capture of this study variable longitudinally, even when reducing the observation period from seven years to five years (Table II.4).

When operationalizing depression as a continuous variable, for example, only four patients had a depression score for all seven study years and only 21 patients had a depression score for the reduced study timeline, five of the seven study years (Table II.4). Similarly, when operationalizing depression as a dichotomous variable, only 274 patients had a depression score for all seven study years and only 923 patients had a depression score for the reduced study timeline. These sample sizes are substantially smaller than the total number of unique patients who had replied to at least one of the depression assessments in at least one of the study years (PHQ-2; N=77,089 and PHQ-9; N=30,645) (Table II.5). The missingness in the data had potential implications for the introduction of selection bias into the studies impacting the representativeness of the sample and thus the external validity of the findings.

Table II.4: Sample Sizes by Longitudinal Structure

	Full Longitudinal Structure (all 7 years)	Reduced Longitudinal Structure (5 years; cutting out 2013 and 2019)
Depression (continuous variable)	4	21
Depression (dichotomous variable)	274	923

¹⁴ MCAR: The probability of having a variable with missing data does not depend on any observed or missing variables; MAR: The probability that a given subset of variables (i.e., a "pattern") is observed depends only on the values of observed variables; MNAR: missingness pattern depends on the values of unobserved variables.

Table II.5: Unique Respondents & Number of Responses Through Study Years (2013-2019)

	1 response	2 responses	3 responses	4 responses	5 responses	6 responses	7 responses
Depression (continuous variable)	22,582	5,662	1,700	519	146	32	4
Depression (dichotomous variable)	35,742	16,706	10,668	7,246	4,493	1,960	274

Strategies to Address

Options to address missing data, and thereby reduce bias, include various imputation methods, or omission of the cases with missing data, limiting analysis to the remaining cases, also known as complete case analysis or listwise deletion (Beaulieu-Jones et al., 2018; Wells, Kattan, Nowacki, & Chagin, 2013). Given the presentation of the data in the clinic extracted database – missing values outnumbered observed values – I implemented two decision rules in order to utilize the EHR data for the studies:

- Rule 1: Undertake a less rigorous study design, a cross-sectional design, as longitudinal data could not be optimally leveraged from the EHRs.
- Rule 2: Limit the analysis to respondents with just one response on the continuous PHQ-9 variable.

My decisions were informed by an exploration of the data descriptively and by sensitivity analyses throughout the decision making processes, as further described in Chapters III & IV.

Discussion

Informed by the lessons learned from my empirical examinations into mental health outcomes (i.e., depression) among immigrant and non-immigrant users of FQHCs, I identified the challenges faced in using EHR data and shared the solutions I implemented to address those challenges. While the challenges were specific to data for which CHCI granted permission for use for research purposes, other federally qualified health centers likely also contend with similar challenges with respect to their EHR data. In the context of the dissertation studies, I specifically focused on the capture of variables related to race and ethnicity, documentation status, depression screening, as well as the issues surrounding missing data in EHRs. In the sections that follow, I share recommendations for FQHCs relating to EHR data collection and management and for researchers as they relate to use of EHR data in empirical studies, paying particular attention to variables related to race and ethnicity, documentation status, depression screening, as

well as the issues surrounding missing data.

Synopses & Recommendations

Race & Ethnicity Data – Inconsistencies in the capture of race and ethnicity in EHR data have been reported in other empirical studies. Klinger and colleagues (2014), for example, compared the accuracy of EHR-recorded data on race and ethnicity to that reported directly by patients in a network of 13 primary care clinics and found 3% of patients who self-identified as Hispanic were not recorded as such in the EHR (Klinger et al., 2014). Furthermore, in their comparisons of self-reported data to EHR data, Magaña López and colleagues (2016) found that the misclassification of race was most frequent in those individuals who self-identified as Hispanic (Magaña López, Bevans, Wehrlen, Yang, & Wallen, 2016). Meaningful use EHR regulations incentivize the collection of race and ethnicity data, however, as demonstrated by the examples from my studies as well as in the aforementioned past studies, inconsistencies in the accuracy of this data capture persist. Informed by my studies and extant literature, the overwhelming recommendation for FQHCs is to consider implementing patient-facing standardized approaches by consistently adopting the US Office of Management and Budget (OMB) guidelines for reporting race and ethnicity, appending the categories to facilitate inclusivity of their patient populations (Cusick et al., 2020; Klinger et al., 2014; Polubriaginof et al., 2019).

The crucial importance of accurately capturing race and ethnicity data cannot be underscored as these variables are critical in the assessment of racial and ethnic disparities in health service provision, care, treatment, and outcomes, as well as in identifying pathways towards achieving health equity. By allocating a portion of their often limited resources to training staff in supporting the consistent collection of high quality and more complete race and ethnicity data, for example, healthcare organizations, including safety-net providers such as FQHCs, can develop a more granular level understanding of their patient populations. Through this understanding, healthcare organizations can better serve their patient populations by adapting existing services to meet patients' health and cultural needs, by providing culturally concordant and acceptable care, by developing culturally salient health promotion outreach strategies, by designing and implementing informed health interventions, by leveraging targeted funding to better meet the needs of their vulnerable patient populations, and by improving patient satisfaction. In the absence of active institutional or patient engagement, unreliable data collection on race and ethnicity can have far-reaching implications for understanding disease

burden among populations, can misinform decisions on allocation of funds to address health disparities, and result in flawed findings from empirical research studies that focus on these variables in their investigations. Standardization of race and ethnicity categories would also enable consistent comparison or aggregation of data across multiple sources (e.g., EHR data with census data or when aggregating data from multiple FHQCs) which can be leveraged for empirical research committed to disrupting health disparities.

Recommendations for FQHCs: Capture of Race & Ethnicity Data

To minimize and eventually eliminate inconsistencies in the capture of patients' race and ethnicity, FQHCs can consider implementing patient-facing standardized approaches (Klinger et al., 2014; Polubriaginof et al., 2019). A critical first step towards this goal is to standardize the categories of race and ethnicity in the EHR using the US OMB guidelines in how they are presented to patients (Cusick et al., 2020). Currently, OMB allows two formats. The first combines both race and Hispanic ethnicity into a single question. The second and the preferred OMB option asks about race and ethnicity in two separate questions (Figure II.2). The 2020 US Census questions on race and ethnicity were asked using the latter option. Standardization of race and ethnicity categories would enable consistent comparison or aggregation of data across multiple sources (e.g., EHR data with census data or when aggregating data from multiple FHQCs). It is important to note that this proposed approach has limitations as the OMB issued standards on the categorization of race and ethnicity does not account for all populations. For example, as currently presented, the OMB guidelines are not inclusive of Middle East and North African populations. FQHCs should consider augmenting the OMB guidelines to facilitate greater inclusivity of their patient populations.

In addition to standardizing the categories of race and ethnicity using the OMB preferred option, FQHCs can consider allocating resources in training staff on collection of these critical data points, particularly if the collection of these data are planned to be supported by staff members (Castellucci, 2017; Lee, Veeranki, Serag, Eschbach, & Smith, 2016). Resources to support training should also be made available by the US federal government given its ongoing investments and commitment in health information technology, including from Health Resources and Services Administration, NIH and/or CDC. Training should focus on helping staff understand the definitions of the OMB race and ethnicity categories, why the information is being collected, why is it important, and how it may be used in clinical practice, as well as in

research studies, particularly for advancing health equity (Chin, 2015; Lee et al., 2016). Communication with staff can underscore the necessity for accuracy in the capture of these data points and emphasize the implications of related missing data, potentially alleviating barriers towards data collection. Training can also focus on building staff capacity to navigate any challenges that may be encountered during collection of data on race and ethnicity. The collection of higher quality and more complete race and ethnicity data will enable FQHCs to better understand the needs of the populations that they serve, monitor and address health disparities within their populations, pinpoint disease burden among subpopulations, and identify programmatic efforts to improve quality of care, ultimately leading to patient-centered care.

Figure II.2: 2020 US Census Questions on Race and Ethnicity

→ NOTE: Please answer BOTH Question 6 about Hispanic origin and Question 7 about race. For this census, Hispanic origins are not races.

6. Is this person of Hispanic, Latino, or Spanish origin?

No, not of Hispanic, Latino, or Spanish origin

Yes, Mexican, Mexican Am., Chicano

Yes, Puerto Rican

Yes, Cuban

Yes, another Hispanic, Latino, or Spanish origin – *Print, for example, Salvadoran, Dominican, Colombian, Guatemalan, Spaniard, Ecuadorian, etc.*

7. What is this person's race?
 Mark *X* one or more boxes AND print origins.

White – *Print, for example, German, Irish, English, Italian, Lebanese, Egyptian, etc.*

Black or African Am. – *Print, for example, African American, Jamaican, Haitian, Nigerian, Ethiopian, Somali, etc.*

American Indian or Alaska Native – *Print name of enrolled or principal tribe(s), for example, Navajo Nation, Blackfeet Tribe, Mayan, Aztec, Native Village of Barrow Inupiat Traditional Government, Nome Eskimo Community, etc.*

<input type="checkbox"/> Chinese	<input type="checkbox"/> Vietnamese	<input type="checkbox"/> Native Hawaiian
<input type="checkbox"/> Filipino	<input type="checkbox"/> Korean	<input type="checkbox"/> Samoan
<input type="checkbox"/> Asian Indian	<input type="checkbox"/> Japanese	<input type="checkbox"/> Chamorro
<input type="checkbox"/> Other Asian – <i>Print, for example, Pakistani, Cambodian, Hmong, etc.</i>	<input type="checkbox"/> Other Pacific Islander – <i>Print, for example, Tongan, Fijian, Marshallese, etc.</i>	

Some other race – *Print race or origin.*

Another way to improve the quality and completeness of race and ethnicity data in EHRs is to allow patients to review and request updates to their demographic information

(Polubriaginof et al., 2019). Self-reporting can be accomplished through the use of patient portals that accommodate a multilingual population. Self-reported data can be requested from patients either at the point of care with support from trained personnel, prior to, or after a clinical visit. The decision around timing should be informed and implemented after careful consideration of patient profiles with respect to technological accessibility and eHealth literacy. Time and care should also be taken to help patients understand the definitions of the OMB race and ethnicity categories, the necessity for these data points, reasons for their use in clinical care and research, including their importance in advancing health equity, and the safeguards in place to help protect private information (Chin, 2015; Cusick et al., 2020). Furthermore, focused communication should prioritize and emphasize the importance of active patient engagement in their own care as a full-fledged member of the health care team. Patient participation or engagement can potentially alleviate barriers and/or hesitations towards self-reporting, promote more patient-centered care and treatment, increase patient satisfaction, reduce costs, and improve outcomes.

Recommendations for Researchers: Use of Race & Ethnicity Data from EHRs

Researchers interested in using EHR data for empirical studies and focused on race and ethnicity in their inquiries should first assess the usability of the related data in the EHR, including the missingness in the data. If confronted with the similar challenges with the race and ethnicity variables as described in this paper, researchers can adapt the aforementioned decision rules to code those variables for their analytic purposes. If instituting other innovative strategies to prepare EHR data related to race and ethnicity for use, researchers should clearly and publicly document the specific challenges and the strategies implemented to address them.

Documentation Status – I also encountered limitations in FQHC EHR data related to proxies for documentation status. As, arguably, the principal providers of health care and social services to undocumented residents in the US, FQHC EHRs have the potential to be rich reservoirs of data that can be utilized to better understand and address the health and well-being of this vulnerable and marginalized patient population through cost-effective health care service provision that is linguistically and culturally congruent. Moreover, the potential for EHR data in advancing scholarship on undocumented immigrants is likely unmatched as primary data collection processes associated with quantitative studies, which often require larger sample sizes, among this population is difficult. Safety and security concerns among undocumented immigrants can result in non-participation, for example. Research on the health and well-being of undocumented

immigrants is also underfunded, with limited commitment from the federal government. Collectively, these challenges point to the critical importance for accurately capturing proxy variables (e.g., SSN, time in the country, health care insurance coverage) in EHR data as they have been consistently used in extant literature to infer documentation status of immigrant populations. As with my studies, findings from extant studies also uncover inconsistencies in the capture of preferred language in EHRs (Klinger et al., 2014; Lee et al., 2016).

It is relevant and important to note, that as primary service providers to undocumented immigrants in the US, safety-net providers should strongly consider instituting and implementing strict protocols on how and with whom information related to their undocumented patients will be shared both inside and outside the organization. Instituting thoughtful operating procedures that promote maximum safeguards to protect information of undocumented patients is immensely important within the fluctuating milieu in the US in terms of laws and policies on immigrants and immigration enforcement.

Recommendations for FQHCs: Capture of Data Related to Documentation Status

FQHCs already exercise extreme accuracy in capturing health care insurance coverage among their patients as this information has direct implications on patient billing and federal reporting requirements. However, when empirical studies involve observation timelines that exceed real-time data capture, the other proxies (e.g., preferred language, SSN, time in the country) for documentation status become exceedingly important, particularly for researchers.

As with race and ethnicity, preferred language can be consistently captured through self-reports either with support from staff who have received training on the sensitivities related to this question, or via patient portals (Klinger et al., 2014; Lee et al., 2016). Without proper training, staff interaction may be experienced as stigmatizing by patients who are speakers of languages other than English. Inquiries around social security number status should be exercised with care as patients should not misunderstand that receipt of care is dependent on having a social security number and also due to concerns about potential identity theft and confidentiality of the information. FQHC enrollment personnel should clearly help patients understand that SSN related information can help inform eligibility for government health care and other subsidies, underscoring the intentions around advocacy in the process. Moreover, distinctions can be made in the EHRs between patients who do not have a social security number and patients who do not want to share their SSN through clear and defined data coding practices. Similar coding practices

can also be instituted with regards to capturing veteran status. It is important to note that some proxies may be more difficult to capture relative to others. Capture of time in the country, including the date of the capture, may be easier compared to the capture of SSN, for example. FQHCs can standardize its practices to ensure that the variables time in the country and the date asked are consistently captured among *all* of its patients. These two variables can help identify patients who are foreign born and, in concert with health care coverage status, those who are likely undocumented, particularly when the research study observation period supersedes real time data capture with respect to potential changes in health care coverage status over time.

Recommendations for Researchers: Use of EHR Data Related to Documentation Status

Researchers whose scholarship is focused on undocumented immigrants and want to utilize EHR data in their empirical inquiries should first assess the usability of the proxy variables related to immigration in the EHR, including the missingness in the data. If confronted with the similar challenges with the proxy variables as described in this paper, researchers can adapt the aforementioned decision rules to code those variables for their analytic purposes. If instituting other innovative strategies to use EHR data in inferring documentation status, researchers should clearly and publicly document their strategies.

Depression Screening – I encountered two critical issues with the response variable, depression, as assessed by two screeners (PHQ-2 and PHQ-9). The first involved variability in scoring practices, particularly when scoring the PHQ-2. The second was the missing data associated with the response variables. Informed by the lessons learned, I first provide recommendations related to the former (i.e., scoring practices) for FQHCs and researchers.

Recommendations for FQHCs: Capture of Data Related to Depression Screeners

Validated instruments, such as the PHQ-2, should be scored using the recommended scoring rubric. Any deviation from the recommended scoring rubric risks the validity of the instrument, particularly when the alternative scoring methods have not been tested and validated. Institutional commitment to upholding consistent practices when implementing and scoring the PHQ-2 (and implementing the PHQ-9) is essential, as is the persistent use of the recommended scoring rubric. Adherence to consistent practices can support accurate depression pre-screening (PHQ-2), screening (PHQ-9), and lead to informed decision making about diagnosis, treatment, and care of patients. Related to this, providers responsible for depression assessments among patients can be trained on the measure and the associated scoring rubric. The training would

enable providers to effectively react when confronted with deviations in metrics related to screening of patients for depression and actively engage them in the collection of accurate and quality patient health care data. The accurate capture of this data can better support provision of behavioral health and clinical care, as well as their use in research studies focused on understanding and addressing racial and ethnic disparities in mental health outcomes through investigations grounded in goals of advancing health equity.

Recommendations for Researchers: Use of EHR Data Related to Depression Screeners

Researchers, whose scholarship is focused on depression and want to utilize EHR data related to the PHQ-2 and PHQ-9 in their empirical inquiries, should first assess the usability of these variables. If confronted with the same challenges in the capture of these variables as described in this paper, researchers can adopt the aforementioned coding decision rules for their analytic purposes. If instituting other innovative strategies to use EHR data related to these variables, researchers should clearly and publicly document their strategies to facilitate adoption.

Missing Data – Missing data in EHRs is problematic yet emblematic (Beaulieu-Jones et al., 2018; Callahan et al., 2020; Farmer et al., 2017; Haneuse et al., 2021). The adoption of best practices in the capture of EHR data fortified through allocation of resources for staff training and HIT enhancements, some of which has been highlighted in the preceding sections, can potentially help to minimize missingness in EHR data.

Recommendations for FQHCs: Minimizing Missing Data

FQHCs and similar care provision entities can incorporate more detailed information to identify a patient's engagement in care. An entry date is often recorded in EHR data by way of enrollment date. However, an exit date (when a patient no longer sought care) is usually not recorded. Moreover, some patients may rotate in and out of care. Thus, time stamps, marking patients' entry into and exit out of care informed by the FQHC's practices around how it defines engagement in care, could be essential data points that could further support the maximum use of EHR data in empirical research. FQHCs often have internal guidelines that help identify when a patient is considered to be lost to follow-up (e.g., no patient contact for 2 years). These data points can be consistently recorded in the patient's EHR. It is important to note here that the incorporation of granular information such as this would be time and resource intensive for any FQHC. However, the effort could likely be automatized once the optimal system for capture is in place. In addition to this, adoption of best practices in the capture of EHR data fortified through

training that optimizes its meaningful use in clinical care and research partnerships, some of which has been highlighted in the preceding sections, can result in the minimization of missingness in EHR data.

Recommendations for Researchers: Navigating Missing Data in EHRs

Researchers interested in leveraging EHRs for the empirical studies should assess and characterize the missingness of the data, whether MCAR, MAR, MNAR, as early as possible (Perkins et al., 2018). If the missing data is significant and the missing values outnumber the observed values, as described in this paper, researchers can adapt the aforementioned decision rules by undertaking a less rigorous study design to support the use of the data. Alternatively, there are statistical adjustment methods that can be implemented to directly address the missingness, such as multiple imputations and inverse probability weighting (Beaulieu-Jones et al., 2018; Haneuse et al., 2021; Haneuse et al., 2016; Perkins et al., 2018; Wells et al., 2013).

Conclusion

The adoption and meaningful use of electronic health records by FQHCs has the potential to benefit patients, providers, and public health researchers. For patients and providers, the use of EHRs facilitates delivery of quality, efficient, coordinated, cost-effective, precise, patient-centered medicine, and holds the promise of advancing health equity through improved data tracking, as well as data accessibility (Hanna, 2005). Moreover, by way of improvements in data collection and management, health care organizations can develop a more granular level understanding of their patient populations. Through this understanding, service providers can better serve their patient populations by adapting existing services to meet patients' health and cultural needs, by providing culturally concordant and acceptable care, by developing culturally salient health promotion outreach strategies, by designing and implementing informed health interventions, by leveraging targeted funding to better meet the needs of their vulnerable patient populations, and by improving patient satisfaction.

For public health researchers, EHRs are an increasingly important source of real-world health care data that can be leveraged for observational and experimental research studies. EHR adoption coupled with recent advances in health information technology offer a gateway to undertaking scientific research that would otherwise be difficult, especially within the context of underrepresented and underserved populations and particularly among undocumented immigrants in the United States.

Efforts, however, must be undertaken by FQHCs and researchers to improve data quality and maximize meaningful use of EHRs to facilitate informed and targeted decision-making around patient care, as well as for use in experimental and observational research studies focused on the health and well-being of vulnerable populations. If unaddressed, critical gaps in EHR data will persist, resulting in the underutilization of its potential as a rich, real-world data source in clinical practice and in empirical research and contributing to delays in precisely pinpointing health disparities and advancing health equity.

Progress towards these goals will require widespread, reliable, and consistent data about the characteristics of populations most impacted. Researchers who leverage EHR data in their scholarly work should continue to document the related challenges, solutions undertaken to surmount those challenges, and recommendations for improvements with an eye towards fortifying meaningful use of EHRs in research studies and clinical practice. Partnerships between researchers and safety-net providers have the potential to facilitate feedback loops where research and practice inform one another in achieving their shared goals to eliminate health disparities and advance health equity.

CHAPTER III

The Election of Donald J. Trump: Effects on Mental Health of Latinx in Connecticut by Documentation Status

Background

Empirical examinations into the interplay between politics, policies, and public health outcomes suggest that political parties with egalitarian ideologies tend to implement redistributive policies (Lundberg, 2008; Navarro et al., 2006; van den Heuvel et al., 2013). Those policies, grounded in universalistic principles and aimed at reducing social inequalities, in turn can have a salutary effect on population health (Navarro et al., 2006; Navarro & Shi, 2001). Three critical conclusions can be drawn from these empirical inquiries. The first is that politics influence public policy. The second is that public policy affects health outcomes. The third is that health advantages among populations are largely realized when a polity's values and responsibilities are firmly secured in the construct of universalism operationalized through redistributive social and welfare policies and unaffected by socially constructed ideological and cultural notions of who is truly deserving of benefits and rights.

In a democracy such as the United States (US), policy and legislative decisions are engendered through locations of power occupied by elected or appointed political representatives at the federal, state, and local levels. These decisions, informed and driven by a variety of social, political, and economic forces, impact a broad range of factors that not only influence the distribution of power, prestige, and resources across population groups but also influence multiple contexts (e.g., community, interpersonal) that, through intermediary factors, ultimately shape health outcomes differentially. Within the US context, immigrant-, immigration- and enforcement-related policies and laws have been central in shaping the overall well-being of immigrants, including those who are undocumented¹⁵ (Fleming, Novak, & Lopez, 2019; Philbin, Flake, Hatzenbuehler, & Hirsch, 2017). In the absence of comprehensive immigration reform,

¹⁵ Undocumented immigrants are defined as foreign nationals who lack legal authorization to be in the United States. These individuals either entered the United States without undergoing required immigration procedures or entered the United States on a temporary visa and overstayed the expiration date of the visa.

for more than two decades the US federal government has increasingly shifted responsibility for immigration policy enforcement to states and municipalities through initiatives such as program 287(g)¹⁶ and the Secure Communities Program¹⁷ (Fix & Tumlin, 1997; Suárez-Orozco & Suárez-Orozco, 2009). Some states and municipalities have also passed restrictive laws and local ordinances targeting undocumented immigrants (Walker & Leitner, 2011). As further described below, it is largely within this context that public health and other scholars have more recently focused their scholarship, examining the effects of immigrant-, immigration- and enforcement-related policies and laws on mental health among Latinx¹⁸ immigrants and their US born co-ethnics, that is US citizens of the same ethnicity.

Within the aforementioned context, scholarship on Latinx mental health has focused on outcomes such as psychological distress, anxiety, poor mental health days, and emotional distress. Quantitative studies focused on the associations between state level immigration policy climates and mental health, for example, have found significantly higher rates of poor mental health days (Hatzenbuehler et al., 2017) and significant increases in psychological distress (J. S. H. Wang & Kaushal, 2019) among Latinx immigrants and their US born co-ethnics following implementation of exclusionary policies and laws. Findings from qualitative and mixed methods studies also echo increased experiences with elevated psychological distress (Szkupinski Quiroga et al., 2014), as well as depression and anxiety (Raymond-Flesch et al., 2014), by Latinx immigrants and their US born co-ethnics within the context of growing anti-immigrant policies/laws and immigration enforcement practices.

A modest body of scholarship focused on the impact of the 2016 US presidential election on mental health outcomes among Latinx has more recently emerged. In their quantitative empirical inquiries, researchers have leveraged national datasets, national polls, and active participant recruitment strategies to conduct their investigations. Studies utilizing active participant recruitment strategies have largely been implemented in states with heightened anti-

¹⁶ Program promotes inter-agency collaborations between Immigration and Customs Enforcement (ICE) and state- and local-law enforcement agencies. Under these collaborative agreements, designated local law enforcement officers are permitted to perform immigration law enforcement functions.

¹⁷ Federal-state information sharing program requires state and local law enforcement agencies to submit fingerprints of all arrested individuals to the Federal Bureau of Investigation (FBI), who shares the data with ICE for enforcement. In essence, this program gives ICE a remote presence in state- and local-law enforcement agencies.

¹⁸ Within the US context, the demonym Latino/a represents persons from Mexico, countries in Central and South America, the Spanish-speaking Caribbean (i.e., Cuba, Puerto Rico, Dominican Republic). For the purposes of this paper, the term Latinx is the gender-neutral neologism being used to represent people of Latin American cultural and ethnic identities in the United States.

immigrant milieus and stringent immigration enforcement practices (Becerra et al., 2020; Zeiders, Nair, Hoyt, Pace, & Cruze, 2020). The quantitative empirical investigations have included diverse populations (e.g., Latinx adults, including sexual minority adults, Latinx adolescents), however, analysis have not been delineated by documentation status of Latinx participants (Hswen et al., 2020; Krueger et al., 2021; Zeiders et al., 2020). Studies have found the 2016 US presidential election to negatively impact mental health outcomes (i.e., poor mental health days, increased psychological distress, anxiety, and suicidal ideation) among Latinx participants (Hswen et al., 2020; Zeiders et al., 2020). Although emerging, mixed methods examinations into the impact of the 2016 US presidential election on mental health have focused on undocumented Latinx immigrants (Barajas-Gonzalez, Linares Torres, Urcuyo, Salamanca, & Kourousias, 2022). Echoing findings from the quantitative studies, mental health (i.e., anxiety, distress) among undocumented Latinx immigrants was found to be negatively impacted.

A review of extant literature exposes some gaps. The first gap relates to the limited focus of *current* quantitative studies on the associations between immigrant-, immigration- and enforcement-related policies and laws and depression, a major contributor to the overall burden of disease and a leading cause of disability (S. L. James et al., 2018; WHO, 2020). The second gap concerns analysis. Restricted by data and other methodological constraints, scholars focused on quantifying the association between punitive and stringent immigration laws/policies, as well as their related enforcement, on the aforementioned various mental health outcomes have often explored those outcomes among Latinx generally; without delineating between, documented Latinx, including US born co-ethnics, and undocumented Latinx immigrants in the analysis. Finally, lacking in this evidence base is an examination of the differential impact of the 2016 US presidential election on mental health generally, and depression more specifically, among Latinx, including those who are undocumented by considering more varied geographical contexts with respect to views on immigration and affinity for immigrants. To address these gaps and broaden understanding, I examine the effect of the anti-immigrant environment under the Trump administration on Latinx mental health through a convergent parallel mixed methods design, focusing on depression and on documentation status. While it is challenging to map community level change in mental health outcomes to a national event such as the US presidential election at a large scale, analysis of mental health screening data captured in patients' electronic health records can potentially support undertaking such inquiries. To facilitate understanding of the

effect of the 2016 US presidential election on depression outcomes, data from patients' electronic health records (years 2013-2019) and data from in-depth interviews with Latinx immigrants were examined using a mixed methods design. To underscore the importance of examining differences in mental health outcomes prior to and following the 2016 US presidential election, I first characterize the milieu towards immigrants and immigration.

Milieu: Pre- and Post-2016 US Presidential Election

A constellation of changes in structural and sociocultural factors (at macro level; e.g., immigration policies, laws, anti-immigrant rhetoric) and in community factors (at meso level; e.g., racial/ethnic profiling, raids, and deportations) during and following the 2016 US presidential election resulted in a heightened anti-immigrant sociopolitical milieu. To better understand the shifts in the sociopolitical milieu, it is important to describe the climate towards immigrants and immigration prior to and following the 2016 US presidential election.

The enforcement of immigration laws under the Obama administration was substantially strengthened, famously labeling him *the deporter in chief*¹⁹ by critics in the immigrant-rights community. Over time, however, immigration enforcement policies became narrowly focused on two key groups: the deportation of *criminals* (individuals accused of a crime) at the border and from the interior, as well as the removal of recent unauthorized border crossers (Chishti, Pierce & Bolter, 2017). That is, immigration enforcement resources were focused on perceived threats to national security, including through serious and sustained efforts to secure the nation's borders. The Obama administration did not, however, prioritize removing those who had no criminal records and had established roots in US communities (Chishti, Pierce & Bolter, 2017).

In addition to the focus on removals of individuals accused of a crime and recent border crossers, the Obama administration also increased monitoring and accountability of US employers to halt hiring of undocumented immigrants. Programs such as E-Verify²⁰ were expanded under the administration. In contrast, other pre-existing immigration policies/programs, such as worksite enforcement operations and the Secure Communities program were eventually abandoned by the Obama administration (Chishti, Pierce & Bolter, 2017). Further, efforts to build in financial accountability (i.e., paying taxes) for noncriminal undocumented immigrants residing in the US without fear of deportation were centered, as were

¹⁹ The number of deportations/removals of undocumented immigrants increased substantially under Obama's tenure relative to previous US presidents.

²⁰ Web-based system that allows enrolled employers to check whether new hires are authorized to work in the US.

amnesty programs such as Deferred Action for Childhood Arrivals (DACA). This latter program allowed deferred action from deportation for those brought to the US as children.

Obama's immigration legacy, which precedes the 2016 US presidential election cycle, can be characterized as complex and mixed. On the one hand, Obama was a harsh enforcer of immigration laws, deporting approximately 3 million undocumented immigrants over his tenure, more than any other president with the same tenure (Chishti, Pierce & Bolter, 2017). However, his executive actions also helped shield from deportation approximately 790,000 unauthorized immigrants who were brought to the US as children (Krogstad, 2017).

Characterized by the process of focusing and targeting immigration enforcement resources, the Obama immigration legacy continued to evolve, with some marked changes palpable at the beginning of the 2016 US presidential election cycle. Anti-immigrant rhetoric and hate speech, specifically directed at Latinx immigrants, was used by Donald J. Trump and, following the election, also by his administration to dehumanize, denigrate, and criminalize those communities. An intensification of xenophobic and nativist rhetoric/sentiments combined with anti-immigrant policy proposals by President Trump, for example, stimulated an anti-immigrant sociopolitical milieu (Jacobs, 2018; Nakamura, 2018). This rhetoric was further supplemented through executive orders to result in a proliferation of restrictive immigrant- and immigration-focused policies and an amplification of enforcement of immigration laws at the interior and the border, exacerbating and sustaining the anti-immigrant sociopolitical milieu (Bialik, 2018; Dickerson & Kanno-Youngs, 2019; Finley & Esposito, 2020; Finnegan & Barabak, 2018; Nixon, 2018; Pierce, 2019; Pierce et al., 2018). The executive order on enhancing public safety in the interior US, for example, entails provisions centered on removal of individuals. This enforcement activity, also implemented under the Obama administration, was broadened by the Trump administration to include *all* undocumented or otherwise deportable individuals.

Related to this, the Trump administration prioritized expansion of the 287(g) program under which local jurisdictions have the option to participate in immigration enforcement. As of January 2021, ICE had 287(g) Jail Enforcement Model²¹ agreements with 72 law enforcement agencies, nearly a 140 percent increase from the 30 agreements in effect in early 2017, and ICE

²¹ Jail Enforcement Model: ICE trains state and local officers (e.g., police) to perform various immigration enforcement functions. Once deputized to act as immigration officers, they can interrogate suspected noncitizens who have been arrested on state or local charges regarding their immigration status and place immigration detainers on those thought to be subject to removal.

also had 287(g) Warrant Service Officer²² agreements with 76 law enforcement agencies (Bolter, Israel & Pierce, 2022). The Trump administration reinstated the Secure Communities enforcement program through executive action. Moreover, immigration enforcement had often been threatened and/or highly publicized before its actual realization. One example of this is the Inadmissibility on Public Charge Grounds rule which took effect in early 2020. This rule, which relies on a rubric to determine potential dependence on the US government, is used to arbitrate admissibility into the US or vet qualifications for possibility of permanent legal status for those already in the country. Ahead of its adoption, the proposed rule caused mass fear, uncertainty, and confusion among mixed-status and undocumented families resulting in under- or dis-use of health, social, and other services despite legitimate eligibility (Capps, Fix, & Batalova, 2020).

The Trump administration also expanded immigration enforcement efforts in worksites by upgrading the E-Verify system, a web-based system that allows enrolled employers to check whether new hires are authorized to work, and by increasing the number of ICE agents, as well as the number of worksite raids (Pierce, 2019). Moreover, the number of charging documents, which enter immigrants into removal proceedings, issued by the United States Citizenship and Immigration Services increased by 52 percent from 92,000 in 2016 to 140,000 in 2019, (Guo, 2020). Over four years, the Trump administration set an unprecedented pace for executive action on immigration by completing 472 executive actions on a wide range of immigration issues from asylum to deportation policy (Bolter, Israel & Pierce, 2022).

The ephemeral nature of authoritative actions through executive orders is evident from the aforementioned changes in immigrant- and immigration-policies and their enforcement between the Obama administration and the Trump administration. The reverberating effects of the oscillating national immigration reform landscape are unignorable, as is the importance of understanding how the 2016 US presidential election and the associated heightened anti-immigrant sociopolitical milieu affected the well-being of immigrants, including their mental health. The convergent parallel mixed methods study overview follows (Table III.1).

²² Warrant Service Officer: State and law enforcement officers are trained and authorized to execute ICE administrative warrants and perform the arrest functions of an immigration officer within the law enforcement agency's jails and/or correctional facilities.

Table III.1: Election & Mental Health: Convergent Parallel Mixed Methods Study Overview

Quantitative Strand – Research Question: <i>What effects, if any, did the 2016 US presidential election have on depression among documented Latinx, undocumented Latinx, and non-Latinx White residents in Connecticut?</i>	
Specific Aim #1: To examine trends in depression outcomes/scores among documented Latinx, undocumented Latinx and non-Latinx White patients pre- and post-2016 US presidential election (from 2013-2019).	
An increase in depression outcomes/scores will be observed for documented and undocumented Latinx patients, during and following the 2016 US presidential election. A similar increase in depression outcomes/scores will not be observed for non-Latinx white patients.	
Specific Aim #2: To analyze the effect of the 2016 US presidential election on depression outcomes within and between documented Latinx, undocumented Latinx and non-Latinx White patient groups; within: change in depression (pre- to post-election) within each aforementioned groups; between: change in depression (pre- to post-election) among documented Latinx patients compared to non-Latinx White patients, undocumented Latinx patients compared to non-Latinx White patients and undocumented Latinx patients compared to documented Latinx patients.	
<p><i>H1A2:</i> Mean depression scores will be significantly higher among documented Latinx patients post-election, compared to mean depression scores in this group pre-election.</p> <p><i>H2A2:</i> Mean depression scores will either be the same or lower among non-Latinx White patients post-election, compared with mean depression scores in this group pre-election.</p> <p><i>H3A2:</i> Documented Latinx patients will have a greater change in mean depression scores from pre- to post-election period compared with change among non-Latinx White patients. This change will result in significantly higher mean depression scores in the post-election period among documented Latinx patients compared to non-Latinx White patients.</p>	<p>Tukey’s Honest Significant Difference Test (once main effect significance established)</p> <p>DepScore ~ PrePost + log(Age) + MarStat + SexBirth + Rac_Doc + + Rac_Doc*PrePost + (1 ResTowCity)</p>
<p><i>H4A2:</i> Mean depression scores will be significantly higher among undocumented Latinx patients post-election, compared with mean depression scores in this group pre-election.</p> <p><i>H5A2:</i> Undocumented Latinx patients will have a greater change in mean depression scores from pre- to post-election period compared with change among non-Latinx White patients. This change will result in significantly higher mean depression scores in the post-election period among undocumented Latinx patients compared to non-Latinx White patients.</p>	<p>Tukey’s Honest Significant Difference Test (once main effect significance established)</p>
<p><i>H6A2:</i> Undocumented Latinx patients will have a greater change in mean depression scores from pre- to post-election period compared to documented Latinx patients. This change will result in significantly higher mean depression scores in the post-election period among undocumented Latinx patients compared to documented Latinx patients.</p>	<p>Tukey’s Honest Significant Difference Test (once main effect significance established)</p> <p>DepScore ~ PrePost + log(Age) + MarStat + SexBirth + Rac_Doc + + Rac_Doc*PrePost + (1 ResTowCity)</p>
<p>Qualitative Strand: <i>To examine perspectives and experiences of undocumented Latinx individuals in mental health care, specifically pre- and post-2016 US presidential election, and to explore strategies to support mental health in their communities.</i></p> <ul style="list-style-type: none"> <i>In what ways, if any, do undocumented Latinx immigrants perceive mental health care related needs to have changed pre- and post-2016 US presidential election, including in factors that affect mental health?</i> <i>What can be done at the macro level to better support mental health in Latinx communities?</i> 	

Methods

Design

A convergent parallel mixed methods design with equal priority (Creswell & Plano Clark, 2011; Creswell, Klassen, Plano Clark, & Smith, 2011; Guest & Fleming, 2014) was used to facilitate a nuanced and robust analysis. The quantitative and qualitative strands of the research study were implemented concurrently, kept independent during analysis, and eventually mixed to ensure the comprehensiveness and triangulation of the results (Creswell & Plano Clark, 2011; Creswell, Klassen, Plano Clark, & Smith, 2011; Guest & Fleming, 2014). Data from

patients' electronic health records (EHRs) (quantitative) and experiences of Latinx immigrants (qualitative) contributed to an integrated understanding of factors that impact depression outcomes among Latinx and non-Latinx White populations. While the focus of the research questions engaged here is on the effects of the 2016 US presidential election on depression outcomes, additional determinants, as prioritized by the study participants, are considered particularly in the qualitative analysis. Figure III.1 depicts both a flowchart and the study design, including the sequence of data collection and analysis for the qualitative and quantitative strands. The Health Sciences and Behavioral Sciences Institutional Review Board at the University of Michigan (UM) and the Institutional Review Board at Community Health Center, Inc. (CHCI), respectively, approved the quantitative (UM & CHCI: May 2020)²³ and qualitative strands (UM: May 2021, CHCI: March 2021)²⁴ of the study. The qualitative strand of the study also holds a [Certificate of Confidentiality](#) from the National Institutes of Health.

Participant Recruitment & Data Collection

The qualitative strand of the study included 15 patients and the quantitative strand included 77,089 unique patients (response variable: dichotomized; repeated measures; total responses = 166,285), a subset of those patients, 30,645, (response variable: continuous; repeated measures; total responses = 42,032) in the descriptive analysis. The linear mixed effects model included 22,566 patients (response variable: continuous; single response); see Figure III.1.

Quantitative Strand

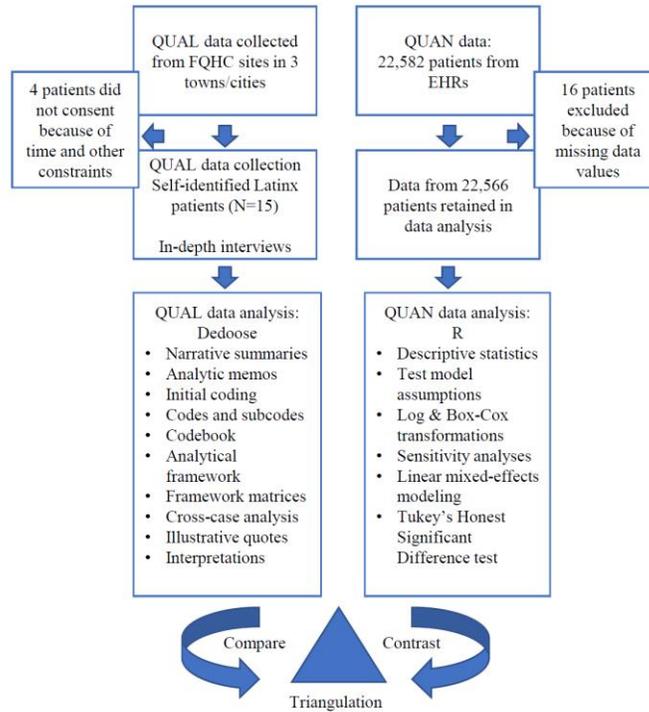
Secondary data, demographic (e.g., race/ethnicity, age, sex at birth, marital status) and mental health (i.e., depression), were leveraged from a conglomerate of sites under the purview of CHCI, a federally qualified health center (FQHC). Data were pooled from medical and behavioral electronic health records of patients. The clinical/administrative real-world electronic health record data underwent a series of iterative cleaning and coding to extract information on race and ethnicity, documentation status, and depression. The specific algorithms used are available in Chapter II. Latinx and non-Latinx White patients 18 years of age or older with a depression assessment in any of the years 2013-2019 were included in the study. Patients were not included in the descriptive analysis or the statistical models if they could not be characterized

²³ Approval granted under IRB application title: Health and Wellbeing of Undocumented Immigrants in the United States.

²⁴ Approval granted under IRB application title: Health & Wellbeing of Undocumented Immigrants in the US: Second/Qualitative Phase with Clients/Patients.

on the dependent (i.e., depression), independent (e.g., race and ethnicity) and other study variables of interest (e.g., age, marital status, sex at birth).

Figure III.1: Convergent Parallel Mixed Methods Design (Election & Mental Health): Quantitative & Qualitative Study Arms with Data Collection and Analysis Procedure



Qualitative Strand

Three CHCI sites in southwestern Connecticut were selected for recruitment of study participants. These sites are located in towns/cities in Fairfield County which accounts for approximately 54% of the Connecticut's estimated 113,000 undocumented residents (Migration Policy Institute, n.d.b). The towns/cities include Danbury, Norwalk, and Stamford.

In partnership with key CHCI staff, behavioral health care providers, and patient services advocates, purposive sampling (Patton, 2002) was used to recruit participants into the study. Participants had to meet each of the following eligibility criteria to be recruited into the study: (1) 18 years of age or older; (2) self-identified Latinx/Latino/Latina; (3) undocumented; and (4) currently in mental health care at CHCI. Once identified and with their consent, the referring staff shared potential study participants' information (e.g., patient's name, telephone number, and language preference) with the principal investigator via encrypted email messages. The participants were contacted, explained the study, and scheduled for a meeting.

Information was collected directly from the participants through individual in-depth

interviews. The interviews were conducted by the principal investigator or one of five research assistants (RAs); all trained in qualitative research methods. Interviewers were bilingual (either English-Spanish or English-Brazilian Portuguese) and self-identified as female. Further, interviewers were self-identified Latinx (N=5) or South Asian-American (N=1). Three of the six interviewers were either currently undocumented (DACA recipients) or formerly undocumented. These intersectional identities were critical factors in establishing trust and building rapport among undocumented Latinx participants. All interviewers were reflexive and frequently discussed with the study team the ways in which their identities and life experiences could shape the data collection process and related analysis. These continuous discussions were intended to help strengthen processes and minimize biases during data collection practices, and while reporting findings.

Interviews were conducted in person, either outdoors (e.g., secluded areas of public parks), at one of the CHCI clinic sites, by Zoom or by telephone, depending upon the participant's preference. The informed consent process preceded each interview. Following the participant's consent, a short demographic questionnaire (Appendix F) was implemented prior to the interview; interview guide (Appendix G). Each study component (i.e., informed consent, demographic questionnaire, and interview) was conducted in Spanish, Brazilian Portuguese, or English depending on the participant's language preference and held in locations, when in person, which maximized participant confidentiality and safety. Participants were advised to choose safe locations when participating via Zoom or telephone. During the interviews, the study staff reiterated that any information shared would be kept anonymous, gave assurance that participation was voluntary, and that the decision to participate/not participate would not affect their access to services. Participants' identities were protected through the use of pseudonyms. Interviews were conducted between June and December 2021. Participants received 25 USD honorarium, either in-person or through the post, as partial compensation for their time and expenses related to their participation in the study.

Informed by conversations among interviewers and insights gained from sharing preliminary findings with the community partner, the interview guide was iteratively adapted to probe more deeply on emerging themes. All interviews were digitally recorded. The digital recordings were transcribed in their original language verbatim and translated to English by study staff, including two additional bi-lingual RAs. Members of the research team rechecked

the transcribed and translated transcripts for accuracy. Multiple and on-going exposures to the interview data allowed the research team to pinpoint saturation of key themes related to the research questions and identify a timepoint to suspend recruitment and data collection.

Measures

Quantitative Strand

Dependent/Outcome Variable

Depression – The Patient Health Questionnaire-2 (PHQ-2) and the Patient Health Questionnaire-9 (PHQ-9) were used to measure depression. The PHQ-2 (Appendix D) consists of the first 2 items of the PHQ-9 (Kroenke et al., 2003). The items assess low mood and low interest/pleasure. Respondents are asked to estimate the frequency of these 2 symptoms over the past 2 weeks with 4 response options: “not at all” (scored 0), “several days” (scored 1), “more than half the days” (scored 2), and “nearly every day” (scored 3). The PHQ-2 score is obtained by adding the score for each question. Scores can range from 0 to 6, with a screening cut-off of ≥ 3 which has shown to have a sensitivity of 83% and a specificity of 92% for major depressive disorder (Kroenke et al., 2003). When assessed with clinical populations (e.g., primary care clinics, obstetrics/gynecology) in geographically diverse settings, the PHQ-2 has demonstrated high criterion and construct validity (Kroenke et al., 2003). The PHQ-2 can be scored as a dichotomous variable with a score of ≥ 3 considered to reflect depressed mood.

The Patient Health Questionnaire-9 (PHQ-9) (Appendix E) consists of the actual criteria on which the diagnosis of *DSM-IV* depressive disorders is based. This nine-item questionnaire²⁵ has been shown to establish provisional diagnoses of depression and to assess depression severity (Kroenke & Spitzer, 2002; Kroenke et al., 2001). As a diagnostic measure, the questionnaire has demonstrated high levels of criterion and construct validity when assessed with clinical and general populations (Löwe, Kroenke, et al., 2004; Löwe, Spitzer, et al., 2004; Martin et al., 2006). Similarly, as a measure of depression severity, the PHQ-9 has also shown good criterion and construct validity (Kroenke et al., 2001). Furthermore, when assessed across racially and ethnically diverse groups (e.g., Latinx, African American, Chinese American, non-Latinx White) in the US, the PHQ-9 has demonstrated good internal consistency ($\alpha=0.79$ to 0.89); that is, it functions fundamentally the same in subjects from these groups (Huang et al., 2006). With a sensitivity for depression of 88%, a specificity of 88%, and a positive likelihood

²⁵ A tenth item at the end of the diagnostic portion of the PHQ-9 assesses functional impairment generally.

ratio of 7.1, a score of ≥ 10 is recommended as the screening cut-off point (Kroenke & Spitzer, 2002). The PHQ-9 can be scored as a continuous variable with values ranging from 0-27 and with mean higher scores representing more severe depression (Kroenke et al., 2016; Martin et al., 2006). It can also be scored as a dichotomous variable with the cutoff score of ≥ 10 to reflect depressed mood.

CHCI uses both the PHQ-2 and the PHQ-9 to screen for depression. If patients screen positive on the PHQ-2, the health care provider is supposed to implement the PHQ-9. However, scores in the extracted database were inconsistent with implementation of the PHQ-9 as a follow-up to high PHQ-2 scores. In this study, to create a depression variable that captured as many participants as possible, depression was scored in a number of ways while utilizing both the PHQ-2 scores and the PHQ-9 scores. Both dichotomous and continuous forms of the variables (i.e., PHQ-2 and PHQ-9) were used in the analyses (Table III.2). The PHQ-9 score was dichotomized when available for a given participant (Table III.2). When not available, the PHQ-2 score was dichotomized and used. Analyses also included the PHQ-9 score as a continuous variable for participants that had a PHQ-9 assessment (Table III.2). In the latter case and given the use of the variable as a continuous measure, only participants with a PHQ-9 score were included in those analyses. As described in the section *Methods*, participants with repeated responses (descriptive) and those with single response (inferential) were included in the analysis.

Table III.2: Scoring Rubric – Response Variable (Depression)

Measure	Variable	Operationalized	Use
PHQ-2	Depressed/Not depressed	Score 3 or more = depressed Score 0-2 = Not depressed (Code: 0=not depressed mood; 1=depressed mood)	When screening cut-off is not met, code as not depressed. When screening cut-off is met but PHQ-9 score is missing, code as depressed. Use for anyone who does not have a PHQ-9 score.
PHQ-9	Depressed/Not depressed	Score 10 or more = depressed Score 0-9 = Not depressed (Code: 0=not depressed mood; 1=depressed mood)	Use when available. Use PHQ-2 when missing PHQ-9.
PHQ-9	Continuous depression scores	Score 0-27 with higher mean scores = more severe depression	Use when available. PHQ-2 score not applicable given variable is scored as a dichotomous variable.

Independent/Predictor Variables

Documentation Status – Documentation status among Latinx patients was assessed through the proxy of health care insurance coverage, a variable captured by CHCI in patient

EHRs. As used in other studies, health care insurance coverage is a reasonable proxy for documentation status, since except for emergency medical care, undocumented immigrants are ineligible for federally funded public health insurance programs, such as Medicare, Medicaid, and the US Affordable Care Act (ACA) (DuBard & Massing, 2007; Mitchell et al., 2012). Further, coverage through private health care insurance, either individually purchased or employer sponsored, is challenging for many undocumented immigrants due to the associated costs. The ACA explicitly excludes undocumented immigrants from purchasing health coverage through the State Health Insurance Exchanges, thus eliminating more affordable health care coverage options (Edward, 2014; Fernández & Rodriguez, 2017; Raymond-Flesch et al., 2014; Wallace et al., 2012). Moreover, undocumented immigrants have limited access to employer-sponsored health insurance as they often are employed in low-wage jobs and industries that are less likely to offer this option (Artiga & Diaz, 2019). Accordingly, researchers have consistently found documentation status to be a strong health care insurance coverage predictor, with undocumented immigrants having significantly lower rates of coverage (Artiga & Diaz, 2019; Carrasquillo et al., 2000; Goldman et al., 2005; Ortega et al., 2007; R. M. Rodriguez et al., 2019; Vargas Bustamante et al., 2014).

Medicaid is a viable option for lawfully present immigrants and green card holders after a waiting period of five years. To minimize misclassification of uninsured patients who may be within the five-year Medicaid eligibility waiting period as being undocumented, patient records were reviewed prospectively using a decision matrix to ascertain any changes in health care coverage, as described in depth in Chapter II.

Race & Ethnicity – Self-reported race and ethnicity were used. However, given lack of standardization in the collection of this demographic variable in EHR data, CHCI patients were coded as Latinx or non-Latinx White (all other race/ethnicity categories were dropped from the analyses) using the protocol described in Chapter II. Latinx patients were then further categorized as documented or undocumented, as also described in depth in Chapter II.

Time – The study period encapsulates 2013-2019; three years prior to, and following, the 2016 election. As explained further in the *Data Analysis* section, given the incomplete representation of depression scores in the clinic extracted database, time was operationalized as consecutive year by year (2013-2019) in the descriptive analyses and as pre- and post-2016 US presidential election in the inferential analyses; that is three years prior to (2013-2015) and three

years following 2016 (2017-2019). Data from 2016 were randomly assigned to either the pre-election period or the post-election period as described in detail in the *Data Analysis* section.

Covariates

Covariates include self-reported sex at birth, marital status, and age as reported on the patient enrollment form. The variable sex at birth was dichotomized to male or female – the only two response options made available to CHCI patients. Marital status was dichotomized to married or other due to the non-specification of the other category and the small sample size associated with specified responses in the clinic extracted database. When specified, the other category included response options such as separated, divorced, or single. Age, measured in years, was calculated based on the patient’s year of birth and date of clinic record.

Qualitative Strand

A semi-structured interview was specifically developed for this study and consisted of 21 (mainly) open-ended questions and accompanying prompts (Appendix G). While a range of interrelated topics were covered during the in-depth interviews, participants were specifically asked about changes in mental health care needs pre- and post-2016 US presidential election, including changes in factors that affect mental health. Participants were also asked about ways in which mental health in Latinx communities can be better supported outside the health care clinics (i.e., at the macro level), specifically among those who are undocumented.

Data Analysis & Integration

Quantitative Strand

All statistical analyses were conducted using R (R Foundation). Given the complexities of the secondary dataset (for detailed description see Chapter II), extensive descriptive analyses were conducted first to explore the data and examine trends in the outcome variable of interest, depression. During this phase of the analysis, depression was examined both as a dichotomous variable (combined PHQ-2 and PHQ-9 scores; depressed/not depressed using established screening cut-offs, respectively; N=77,089, some patients with repeated measures, total responses=166,285; 2013-2019) and as a continuous variable (PHQ-9 score; N=30,645, some patients with repeated measures, total responses=42,032; 2013-2019). In the descriptive analysis of depression as a binary variable, frequency count and percent were calculated for each study population of interest (i.e., non-Latinx White, documented Latinx, and undocumented Latinx) by study year (2013-2019). Further, in the descriptive analysis of depression as a continuous

variable, measures of central tendency (e.g., median, mean) and dispersion (e.g., IQR, standard deviation) were calculated to characterize each study population of interest (i.e., non-Latinx White, documented Latinx, and undocumented Latinx) by study year (2013-2019). Repeat and single observations are included in the descriptive analyses as some patients had multiple years of assessments over the seven-year study period while others had only one.

A subset of the sample was identified for inferential analysis. To satisfy the assumption of independence, I limited this analysis to patients with only one assessment for the continuous form of the dependent variable (i.e., depression; PHQ-9 score) over the study years. This group was compared with the larger sample from which they were drawn across socio-demographic characteristics to better understand how this cross-sectional study sample compared. Within the sub-sample, those who had missing responses for any study variable of interest were dropped. This decision impacted missing responses for the covariate sex at birth (N=16). Normality assumptions were also checked for continuous variables (e.g., age) by assessing kurtosis and skewness. The latter was cautiously addressed through log-transformations to facilitate analysis without compromising the data and their interpretation (Feng et al., 2014).

Other model assumptions, such as homoscedasticity, multicollinearity, and normal distribution, of linear mixed effects models were also investigated and addressed. Box-Cox transformations were undertaken to transform any non-normally distributed variable (Box & Cox, 1964; Osborne, 2010). Multicollinearity diagnostics were also performed to confirm assumptions of independence for each of the predictors through calculation of the variance inflation factor (VIF) (J. Cohen, Cohen, West, & Aiken, 2003; Hair et al., 2003) or generalized variance inflation factor (GVIF), which is used to incorporate categorical variables with more than 2 levels in VIF calculations (Fox & Monette, 1992). Models with multiple independent variables were examined to assess whether there were any indications of multicollinearity (e.g., wide confidence intervals, change in the signs as well as in the magnitudes of the partial regression coefficients) (J. H. Kim, 2019).

To maximize the sample size, patients with assessments in 2016 (year of the election) were randomly assigned to either the pre-election period (2013-2015) or the post-election period (2017-2019). They were sampled from a continuous uniform distribution (U(0,1)), with an allocation <0.5 designated as pre-election. To inform the decision whether to include patients with assessments in 2016, a sensitivity analysis was also conducted excluding those individuals.

Linear mixed effects models, with random effects at the residence level, were used to analyze the cross-sectional sample (main analysis and sensitivity analysis). The Tukey's Honest Significant Difference test was conducted for predictor variables with more than two-levels (e.g., combined race/ethnicity and documentation status) once a main effect significance was established. The contrasts were run post-hoc to assess the significance of differences between pairs of means.

Qualitative Strand

A narrative summary, capturing the key features of the narrative, emerging themes, and transitions between themes, was written for each interview (Gibbs, 2007). Informed by the topic areas in the interview guides, qualitative data were broken into discrete parts and tentative, as well as provisional codes, were developed (Saldaña, 2009). This process represented the initial step in successive coding cycles that ultimately led to the development of a theory grounded in the data (Saldaña, 2009) to elucidate mental health and related care needs among Latinx in an era of heightened anti-immigrant milieu. Reflections on the contents and nuances of the data corpus were captured through analytic memos (Saldaña, 2009).

A more focused coding process followed the initial coding where a codebook with deductive codes (e.g., themes covered by the interview guide) and inductive (e.g., newly emerging themes), as well as the associated concept-specific definitions for those codes, was developed (Saldaña, 2009). This led to a working analytical framework, with codes grouped together in categories (Gale, Heath, Cameron, Rashid, & Redwood, 2013). Interview transcripts were imported into Dedoose 9.0.46 by the analytical team for analysis using the final coding scheme/analytical framework. During the analytic process, framework matrices were generated to chart the data from the transcripts while also capturing interesting and/or illustrative quotes (Gale et al., 2013). Cross-case analyses were conducted to identify characteristics of and differences between the data as well as mapping relationships between categories (Gale et al., 2013; Miles & Huberman, 1994). Finally, the aforementioned analytic memos and narrative summaries were used to add context to emerging findings from coded transcripts, as well as to interpretations and to conclusions (Gale et al., 2013; Miles & Huberman, 1994).

Integration

As described above, the quantitative and qualitative strands of the research study were implemented concurrently, kept independent during analysis, and eventually integrated to ensure the comprehensiveness and triangulation of the results (Creswell & Plano Clark, 2011; Creswell,

Klassen, Plano Clark, & Smith, 2011; Guest & Fleming, 2014). Findings that emerged from the analysis of the data from quantitative and qualitative strands of the study, respectively, were examined independently. Areas where the findings converged, diverged, or added further insights were identified to inform study conclusions presented as an integrated narrative. The qualitative and quantitative data sources aided in establishing a nuanced and robust understanding of the effect of the 2016 US presidential election on mental health outcomes among non-Latinx White, documented Latinx, and undocumented Latinx Connecticut residents through different but complementary data, as presented in the *Discussion* section.

Results

Quantitative Strand

Socio-demographic and other characteristics of the full sample are presented in Table III.3. There were 77,089 unique adult Latinx and non-Latinx White patients who were assessed using the PHQ-2 or the PHQ-9 for at least one of the study years.²⁶ Among them, Latinx patients, independent of documentation status, comprised 58.3% of the sample and non-Latinx White patients comprised 41.7% of the sample. The vast majority (98.2%) of this sample, independent of race/ethnicity or documentation status, reported being a resident of Connecticut. Among those reporting their sex at birth, 56.4% reported female and 43.6% reported male. A majority of the patients (80.2%) reported their marital status as other; this category included response options such as separated, divorced, single, or unreported. Finally, 15.3% of the Latinx patients were assessed to be undocumented using health care insurance coverage as a proxy. Since insurance status was used to determine documentation status, uninsured patients were further assessed for time in the country, when available. The vast majority of uninsured Latinx patients reported varying periods of time in the country including beyond the waiting period for subsidized health care, while the vast majority of uninsured non-Latinx White patients reported being in the country for their entire life. Given this and also that the top countries of birth for undocumented immigrants in the Connecticut are in Latin America (Migration Policy Institute, n.d.b), *undocumented* non-Latinx White patients (N=1,163; 3.6%) have been treated as *documented* in all study analyses.

²⁶ A total of 85,191 Latinx patients and non-Latinx White patients were captured in the clinic extracted database between 2013-2019. Of these 77,089 unique adult Latinx and non-Latinx White patients were assessed using the PHQ-2 or PHQ-9 for at least one of the study years. Of the 8,102 patients who were not screened for depression, 2,267 were younger than 18 y/o. I did not find any significant differences in socio-demographic characteristics between the patients included in the analysis (N=77,089) and the patients not included in the analysis (N=5,835; White: 3,116; documented Latinx: 2,156 and non-Latinx White: 563).

In descriptively examining depression as a dichotomous variable (combined PHQ-2 and PHQ-9 scores; depressed/not depressed using established screening cut-offs, respectively) the relative frequencies did not suggest a marked percent difference within or between study populations of interest over the study years (Appendix H). As a continuous response, the distribution of the depression scores was skewed right. Therefore, the appropriate measure of central tendency, median, was paired with the interquartile range to measure spread. In descriptively examining depression as a continuous variable (PHQ-9 score) (Appendix H), measures of central tendency did not suggest a marked difference between two of the three study populations of interest over the study years. Dispersion, or variability, in the depression scores between documented Latinx and non-Latinx White patients over the study years appeared relatively similar given the overlaps in the box plots (Appendix H). In comparison to these two study populations, there seemed to be greater variability in depression scores among undocumented Latinx over the study years (Appendix H). Moreover, the median depression scores among undocumented Latinx patients appeared to be lower than documented Latinx patients and non-Latinx White patients, respectively.

Table III.3: Sociodemographic and Other Characteristics – Full Study Sample

Variable**	Category	White ($n_W = 32,142$)	Latinx Undocumented ($n_{LU} = 6,897$)	Latinx Documented ($n_{LD} = 38,050$)	Total ($n_{Total} = 77,089$)*
CT Resident	<i>Yes</i>	31,336 (97.49%)	6,837 (99.13%)	37,531 (98.64%)	75,704
	<i>No</i>	806 (2.51%)	60 (0.87%)	519 (1.36%)	1,385
Race/Ethnicity	<i>White</i>	32,142 (100.00%)	0 (0.00%)	0 (0.00%)	32,142
	<i>Latinx</i>	0 (0.00%)	6,897 (100.00%)	38,050 (100.00%)	44,947
Sex at Birth	<i>Male</i>	14,973 (46.58%)	3,086 (44.74%)	15,497 (40.73%)	33,556
	<i>Female</i>	17,152 (53.36%)	3,808 (55.21%)	22,534 (59.22%)	43,494
	<i>No response</i>	17 (0.05%)	3 (0.04%)	19 (0.05%)	39
Marital Status	<i>Married</i>	5,279 (16.42%)	2,521 (36.55%)	7,497 (19.70%)	15,297
	<i>Other</i>	26,863 (83.58%)	4,376 (63.45%)	30,553 (80.30%)	61,792
Documentation Status***	<i>Undocumented</i>	1,163 (3.62%)	6,897 (100.00%)	0 (0.00%)	8,060
	<i>Documented</i>	30,979 (96.38%)	0 (0.00%)	38,050 (100.00%)	69,029

*Note: This sample size reflects the number of unique patients (e.g., each patient is distinct from another) who were assessed on the PHQ2 or the PHQ9 for at least one of the study years. Percentages listed correspond to conditional percentages, conditioning over the race ethnicity/documentation status totals (n_W, n_{LU}, n_{LD} , respectively); **Note: The median birth year for anyone who was assessed on the PHQ-2 or the PHQ-9 for at least one of the study years is 1977 (IQR = 24 years; range = 86 years); ***Note: All undocumented White patients are treated as documented White patients in the analysis.

Sensitivity Analysis: Allocation of Patients with PHQ-9 Assessments in 2016

Table III.4 and Table III.5, respectively, capture the results of random allocation of patients in 2016 to pre- and post-election period versus no allocation of those patients. Descriptively, when examining depression as a continuous variable (PHQ-9 score), measures of central tendency did not suggest a marked difference between the two approaches. Dispersion, or variability, in the depression scores between the randomly allocated group versus non-allocated group over the study years appeared to be similar. Moreover, the median depression scores between the two approaches across the study years did not seem to differ either.

Informed by these observations and given that no major differences were observed in socio-demographic characteristics between the sub-sample of individuals with only one response/assessment and the full sample (e.g., repeated responses/assessments for some individuals), patients who had an assessment in 2016 were randomly allocated to the pre- and post-election period. This decision resulted in an increase in sample size by a total of 2,980 patients with 1,528 to “post” election period (2017-2019) and 1,452 to “pre” election period (2013-2015). Socio-demographic and other characteristics of the randomly allocated sample are shown in Table III.6. The two groups, pre-election and post-election, were found to be relatively balanced. Finally, and as mentioned previously, the dependent variable, as a continuous variable, was found to be right skewed. Box-Cox transformations were undertaken to transform the non-normally distributed variable (Box & Cox, 1964; Osborne, 2010).

Hypotheses Testing

Using linear mixed effects modeling, with random effects at the residence level, for the 22,566 unique observation sample, holding all other covariates (i.e., race/ethnicity, documentation status, sex at birth, age, marital status) *constant*, the transformed mean depression scores, on average, were found to be 0.383 points higher *before* the election compared to *after* the election for the entire population (Table III.7). This finding was statistically significant at the alpha significance level of 0.05 (CI: (0.287, 0.479)).

Table III.4: Random Allocation of 2016 Patients: Depression as a Continuous Outcome

Year*	Race Ethnicity/ Documentation Status	Depression Score Summary Statistics								
		n	Min	Q1 (25 th Percentile)	Median	Q3 (75 th Percentile)	Max	IQR	Mean	St. Dev.
Pre (2013, 2014, 2015, 2016**)	White***	5,274	0.00	6.00	10.00	16.00	27.00	10.00	10.78	6.61
	Latinx Undoc.	735	0.00	4.00	6.00	11.00	27.00	7.00	7.73	5.72
	Latinx Doc.	5,245	0.00	5.00	10.00	15.00	27.00	10.00	10.47	6.76
	Total	11,254	0.00	5.00	10.00	15.00	27.00	10.00	10.44	6.67
Post (2016**,2017, 2018, 2019)	White***	4,544	0.00	5.00	10.00	16.00	27.00	11.00	10.50	6.97
	Latinx Undoc.	900	0.00	2.00	6.00	11.00	27.00	9.00	7.03	6.07
	Latinx Doc.	5,884	0.00	3.00	9.00	15.00	27.00	12.00	9.46	7.18
	Total	11,328	0.00	4.00	9.00	15.00	27.00	11.00	9.68	7.07

*Note: Sample sizes represent the number of patients with recorded continuous PHQ-9 depression scores in only one of the given study years. Independence is now satisfied with this cross-sectional structure; **Note: Random allocation used to distribute 2016 patients (1,528 to “post” and 1,452 to “pre” in order to allocate the 2,980 patients from 2016); ***Note: All undocumented White patients are treated as documented White patients for this analysis.

Table III.5: No Random Allocation of 2016 Patients: Depression as a Continuous Outcome**

Year*	Race Ethnicity/ Documentation Status	Depression Score Summary Statistics								
		n	Min	Q1 (25 th Percentile)	Median	Q3 (75 th Percentile)	Max	IQR	Mean	St. Dev.
Pre (2013, 2014, 2015)	White***	4,603	0.00	6.00	10.00	16.00	27.00	10.00	10.79	6.60
	Latinx Undoc.	631	0.00	4.00	6.00	11.00	27.00	7.00	7.79	5.67
	Latinx Doc.	4,568	0.00	5.00	10.00	15.00	27.00	10.00	10.49	6.74
	Total	9,802	0.00	5.00	10.00	15.00	27.00	10.00	10.45	6.65
Post (2017, 2018, 2019)	White***	3,858	0.00	5.00	10.00	16.00	27.00	11.00	10.58	7.00
	Latinx Undoc.	805	0.00	2.00	6.00	11.00	27.00	9.00	7.03	6.11
	Latinx Doc.	5,137	0.00	3.00	9.00	15.00	27.00	12.00	9.33	7.21
	Total	9,800	0.00	4.00	9.00	15.00	27.00	11.00	9.63	7.11

*Note: Sample sizes represent the number of patients with recorded continuous PHQ-9 depression scores in only one of the given study years. Independence is now satisfied with this cross-sectional structure; **Note: 2016 patients excluded (2,980 patients from 2016); ***Note: All undocumented White patients are treated as documented White patients for this analysis.

Table III.6: Sociodemographic and Other Characteristics – Subset of Study Sample

	Variable***	Category	White ($n_{pre,W} = 5,274$) ($n_{post,W} = 4,544$)	Latinx Undocumented ($n_{pre,LU} = 735$) ($n_{post,LU} = 900$)	Latinx Documented ($n_{pre,LD} = 5,245$) ($n_{post,LD} = 5,884$)	Total ($n_{pre} = 11,254$)* ($n_{post} = 11,328$)*
Pre (2013,2014,2015, 2016**)	CT Resident	Yes	5,097 (96.64%)	731 (99.46%)	5,147 (98.13%)	10,975
		No	177 (3.36%)	4 (0.54%)	98 (1.87%)	279
	Sex at Birth	Male	2,317 (43.93%)	319 (43.40%)	2,023 (38.57%)	4,659
		Female	2,956 (56.05%)	416 (56.60%)	3,222 (61.43%)	6,594
		No response	1 (0.02%)	0 (0.00%)	0 (0.00%)	1
	Marital Status	Married	854 (16.19%)	241 (32.79%)	1,055 (20.11%)	2,150
		Other	4,420 (83.81%)	494 (67.21%)	4,190 (79.89%)	9,104
	Documentation Status	Undocumented	0**** (0.00%)	735 (100.00%)	0 (0.00%)	735
		Documented	5,274 (100.00%)	0 (0.00%)	5,245 (100.00%)	10,519
	Post (2016**,2017,2018, 2019)	CT Resident	Yes	4,447 (97.87%)	897 (99.67%)	5,838 (99.22%)
No			97 (2.13%)	3 (0.33%)	46 (0.78%)	146
Sex at Birth		Male	2,104 (46.30%)	357 (39.67%)	2,328 (39.56%)	4,789
		Female	2,432 (53.52%)	541 (60.11%)	3,551 (60.35%)	6,524
		No response	8 (0.18%)	2 (0.22%)	5 (0.08%)	15
Marital Status		Married	506 (11.14%)	276 (30.67%)	754 (12.81%)	1,536
		Other	4,038 (88.86%)	624 (69.33%)	5,130 (87.19%)	9,792
Documentation Status		Undocumented	0**** (0.00%)	900 (100.00%)	0 (0.00%)	900
		Documented	4,544 (100.00%)	0 (0.00%)	5,884 (100.00%)	10,428

*Note: This sample size reflects the number of unique patients who were assessed on the PHQ-9 for exactly one of the study years included in the respective group. Percentages listed correspond to conditional percentages, conditioning over the race/documentation status totals ($n_{pre,W}$, $n_{pre,LU}$, $n_{pre,LD}$, $n_{post,W}$, $n_{post,LU}$, $n_{post,LD}$, respectively); **Note: Random allocation; ***Note: The median age for anyone who was assessed on the PHQ-9 for exactly one of the “pre” years is 40 (IQR = 23.75 years; range = 80 years). The median age for anyone who was assessed on the PHQ-9 for exactly one of the “post” years is 37 (IQR = 25 years; range = 78 years); ****Note: All undocumented White patients are treated as documented White patients for this analysis.

Table III.7: Linear Mixed Effects Model Output* (H3A2, H5A2, H6A2)

Fixed Effects (n = 22,566)					
	Estimate	Std. Error	t-value	95% Confidence Intervals	General Variance Inflation Factor (GVIF)
(Intercept)	1.389	0.204	6.797	(0.9883, 1.790)	---
Binary Year with Allocation (Pre)	0.383	0.049	7.808	(0.287, 0.479)	2.040
log(Age)	0.669	0.045	15.005	(0.581, 0.756)	1.064
Marital Status (other)	0.272	0.048	5.686	(0.178, 0.366)	1.062
Sex at Birth (female)	0.283	0.035	8.172	(0.215, 0.351)	1.004
Race-Doc Status (undocumented Latinx)	-0.803	0.094	-8.545	(-0.987, -0.619)	3.388
Race-Doc Status (White)	0.342	0.054	6.379	(0.237, 0.447)	
Year*Race-Doc Status (Pre & undoc Latinx)	-0.0022	0.136	-0.016	(-0.270, 0.265)	5.299
Year*Race-Doc Status (Pre & White)	-0.247	0.0712	-3.471	(-0.387, -0.108)	
Random Effects					
Groups	Random Effect Type	Variance	Std. Dev.		
Residence (155 groups)	Random Intercept	0.1113	0.3335		
Residual		6.5318	2.5557		
Model Fit					
AIC	106,506.9				
BIC	106,595.1				
logLik	-53,242.4				
deviance	106,484.9				
df.residual	22,555				

*Note: Maximum likelihood approach used in the lme4 R package. The response variable is the transformed depression score based on the Box-Cox transformation $\frac{(y+1)^\lambda - 1}{\lambda}$ where $\lambda = 0.5678527$. Random allocation was used for those from 2016, and log(Age) was used to account for the skewed right shape of the Age variable.

Table III.8: Tukey’s Honest Significant Difference Test (H1A2 – H6A2)

	Estimate	Std. Error	z ratio	p value
Post Latinx Documented – Pre Latinx Documented	-0.3828	0.0490	-7.808	<.0001
Post White – Pre White	-0.1356	0.0520	-2.607	0.0955
Post Latinx Undocumented – Pre Latinx Undocumented	-0.3806	0.1276	-2.984	0.0339
Pre Latinx Documented – Pre White	-0.0948	0.0527	-1.797	0.4677
Post Latinx Documented – Post White	-0.3419	0.0536	-6.379	<.0001
Pre Latinx Documented – Pre Undocumented Latinx	0.8051	0.1027	7.840	<.0001
Post Latinx Documented – Post Undocumented Latinx	0.8030	0.0940	8.545	<.0001
Pre Latinx Undocumented – Pre White	-0.8999	0.1033	-8.709	<.0001
Post Latinx Undocumented – Post White	-1.1449	0.0961	-11.911	<.0001

Hypotheses: H1A2, H2A2, H4A2

H1A2: Mean depression scores will be significantly higher among documented Latinx patients post-election, compared to mean depression scores in this group pre-election. Results from the Tukey's Honest Significant Difference test (Table III.8) indicate that the transformed mean depression scores were, on average, significantly higher before the election compared to after the election among documented Latinx patients (Post Latinx Documented – Pre Latinx Documented: -0.3828; p value = <0.0001).

H2A2: Mean depression scores will either be the same or lower among non-Latinx White patients post-election, compared with mean depression scores in this group pre-election. The difference in the transformed mean depression scores among non-Latinx White patients pre- and post-election was not found to be statistically significant (Post White – Pre White: p value = 0.0955) (H2A2) (Table III.8).

H4A2: Mean depression scores will be significantly higher among undocumented Latinx patients post-election, compared with mean depression scores in this group pre-election. Results from the Tukey's Honest Significant Difference test (Table III.8) indicate that the transformed mean depression scores were, on average, significantly higher before the election compared to after the election among undocumented Latinx patients (Post Latinx Undocumented – Pre Latinx Undocumented: -0.3806; p value = 0.0339).

Hypotheses: H3A2, H5A2, H6A2

H3A2: Documented Latinx patients will have a greater change in mean depression scores between the pre- and post-election period compared with change among non-Latinx White patients. This change will result in significantly higher mean depression scores in the post-election period among documented Latinx patients compared to non-Latinx White patients. A statistically significant difference in transformed mean depression scores between pre- and post-election period was found for non-Latinx White patients compared to the difference for documented Latinx patients; with the difference for non-Latinx White patients being 0.247 points lower, on average, than the difference for documented Latinx patients (CI: (-0.387, -0.108)) (Table III.7). That is, the change in transformed mean depression scores, on average, before and after the election was found to be significantly smaller among non-Latinx White

patients compared to the change in transformed mean depression scores, on average, before and after the election among documented Latinx patients. The results from the Tukey's Honest Significant Difference test indicate that transformed mean depression scores between the pre- and post-election period for non-Latinx White patients were not statistically different (i.e., no real change in transformed mean depression scores, on average, before and after the election; Post White – Pre White: p value = 0.0955) (Table III.8). However, the transformed mean depression scores among documented Latinx patients were, on average, statistically higher in the pre-election period compared to post-election period (Post Latinx Documented – Pre Latinx Documented: -0.3828; p value = <.0001) (Table III.8). Furthermore, although the transformed mean depression scores between documented Latinx patients and non-Latinx White patients in the pre-election period were not significantly different (Pre Latinx Documented – Pre White: p value = 0.4677), there was a significant difference in the transformed mean depression scores between these two groups in the post-election period; with higher scores among non-Latinx White patients (Post Latinx Documented – Post White: -0.3419; p value = <.0001) (Table III.8). Thus, although the difference in transformed mean depression scores before and after the election was significantly smaller among non-Latinx White patients (estimate = -0.247) (Table III.7) compared to the difference in transformed mean depression scores among documented Latinx patients (i.e., greater change between pre- and post-election period among documented Latinx patients), the transformed mean depression scores were significantly higher in the post-election period for non-Latinx White patients.

H5A2: Undocumented Latinx patients will have a greater change in mean depression scores between the pre- and post-election period compared with change among non-Latinx White patients. This change will result in significantly higher mean depression scores in the post-election period among undocumented Latinx patients compared to non-Latinx White patients. The results from the Tukey's Honest Significant Difference test (Table III.8) indicate that transformed mean depression scores between the pre- and post-election period for non-Latinx White patients were not statistically different (i.e., no real change in transformed mean depression scores, on average, before and after the election; Post White – Pre White: p value = 0.0955) (Table III.8). However, the transformed mean depression scores among undocumented Latinx patients were, on average, statistically higher in the pre-election period compared to post-election period (Post Latinx Undocumented – Pre Latinx Undocumented: -0.3806; p value =

0.0339) (Table III.8). Furthermore, there was a significant difference in transformed mean depression scores between the two patient populations in the post-election period (Post Latinx Undocumented – Post White: -1.1449; p value = <.0001). That is, in comparison to undocumented Latinx patients, non-Latinx White patients were found to have, on average, significantly higher transformed mean depression scores before (Pre Latinx Undocumented – Pre White: -0.8999; p value = <.0001) and after the election (Post Latinx Undocumented – Post White: -1.1449; p value = <.0001), respectively. Thus, although the difference in transformed mean depression scores before and after the election was significantly smaller among non-Latinx White patients (estimate = -0.245) (Table III.8) compared to the difference in transformed mean depression scores among undocumented Latinx patients (i.e., greater change between pre- and post-election period among undocumented Latinx patients), the transformed mean depression scores were significantly higher in the post-election period for non-Latinx White patients.

H6A2: Undocumented Latinx patients will have a greater change in mean depression scores between pre- and post-election period compared to documented Latinx patients. This change will result in significantly higher mean depression scores in the post-election period among undocumented Latinx patients compared to documented Latinx patients. The difference in transformed mean depression scores between pre- and post-election period for undocumented Latinx patients was not significantly different as compared to the difference for documented Latinx patients (CI: (-0.270, 0.265)) (Table III.7). The transformed mean depression scores among documented Latinx patients, however, were significantly higher in the pre-election period (Pre Latinx Documented – Pre Undocumented Latinx: 0.8051; p value = <.0001) and in the post-election period (Post Latinx Documented – Post Undocumented Latinx: 0.8030; p value = <.0001) compared to undocumented Latinx patients (Table III.8). Thus, documented Latinx patients had significantly higher scores both in the pre-election and the post-election period compared to undocumented Latinx patients.

Qualitative Strand

Profile of participants

Fifteen patients from the CHCI sites, Danbury (5), Norwalk (7) and Stamford (3) (Table III.9), were interviewed using a semi-structured interview guide consisting mainly of open-ended questions and accompanying prompts (Appendix G). CHCI staff accidentally referred one participant who had arrived in the US with a green card and two participants who had eventually

acquired authorization to reside in the US. These three participants, however, were members of mixed status families, those in which one or more family members are undocumented/without legal immigration status and others have varying legal statuses. Being part of mixed-status families or being formerly undocumented enabled these participants to speak from their experiences and/or the experiences of those that they knew. Thus, they have been included in the analyses with the participants who reported their immigration status as being undocumented.

Twelve participants reported being undocumented (80%), two reported being *formerly* undocumented (13%), and one participant reported entering the US with a green card (7%). Participants had origins in Central and South American countries (e.g., Honduras, Guatemala, Brazil) (N=10), countries in the Spanish-speaking Caribbean (N=3) or Mexico (N=2). Over half (53%) of the participants reported that they arrived in the US through the *frontera*, that is by crossing one or more country borders. One-third (33%) reported that they had overstayed their visitor visas. Of the remaining participants (14%), one reported having arrived on a green card and the other participant did not share this information. Approximately two-fifths (40%) of the participants reported being in the US for more than 10 years, over one-quarter (27%) for 4-10 years, and one-third (33%) for 3 years or less.

The average age of the participants in the qualitative sample was 39 years and well over half (60%) reported either being married or in a long-term relationship. The vast majority of participants self-identified as female (87%) and reported Spanish as their preferred language (86%). Educational attainment ranged among the participants, with 40% reporting having completed secondary school and 26% completing University. Sixty percent of the participants were employed in food service, domestic work (e.g., house cleaning) or were self-employed as aestheticians or hairstylists, 27% were dependent on the income of their partners or other family members, and the remaining were either receiving disability (6%) or did not respond (6%).

Table III.9: Sociodemographic Characteristics of Participants: Qualitative Strand (N=15)

<i>Characteristics</i>	<i>Total (%) or Mean (Range, SD)</i>
Age	39.2 (20-60, 11.68)
Documentation status	
Undocumented	12 (80.0)
Undocumented to documented	2 (13.3)
Documented	1 (6.7)
Time in the US (years)	
1-3	5 (33.4)
4-6	2 (13.3)
7-10	2 (13.3)
>10	6 (40.0)
Mode of entry in US	

Crossed border(s)	8 (53.3)
Overstay visa	5 (33.3)
Green card	1 (6.7)
Unknown	1 (6.7)
Sex at birth	
Female	13 (86.7)
Male	2 (13.3)
Education	
Primary/middle	2 (13.3)
Secondary	6 (40.0)
University	4 (26.7)
Graduate school	1 (6.7)
Technical/vocational	2 (13.3)
Preferred language	
Spanish	13 (86.6)
Portuguese	1 (6.7)
English	1 (6.7)
Country of origin	
Honduras	4 (26.7)
Dominican Republic	3 (20)
Guatemala	2 (13.3)
Mexico	2 (13.3)
Brazil	2 (13.3)
Nicaragua	1 (6.7)
Ecuador	1 (6.7)
Relationship status	
Single/never married	3 (20)
Married	4 (26.7)
Divorced	3 (20)
Long-term relationship	5 (33.3)
Main income	
Family dependent	4 (26.7)
House cleaning	3 (20)
Food service	3 (20)
Self-employed	3 (20)
Disability	1 (6.7)
No response	1 (6.7)

Factors that Affect Mental Health

Diverse factors were reported to impact mental health among participants. For some participants in this study, the 2016 US presidential election had a negative, yet abbreviated, impact on their mental health. Other participants, however, predominantly framed the factors that impacted their mental health beyond distinct epochs such as pre- and post-2016 US presidential election. Many participants, for example, noted that their bounded personal agency, resulting from enduring restrictive immigration- and enforcement-related policies and laws linked to their documentation status, contributed to perpetual poor mental health. Some participants also linked their mental health care needs to other persistent causes such as their immigration experiences, impaired self-health or the health of their loved ones, and experiences in their home countries, including grievous encounters in childhood and/or adulthood. Collectively, these determinants were reported by participants to affect their mental health negatively, engendering the need for

mental health care principally related to anxiety, bipolar disorder, and risk factors for poor mental health such as fear, stress, trauma, and panic attacks. The results, beginning with the changes in mental health pre- and post-2016 US presidential election and followed by determinants of mental health unrelated to the election, are presented in detail next, using illustrative quotes and pseudonyms, while retaining original language to capture the associated nuances in meaning that would otherwise be lost when translating to English.

2016 US Presidential Election and Mental Health

Among study participants' who could speak to changes in their mental health needs pre- and post-2016 US presidential election, reactions varied. A few participants shared experiencing a heightened sense of anxiety following Trump's election linked to fears of the possibility of detainment, deportation, and among those with children, US born or immigrant, the threat of family separation:

It affected me because I was scared while Trump was President. We all know he was always against us, Latinos without documents.... I lived in fear that any moment I could be detained, be deported, that my kids would stay without their mom. Psychologically it affected me. When he got out of the presidency, I felt relieved. Not because I am out of danger. In reality, I know that it's not like that. [Ariana, 34 y/o, Guatemala]

While Ariana shares the relief ushered in upon the election of President Biden, she makes the critical recognition that her safety is not guaranteed; that the principal noticeable change was that the overt rhetoric and threats had subsided. Some, such as Isabel, reported that the temporal increase in perceived or actual immigration enforcement activities following the election of President Trump resulted in increased anxiety:

There were changes because also there was the pressure of ICE. I was afraid of leaving my house but today I feel calmer. When he [Trump] was President, all of us were scared because of ICE.... We were afraid of going outside. I used to walk or take the bus, but when I was anxious, I took an Uber to go directly to work, without the worries of the bus being stopped, being caught, and being deported. [Isabel, 40 y/o, Honduras]

Isabel underscores the pervasive threats also experienced by Ariana, the common feelings of anxiety and fear, and elaborates further by sharing changes in her behavior to mitigate the perceived danger of possible detainment and/or deportation.

Participants who also perceived the increased possibility of being detained and/or deported under the Trump administration, described that fear as present but not all consuming, as Sofia – 39 y/o, Dominican Republic – shared: “I was afraid that he would send me back to my

country. You know. There was little fear. I am not going to say 100% but there was that fear.” The variability in responses to the question regarding the impact of the 2016 election on mental health was further influenced by how participants contextualized their immediate environment during that time. For example, Andrea distinguished between her time living in Georgia, where she witnessed a high frequency of immigration raids, and her time in Connecticut, where immigration raids were less common under the Trump administration:

A great, great difference [between Georgia and Connecticut]. I have the freedom...I can say to live as a human being. Take my girls to and from school. Go where I want, go to the grocery store. By the way, we go to church. We have freedom.... Little by little you shed the fear and you feel that not all places are bad. That's beautiful because I like it here [Connecticut]. I have felt more comfortable [here]. [31 y/o, Honduras]

Through her contrasts between Georgia and Connecticut, Andrea emphasizes the critical importance of context and its influence on how perceptions of safety and security are shaped. Her perceptions of Connecticut, informed by experiences in Georgia, are in sharp contrast to those of Ariana and Andrea despite all three being residents of the same region in Connecticut. A number of participants shared that they did not experience any major changes in their mental health needs pre- and post-2016 US presidential election. Some believed that it wasn't Trump but rather God who decided their fate, as Fernanda – 52 y/o, Brazil – shared: “Not at all [impact of election on mental health]. Because for me, I don't care. In one way of course I care what's gonna happen with us [her and her son], but my belief is in God. So, I am where God wants [me to be], so I don't care who's coming or not. You know. If my time is done here is because God allowed that. So, for myself, really who's there or not [US presidency], is the same.”

Other participants differentiated between the gravity of immigration enforcement and the perpetuation of overt racism, identifying the latter as the more worry inducing for them:

No change [in mental health needs pre- and post-election]. Well, I think all Latinos can identify with the fact that he [Trump] was a racist. So, we did feel a bit harassed in what's going to happen to us.... When he was President, he would incite many racist people. That was the major worry about him. [Juliana, 49 y/o, Mexico]

Finally, participants who decided to immigrate to the US during the Trump presidency shared that his possible re-election did not have an impact on their decision to come. As Maribel – 49 y/o, Brazil – shared, her family's decision was largely influenced by the desire to give her son better opportunities: “No, I didn't think of that [when asked whether the possible re-election of Trump impacted her decision to come to the US].... When I decided to come, I was thinking it

was best for me to be able to move and give my son what I wanted to give in education.”

Participants’ narratives highlight their diverse reactions to the Trump candidacy and presidency. The impact of the 2016 US presidential election on their anxiety, stress, and worry was reportedly mixed and resulted in abbreviated effects. The similarities in factors that influenced mental health well-being, however, were more apparent when participants’ narratives focused on perpetual or abiding determinants of their mental health, such as their documentation status, immigration experiences, poor self-health or health of loved ones, and adverse experiences in home country, including during childhood and adulthood.

Persistent Determinants of (Poor) Mental Health

Documentation Status, Personal Agency, and Mental Health

Many of the study participants clearly distinguished between the sustained impact that their immigration status (i.e., being undocumented/without papers) had on their mental health within the context of day-to-day living from the acute impact of overt temporal enforcement of immigration laws/policies or rise in anti-immigrant rhetoric. For them, the former carried more weight and related consequences on their mental health well-being because, through lasting stringent immigration- and enforcement-laws and policies, being undocumented prescribed and sustained a limiting social position which persisted independent of the shifts in US presidents. Participants shared that their immigration status dually impacted their mental health by restricting their ability to actualize their fullest potential and, in doing so, engendered mental health concerns related to anxiety, worry, stress that they could not effectively address because of the limitations imposed on their social position in the US assigned through restrictive, anti-immigrant laws and policies. Job insecurity, for example, was identified as a fundamental area of concern by many participants where persisting barriers resulted in chronic anxiety and stress:

It gives me a lot of anxiety. I hardly even sleep thinking what is going to happen? Because when one does not have a stable job, when you do not have something fixed, one has a lot of anxiety when the commitments are not fixed. Do you understand me? And that does not vary. [Sofia, 39 y/o, Dominican Republic]

Sofia’s emphasis on the invariability in her position is important because it accentuates the far-reaching negative impact of US labor policies and laws on undocumented individuals’ ability to secure stable employment, a critical social determinant of health and principal precursor to health care insurance coverage, that is free from workers’ rights and work-place protections violations.

The vast majority of the participants, given that they were undocumented, did not have

health care insurance. This lack of health care coverage, engendered through health-restricting policies and laws (e.g., qualification restrictions for federal health subsidies and State Health Insurance Exchanges) that limit the realization of a universal human right, precipitated and exacerbated fear, stress, and worry for them. Out-of-pocket health care expenses were feared to result in accumulating debt, while accompanying worry ensued for many with prayers that they would not have to deal with health care needs, as Maribel – 49 y/o, Brazil – shared:

You go to the hospital and you don't know how much the bill will be. So, I am scared to death that I will trip and break my foot because they will say it will come to 10-12 thousand dollars. I get very worried. They say, you can apply, you can get a discount, but this is something that was not part of my reality. So, it's something that worries me a lot.

In differentiating her reality, Maribel highlights both the limited specialty service provision sites for health care and the finite number of health care subsidies available to undocumented immigrants. Further, for participants in behavioral health therapy, the inability to pay regularly often led to interruptions in care and involuntary decisions to ration care based on finances as opposed to needs. Thus, as a result, mental health care needs often went unmet while mounting arrears provoked further anxiety and stress. Laura shared how she experiences the cyclic nature of this predicament and exposes the salient and often irreconcilable dilemma of having identified mental health needs yet not being able to address them promptly and effectively:

I have the time but avoid appointments because I don't have the resources to pay for them. I feel that provokes more anxiety and more desperation since I see what I owe. That's why I limit the appointments. I feel that they accumulate between the expenses of my son and mine and, well, I feel it's too much for my budget. [32 y/o, Honduras]

Ariana – 34 y/o, Guatemala – also shared that the lack of health care coverage affected the frequency of her behavioral health care appointments. Moreover, she relayed that she unsuccessfully navigated a balance between her need for more sessions and her financial constraints: “If I am being honest, if it were up to me, I would see them [behavioral health care therapists] every week. But since I don't have insurance, I have to pay for my appointments. Then, that's why I have to see them every two weeks.” Many of the undocumented participants shared this predicament even though they (and their behavioral health care therapists) recognized the importance of more consistent and focused care.

Some participants reported that they attempted to address their immigration status. Most, however, had been unsuccessful. Barriers to transforming their immigration status identities to *documented*, for example, also caused feelings of hopelessness and powerlessness for them, as

shared by Laura – 32 y/o, Honduras – “I have gone to the court three times and it seems that there are not many hopes, according to the lawyers, for me. But I don’t know. Sometimes I don’t want to think about that because I do feel that it destroys me.” Laura’s ability to address feeling *destroyed* through therapy, however, is likely limited given financial and/or time constraints overwhelmingly mentioned by the vast majority of the study participants.

Immigration Experiences, Family Separation & Mental Health

Related to their documentation status, many participants shared that their experiences during border crossings, independent of how much time had passed since their entry into the US, perpetuated distress and trauma. Those experiences, often in the distant past for some participants, were ever present. Alma – 43 y/o, Ecuador – recalls seeing corpses as she crossed into the US 23 years ago: “The journey was fifteen days. I crossed the border (*frontera*). I traveled through Mexico.... The journey is awful because you face a lot of dangers. One time they [coyotes – people who smuggle immigrants across the Mexico-United States] told us to get down. We had to throw ourselves down wherever we were. I fell on a cactus. I looked around and saw a skeleton. I didn’t know if it was a man or woman. I covered my mouth not to scream. They told us to keep walking while removing the thorns. I said, oh my God, my God, I can’t anymore.” Life in the US for many participants independent of the mode of arrival, by land or air, was often overshadowed by the fact that they had left their families behind. This separation produced substantial mental health concerns for many participants, especially when family members became ill or passed since they could not leave the US to be with them:

I had never noticed it [when asked what affects her psychologically/emotionally], but when I sat down and wrote this line of more serious [mental health] crises, that was when serious illnesses happened in the family. So, when my Mom got cancer, when my Mom died, when my Dad had heart operation, when my Dad got really sick. So, aspects that affect my family bond a lot. I see that affects me a lot. [Maribel, 49 y/o, Brazil]

For these participants, being present in the US without legal authorization often resulted in being absent during family celebrations and losses in their home countries while negotiating the latter events on their own. In addition to separation from parents, some participants also experienced separation from their children, having made the difficult decision to leave them behind in their home countries. This decision coupled with unimaginable experiences during the land journey across country borders into the US resulted in substantial on-going trauma and distress:

When you enter immigration, there’s a place that we call the icebox; it is a terrible place. We were in two coolers and then they transferred us to another.... And even when they

put us on the bus for the immigrant house, that was the most terrible thing in life. In those buses, you could hardly see. There was like a fog of ice due to how cold it was. I mean it was extreme. I can tell you that I cried that day with my daughters because it is not easy to see your children like that. Your bones ached. You had a headache due to the cold. It seemed like it was done on purpose to damage another human being who is not from this country. That was one of the hardest experiences.... Imagine, after so many injuries [such as immigration journey, leaving some daughters behind in home country], you have a fear that you don't even want to go out the door.... It is because the mind is imagining those things, the things you have lived. [Andrea, 31 y/o, Honduras]

In her description, Andrea underscores the post-traumatic stress she faces as she cognitively relives those incomprehensible experiences related to her immigration journey while simultaneously coming to terms with the separation from her children. Andrea's experiences also accentuate the harmful and lasting effects of US immigration enforcement tactics on the mental health of immigrants, who arguably are already confronting a multitude of other stressors.

Impaired Self-Physical Health (or Health of Children) & Mental Health

A number of the study participants also shared the negative effects of their own acute or chronic illnesses or that of the children, US born or those that had journeyed to the US with them, on their mental health well-being resulting in worry, fear, stress, and, for some, depression. Alma – 43 y/o, Ecuador – for example, described the reverberating adverse ramifications of a devastating fall on her daily living and the resultant intense consequences on her mental health:

I started to get worried because I wasn't stable anymore and my whole body hurt. I felt that I was going to be disabled. It was the fear of not being able to do things that I was used to doing.... I have always done my things and after the accident, it was a drastic change in my life. Having to rely on my children, my husband, not walking well, and not being able to carry heavy stuff affected me and unconsciously led me to depression.

Many participants reported that their physical health needs, the resulting significant alterations in ability/mobility, and chronic physical pain had substantial effects, inducing stress, fear, and worry. Some participants also shared that the health needs of their children that resided with them had a significant impact on their mental health. Oftentimes the children's needs were also focused on mental health, as Ariana – 34 y/o, Guatemala – shared: “The other reason [why she is receiving therapy] is because of my children's diagnoses.” Ariana's three US born children have been diagnosed with various psychiatric conditions, as well as attention deficit hyperactivity disorder. Their care combined with the negative perceptions of her children by family members, including verbalizations of those perceptions, has had a significant effect on Ariana's mental health, causing stress: “Some family members have said to my children, ‘you are going to the

loquero’ [someone who works with *crazy* people]. These are very harsh words for a child. They are harsh words for an adult.... For me, it has affected me a lot.” Ariana makes a crucial point regarding judgements from family and community members on those who receive mental health care services, often making it difficult to garner needed social support while exacerbating already poor mental health. Children’s needs were reported to also focus on physical health. Andrea, a mother to four daughters, shared the impact of her child’s serious health issue on her own mental health, while also coming to terms with the decision to leave two children behind in Honduras:

That disease [sickle cell anemia] is severe. We don’t know how long God is going to give her life or if she’s going to last a long time. Or I don’t know how long God can let me have her. And so, here I have been fighting for them. Fighting every day. So, these are things that are not easy to face or live.... Well, mainly it has not been easy. It has not been easy because to be far apart from two of your children, come to a different country and to be far away, to know that you will not be able to have them close. It is not easy. [31 y/o, Honduras]

The reality of directly caring for some children while not others or caring for children from afar and the related impact on mental health well-being was echoed by many study participants. In addition to acute or chronic illnesses (self or child’s), implications related to the cost of care also persisted to impact mental health in these instances, particularly when health-restricting policies and laws (e.g., qualification restrictions for federal health subsidies and State Health Insurance Exchanges) extended beyond self to impact children who were also undocumented immigrants.

Experiences in Home Country & Mental Health

Overwhelmingly, participants also reported adverse childhood events as factors that unfavorably impacted their mental health, resulting in enduring trauma. As shared by Laura, emotional abuse in childhood was highly correlated with her mental health care needs:

The environment I grew up in was difficult because my father was an alcoholic and he would be lost for a couple of weeks.... Suddenly, he would appear and he would be in a difficult state.... It seemed like he wasn’t so conscious of his doings, of what was happening because in a moment he would say that he was going to kill us all that were around him.... That’s what I mostly remember of my childhood. [32 y/o, Honduras]

Moreover, Fernanda – 52 y/o, Brazil – noted the priority she gives to confronting the physical and emotional abuse she experienced in her childhood during her behavioral therapy sessions: “My past. There is a lot of things I have to resolve about that. My father used to be an abusive father. You know. Not like sexually at all, but emotionally, physically, how can I say, like spanking, this kind of father. So that was horrible for me.” In addition to physical abuse, Joaquín

– 20 y/o, Guatemala – shared the multiple layers of abuse he has been working through in his behavioral health therapy sessions: “I was bullied, suffered from child abuse, sexual abuse, and suffered abuse from my adoptive father. I suffered so many things.... Many people haven’t even lived through 5% of the things that have happened to me.” While some of the study participants were finally confronting harmful experiences that they lived through in their formative years, for others, the cycle of adverse childhood events continued into adulthood, forcing them to address a surplus of accumulated concerns during their behavioral health therapy sessions:

Well, my life [in Guatemala] it was difficult. I came from a home that was very, very bad. My father is an alcoholic. My mother lived through domestic violence for many years. For many years since from what I remember, she lived through domestic violence. I grew up in that life. For me, during that time, domestic violence was normal. That’s why it was so difficult.... I am receiving therapy at this moment because I also am a domestic violence victim. Any person who lives through domestic violence knows how difficult it is, how harsh it is to get out of that cycle. [Ariana, 34 y/o, Guatemala]

After sharing the emotional abuse that she experienced in childhood from her father, Laura – 32 y/o, Honduras – also reflected on the abuse she endured as an adult while in her home country:

I was in a forced relationship with the father of my son. And since the beginning it was abusive. After the abuse, well, he would blackmail me that I couldn’t abandon him because it was going to hurt my family.... And it got to the point where a lot of the time I would allow the abuse in my life because I would think that I had no other exit. I would look back to my childhood and would see that everything was suffering and that everything was insecurities. I would look at my parents and would not find them as refuge. And then, I would think that the suffering was part of life that had been chosen for me and I resigned myself.

For Laura and others who encountered detrimental experiences as children and/or adults in their country of origin, the strong desire for escape from abuse and other forms of violence precipitated their move to the United States. These participants reported carrying those unaddressed, harmful experiences with them. Others shared that they chased dreams of participating in and contributing to a country abundant in opportunities in order to advance the lives of their children, who they brought to the US with them. It is within this context, and while attending to their own well-being, that the participants reflected on how their personal agency, bounded by their social position and predetermined through racial scripts and racial projects, impacted their mental health. They overwhelmingly shared that abiding US immigration- and enforcement-related policies and laws not only resulted in stress, anxiety, worry, and fear but also limited their capacity to address those mental health needs intentionally. As reported by an

overwhelming number of the participants, mental health concerns resulting from immigrant-, immigration- and enforcement related policies and laws (e.g., health care access, labor/employment) related to their documentation status often continued for a prolonged period of time without being addressed due to numerous structural barriers. When asked how to better support Latinx mental health outside of health care clinics, particularly among those who are undocumented, the participants noted that the structural and other barriers must be removed to achieve equity in supporting mental health among Latinx communities.

Macro Level Changes to Support Undocumented Latinx Mental Health

Participants identified a number of areas where changes can be instituted to support Latinx mental health more equitably and effectively, especially among those who are undocumented. Overwhelming, participants identified that access to employment opportunities would impart undeniable mental health and other benefits as shared by Alma and Sofia:

I would like that there are more jobs in general without papers being a factor. Because not everyone can have a good job, although other jobs aren't bad. But if you don't have papers, you can't get another job or whichever job. Because they close the door. And that has also affected me because you can't be calm if you can't find a job. Because here, if you don't have papers and don't dominate English, the jobs are cleaning jobs. Jobs that don't require papers as much. [Alma, 43 y/o, Ecuador]

Companies [should] give more employment opportunities to immigrants if they have their ITIN [individual tax identification number]. That more companies will accept that type of document [so undocumented immigrants] can get benefits and decent work.... In other words, they should give [undocumented] immigrants more job opportunities. [Sofia, 39 y/o, Dominican Republic]

Alma and Sofia underscore two interrelated points that are important to them. The first is the desire for the day-to-day stability that meaningful and substantive employment can offer by lessening worry and anxiety while promoting physical well-being. The other is related to the value of *fringe* benefits associated with employment, including access to health insurance.

Moreover, the study participants overwhelmingly echoed their need for health care insurance:

It would be nice to have health insurance. Because it is what most... it is the crisis that we Hispanics live a lot in this country. When the bill arrives at your house you are very surprised by the cost of it.... It is not easy. It is not easy because the amount keeps growing. Thank God there are programs that help you financially [at the health center]. They help you apply for a sliding scale. But still, that [health care insurance] would be the most ideal for people. [Andrea, 31 y/o, Honduras]

In addition to employment opportunities and health care coverage, participants also shared that

the foundational fix is a pathway to legal status or citizenship as this would not only address the aforementioned barriers but would literally resolve all other obstacles and support mental health:

The papers are something basic. When one's given the opportunity, one changes. One is different. One has the wings to take flight.... The path is made easier for one. Right now, one is seeing how to move forward but with the fear of being deported. Afraid of that happening. Afraid that if I get sick, I won't be able to go to the hospital because of not having medical insurance. [Joaquín, 20 y/o, Guatemala]

In addition to these mostly structural recommendations to more equitably support Latinx mental health, community level as well as interpersonal level interventions were also mentioned by the participants. These included community-wide information campaigns that emphasize the importance of and normalize mental health care, the implementation of 24-hour language and culturally congruent mental health care hotlines, and the creation and maintenance of affinity support groups based on specific mental health care needs.

Discussion

In this convergent parallel mixed methods study, I explored the effect of the 2016 US presidential election on Latinx mental health, with a focus on documentation status and on depression. Specifically, in the quantitative strand of the study, the analyses centered on examining trends in depression outcomes for the years 2013 through 2019, as well as on analyzing depression outcomes pre- and post-election among and between a clinic-based sample of documented Latinx, undocumented Latinx and non-Latinx White patients in Connecticut. In the qualitative strand of the study, we conducted interviews with 15 Latinx patients engaged in behavioral health care at three CHCI sites. Participants were asked about changes in their mental health care needs pre- and post-election, as well as factors that affect mental health. Participants were also asked about ways in which mental health in Latinx communities can be supported outside the health care clinics (i.e., at the macro level), particularly among those who are undocumented. Within this purview, open-ended questions aimed to understand changes in mental health care needs among undocumented Latinx pre- and post-election, factors that affect their mental health, and to identify strategies to support mental health in Latinx communities.

A year-by-year examination of trends in depression outcomes within the study sample did not suggest marked differences in the percentage of depressed documented Latinx, undocumented Latinx, and non-Latinx White patients for the years 2013 through 2019. The percentage of depressed documented Latinx patients seem relatively similar through the years

2013-2019. Similar observations were made for the percentage depressed undocumented Latinx patients and non-Latinx White patients. Moreover, with each successive study year, there appeared to be a downward trend in median depression scores in the cross-sectional sample of documented Latinx patients and undocumented Latinx patients. Documented Latinx patients appeared to have mostly uniform depression scores from year to year, with slightly lower median depression scores in the years 2017 through 2019. Undocumented Latinx patients, on the other hand, appeared to have more variability in their median depression scores from year to year, with slightly lower median depression scores in the years 2017 through 2019. Relative to the aforementioned patient groups, non-Latinx White patients seemed to have uniform median scores throughout the study years, 2013 through 2019. In comparison to non-Latinx White patients, the median depression scores for documented Latinx patients seemed to be either equal or slightly lower from year to year. Undocumented Latinx patients seemed to have lower median depression scores compared to the non-Latinx White and documented Latinx patients from year to year. These trends in depression outcomes provide preliminary insights, establish a foundational understanding, and also foreshadow the results from the linear mixed effects model.

Results from the linear mixed effects model (with random effects at the residence level) on the dataset, which was limited to patients with only one assessment for the continuous form of the dependent variable (i.e., depression; PHQ-9 score) over the study years and controlled for other covariates (i.e., sex at birth, age, marital status), suggest that documented Latinx and undocumented Latinx patients had significantly *lower* transformed mean depression scores in the post-election period compared to the pre-election period. These findings were in the opposite direction of the hypothesized difference since transformed mean depression scores were expected to be significantly higher post-election compared to pre-election among documented Latinx patients and undocumented Latinx patients, respectively. In contrast and as hypothesized, the transformed mean depression among non-Latinx White patients were not found to be significantly different between the pre-election and post-election period.

A greater change in transformed mean depression scores pre- and post-election was hypothesized for both documented Latinx patients and undocumented Latinx patients, respectively, compared to the change in transformed mean depression scores pre- and post-election for non-Latinx White patients. Moreover, this change was hypothesized to result in significantly higher mean depression scores in the post-election period among documented

Latinx patients compared to non-Latinx White patients and among undocumented Latinx patients compared to non-Latinx White patients. Although a significantly greater difference in transformed mean depression scores prior to and following the election was observed among documented Latinx patients (relative to non-Latinx White patients) and undocumented Latinx patients (relative to non-Latinx White patients), the direction of the change was in the opposite direction than that hypothesized, with the transformed mean depression scores being significantly *lower* in the post-election period among documented Latinx patients and undocumented Latinx patients, respectively, compared to those among non-Latinx White patients in the same period.

Similarly, a greater change in transformed mean depression scores pre- and post-election was hypothesized for undocumented Latinx patients compared to the change in transformed mean depression scores for documented Latinx patients. Moreover, this change was hypothesized to result in significantly higher transformed mean depression scores in the post-election period among undocumented Latinx patients compared to the transformed mean depression scores in the post-election period among documented Latinx patients. However, the difference in transformed mean depression scores between pre- and post-election period among undocumented Latinx patients was not observed to be statistically different from the difference in the transformed mean depression scores between pre- and post-election period for documented Latinx. Moreover, undocumented Latinx patients had significantly *lower* transformed mean depression scores in the post-election period compared to those among documented Latinx patients in the same period. Thus, these findings were inconsistent with the hypotheses.

I had expected that undocumented Latinx, documented Latinx and non-Latinx White patients would differ in depression outcomes following the 2016 US presidential election, with the groups most likely to be stigmatized (i.e., undocumented Latinx and documented Latinx patients) in that sociopolitical environment experiencing higher depression scores compared to groups less likely to be stigmatized (i.e., non-Latinx White patients). However, results from the quantitative strand of my study are antithetical to the understanding established in extant literature which signals worsening mental health outcomes (e.g., poor mental health days, increased psychological distress, anxiety, and suicidal ideation) among Latinx study participants following the 2016 US presidential election (Hswen et al., 2020; Krueger et al., 2021; Zeiders et al., 2020). In sum, there are three notable results from the quantitative strand of my study that

diverge from this understanding established through existing empirical research.

The first of these is the higher depression scores observed among non-Latinx White patients compared to the Latinx patients, independent of documentation status. The second is the significantly lower depression scores observed among undocumented Latinx patients compared to the documented Latinx patients and the non-Latinx White patients, respectively. The third notable finding in the results is that any changes (decrease or increase) in mean depression scores over the years or pre- and post-2016 US presidential election, although found to be statistically significant in some instances, was relatively small (on average, less than one point); thus, likely not clinically meaningful. The divergence of these findings from the results reported in extant literature can possibly be explained by the differences in the sociodemographic characteristics of study participants, differences in sociopolitical/sociocultural context in which the studies were implemented, as well as limitations related to the focus on documentation status. Existing qualitative, quantitative and mixed methods examinations on the effect of the 2016 US presidential election on Latinx mental health, for example, have focused either on sexual minority adults (Krueger et al., 2021), early adolescents (Zeiders et al., 2020), Latina immigrant mothers (Barajas-Gonzalez et al., 2022), or population-based sample of Latinx likely representative of US population, however, difficult to discern without other granular level information on their sociodemographic characteristics (Hswen et al., 2020). Further, extant studies have largely been implemented in restrictive, anti-immigrant states and/or border communities (Becerra et al., 2020; Fleming, Lopez, et al., 2019; Nienhusser & Oshio, 2018; Zeiders et al., 2020) or using national surveys where the focus did not consider context (Hswen et al., 2020; Krueger et al., 2021). The aforementioned studies also did not center undocumented Latinx immigrants in their inquires and primarily did not focus on depression.

Results from the qualitative strand of my study suggest important nuances and, although there are some limitations associated with these results (described below in section *Limitations*), they do begin to facilitate a more robust understanding of the aforementioned notable results from the quantitative strand. While palpable for a small number of the participants in the qualitative strand of the study, the impact of the 2016 US presidential election on mental health within the sample was reported to be either abbreviated or limited. Moreover, rather than depression, participants reported experiences with increased anxiety, fear of detainment and deportation, and stress, as well as worry, during this time; outcomes not measured in my study.

These findings, which have also been reported by other empirical studies, particularly among immigrant communities (Barajas-Gonzalez et al., 2022; Becerra et al., 2020; Fleming, Lopez, et al., 2019; B. S. Jones et al., 2021; Nienhuser & Oshio, 2018), can possibly explain, or at least be a factor in understanding, the seeming constancy and comparability in the depression scores over time, as well as pre- and post-2016 US presidential election. Further, my findings related to racial and ethnic differences in depression between non-Latinx White and Latinx patients align with national studies and other empirical research. Higher depression rates among non-Latinx White compared to Latinx have been reported in national studies (Budhwani, Hearld, & Chavez-Yenter, 2014; Sclar, Robison, & Skaer, 2008). When comparing foreign-born Latinx to US-born Latinx, several studies have found prevalence of depression to be lower among the former group (Alegría et al., 2008; Alegria et al., 2007; González et al., 2010). In addition to nativity, fluency in English and length of time in the US have been found to predict a higher prevalence of depression (Alegria et al., 2007; Perreira et al., 2015; Vega et al., 2004). However, the direction of the association between exposure to the US and mental health, including depression, has been found to vary among Latinx immigrants by country of origin (Alegria et al., 2007; Perreira et al., 2015). Moreover, longer exposure to the US has been associated with improvements in mental health outcomes for some immigrant sub-groups, particularly among those emigrating from countries that are war torn, have experienced natural disasters, and/or have high prevalence of violence (Perreira et al., 2015). Although restrictions due to data capture in the extracted clinical database did not allow me to further investigate these associations through a more granular-level analysis (e.g., country of origin, time in the US), findings from existing studies may help explain the lower depression scores among the undocumented Latinx patients in my study.

Results from the qualitative strand of the study also suggest enduring determinants of poor mental health among undocumented Latinx immigrants, some that persist due to the lack of sustained changes in the federal polity that signal uncompromising support for undocumented immigrant residents in the US through permanent shifts in values, actions, policies, and laws. Engendered and sustained through on-going, state sanctioned racial projects, one's social position in the US and the associated bounded personal agency are preserved through abiding restrictive immigration- and enforcement related policies, laws, and tactics linked to documentation status and result in determinants of poor mental health. Other determinants stem from adverse experiences in countries of origin during childhood and/or adulthood.

Consistently identified as a determinant of health, documentation status has long been centered in existing literature and more recently in this study. Its links to health, however, have been largely uncovered within the context of limiting access to health and social services and the often related fear of detainment and deportation while seeking those services as a result of temporal increases in immigration enforcement practices (Baker & Chappelle, 2012; Berk & Schur, 2001; Doshi et al., 2022; Doshi et al., 2020; Hacker, Anies, Folb, & Zallman, 2015; Konczal & Varga, 2011). In addition to being identified as a precursor to exacerbating inequities in health care access, documentation status and the ascribed *lower* social position attributed to the identity of being *undocumented* have also been identified by the undocumented participants in this study as factors that consistently and negatively impact mental health through related stress, worry, and anxiety. The participants echoed the persistent negative impact of their undocumented identity, resulting from enduring restrictive immigration- and enforcement-related policies and laws, on their day-to-day lives, including the limitations placed by this identity on their personal agency and the tangible structural barriers that they consistently and consequentially navigated. This hallmark of their assigned identity, one socially constructed through ideological and cultural notions of who is truly deserving of benefits and rights, was reported to prevail over temporal overt enforcements of anti-immigrant laws and policies to impact them directly as well as indirectly, the latter with implications for their loved ones. That is, the imposed limitations as a result of being *undocumented* not only continued to affect their ability to secure substantive and meaningful employment but also posed substantial barriers to securing other social determinants of health, including health care coverage. Deficits in the latter negatively influenced participants' ability to care for their health and to care for the health of their loved ones, including their children, due to the high burden of out-of-pocket costs associated with receiving needed care. However, these challenges were reported to be on-going and not necessarily consequences solely of the 2016 US presidential election. That is, they represented abiding adverse repercussions resulting from the continuing lack of political will and commitment by the US federal government to chart equitable, comprehensive immigration reform effectively and humanely. The resulting mental health needs were not reported to be related to depression but rather to anxiety, stress, fear, and panic as observed by the temporal constancy in the depression scores in the quantitative strand of the study, including pre- and post-2016 US presidential election, which are unmarked by substantial differences in percentage

depressed or by increases in depression scores that are clinically meaningful/significant.

Related to their documentation status, participants identified trauma resulting from their immigration journeys. They also identified feeling distressed as a result of being separated from family in their country of origin. These findings are corroborated by prior studies (Gutierrez-Vazquez, Flippen, & Parrado, 2018; Sullivan & Rehm, 2005). Findings from the qualitative strand also signal the long-lasting effects of adverse childhood experiences and the resulting mental health care needs during adulthood. This discovery and understanding extends insights offered through extant literature in this area of empirical inquiry which has largely been focused on Latinx youth or Latinx adults not delineated by documentation status. Furthermore, adverse experiences in adulthood, such as experiencing physical and sexual violence, were also identified as lasting factors of poor mental health leading to feelings of fear, worry, and stress. It will be critical to further understand these perpetual factors, including their role in impinging on the mental well-being of undocumented Latinx immigrants, in order to chart informed pathways to mental health promoting interventions that directly address limiting factors that are mutable.

The participants in the qualitative strand identified multiple points for intervention. The most permanent of these was to forge pathways to legal status and/or citizenship. As progress towards equitable immigration overhaul continues to stall at the federal level, states such as Connecticut can explore additional mechanisms to support the mental health well-being of their undocumented residents. My findings suggest that Connecticut may buffer the impact of federally sponsored stringent and restrictive immigration laws and policies. Sanctuary states²⁷, such as Connecticut, do hold the promise to be effective buffering agents. However, more research is needed in this area to better understand the extent to and the manner in which sanctuary states can be protective for undocumented immigrants. In the interim, practices at the state-level such as removal of bureaucratic red tape to actualize the human right to health for all residents and opportunities for gainful, equitable employment were identified by participants in the qualitative strand as points of intervention that can actively promote their mental health.

Limitations

There are several limitations to this research study. First, the quantitative data for this study were extracted from electronic health records. EHR data are not research ready data. Thus,

²⁷ Sanctuary state/county/city: Legislation passed by states or local municipalities that protects undocumented immigrants from being detained unless the detainer has a warrant signed by a judge and the person has committed a serious felony.

due to the complexity of the data, I instituted a number of provisions, including rigorous decision rules around data coding and cleaning (as described in detail in Chapter II), which could have had a limiting impact on the analysis and related results. The identification of undocumented Latinx in the quantitative strand of the study, for example, relied on the proxy of health care insurance coverage. There is potential for misclassification of documentation status as this variable is not directly and reliably measured which could lead to biased estimates. However, participants in the qualitative strand who reported being undocumented also reported not having health insurance. Second, I focused on depression as the mental health outcome. The PHQ-2 and PHQ-9 are not measures of mental health needs such as anxiety, fear, stress, panic, distress, and trauma; those principally mentioned by the participants in the qualitative strand of the study.

Third, there are some notable differences in the sociodemographic characteristics between the quantitative sample and qualitative sample. The vast majority of the study participants in the qualitative strand self-identified as female and reported being married compared to the quantitative sample, where a little more than half self-identified as female and reported a relationship status something other than married (e.g., single, separated, divorced, or unreported). In addition, collectively participants in the qualitative strand reported being relatively highly educated (i.e., 40% reporting having completed secondary school and 26% completing University). Although these participants represented a subset of the quantitative sample, their experiences may not be wholly representative, particularly of the population of undocumented Latinx more broadly. Thus, future mixed methods studies should implement additional sampling strategies to facilitate engagement of a more representative sample in the qualitative strand. Furthermore, qualitative findings may not be wholly representative of self-identified Latinx males who are undocumented and not married/in a long term relationship given that the vast majority of the sample in the qualitative strand were self-identified Latinx females. The critical need for additional research to better understand mental health needs among Latinx males, and particularly those who are undocumented, cannot be overstated.

Fourth, this study is focused on the effects of the 2016 US presidential election. However, immigrant-, immigration- and enforcement-related policies and laws have been central to US politics for decades. Thus, the larger impact of these policies and laws and their enforcement, including through their influence at the community and interpersonal levels, on long-term mental health outcomes are more difficult to capture through this time bound study.

Fifth, recall bias may be an issue since qualitative interviews were conducted following the end of the Trump presidency. Accuracy and completeness of recollection may have been influenced by the more pro-immigrant messaging under the Biden administration, despite any significant changes in immigration policies and laws when the qualitative data were being collected. Furthermore, recollections may have been hindered by the passage of time between the 2016 US presidential election and the time when the study interviews were conducted (mid- to late-2021).

Sixth, inferences about causality are limited. While this study establishes a preliminary understanding, longitudinal studies will be necessary to determine causal pathways. Seventh, within the context of the qualitative strand of this study, generalizations certainly cannot be made beyond the participant group. The key themes I present, however, may be transferable (within the context of aforementioned limitations; e.g., mostly female participants) to undocumented Latinx immigrants in other communities with similar sociopolitical profiles as Connecticut. Eighth, while I attempted to capture diverse experiences and perspectives by employing recruitment strategies supportive of this goal, my findings may not be reflective of undocumented Latinx immigrants who are consistently more difficult to reach (e.g., immigrants who do not receive mental health care services, those who are unable to pay for care) and therefore often underrepresented in research studies. Future research should attempt to explore recruitment strategies that can better facilitate a more representative sample for inclusion.

Finally, and related to the latter point, data for the quantitative strand of the study were drawn from electronic health records and the qualitative strand engaged a subset of those individuals who at the time of the study were receiving behavioral health care. Thus, I am only able to characterize individuals who can access and are able to afford care. Since this group may represent a select subgroup of the population, results may not be representative of individuals who continuously face structural barriers to care or who experience more fragmented care due to the systemic nature of exclusion from health care access in the US, potentially the more vulnerable and marginalized individuals.

Conclusion

In this convergent parallel mixed methods study, I examined the effect of the 2016 US presidential election on Latinx mental health, with a focus on documentation status and on depression. Specifically, in the quantitative strand of the study, the analyses centered on

examining trends in depression outcomes for the years 2013 through 2019, as well as on analyzing depression outcomes pre- and post-election among and between a clinic-based sample of documented Latinx, undocumented Latinx and non-Latinx White patients in Connecticut. I had expected that undocumented Latinx, documented Latinx and non-Latinx White patients would differ in depression outcomes following the 2016 US presidential election, with the groups most likely to be stigmatized (i.e., undocumented Latinx and documented Latinx patients) in that sociopolitical environment experiencing higher depression scores compared to groups less likely to be stigmatized (i.e., non-Latinx White patients).

A year-by-year examination of trends in depression outcomes within the study sample did not suggest marked differences in the percentage of depressed documented Latinx, undocumented Latinx, and non-Latinx White patients for the years 2013 through 2019. Moreover, with each successive study year, there appeared to be a downward trend in median depression scores in the cross-sectional sample of documented Latinx patients and undocumented Latinx patients. Results from the linear mixed effects model suggest that documented Latinx and undocumented Latinx patients had significantly *lower* transformed mean depression scores in the post-election period compared to the pre-election period. In contrast, the transformed mean depression among non-Latinx White patients were not found to be significantly different between the pre-election and post-election period. Further, the transformed mean depression scores were found to be significantly *lower* in the post-election period among documented Latinx patients and undocumented Latinx patients, respectively, compared to those among non-Latinx White patients in the same period. Moreover, undocumented Latinx patients had significantly *lower* transformed mean depression scores in the post-election period compared to those among documented Latinx patients in the same period. Finally, any changes (decrease or increase) in mean depression scores over the years or pre- and post-2016 US presidential election, although found to be statistically significant in some instances as noted above, was relatively small (on average, less than one point); thus, likely not clinically meaningful.

The aforementioned findings related to racial and ethnic differences in depression between non-Latinx White and Latinx patients align with national studies and other empirical research. Higher depression rates among non-Latinx White compared to Latinx have been reported in national studies (Budhwani, Hearld, & Chavez-Yenter, 2014; Sclar, Robison, & Skaer, 2008). When comparing foreign-born Latinx to US-born Latinx, several studies have

found prevalence of depression to be lower among the former group (Alegria et al., 2008; Alegria et al., 2007; González et al., 2010). In addition to nativity, fluency in English and length of time in the US have been found to predict a higher prevalence of depression (Alegria et al., 2007; Perreira et al., 2015; Vega et al., 2004). However, the direction of the association between exposure to the US and mental health, including depression, has been found to vary among Latinx immigrants by country of origin (Alegria et al., 2007; Perreira et al., 2015). Moreover, longer exposure to the US has been associated with improvements in mental health outcomes for some immigrant sub-groups, particularly among those emigrating from countries that are war torn, have experienced natural disasters, and/or have high prevalence of violence (Perreira et al., 2015). Findings from these existing studies may help explain the lower depression scores among the undocumented Latinx patients. In addition to these possible explanations, the findings from the qualitative strand of my study also begin to facilitate a more robust understanding of the results from the quantitative strand that would have been missed otherwise. While palpable for a small number of the participants in the qualitative strand of the study, the impact of the 2016 US presidential election on mental health within the sample was reported to be either abbreviated or limited. Within the context of the 2016 US presidential election, participants reported experiences with increased anxiety, fear of detainment and deportation, and stress, as well as worry; outcomes not measured in my study.

Further, results from the qualitative strand also suggest enduring determinants of poor mental health engendered and sustained through abiding restrictive immigration- and enforcement related policies, laws, and tactics linked to documentation status such as job insecurity, lack of health care access, immigration experiences, family separation. Other determinants were found to be linked to adverse experiences in countries of origin during childhood and/or adulthood, as well as self-health and health of loved ones.

Collectively, the findings from this convergent parallel mixed method study suggest that the 2016 US presidential election may not have had a substantial and sustained impact on depression outcomes among study participants but likely had an impact on anxiety, fear, worry, and stress. The participants, however, continually navigate enduring restrictive immigration- and enforcement-related policies and laws in their day-to-day living and manage the resulting persistent stress and anxiety. My findings also suggest that sanctuary states, such as Connecticut, may partially buffer the impact of federally sponsored anti-immigrant policies and laws. More

research is needed to better understand possible buffering mechanisms and related impact on mental health, particularly among undocumented residents. Future studies should focus on not only understanding how mental health care needs among undocumented immigrants may vary across time but how they may vary across contexts. In addition to this, addressing the larger deficits in our collective understanding of mental health well-being among undocumented immigrants, deliberate efforts of future quantitative empirical studies must also focus on understanding diverse mental health care needs including anxiety and various risk factors for poor mental health, such as fear and stress. Related to this, FQHCs should consider instituting systematic and targeted screening of their patients, specifically Latinx patients, for mental health outcomes currently not consistently measured by safety-net providers, such as anxiety, stress, and trauma, in order to comprehensively identify and address mental health needs among their vulnerable patient populations, including undocumented Latinx patients. Future empirical research should also focus on further investigating the impact of adverse childhood and adulthood events on mental health of undocumented Latinx immigrants; an area of inquiry which hasn't been explored extensively in extant scholarship.

Despite the aforementioned limitations, my study makes a number of contributions to existing literature. Through this work, I have been able to chart recommendations for researchers who may want to utilize EHR data in their empirical studies and are interested in delineating documentation status of their participants. The convergent parallel mixed methods approach supported a more robust understanding and suggested that sanctuary states may play a protective role. My study findings also underscore the enduring effects of long-established, restrictive immigration- and enforcement-related policies and laws on mental health over time. The evidence presented here can be leveraged to advocate for the health and well-being of undocumented immigrants more effectively.

As explicitly stated by the participants in the qualitative strand, the overarching recommendation to support the health and well-being of undocumented immigrants is for the US federal government to implement humane and equitable immigration reform without further delay. However, as this movement teeters on the national stage, the direct consequences of this ambivalence on the well-being of those most directly affected can no longer be ignored and needs to be addressed. At the state-level, policy- and law-makers can further operationalize their state's sanctuary status through the adoption of equitable labor laws that not only create diverse

job opportunities for undocumented residents but also protect them from exploitation and workers' rights violations in the workplace. Furthermore, state leaders can forge pathways that realize access to health care for all its residents through state supported health care subsidies and/or reallocation of state and local taxes paid by undocumented immigrants so that they can actually access health care, including behavioral health, that they inherently support.

At the institutional-level, FQHCs and other health service organizations can institute diverse and comprehensive mental health screenings (i.e., anxiety, trauma, stress), as well as treatments among their patient populations, particularly their Latinx patients. In partnership, FQHCs, immigrant serving organizations, places of worship, and public health professionals can implement community level campaigns that de-stigmatize mental health care and service seeking behaviors, establish 24-hour mental health care services through hotlines or other modes, and convene language congruent and culturally convergent support groups led by mental health care professionals. The aforementioned recommendations are informed by the findings from the qualitative strand of the study. It is important that recommendations be informed by communities most impacted, as inclusive approaches to identifying solutions have the potential to be more impactful by understanding needs of communities that have historically been overlooked.

CHAPTER IV

Implications of Racialized Policing in a Heightened Anti-Immigrant Era on Mental Health of Latinx in Connecticut by Documentation Status

Background

Legislative failure to institute national immigration reform has resulted in the United States (US) federal government increasingly shifting responsibility for immigration policy enforcement to states and municipalities over the last two decades. Through voluntary (i.e., 287(g)²⁸) and mandated federal programs (i.e., Secure Communities²⁹), as well as through state- and local-level legislative actions, and numerous formal and informal agreements, there now exists a patchwork of laws and policies that call on local law enforcement agencies to actively participate in immigration enforcement (Meissner et. al., 2013; Theodore, 2011; Wong, 2012).

State- and local-level immigration enforcement activities in the interior have been closely correlated with racialization of identities through phenotypic (e.g., skin tone) and cultural (e.g., Spanish language usage) markers associated with foreignness (Molina, 2011; Morales & Curry, 2020). Moreover, in jurisdictions across the country, racial profiling is often used in immigration enforcement and local policing of immigrant communities (Aranda & Vaquera, 2015; Romero, 2006; Theodore & Habans, 2016). Racial profiling is defined as “the law enforcement practice of using race, ethnicity, national origin, or religious appearance as one factor, among others, when police decide which people are suspicious enough to warrant police stops, questioning, frisks, searches, and other routine police practices” (Harris, 2020,p.10).

While scholarship on racial profiling as a police practice has largely focused on African American communities, several scholars have reported both personal and community costs of

²⁸ Program promotes inter-agency collaborations between Immigration and Customs Enforcement (ICE) and state- and local-law enforcement agencies. Under these collaborative agreements, designated local law enforcement officers are permitted to perform immigration law enforcement functions.

²⁹ Federal-state information sharing program requires state and local law enforcement agencies to submit fingerprints of all arrested individuals to the Federal Bureau of Investigation (FBI), who shares the data with ICE for enforcement. In essence, this program gives ICE a remote presence in state- and local-law enforcement agencies.

racial profiling against Latinx³⁰ communities. Practices in racial profiling, independent of whether they occur in the purview of immigration enforcement, have been found to result in profound discriminatory and unconstitutional policing, hyper-surveillance of communities, and loss of police legitimacy and related trust (Harris, 2020; Morales & Curry, 2020). Further, racial profiling tactics that hone in on markers of foreignness have been central to establishing and fortifying the driving-to-deportation pipeline, where traffic stops resulting from minor traffic infractions have the potential to quickly escalate thereby ushering undocumented immigrants³¹ into detention and/or deportation (Aranda & Vaquera, 2015; Donato & Rodríguez, 2014; Stuesse & Coleman, 2014). Moreover, qualitative research among undocumented immigrants points to a heightened perception of racial profiling by the police and indicates that officers were more likely to use markers of foreignness (e.g., language use, country of origin, legal status) in their arrest narratives after police participation in immigration enforcement (Donato & Rodríguez, 2014). In addition, quantitative research findings from four urban counties across the US suggest that negative encounters with police contribute to hesitancy to report crimes and to social isolation, particularly among undocumented Latinx immigrants (Theodore & Habans, 2016).

Among Latinx immigrants, the possibility of being racially profiled, the resultant interaction with local law enforcement, and the fear of deportation have been found to be factors associated with reduced utilization of health services and worse health (Baker & Chappelle, 2012; Doshi et al., 2022; Fleming, Lopez, et al., 2019; Konczal & Varga, 2011; Nichols et al., 2018). In addition to the increased possibility for unmet health needs as a result of delays in seeking needed health care, these findings also signal the potential for high levels of stress and related compromised mental health. A review of the literature, however, exposes gaps in advancing an understanding of racial profiling as a policing practice and Latinx communities.

The first gap relates to the limited focus of current studies on racial profiling as a policing practice used against Latinx residents, US born and foreign born. The vast majority of the studies focus on attitudes about and experiences with police among African Americans in relation to non-Latinx Whites. The second gap pertains to a dearth in current quantitative studies on the

³⁰ Within the US context, the demonym Latino/a represents persons from Mexico, countries in Central and South America, the Spanish-speaking Caribbean (i.e., Cuba, Puerto Rico, Dominican Republic). For the purposes of this paper, the term Latinx is the gender-neutral neologism being used to represent people of Latin American cultural and ethnic identities in the United States.

³¹ Undocumented immigrants are defined as foreign nationals who lack legal authorization to be in the United States. These individuals either entered the United States without undergoing required immigration procedures or entered the United States on a temporary visa and overstayed the expiration date of the visa.

associations between racial profiling as a policing practice and mental health, including depression, a major contributor to the overall burden of disease and a leading cause of disability (S. L. James et al., 2018; WHO, 2020). Finally, lacking in the evidence base is the examination of racial profiling practices and the use of other discretionary powers by law enforcement in diverse geographic regions. Existing literature, though undeniably critical and relevant, has largely focused on racial profiling as a policing practice within the purview of immigration enforcement in states with grossly stringent anti-immigrant laws and policies or in large US cities outside the focus on immigration enforcement (C. C. G. Hernandez, 2009; Monk, 2019; Romero, 2006; Smith & Petrocelli, 2001). To contribute to current understanding and advance extant scholarship, I take advantage of natural experiments created by variations in the implementation of an anti-racial profiling law across Connecticut towns/cities (described below in the section *Connecticut's Anti-Racial/Ethnic Profiling Law*) to study their effects on depression among Latinx by documentation status. Specifically, through a convergent parallel mixed methods design, I analyze the effect of differential adherence by local law enforcement agencies to the state-level anti-racial/ethnic profiling traffic stop law on depression outcomes among documented Latinx, undocumented Latinx, and non-Latinx White residents. To facilitate understanding of the implications of racialized policing on depression outcomes, I used secondary demographic (e.g., race/ethnicity, marital status) and mental health (i.e., depression) data pooled from electronic health records (EHRs) of patients served by Community Health Center, Inc. (CHCI), a federally qualified health center (FQHC) that has a state-wide presence. I also used data related to traffic stops records reported by municipal police departments and state police; the latter patrol smaller Connecticut towns/villages. To further facilitate a more nuanced and robust understanding, data from in-depth interviews with Latinx immigrants were also analyzed. Before describing the study design, related methods, and results, I first characterize the state of Connecticut in terms of its sociodemographic characteristics, its disposition to immigrants and immigration, and further describe the state's anti-racial/ethnic profiling law.

Connecticut

Socio-demographic Characteristics – As of July 2021, there were 3.6 million people living in the state of Connecticut with varying racial and ethnic profiles, including two-thirds White (65.9%), one-sixth Latinx (16.9%), one-eighth Black/African American (12.2%), with Asian, American Indian, and Pacific Islander encompassing the remaining 5% (US Census

Bureau, 2021). Data from the American Community Survey (2015-2019) estimated that 14.8% of Connecticut residents were born outside the US with nearly half (45.3%) of those born in Latin America (Migration Policy Institute, n.d.c; US Census Bureau, 2021). The foreign-born population includes anyone who is not a US citizen or a US national at birth. Thus, included among this group are undocumented immigrants. Estimated at 113,000, undocumented immigrants in Connecticut – the vast majority of whom are Latinx – constituted approximately 3.2% of the state’s population between 2015-2019 (Migration Policy Institute, n.d.b).

Connecticut’s Disposition to Immigrants & Immigration – Historically, Connecticut has had a complex and disparate history with immigrants and immigration, one that arguably continues to characterize the current milieu. A patchwork of both inclusive and exclusive programs/policies related to undocumented residents concurrently exist across the state. An illustrative example of this co-existing dichotomy is the issuance of the Elm City Resident Card by the city of New Haven and the deputization of local law enforcement to conduct immigration enforcement in the city of Danbury.

The Elm City Resident Card, the first ever municipal card in the US, was made available to all New Haven residents in 2007 (Lagunes, Levin, & Ditzmann, 2012). The program sought to safeguard and support undocumented city dwellers by allowing them to participate in transactions that required proof of identification, such as banking. The reception and use of the resident identification card have been mixed over the years, partly in response to reverberating effects of the oscillating national immigration reform landscape. The city of New Haven and the state of Connecticut, however, became newsworthy trailblazers with similar cards being adopted by cities throughout the country (Lagunes, Levin, & Ditzmann, 2012).

Just one year thereafter, in 2008, the state of Connecticut once again garnered attention in the then larger national immigration debate. The Common Council of Danbury, a city just 35 miles from New Haven, voted in favor of a partnership with the federal government under program 287(g) and agreed to collaborate with Immigration and Customs Enforcement (ICE) in local immigration enforcement. Although the city ended this partnership with federal immigration officers in early 2013, the question of whether to re-engage has been perpetually debated as the program is (re)prioritized for expansion under various federal administrations.

While the above illustrative examples are not wholly within the purview of this study’s time period (2013-2019), they have been shared to provide context into the local-level

environments. Moreover, while other municipalities in Connecticut have not as readily embraced program 287(g) as the city of Danbury, the vacillating focus on this program at the national level, including more recently under the Trump administration, arguably, has significance and consequences for all localities through its tangible perpetuation of threats against immigrants, and particularly against undocumented immigrants.

A more recent review of state-level policies that influence the health of undocumented immigrants ranks Connecticut along the more inclusive end of the policy spectrum (Rodríguez, Young & Wallace, 2015). For example, Connecticut adopted legislation, the Transparency and Responsibility Using State Tools (TRUST) Act, to limit interactions between local law enforcement agencies and ICE; adopted in 2013 and revised in 2019 (Rodríguez, Young & Wallace, 2015). Further, Connecticut's sanctuary state³² status is in direct support to further limiting local law enforcement agencies' cooperation with federal immigration efforts at the state level. Finally, Connecticut is one of 16 US states to provide driver's licenses, a key resource for accessing employment and health/social services, to undocumented residents (Migdon, 2022). The adoption of the state's actions towards fostering the health and well-being of undocumented immigrants varies locally, however.

Connecticut's Anti-Racial/Ethnic Profiling Law – A growing national concern over the use of racial profiling as a policing practice led state legislatures across the country to mandate data collection, as well as to develop laws prohibiting law enforcement from using racial profiling. Connecticut first enacted its anti-racial profiling law, the Alvin W. Penn Racial Profiling Prohibition Act, in 1999. The Act prohibits law enforcement agencies from stopping, detaining, or searching any motorist when the stop is motivated solely by considerations of race, color, ethnicity, age, gender, or sexual orientation.

In 2012, the Connecticut General Assembly made several changes to improve documentation of traffic stops, to enhance transparency for motorists, and to communicate associated penalties to law enforcement agencies for non-compliance. Police agencies, for example, were required to adopt a written policy against racial profiling practices. Moreover, police officers were obligated to record traffic stop information using methods standardized by the Racial Profiling Prohibition Advisory Board and the Connecticut Office of Policy and

³² Sanctuary state/county/city: Legislation passed by states or local municipalities that protects undocumented immigrants from being detained unless the detainer has a warrant signed by a judge and the person has committed a serious felony.

Management. Police officers were required to record the following traffic stop related information: (a) date and time of stop, (b) location of stop, (c) police officer identification, (d) race, color, ethnicity, age, and gender of motorist (based on observation and perception of the officer), (e) nature of alleged traffic violation and the statutory citation of the violation, and (f) disposition of the stop (e.g., whether a warning, citation, or summons was issued, whether a search was conducted, and whether an arrest was made). The Secretary of the Connecticut Office of Policy and Management was given the authority to withhold state funds for non-compliance to the law. The aforementioned changes to the law took effect in the fall of 2013. In Connecticut, a total of 94 municipal police departments, 11 district troops (i.e., state police), and 13 special agencies (e.g., campus police) have the authority to conduct traffic stops, thus, they all fall under the purview of the law.

Within these state- and local-level contexts, the overarching goal of this convergent parallel mixed methods study (Creswell & Plano Clark, 2011; Creswell, Klassen, Plano Clark, & Smith, 2011; Guest & Fleming, 2014) is to investigate perspectives, experiences, and associations between policing practices, racial profiling, and mental health outcomes, including depression, among Latinx residents in Connecticut with a specific focus on those who are undocumented. The convergent parallel mixed methods study overview follows (Table IV.1).

Table IV.1: Racialized Policing & Mental Health: Convergent Parallel Mixed Methods Study Overview

<p>Quantitative Strand – Research Question: <i>What effects, if any, does racialized policing have on depression among documented Latinx, undocumented Latinx, and non-Latinx White residents in Connecticut?</i></p>
<p>Specific Aim: To examine the effect of racialized policing on depression outcomes/scores among documented Latinx, undocumented Latinx and non-Latinx White patients comparing those with residences in towns/cities under the purview of police that have <i>ever</i> been identified versus those with residences in towns/cities under the purview of police that have <i>never</i> been identified for statistically significant racial and ethnic disparities in their policing practices.</p> <ul style="list-style-type: none"> • The percentage of depressed documented and undocumented Latinx patients with residences in towns/cities with racialized policing practices will be greater compared to the percentage of depressed documented and undocumented Latinx patients with residences in towns/cities without racialized policing practices, respectively. • The percentage of depressed documented and undocumented Latinx patients, respectively, with residences in towns/cities with racialized policing practices will be greater compared to the percentage of depressed non-Latinx White patients with residences in the same towns/cities. Undocumented Latinx patients will represent the greatest percentage of depressed individuals. • Depression outcomes/scores will appear higher among documented and undocumented Latinx patients with residences in towns/cities with racialized policing practices compared to the documented and undocumented Latinx patients with residences in towns/cities without racialized policing practices, respectively. Similar differences in depression outcomes/scores will not be observed for non-Latinx White patients.

- Depression outcomes/scores will appear higher among documented and undocumented Latinx patients, respectively, with residences in towns/cities with racialized policing practices compared to the non-Latinx White patients in the same towns, with undocumented Latinx patients having the highest depression scores.

***Qualitative Strand** – To examine perspectives and experiences of undocumented Latinx individuals in mental health care with community policing, including its impact on their mental health over time.*

- What are the perceptions and experiences of undocumented Latinx individuals or experiences of others that they know with local law enforcement agencies (i.e., police)?
- What has been the impact, if any, of community policing on the mental health of undocumented Latinx individuals, including over time?

Methods

Design

A convergent parallel mixed methods design with equal priority (Creswell & Plano Clark, 2011; Creswell, Klassen, Plano Clark, & Smith, 2011; Guest & Fleming, 2014) was used to facilitate a nuanced and robust analysis. The quantitative and qualitative strands of the research study were implemented concurrently, kept independent during analysis, and eventually mixed to ensure the comprehensiveness and triangulation of the results (Creswell & Plano Clark, 2011; Creswell, Klassen, Plano Clark, & Smith, 2011; Guest & Fleming, 2014). Data from patients' EHRs (quantitative) and experiences of Latinx immigrants (qualitative) contributed to a more integrated understanding of the effect of racialized policing on depression outcomes among Latinx and non-Latinx White populations, including over time. Figure IV.1 depicts both a flowchart and the study design, including the sequence of data collection and analysis for the qualitative and quantitative strands. The Health Sciences and Behavioral Sciences Institutional Review Board at the University of Michigan (UM) and the Institutional Review Board at CHCI, respectively, approved the quantitative (UM & CHCI: May 2020)³³ and qualitative strands (UM: May 2021, CHCI: March 2021)³⁴ of the study. The qualitative strand of the study also holds a [Certificate of Confidentiality](#) from the National Institutes of Health.

Participant Recruitment & Data Collection

The qualitative strand of the study included 15 patients and the quantitative strand included 77,089 patients (response variable: dichotomized; most recent response used) and a subset of those patients, 30,645 (response variable: continuous; most recent response used) in the descriptive analysis; see Figure IV.1.

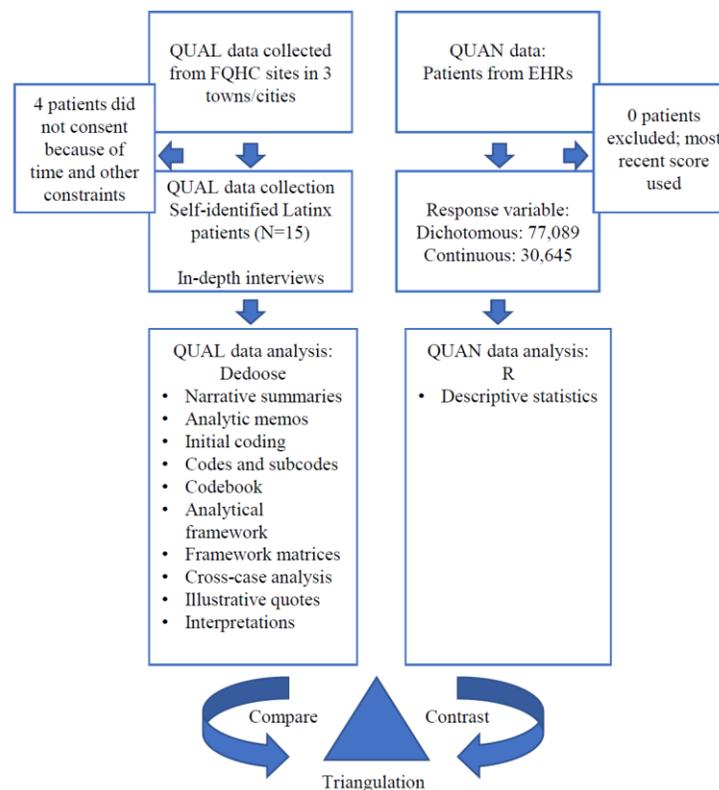
³³ Approval granted under IRB application title: Health and Wellbeing of Undocumented Immigrants in the United States.

³⁴ Approval granted under IRB application title: Health & Wellbeing of Undocumented Immigrants in the US: Second/Qualitative Phase with Clients/Patients.

Quantitative Strand

Secondary data, demographic (e.g., race/ethnicity, age, sex at birth, marital status) and mental health (i.e., depression), were leveraged from a conglomerate of sites under the purview of CHCI. Data were pooled from medical and behavioral electronic health records of patients. The clinical/administrative real-world electronic health record data underwent a series of iterative cleaning and coding to extract information on race and ethnicity, documentation status, and depression. The specific algorithms used are available in Chapter II. Latinx and non-Latinx White patients 18 years of age or older with a depression assessment in any of the years 2013-2019 were included in the study. Patients were not included in the analysis if they could not be characterized on the dependent (i.e., depression), independent (e.g., race and ethnicity) and other study variables of interest (e.g., age, marital status, sex at birth).

Figure IV.1: Convergent Parallel Mixed Methods Design (Racialized Policing & Mental Health): Quantitative & Qualitative Study Arms with Data Collection and Analysis Procedure



Data related to town/city level racial and ethnic profiling practices by local law enforcement agencies was leveraged from an on-going statewide study which is implemented by the Institute for Municipal and Regional Policy at the University of Connecticut. The study is

mandated by Connecticut's anti-racial profiling law, entitled the Alvin W. Penn Racial Profiling Prohibition Act. The Act prohibits any law enforcement officer from stopping, detaining, or searching any motorist when the stop is motivated solely by considerations of race, color, ethnicity, age, gender, or sexual orientation. Connecticut police agencies are required to submit aforementioned traffic stop data for analysis on a monthly basis. With all police agencies in compliance with data submission requirements every year, over 18 million data points are collected annually for analysis. Data are currently available from 2013 through 2020.

Qualitative Strand

Three CHCI sites in southwestern Connecticut were selected for recruitment of study participants. These sites are located in towns/cities in Fairfield County which accounts for approximately 54% of the Connecticut's estimated 113,000 undocumented residents (Migration Policy Institute, n.d.b). The towns/cities include Danbury, Norwalk, and Stamford. Of these, Norwalk has been flagged for racialized policing practices.

In partnership with key CHCI staff, behavioral health care providers, and patient services advocates, purposive sampling (Patton, 2002) was used to recruit participants into the study. Participants had to meet each of the following eligibility criteria to be recruited into the study: (1) 18 years of age or older; (2) self-identified Latinx/Latino/Latina; (3) undocumented; and (4) currently in mental health care at CHCI. Once identified and with their consent, the referring staff shared potential study participants' information (e.g., patient's name, telephone number, and language preference) with the principal investigator via encrypted email messages. The participants were contacted, explained the study, and scheduled for a meeting.

Information was collected directly from the participants through individual in-depth interviews. The interviews were conducted by the principal investigator or one of five research assistants (RAs); all trained in qualitative research methods. Interviewers were bilingual (either English-Spanish or English-Brazilian Portuguese) and self-identified as female. Further, interviewers were self-identified Latinx (N=5) or South Asian-American (N=1). Three of the six interviewers were either currently undocumented (DACA recipients) or formerly undocumented. These intersectional identities were critical factors in establishing trust and building rapport among undocumented Latinx participants. All interviewers were reflexive and frequently discussed with the study team the ways in which their identities and life experiences could shape the data collection process and related analysis. These continuous discussions were intended to

help strengthen processes, minimize biases during data collection practices and while reporting study findings.

Interviews were conducted in person, either outdoors (e.g., secluded areas of public parks), at one of the CHCI clinic sites, by Zoom or by telephone, depending upon the participant's preference. The informed consent process preceded each interview. Following the participant's consent, a short demographic questionnaire (Appendix F) was implemented prior to the interview; interview guide (Appendix G). Each study component (i.e., informed consent, demographic questionnaire, and interview) was conducted in Spanish, Brazilian Portuguese, or English depending on the participant's language preference and held in locations, when in person, which maximized participant confidentiality and safety. Participants were advised to choose safe locations when participating via Zoom or telephone. During the interviews, the study staff reiterated that any information shared would be kept anonymous, gave assurance that participation was voluntary, and that the decision to participate/not participate would not affect their access to services. Participants' identities were protected through the use of pseudonyms. Interviews were conducted between June and December 2021. Participants received 25 USD honorarium, either in-person or through the post, as partial compensation for their time and expenses related to their participation in the study.

Informed by conversations among interviewers and insights gained from sharing preliminary findings with the community partner, the interview guide was iteratively adapted to probe more deeply on emerging themes. All interviews were digitally recorded. The digital recordings were transcribed in their original language verbatim and translated to English by study staff, including two additional bi-lingual RAs. Members of the research team rechecked the transcribed and translated transcripts for accuracy. Multiple and on-going exposures to the interview data allowed the research team to pinpoint saturation of key themes related to the research questions and identify a timepoint to suspend recruitment and data collection.

Measures

Quantitative Strand

Dependent/outcome Variable

Depression – The Patient Health Questionnaire-2 (PHQ-2) and the Patient Health Questionnaire-9 (PHQ-9) were used to measure depression. The PHQ-2 (Appendix D) consists of the first 2 items of the PHQ-9 (Kroenke et al., 2003). The items assess low mood and low

interest/pleasure. Respondents are asked to estimate the frequency of these 2 symptoms over the past 2 weeks with 4 response options: “not at all” (scored 0), “several days” (scored 1), “more than half the days” (scored 2), and “nearly every day” (scored 3). The PHQ-2 score is obtained by adding the score for each question. Scores can range from 0 to 6, with a screening cut-off of ≥ 3 which has shown to have a sensitivity of 83% and a specificity of 92% for major depressive disorder (Kroenke et al., 2003). When assessed with clinical populations (e.g., primary care clinics, obstetrics/gynecology) in geographically diverse settings, the PHQ-2 has demonstrated high criterion and construct validity (Kroenke et al., 2003). The PHQ-2 can be scored as a dichotomous variable with a score of ≥ 3 considered to reflect depressed mood.

The Patient Health Questionnaire-9 (PHQ-9) (Appendix E) consists of the actual criteria on which the diagnosis of *DSM-IV* depressive disorders is based. This nine-item questionnaire³⁵ has been shown to establish provisional diagnoses of depression and to assess depression severity (Kroenke & Spitzer, 2002; Kroenke et al., 2001). As a diagnostic measure, the questionnaire has demonstrated high levels of criterion and construct validity when assessed with clinical and general populations (Löwe, Kroenke, et al., 2004; Löwe, Spitzer, et al., 2004; Martin et al., 2006). Similarly, as a measure of depression severity, the PHQ-9 has also shown good criterion and construct validity (Kroenke et al., 2001). Furthermore, when assessed across racially and ethnically diverse groups (e.g., Latinx, African American, Chinese American, non-Latinx White) in the US, the PHQ-9 has demonstrated good internal consistency ($\alpha=0.79$ to 0.89); it functions fundamentally the same in subjects from these groups (Huang et al., 2006). With a sensitivity for depression of 88%, a specificity of 88%, and a positive likelihood ratio of 7.1, a score of ≥ 10 recommended as the screening cut-off point (Kroenke & Spitzer, 2002). The PHQ-9 can be scored as a continuous variable with values ranging from 0-27; mean higher scores representing more severe depression (Kroenke et al., 2016; Martin et al., 2006). It can also be scored as a dichotomous variable with the cutoff score of ≥ 10 to reflect depressed mood.

CHCI uses both the PHQ-2 and the PHQ-9 to screen for depression. If patients screen positive on the PHQ-2, the health care provider is supposed to implement the PHQ-9. However, scores in the extracted database were inconsistent with implementation of the PHQ-9 as a follow-up to high PHQ-2 scores. In this study, to create a depression variable that captured as many participants as possible, depression was scored in a number of ways while utilizing both the

³⁵ A tenth item at the end of the diagnostic portion of the PHQ-9 assesses functional impairment generally.

PHQ-2 scores and the PHQ-9 scores. Both dichotomous and continuous forms of the variables (i.e., PHQ-2 and PHQ-9) were used in the analyses (Table IV.2). The PHQ-9 score was dichotomized when available for a given participant (Table IV.2). When not available, the PHQ-2 score was dichotomized and used. Analyses also included the PHQ-9 score as a continuous variable for participants that had a PHQ-9 assessment (Table IV.2). In the latter case and given the use of the variable as a continuous measure, only participants with a PHQ-9 score were included in those analyses. As described in the section *Methods*, participants with repeated measures were included only once in the analysis using their most recent PHQ-2 or PHQ-9 score.

Table IV.2: Scoring Rubric – Response Variable (Depression)

Measure	Variable	Operationalized	Use
PHQ-2	Depressed/Not depressed	Score 3 or more = depressed Score 0-2 = Not depressed (Code: 0=not depressed mood; 1=depressed mood)	When screening cut-off is not met, code as not depressed. When screening cut-off is met but PHQ-9 score is missing, code as depressed. Use for anyone who does not have a PHQ-9 score.
PHQ-9	Depressed/Not depressed	Score 10 or more = depressed Score 0-9 = Not depressed (Code: 0=not depressed mood; 1=depressed mood)	Use when available. Use PHQ-2 when missing PHQ-9.
PHQ-9	Continuous depression scores	Score 0-27 with higher mean scores = more severe depression	Use when available. PHQ-2 score not applicable given variable is scored as a dichotomous variable.

Independent/predictor Variables

Documentation Status – Documentation status among Latinx patients was assessed through the proxy of health care insurance coverage, a variable captured by CHCI in patient EHRs. As used in other studies, health care insurance coverage is a reasonable proxy for documentation status, since except for emergency medical care, undocumented immigrants are ineligible for federally funded public health insurance programs, such as Medicare, Medicaid, and the US Affordable Care Act (ACA) (DuBard & Massing, 2007; Mitchell et al., 2012). Further, coverage through private health care insurance, either individually purchased or employer sponsored, is challenging for many undocumented immigrants due to the associated costs. The ACA explicitly excludes undocumented immigrants from purchasing health coverage through the State Health Insurance Exchanges, thus eliminating more affordable health care coverage options (Edward, 2014; Fernández & Rodriguez, 2017; Raymond-Flesch et al., 2014; Wallace et al., 2012). Moreover, undocumented immigrants have limited access to employer-

sponsored health insurance as they often are employed in low-wage jobs and industries that are less likely to offer this option (Artiga & Diaz, 2019). Accordingly, researchers have consistently found documentation status to be a strong health care insurance coverage predictor, with undocumented immigrants having significantly lower rates of coverage (Artiga & Diaz, 2019; Carrasquillo et al., 2000; Goldman et al., 2005; Ortega et al., 2007; R. M. Rodriguez et al., 2019; Vargas Bustamante et al., 2014).

Medicaid is a viable option for lawfully present immigrants and green card holders after a waiting period of five years. To minimize misclassification of uninsured patients who may be within the five-year Medicaid eligibility waiting period as being undocumented, patient records were reviewed prospectively using a decision matrix to ascertain any changes in health care coverage, as described in depth in Chapter II.

Race & Ethnicity – Self-reported race and ethnicity were used. However, given lack of standardization in the collection of this demographic variable in EHR data, CHCI patients were coded as Latinx or non-Latinx White (all other race/ethnicity categories were dropped from the analyses) using the protocol described in Chapter II. Latinx patients were then further categorized as documented or undocumented, using protocols described in depth in Chapter II.

Policing Practices –The Institute for Municipal and Regional Policy at the University of Connecticut uses seven distinct analytical tools to evaluate whether racial and ethnic disparities in policing practices are present among Connecticut towns/cities. These series of statistical and descriptive tests, which are used in tandem, vary in their level of scrutiny.

The most rigorous test, the Veil of Darkness (Ross, Fazzalaro, Barone, & Kalinowski, 2020), is used to assess relative differences in the ratio of minority to non-minority stops that occur in daylight as compared to darkness. The technique relies on the idea that, if police officers are profiling motorists, they are better able to do so during daylight hours when race and ethnicity is more easily observed. In addition to the Veil of Darkness method, the share of minority motorists stopped within a department are evaluated through a direct comparison of a unique synthetic control. Further, three techniques, which are descriptive in nature, are used to compare departmental-level data to three benchmarks: statewide average, estimated commuter driving populations, and resident population. Finally, two additional methods, stop disposition and Knowles, Persico, and Todd (KPT) hit-rate, are used to statistically assess racial and ethnic disparities in traffic stop outcomes (e.g., warning, ticket, arrest) and in the probability of searches

resulting in the seizure of contraband, respectively. See Appendix I for a detailed description of each test's methodology.

The aforementioned seven methods/tests are used to identify a police department for statistically significant disparate practices if they meet any one of the following criteria:

1. A statistically significant disparity in the Veil of Darkness analysis.
2. A statistically significant disparity in the synthetic control analysis and any one of the following analyses: (a) descriptive statistics, (b) stop disposition, (c) KPT hit-rate.
3. A statistically significant disparity in the descriptive statistics, stop disposition, and KPT hit-rate analyses.

Among patients who were Connecticut residents, their reported town/city was used as their residence. Among patients who were not Connecticut residents, the town/city in which they received care through CHCI was used as their residence. A year-by-year analysis of the patients' *residence* towns/cities identified for statistically significant racial and ethnic disparities in their policing practices across the seven tests revealed little variation. That is, those towns/cities were identified to have statistically significant racial and ethnic disparities in their policing practices over multiple years. Further, the towns/cities were identified through the more rigorous aforementioned criteria, that is, the Veil of Darkness or the synthetic control plus descriptive statistics analysis. Therefore, based on these findings, this variable related to policing practices was dichotomized. Using this variable, the patients' *residence* cities/towns were categorized as *ever* being identified or *never* being identified for statistically significant racial and ethnic disparities in their policing practices between 2013-2019.

Covariates

Covariates include self-reported sex at birth, marital status, and age as reported on the patient enrollment form. The variable sex at birth was dichotomized to male or female – the only two response options made available to CHCI patients. Marital status was dichotomized to married or other due to the non-specification of the other category and the small sample size associated with specified responses in the clinic extracted database. When specified, the other category included response options such as separated, divorced, or single. Age, measured in years, was calculated based on the patient's year of birth and date of clinic record.

Qualitative Strand

A semi-structured interview was specifically developed for this study and consisted of 21

(mainly) open-ended questions and accompanying prompts (Appendix G). While a range of interrelated topics were covered during the in-depth interviews, participants were specifically asked about their perceptions and experiences with local law enforcement agencies (i.e., police) and the related impact on their mental health, including over time.

Data Analysis & Integration

Quantitative Strand

All statistical analyses were conducted using R (R Foundation). Given the complexities of the secondary dataset (for detailed description see Chapter II), extensive descriptive analyses were conducted to explore the data and examine the outcome variable of interest, depression. During this phase of the analysis, depression was examined both as a dichotomous variable (combined PHQ-2 and PHQ-9 scores; depressed/not depressed using established screening cut-offs, respectively) and as a continuous variable (PHQ-9 score). In the descriptive analysis of depression as a binary variable, frequency count and percent were calculated for each study population of interest (i.e., non-Latinx White, documented Latinx, and undocumented Latinx) who were aggregated by their town/city of residence which was further characterized by policing practice. Further, in the descriptive analysis of depression as a continuous variable, measures of central tendency (e.g., median, mean) and dispersion (e.g., IQR, standard deviation) were calculated to characterize each study population of interest (i.e., non-Latinx White, documented Latinx, and undocumented Latinx) who were aggregated by their town/city of residence which was further characterized by policing practice.

In both approaches, some patients had multiple years of assessments over the seven-year study period. Given the presence of repeated measures and the integral need to reflect only unique individuals in the descriptive analysis, the most recent assessment related to depression for each patient. This decision was informed by the logic that the most recent assessment reflects the most current depression reading. Thus, each patient is represented only once in the outcome variable when operationalized as binary and continuous.

Qualitative Strand

A narrative summary, capturing the key features of the narrative, emerging themes, and transitions between themes, was written for each interview (Gibbs, 2007). Informed by the topic areas in the interview guides, qualitative data were broken into discrete parts and tentative, as well as provisional codes, were developed (Saldaña, 2009). This process represented the initial

step in successive coding cycles that ultimately led to the development of a theory grounded in the data (Saldaña, 2009) to elucidate mental health and related care needs among Latinx in an era of heightened anti-immigrant milieu and in the context of racialized policing. Reflections on the contents and nuances of the data corpus were captured through analytic memos (Saldaña, 2009).

A more focused coding process followed the initial coding where a codebook with deductive codes (e.g., themes covered by the interview guide) and inductive (e.g., newly emerging themes), as well as the associated concept-specific definitions for those codes, was developed (Saldaña, 2009). This led to a working analytical framework, with codes grouped together in categories (Gale et al., 2013). Interview transcripts were imported into Dedoose 9.0.46 by the analytical team for analysis using the final coding scheme/analytical framework. During the analytic process, framework matrices were generated to chart the data from the transcripts while also capturing interesting and/or illustrative quotes (Gale et al., 2013). Cross-case analyses were conducted to identify characteristics of and differences between the data as well as mapping relationships between categories (Gale et al., 2013; Miles & Huberman, 1994). Finally, the aforementioned analytic memos and narrative summaries were used to add context to emerging findings from coded transcripts, as well as to interpretations and to conclusions (Gale et al., 2013; Miles & Huberman, 1994).

Integration

As described above, the quantitative and qualitative strands of the research study were implemented concurrently, kept independent during analysis, and eventually integrated to ensure the comprehensiveness and triangulation of the results (Creswell & Plano Clark, 2011; Creswell, Klassen, Plano Clark, & Smith, 2011; Guest & Fleming, 2014). Findings that emerged from the analysis of the data from quantitative and qualitative strands of the study, respectively, were examined independently. Areas where the findings converged, diverged, or added further insights were identified to inform study conclusions presented as an integrated narrative. The qualitative and quantitative data sources aided in establishing a more nuanced and robust understanding of the effect of racialized policing on mental health outcomes among non-Latinx White, documented Latinx, and undocumented Latinx Connecticut residents through different but complementary data, as presented in the *Discussion* section.

Results

Quantitative Strand

Socio-demographic and other characteristics of the full sample are presented in Table IV.3. There were 77,089 unique adult Latinx and non-Latinx White patients who were assessed using the PHQ-2 or the PHQ-9 for at least one of the study years.³⁶ Among them, Latinx patients, independent of documentation status, comprised 58.3% of the sample and non-Latinx White patients comprised 41.7% of the sample. The vast majority (98.2%) of this sample, independent of race/ethnicity and documentation status, reported being a resident of Connecticut. Among those reporting their sex at birth, 56.4% reported female and 43.6% reported male. A majority of the patients (80.2%) reported their marital status as other; this category included response options such as separated, divorced, single, or unreported. Among Latinx patients, 15.3% were assessed to be undocumented using health care insurance coverage as a proxy. Since insurance status was used to determine documentation status, uninsured patients were further assessed for time in the country, when available. The vast majority of uninsured Latinx patients reported varying periods of time in the country including beyond the waiting period for subsidized health care, while the vast majority of uninsured non-Latinx White patients reported being in the country for their entire life. Given this and also that the top countries of birth for undocumented immigrants in Connecticut are in Latin America (Migration Policy Institute, n.d.b), *undocumented* non-Latinx White patients (N=1,163; 3.6%) have been treated as *documented* in all study analyses.

Finally, one hundred and sixty-five towns and cities were identified as places of residence or locations for service provision among the patients in the study. Of these, 122 were found to be under the purview of local or state police agencies that had *ever* been identified for statistically significant racial and ethnic disparities in their policing practices. Independent of race/ethnicity and documentation status, 54.4% of the patient population inhabited towns/cities *ever* identified for racialized policing practices. Further, 60% of undocumented Latinx patients reported living in towns never identified for racialized policing practices while 63% of the documented Latinx patients reported living in towns ever identified for racialized policing practices.

In descriptively examining depression as a dichotomous variable (combined PHQ-2 and PHQ-9 scores; depressed/not depressed using established screening cut-offs, respectively) (Table

³⁶ A total of 85,191 Latinx patients and non-Latinx White patients were captured in the clinic extracted database between 2013-2019. Of these 77,089 unique adult Latinx and non-Latinx White patients were assessed using the PHQ-2 or PHQ-9 for at least one of the study years. Of the 8,102 patients who were not screened for depression, 2,267 were younger than 18 y/o. I did not find any significant differences in socio-demographic characteristics between the patients included in the analysis (N=77,089) and the patients not included in the analysis (N=5,835; White: 3,116; documented Latinx: 2,156 and non-Latinx White: 563).

IV.4 and Figure IV.2), the relative frequencies did not suggest marked differences among the respective study populations when comparing those with residences in towns/cities under the purview of police that had *ever* been identified versus those with residences in towns/cities under the purview of police that had *never* been identified for statistically significant racial and ethnic disparities in their policing practices. The percentage of depressed documented Latinx patients in towns/cities with racialized policing practices (15%) seem relatively similar to the percentage of depressed documented Latinx patients in towns/cities without racialized policing practices (14%). Similarly, the percentage of depressed undocumented Latinx patients in towns/cities with racialized policing practices (6%) seem relatively similar to the percentage of depressed undocumented Latinx patients in towns/cities without racialized policing practices (7%).

Table IV.3: Sociodemographic and Other Characteristics – Full Study Sample

Variable**	Category	White ($n_W = 32,142$)	Latinx Undocumented ($n_{LU} = 6,897$)	Latinx Documented ($n_{LD} = 38,050$)	Total ($n_{Total} = 77,089$)*
CT Resident	<i>Yes</i>	31,336 (97.49%)	6,837 (99.13%)	37,531 (98.64%)	75,704
	<i>No</i>	806 (2.51%)	60 (0.87%)	519 (1.36%)	1,385
Race/Ethnicity	<i>White</i>	32,142 (100.00%)	0 (0.00%)	0 (0.00%)	32,142
	<i>Latinx</i>	0 (0.00%)	6,897 (100.00%)	38,050 (100.00%)	44,947
Sex at Birth	<i>Male</i>	14,973 (46.58%)	3,086 (44.74%)	15,497 (40.73%)	33,556
	<i>Female</i>	17,152 (53.36%)	3,808 (55.21%)	22,534 (59.22%)	43,494
	<i>No response</i>	17 (0.05%)	3 (0.04%)	19 (0.05%)	39
Marital Status	<i>Married</i>	5,279 (16.42%)	2,521 (36.55%)	7,497 (19.70%)	15,297
	<i>Other</i>	26,863 (83.58%)	4,376 (63.45%)	30,553 (80.30%)	61,792
Documentation Status***	<i>Undocumented</i>	1,163 (3.62%)	6,897 (100.00%)	0 (0.00%)	8,060
	<i>Documented</i>	30,979 (96.38%)	0 (0.00%)	38,050 (100.00%)	69,029
Residence Ever Flagged for Racialized Policing	<i>Yes</i>	15,029 (46.76%)	2,759 (40.00%)	24,146 (63.46%)	41,934
	<i>No</i>	17,113 (53.24%)	4,138 (60.00%)	13,904 (36.54%)	35,155

*Note: This sample size reflects the number of unique patients (e.g., each patient is distinct from another) who were assessed on the PHQ2 or the PHQ9 for at least one of the study years. Percentages listed correspond to conditional percentages, conditioning over the race ethnicity/documentation status totals (n_W, n_{LU}, n_{LD} , respectively); **Note: The median birth year for anyone who was assessed on the PHQ-2 or PHQ-9 for at least one of the study years is 1977 (IQR = 24 years; range = 86 years); ***Note: All undocumented White patients are treated as documented White patients in the analysis.

Table IV.4: Racialized Policing & Depression (Binary Outcome) (N=77,089)

Residence Ever Flagged for Racialized Policing?				Demographics									
	Race Ethnicity/ Documentation Status	Depression Status	Total	CT Resident		Sex at Birth			Marital Status		Age		
				Yes	No	Male	Female	NA	Married	Other	Min	Median	Max
Yes (<i>n</i> _{Yes} = 41,934)	<i>White (n = 15,029)</i>	<i>Depressed</i>	2,572 (17.11%)	2,498	74	1,102	1,466	4	337	2,235	18	43	93
	<i>White</i>	<i>Not Depressed</i>	12,457 (82.89%)	12,146	311	5,874	6,580	3	2,045	10,412	18	44	98
	<i>Latinx Undoc. (n = 2,759)</i>	<i>Depressed</i>	178 (6.45%)	178	0	77	101	0	47	131	18	38	83
	<i>Latinx Undoc.</i>	<i>Not Depressed</i>	2,581 (93.55%)	2,553	28	1,227	1,352	2	974	1,607	18	37	93
	<i>Latinx Doc. (n = 24,146)</i>	<i>Depressed</i>	3,701 (15.33%)	3,636	65	1,408	2,292	1	502	3,199	18	39	90
	<i>Latinx Doc.</i>	<i>Not Depressed</i>	20,445 (84.67%)	20,161	284	8,561	11,868	16	3,680	16,765	18	37	101
No (<i>n</i> _{No} = 35,155)	<i>White (n = 17,113)</i>	<i>Depressed</i>	2,979 (17.41%)	2,901	78	1,272	1,704	3	367	2,612	18	42	92
	<i>White</i>	<i>Not Depressed</i>	14,134 (82.59%)	13,791	343	6,725	7,402	7	2,530	11,604	18	44	100
	<i>Latinx Undoc. (n = 4,138)</i>	<i>Depressed</i>	286 (6.91%)	282	4	101	185	0	80	206	18	36	89
	<i>Latinx Undoc.</i>	<i>Not Depressed</i>	3,852 (93.09%)	3,824	28	1,681	2,170	1	1,420	2,432	18	38	92
	<i>Latinx Doc. (n = 13,904)</i>	<i>Depressed</i>	1,912 (13.75%)	1,892	20	670	1,242	0	331	1,581	18	39	95
	<i>Latinx Doc.</i>	<i>Not Depressed</i>	11,992 (86.25%)	11,842	150	4,858	7,132	2	2,984	9,008	18	38	100

Table IV.5: Racialized Policing & Depression (Continuous Outcome) (N=30,645)

Residence Ever Flagged for Racialized Policing?	Race Ethnicity/ Documentation Status	Depression Score Summary Statistics								
		n	Min	Q1 (25 th Percentile)	Median	Q3 (75 th Percentile)	Max	IQR	Mean	St. Dev.
Yes ($n_{Yes} = 16,843$)	<i>White</i>	6,254	0.00	5.00	10.00	16.00	27.00	11.00	10.87	6.87
	<i>Latinx Undoc.</i>	783	0.00	3.00	6.00	11.00	27.00	8.00	7.38	5.79
	<i>Latinx Doc.</i>	9,806	0.00	5.00	10.00	16.00	27.00	11.00	10.51	7.10
	<i>Total</i>	16,843	0.00	5.00	10.00	16.00	27.00	11.00	10.50	6.99
No ($n_{No} = 13,802$)	<i>White</i>	7,121	0.00	6.00	10.00	16.00	27.00	10.00	10.85	6.80
	<i>Latinx Undoc.</i>	1,160	0.00	3.00	6.00	11.00	27.00	8.00	7.65	6.09
	<i>Latinx Doc.</i>	5,521	0.00	4.00	9.00	15.00	27.00	11.00	9.82	6.92
	<i>Total</i>	13,802	0.00	5.00	9.00	15.00	27.00	10.00	10.17	6.85

Figure IV.2: Frequencies for Table IV.4 (Depression (Binary Outcome) by Racialized Policing)

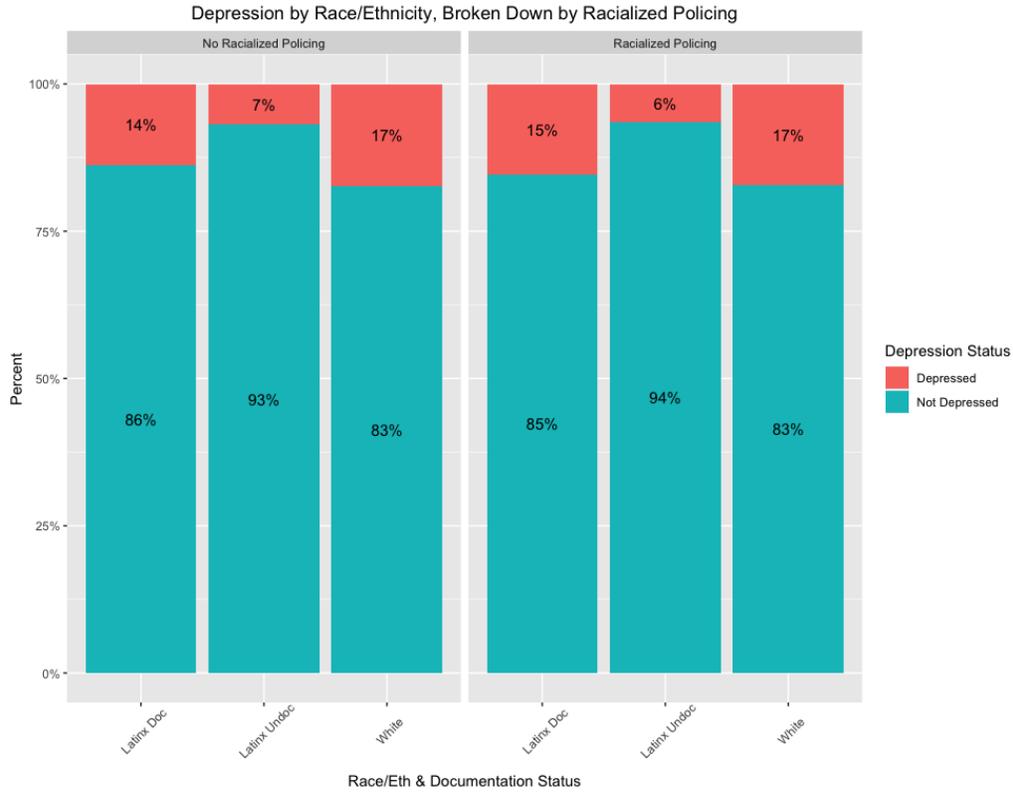
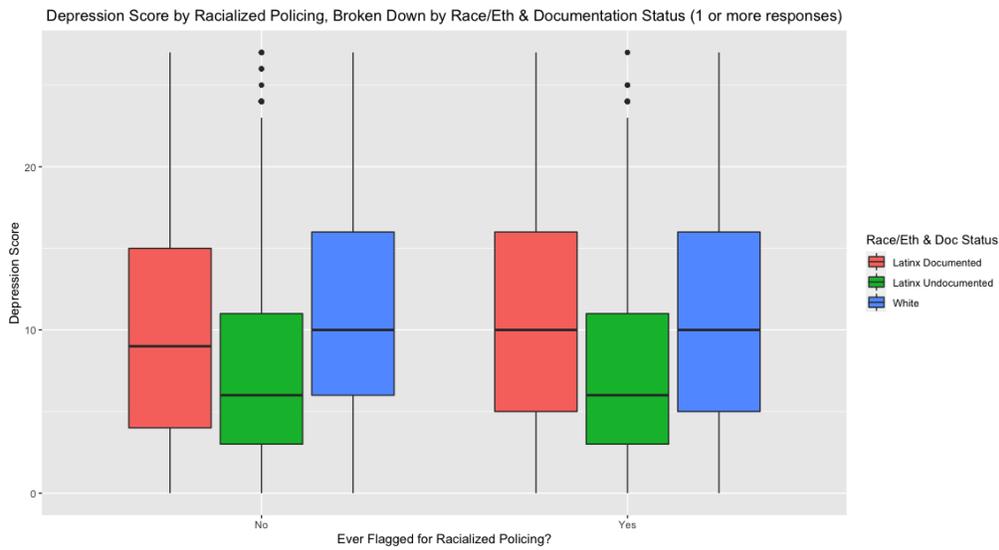


Figure IV.3: Continuous Depression Scores by Racialized Policing



The percentage of depressed non-Latinx White patients in towns/cities with racialized policing practices (17%) seem similar to the percentage of depressed non-Latinx White patients in towns/cities without racialized policing practices (17%). Further, independent of the policing characteristics of the town, the non-Latinx White patients seemed to represent the largest percentage of depressed individuals between the three study populations, followed by documented Latinx patients and undocumented Latinx patients (Table IV.4 and Figure IV.2).

As a continuous response, the distribution of the depression scores was skewed right. Therefore, the appropriate measure of central tendency, median, was paired with the interquartile range to measure spread. In descriptively examining depression as a continuous variable (PHQ-9 score) (Table IV.5 and Figure IV.3), measures of central tendency did not suggest marked differences between two of the three study populations of interest who lived in towns/cities with racialized policing practices. Dispersion, or variability, in the depression scores between documented Latinx patients and non-Latinx White patients who lived in towns/cities with racialized policing practices seemed to be relatively similar given the overlaps in the box plots. In comparison to these two study populations, undocumented Latinx patients who lived in towns/cities with racialized policing practices appeared to have lower median scores on the depression measure relative to documented Latinx patients and non-Latinx White patients, respectively, in the same towns/cities. In examining within group comparisons, variability in depression scores among documented Latinx patients who lived in towns/cities with racialized policing practices appeared relatively similar to documented Latinx patients who lived in towns/cities without racialized policing practices, as did their median depression scores. Dispersion in depression scores among non-Latinx White patients who lived in towns/cities with racialized policing practices also seemed relatively similar to non-Latinx White patients who lived in towns/cities without racialized policing practices, as did their median depression scores. Further, variability in depression scores among undocumented Latinx patients appeared similar between those who lived in towns/cities with racialized policing practices and those who lived in towns/cities without racialized policing practices. The median depression scores in these two groups also appeared to be similar.

Qualitative Strand

Profile of participants

Fifteen patients from the CHCI sites, Danbury (5), Norwalk (7) and Stamford (3), were

interviewed (Table IV.6). CHCI staff accidentally referred one participant who had arrived in the US with a green card and two participants who had eventually acquired authorization to reside in the US. These three participants, however, were members of mixed status families, those in which one or more family members are undocumented/without legal immigration status and others have varying legal statuses. Being part of mixed-status families or being formerly undocumented enabled these participants to speak from their experiences and/or the experiences of those that they knew. Thus, they have been included in the analyses with the participants who reported their immigration status as being undocumented.

Twelve participants reported being undocumented (80%), two reported being *formerly* undocumented (13%), and one participant reported entering the US with a green card (7%). Participants had origins in Central and South American countries (e.g., Honduras, Guatemala, Brazil) (N=10), countries in the Spanish-speaking Caribbean (N=3) or Mexico (N=2). Over half (53%) of the participants reported that they arrived in the US through the *frontera*, that is by crossing one or more country borders. One-third (33%) reported that they had overstayed their visitor visas. Of the remaining participants (14%), one reported having arrived on a green card and the other participant did not share this information. Approximately two-fifths (40%) of the participants reported being in the US for more than 10 years, over one-quarter (27%) for 4-10 years, and one-third (33%) for 3 years or less.

Table IV.6: Sociodemographic Characteristics of Participants: Qualitative Strand (N=15)

<i>Characteristics</i>	<i>Total (%) or Mean (Range, SD)</i>
Age	39.2 (20-60, 11.68)
Documentation status	
Undocumented	12 (80.0)
Undocumented to documented	2 (13.3)
Documented	1 (6.7)
Time in the US (years)	
1-3	5 (33.4)
4-6	2 (13.3)
7-10	2 (13.3)
>10	6 (40.0)
Mode of entry in US	
Crossed border(s)	8 (53.3)
Overstay visa	5 (33.3)
Green card	1 (6.7)
Unknown	1 (6.7)
Sex at birth	
Female	13 (86.7)
Male	2 (13.3)
Education	
Primary/middle	2 (13.3)
Secondary	6 (40.0)
University	4 (26.7)

Graduate school	1 (6.7)
Technical/vocational	2 (13.3)
Preferred language	
Spanish	13 (86.6)
Portuguese	1 (6.7)
English	1 (6.7)
Country of origin	
Honduras	4 (26.7)
Dominican Republic	3 (20)
Guatemala	2 (13.3)
Mexico	2 (13.3)
Brazil	2 (13.3)
Nicaragua	1 (6.7)
Ecuador	1 (6.7)
Relationship status	
Single/never married	3 (20)
Married	4 (26.7)
Divorced	3 (20)
Long-term relationship	5 (33.3)
Main income	
Family dependent	4 (26.7)
House cleaning	3 (20)
Food service	3 (20)
Self-employed	3 (20)
Disability	1 (6.7)
No response	1 (6.7)
Residence in town/city with racialized policing practices	
Yes	7 (47)
No	8 (53)

The average age of the participants in the qualitative sample was 39 years and well over half (60%) reported either being married or in a long-term relationship. The vast majority of participants self-identified as female (87%) and reported Spanish as their preferred language (86%). Educational attainment ranged among the participants, with 40% reporting having completed secondary school and 26% completing University. Sixty percent of the participants were employed in food service, domestic work (e.g., house cleaning) or were self-employed as aestheticians or hairstylists, 27% were dependent on the income of their partners or other family members, and the remaining were either receiving disability (6%) or did not respond (6%). Finally, 47% of the participants reported living in a town/city that had ever been flagged for racialized policing practices.

Perceptions of & Experiences with Local Law Enforcement (Police)

The participants characterized their experiences with local law enforcement, specifically the police, both contemporarily and historically. They shared their concerns about the police using examples from the past, as well as the present, while chiefly grounding their disquietude in the potential for negative interactions with local law enforcement particularly during heightened local immigration enforcement activities. Within this context and in recounting their stories,

participants shared that experiences with local law enforcement resulted in acute mental health care needs related to anxiety and panic disorder, as well as related risk factors including stress and trauma. Along with the focus on their undocumented status, the participants also evoked their racial and ethnic identities while describing their experiences with the police, particularly highlighting the racism they have endured through overt and covert actions by members of other racial and ethnic groups as well as their own. They found these interactions, perpetuated through racialization processes and characterized by racist exchanges, to be unjust. A majority of the participants reported feeling comfortable with reaching out to the local police for help, independent of whether the police in their town of residence were identified for racialized policing practices. Finally, some participants indicated greater trust and appreciation for US local law enforcement relative to local law enforcement in their respective countries of origin.

While I noted no significant difference in the findings between participants with residences in towns/cities with racialized policing practices and those with residences in towns/cities without racialized policing practices, there are specific subtleties in their experiences that I highlight later. First, however, I present the results collectively in the section that follows, using illustrative quotes and pseudonyms while retaining original language to capture the associated nuances in meaning that would otherwise be lost when translating to English. Following this, I provide a separate summation of the subtleties in participants' experiences.

Perceived fear of detainment and deportation

Overwhelmingly, the participants' perceived or real threat of detainment and deportation shaped their perceptions about the local police and influenced their mental health care needs. Their documentation status, that is, their *illegality*, was reported to be a central determinant in how they viewed the police. As Violeta – 31 y/o, Honduras – shared: “The truth is I have met several people who have had [experiences with police] and some have been deported. And sometimes people who have not even done what they have been accused of, yes, they have been deported. I have heard many cases and sometimes that's one fear.” While some participants' fears of the police were influenced by vicarious experiences, other participants emphasized personal experiences that triggered their trauma. For some of them, the personal experiences were often tangible, present day manifestations of experiential remnants from the time that they crossed the border into the US. Alma – 43 y/o, Ecuador explained:

I came crossing through the border [frontera] so I am traumatized because I had to pass

so many police checkpoints. I arrived at the station [Port Authority, NY, after crossing the border into the US] and saw a lot of policemen. I thought, “Here I will get deported back to my country.” I started to panic, which also traumatized me. Then I spoke to my husband and I cried. And my husband said to me, “No, you are okay.” But I still have that fear. Whenever I see some police, I try to avoid them. I am terrified of them.

Although Alma successfully crossed the border into the US nearly 25 years ago, her adverse mental health reactions, in the form of fear and trauma, to local law enforcement persist. Moreover, she went on to underscore that she has minimal trust in the local police: “As an undocumented, you get scared of them. So, I don’t have a lot of trust in them, not a hundred percent.” Fears related to immigration enforcement were especially exacerbated for participants from cities whose local leadership had in the past formed voluntary partnerships with the federal government through program 287(g), which promotes inter-agency collaborations between ICE and state- and local-law enforcement agencies permitting local law enforcement officers to perform immigration law enforcement functions.

While this was a past reality for some of the participants, for others the possibility of a partnership was a source of anxiety and stress, as Isabel – 40 y/o, Honduras – shared when asked about her concerns with local law enforcement: “That one day they [police] start acting like ICE and arrest one without a reason.... They make you anxious and stressed. I think they could be partnering with ICE and arrest us one day.” Unfavorable attitudes towards the police among participants stemmed not only from local law enforcement’s real or perceived ties to immigration enforcement but also from their varied lived experiences with the local police, resulting in both negative and positive dispositions towards police officers. Moreover, as detailed in the next section, negative encounters, which were reported to be heightened under the Trump administration, resulted in frustration, as well as diverse and acute mental health care needs related to fear and anxiety, among many of the participants.

Racism, Racist Practices, and Racial Profiling

The vast majority of the participants, independent of their town/city of residence (i.e., cited for racialized policing practices or not), shared notable narratives in which they accentuated the palpable rise in racism experienced in more recent times. The perpetrators of this racism, overt or covert, were reported to be either local law enforcement officers or neighbors. Moreover, interactions with the neighbors were reported at times to result in entanglements with the local police that largely induced frustration as Alma – 43 y/o, Ecuador – shared: “When

Trump was president, back then, there was a lot of racism. In the house in front of mine, there is a woman who often calls the city and the police. So, they [the police] would come to my house to see how many people are living here.... The neighbor was always calling the police [on us].”

While interactions with the police for some participants were dictated by external actors, for others it was the remote possibility of an interaction that caused fear, particularly under the Trump administration within the purview of driving without a license. As Violeta – 31 y/o, Honduras – explained: “I had a lot of precautions when Trump was in office. The police, at one moment, they started pulling over more people. I drove with more caution. I always drove with caution but with more fear. Sometimes I didn’t even want to drive and asked my sister to do it.... Because I was afraid I would get pulled over at any moment. The way things were, I might be deported if they found me driving without a license.” Driving without a license and possibly being ushered into the driving-to-deportation pipeline was reported to result in increased fear, as well as in negative views of local law enforcement agents. The probability of this community level immigration enforcement actualizing was perceived to be higher among participants when anti-immigrant rhetoric and overt threats against immigrants dominated the national dialogue. This finding was independent of whether they lived in towns/cities with racialized policing practices.

As with Violeta, a number of other participants also linked police officers to immigration enforcement and characterized their policing practices to be racialized, as Alma – 43 y/o, Ecuador – described: “Before the licenses [issuance of driving licenses to undocumented residents], they always stopped people at the [highway] exit. Always stopped people. Well, more Hispanic people. It was only license, license, license [drivers asked to furnish their driving license during the traffic stops]. And it happened to us three times that they stopped us, saw our faces and because we didn’t have one, they took our car. Yeah, but everything calmed down once they [state of Connecticut] gave driver’s licenses to undocumented people.” While the decision by the state of Connecticut to issue driver licenses to undocumented residents was reported to anecdotally reduce the number of racially motivated traffic stops made by police officers, some participants shared that local law enforcement officers continued their discriminatory practices during encounters. Officers who were people of color, including Latinx, were reportedly the more prominent perpetrators of discriminatory practices. Ariana, who described the intra-ethnic racism she experienced, including how it made her feel, shared:

There were police officers that were Hispanics just like me but very racist. I would tell them, "You speak Spanish and can talk in Spanish." They would say, "No, no. I don't care..." [When asked how this made her feel] Very discriminated. Devastated because we are Hispanics. We are the same...regardless of where one comes from. [34 y/o, Guatemala]

Such discriminatory experiences were reported by participants with residences in each study site; that is, the likelihood of these experiences with the police were independent of the profile of the policing practices – whether racialized or not. Echoing Alma and Ariana, other participants also shared experiencing intra-ethnic racism from police and neighbors who were co-ethnics.

Participants whose race and ethnicity were phenotypically indiscernible from non-Latinx White, however, reported experiences that diverged from those whose race and ethnicity were discernible as Latinx. For example, Fernanda – 52 y/o, Brazil – characterized her experiences with local police as positive and supportive:

[When asked about her experiences with the police] Oh it was amazing [when police responded to an emergency at her place of employment].... You know, they are so polite with me. I don't have...because the problem is, I guess most of the problem in my case is about the accent okay. But I guess about the appearance too, you know the type. My type.... Because I am clear [fair]. I have White skin, you know. So, that makes them polite with me. It's different.

Fernanda's narrative of the *privileges* afforded to her due to her phenotypic characteristics and despite her accented English was not one that dominated among the participants. On the contrary, a majority of the participants identified being mistreated or feeling unsupported by the police based on identifiable phenotypic and cultural markers, such as Spanish language usage:

Not too long ago, some two months I think, I have had to...I've been facing a police officer head-on because of where I live. We have experienced discrimination a lot. It was very bad. Sometimes people who have papers or people whose ancestry is more valued in this country try to minimize you or despise you. Almost every day a policeman would be sent to my house. Imagine, when least expected, I open the door and it was a policeman. They would say, "They [neighbors] called us. You stole a package from the people above".... Well, I called the police [once]. I called because I needed to be heard.... And when they arrived, they didn't pay attention to me because they [the neighbors] speak English. So, imagine, I tried to file a complaint because things continued [with the neighbors]. I was not heard either. So, in the aspect of abuse, I have not experienced that, but I have not been listened to as I would like by them [the police]. We should be listened to even if we don't know the language and even though we may not be born here. We should be listened to because we are worthy as human beings [Andrea, 31 y/o, Honduras]

With this experience, Andrea indicates being devalued, unheard, and unable to exercise her

personal agency, as well as her rights. Moreover, she underscores the fundamental expectation that the local police are required to provide services to all residents, regardless of the residents' legal standing in the country. Andrea's perceptions are particularly appropriate in states, such as Connecticut, which have declared themselves to be sanctuaries for undocumented residents.

Although some participants noted their dislike for the police, they reported neutral personal interactions when asked about their experiences. Joaquín – 20 y/o, Guatemala – shared: “Whenever I see police officers, I don't like them. But, no, they haven't been unjust with me at all, neither my mom nor with my stepfather, especially my stepfather who is illegal.... Everything is fine with the police.” A few participants, however, reported feeling threatened by the police and vowed never to approach them again for help, as Juliana shared:

They [experiences with police] have been a bit bad. It has been bad because, well, in reality, it was bad because I didn't know or didn't have any knowledge of my rights.... At a certain point [when she called the police for help], I felt threatened because the officer told me, “Everything you say will be recorded over here and I have a body camera.” I would not do it [call the police when in need of help] because I didn't/don't feel supported. [49 y/o, Mexico]

This perceived sense of neglect was further intensified and engendered aggravation among some participants who, as victims of domestic violence, sought protection from the local police:

Yes, I have had experiences with local police. Well, as I mentioned, I lived through domestic violence. There was a time when the father of my kids would come home, would threaten me, would threaten my family. I would call the police but since he wasn't there anymore, they wouldn't do any report. They wouldn't treat him in any way and that would infuriate me. Because we victims of domestic violence also need support. And those have been very bad experiences. [Ariana, 34 y/o, Guatemala]

Some participants also recognized other biases that shaped responses by the local police. For instance, they felt that instead of being protected, they were being surveilled. Manuel, who is 60 years old, from the Dominican Republic, and has been in the United States for nearly 30 years, questioned the inactions of local law enforcement in his neighborhood despite on-going occurrences of illicit activities: “Now the police pass all the time. They pass by, they pass by. But in terms of resolving the problem, they don't resolve it.... Well, I tell you they don't resolve. No, because they pass by. They don't stop. They pass by.” This perceived unfair scrutiny coupled with perceived unresponsiveness by the local police was identified to be another rendition of racialized policing also echoed by other participants.

Participants' perceived that they were treated unfairly by the local police through their

actions, as well as their inactions. They overwhelmingly reported racially motivated actions through active surveillance (e.g., traffic stops, community policing) as unjust treatment while simultaneously naming the inactions of law enforcement officers in protecting residents (e.g., when witnessing crime in their neighborhoods, responding to domestic violence calls) as unfair. Law enforcement officers were perceived to *act upon* Latinx communities but *not react to* the needs of Latinx communities. As discussed in section *Differences in Experiences & Perceptions by Town/City of Residence*, experiences with police *actions against* and *inactions towards* Latinx communities varied among participants depending on the policing practices of their town/city.

Comparison of Law Enforcement – Country of Origin and United States

A few participants also viewed their experiences with the local police through a comparative lens, one that measured the actions and behaviors of local police in their adopted country (i.e., US) to those of the local police in their country of origin. Often, the police in the United States were perceived to be more supportive and trustworthy compared to the police in home countries. For example, Maribel – 49 y/o, Brazil – shared when asked about her experiences: “It was very positive. They understood that I wasn’t the person they were looking for or my husband.... Their conduct was very respectful.... The form of speech. The way they present. Because in Brazil it’s that thing (*e aquela coisa*). The police in Brazil are hoodlums. They just come and don’t knock on your door. They come punching.” Laura – 32 y/o, Honduras – shared similar sentiments while recalling the interactions she and her children have had with the local police in her neighborhood:

Well, because I am with my kids playing there [at the park] and all of a sudden, they [police officers] get close and give stickers to my kids. And they give us safety because not only do they observe, but they get close to be supportive or affectionate with the kids.... And, well in reality it is something incredible that one does not see in other cultures. And well yes, one feels grateful and happy because it’s something that doesn’t...something new.

The cultural distinctions that Laura and Maribel make when comparing local law enforcement in the US to that in their respective countries of origin are important because they both ground and inform their attitudes towards local police in their adopted country. This comparative lens, however, has the potential to mute perceptions of mistreatment by the police in the adopted country (i.e., US), particularly if the experiences in the country of origin have been more extreme with regards to coercion and/or violence, as could be the case with Honduras and Brazil (Bacheaga, 2021; Human Rights Watch 2021a, 2021b; Muñoz, 2020; Pandey, 2020). The police

forces in both Laura and Maribel's countries of origin, respectively, are marred by cases of abuse and torture against civilians (Bachega, 2021; Human Rights Watch 2021a, 2021b; Muñoz, 2020; Pandey, 2020). The measure of safety and security within the context of policing has the potential of being shaped when actively compared to contexts with extreme police brutality. Thus, for some participants, lived experiences in the home country were foundational to interpretations of policing practices in the United States and in discerning to what extent policing practices in the US were discriminatory and/or unlawful.

Differences in Experiences & Perceptions by Town/City of Residence

Although some participants in the qualitative strand of the study resided in towns/cities with racialized policing practices and others in towns/cities without racialized policing practices, the narratives that they shared did not signal considerable differences in reported perceptions and/or experiences with the local police. The possibility of immigration enforcement by local police, particularly in an heightened anti-immigrant milieu, was reported to be a prominent concern by the vast majority study participants, independent of their town/city of residence and the related policing practices. Intra- and inter-ethnic discrimination resulting from actions with police and/or neighbors was also reported to be experienced by participants with residences in all three study sites. Similarly, racially motivated actions by the police through active surveillance (e.g., traffic stops, community policing) were uniformly reported by participants across all study sites; independent of the policing profile of their residential town/city. Feelings of neglect (i.e., apathy or indifference by local police to the needs of Latinx communities) and being threatened by the police, however, were mostly reported by participants with residences in towns/cities with racialized policing practices. This manifestation of racialized policing was perceived to be intentional differential inaction, bounded in contemporary discredited attributes and social categories such as race, ethnicity, and national origin (*tribal stigmas*) (Goffman, 1963).

Discussion

In this convergent parallel mixed methods study, I explored the effect of racialized policing on Latinx mental health, with a focus on documentation status and on depression. Specifically, in the quantitative strand of the study, the analyses centered on examining the effect of differential adherence by Connecticut law enforcement agencies (i.e., police) to the state-level anti-racial/ethnic profiling traffic stop law on depression outcomes among and between documented Latinx, undocumented Latinx, and non-Latinx White patients. The qualitative strand

of the study, in which we conducted interviews with 15 Latinx patients engaged in behavioral health care, also focused on racialized policing. Specifically, Latinx participants were asked open-ended questions about their perceptions and experiences with local law enforcement agencies and the related impact on their mental health, including over time.

An examination of depression outcomes did not signal marked differences among the respective study populations when descriptively comparing participants with residences in towns/cities under the purview of police that had *ever* been identified versus those with residences in towns/cities under the purview of police that had *never* been identified for statistically significant racial and ethnic disparities in their policing practices. Specifically, the relative frequencies among the respective study populations when comparing percentage depressed with residences in towns/cities *ever* identified versus percentage depressed with residences in towns/cities *never* identified for statistically significant racial and ethnic disparities in their policing practices appear to be similar. These observations were not consistent with the hypothesized patterns among documented and undocumented Latinx patients, respectively. The percentage of depressed documented and undocumented Latinx patients was hypothesized to be greater in towns/cities with racialized policing practices relative to those in towns/cities without racialized policing practices. Further, independent of the policing profile of the town/city, the non-Latinx White patients seemed to represent the largest percentage of depressed individuals between the three study populations, though this percentage did not appear to be too different from the percentage of depressed documented Latinx patients. This observation was inconsistent with the hypothesis that undocumented Latinx patients would represent the highest percentage of depressed individuals among those with residences in town/cities with racialized policing practices.

When enlisting descriptive analytical methods such as measures of central tendency, variability in the median depression scores between documented Latinx patients and non-Latinx White patients in towns/cities with racialized policing practices seemed to be relatively similar. This observation was inconsistent with the hypothesis that median depression scores would be higher among documented Latinx patients in towns/cities with racialized policing practices relative to non-Latinx Whites in the same towns/cities. In comparison to these two study populations, undocumented Latinx patients who lived in towns/cities with racialized policing practices appeared to have lower median scores on the depression measure relative to

documented Latinx patients and non-Latinx White patients, respectively, in the same towns/cities. These observations were also inconsistent with the hypothesis that median depression scores would be the highest among undocumented Latinx patients with residences in towns/cities with racialized policing practices, followed by documented Latinx patients and then non-Latinx White patients in the same towns/cities. In examining within group comparisons, variability in depression scores among documented Latinx patients who lived in towns/cities with racialized policing practices appeared relatively similar to documented Latinx patients who lived in towns/cities without racialized policing practices, as did their median depression scores. Dispersion in depression scores among non-Latinx White patients who lived in towns/cities with racialized policing practices also seemed relatively similar to non-Latinx White patients who lived in towns/cities without racialized policing practices, as did their median depression scores. Further, variability in depression scores among undocumented Latinx patients appeared similar between those who lived in towns/cities with racialized policing practices and those who lived in towns/cities without racialized policing practices. The median depression scores in these two groups also appeared to be similar. The within group observations were also inconsistent with the hypotheses that undocumented Latinx and documented Latinx patients with residences in town/cities with racialized policing practices would have higher median depression scores relative to those in towns/cities without racialized policing practices. The observation among non-Latinx White patients, however, was consistent with the hypothesis that median depression scores would be similar among this group independent of residential policing practices.

I had expected that depression outcomes among and between the respective study populations (e.g., undocumented Latinx, documented Latinx and non-Latinx White patients) would differ by their race/ethnicity and when aggregated by policing practices in their residential towns/cities. My hypotheses were informed by extant empirical research which has largely focused on the impact of police interactions on mental health among Black and African Americans. For example, in their systematic review, McLeod and colleagues (2020) found statistically significant associations between police interactions and mental health of Black Americans, including depression, anxiety, post-traumatic stress disorder (McLeod, Heller, Manze, & Echeverria, 2020). The area of research centered on Latinx, policing, and health outcomes is nascent. However, findings from existing empirical research suggest that racialized policing negatively impacts mental health. Participants in a qualitative study, for example,

reported increased anxiety and distress (Aranda & Vaquera, 2015). In a recent quantitative study, Nichols and colleagues found stronger perceptions of racialized policing to be significantly inversely associated with self-rated health (Nichols et al., 2018). In sum, there are three notable *descriptive* results from the quantitative strand of my study that diverge from the current understanding established through existing empirical research.

First of these is the seemingly lower median depression scores observed among undocumented Latinx patients compared to the documented Latinx and the non-Latinx White patients, respectively, independent of policing practices in towns/cities of residences. The second is the seeming invariability in median depression scores among respective study populations when comparing those in towns/cities with racialized policing practices to those in towns/cities without racialized policing practices. The third is the seeming invariability in the percentage depressed among the respective study populations when comparing those in towns/cities with racialized policing practices to those in towns/cities without racialized policing practices.

The results from the qualitative strand of my study may offer additional insights, particularly given the paucity in empirical research centered on Latinx, policing, and mental health. The findings from the qualitative strand suggest important nuances and, although there are some limitations associated with these results (described below in section *Limitations*), they do begin to facilitate a more robust understanding of the aforementioned notable results from the quantitative strand that would have been missed otherwise. Overall, among the participants in the qualitative strand, mental health care needs related to depression were not reported to be principally engendered by policing practices and/or police encounters. Some participants noted that interactions with the police centered on their documentation status produced fear of possible detainment and/or deportation. As a result, they reported acute periods of increased anxiety and panic. Participants distinguished periods of time when their anxiety and fear resulting from policing practices were more prominent, identifying reactionary, yet acute, responses specifically when local immigration enforcement activities were perceived to have surged or had actually increased. Experiences with increased feelings of nervousness, anxiousness, depression, and psychological distress among Latinx immigrants, as well as their US-born co-ethnics, during periods of intensified anti-immigrant policies/laws and their local enforcement have been reported by other empirical studies (Hatzenbuehler et al., 2017; Szkupinski Quiroga et al., 2014; Vargas et al., 2017; J. S. H. Wang & Kaushal, 2019).

Among the participants in the qualitative strand, actual or anticipated interactions with the local law enforcement reportedly resulted in mental health needs related to anxiety, panic, fear, and stress, and trauma. Depression was not a mental health challenge reported by the participants within the context of local policing. These results can possibly explain, or at least be a factor in understanding, the seeming constancy and comparability in the depression scores within each respective study population independent of policing practices in towns/cities of residences. Further, my findings related to racial and ethnic differences in depression between non-Latinx White and Latinx patients align with national studies and other empirical research. Higher depression rates among non-Latinx White compared to Latinx have been reported in national studies (Budhwani et al., 2014; Sclar et al., 2008). When comparing foreign-born Latinx to US-born Latinx, several studies have found prevalence of depression to be lower among the former group (Alegria et al., 2008; Alegria et al., 2007; González et al., 2010). In addition to nativity, fluency in English and length of time in the US have been found to predict a higher prevalence of depression (Alegria et al., 2007; Perreira et al., 2015; Vega et al., 2004). However, the direction of the association between exposure to the US and mental health, including depression, has been found to vary among Latinx immigrants by country of origin (Alegria et al., 2007; Perreira et al., 2015). Moreover, longer exposure to the US has been associated with improvements in mental health outcomes for some immigrant sub-groups, particularly among those emigrating from countries that are war torn, have experienced natural disasters, and/or have high prevalence of violence (Perreira et al., 2015). Although restrictions due to data capture in the extracted clinical database did not allow me to further investigate these associations (e.g., country of origin, time in the US) through a more granular-level analysis, findings from existing studies may help explain the lower depression scores among the undocumented Latinx patients in my study.

In addition to supporting extant findings, the results from the qualitative strand of this study append current empirical insights by expanding knowledge into Latinx immigrants' perceptions of and experiences with local law enforcement, particularly in geographic contexts that promise sanctuary to residents who are undocumented. Although regional variations impede the full actualization of this goal, Connecticut aims to become this context more uniformly. Cities and states that have declared themselves sanctuary provide some protection to undocumented immigrants and their families by recognizing undocumented immigrants as

valued residents and workers and limiting police cooperation with ICE (Ridgley, 2008). However, as findings from the qualitative interviews illustrate, living in a sanctuary city/state does not automatically mean steadfast protection. By behaving aggressively, illegally, or indifferently, police officers can increase perceptions of vulnerability among immigrants, specifically those who are undocumented. Moreover, the qualitative findings underscore the critical point that this vulnerability is not solely related to immigrants' deportability but encompasses other intersectional identifying characteristics associated with foreignness such as race, ethnicity, and non-English language usage. Moreover, unjust treatment, violations of rights, and surveillance of one's community persist at the hands of local law enforcement agents as shared by the participants. Their narratives unveil the limitations of living in sanctuary states by revealing the concurrency of (limited) protection and undue harm. Intra- and inter-ethnic racism, harmful, racist actions committed by Latinx police officers, as well as those enacted by neighbors, on Latinx residents were also reported by the participants. Although recent qualitative studies have noted inter-community tensions and vertical discrimination to be largely driven by xenophobia and intra-community tensions and horizontal discrimination to be linked to "fear of discovery" as a result of associations with others impacted by immigration enforcement (e.g., deportations) (Benavides et al., 2021; Fleming, Lopez, et al., 2019; Gurrola & Ayón, 2018), the findings from this study underscore the need for future research in this critical area, specifically focused on intra-community tensions between US-born and foreign-born Latinx.

While it was not possible to ascertain the impact of interactions with police on long-term mental health outcomes, collectively, findings from the qualitative and quantitative strands of this exploratory convergent parallel mixed methods study suggest that interactions with the police influence short-term mental health outcomes (e.g., anxiety, stress, panic) irrespective of whether the residential towns/cities are characterized by racialized policing practices. I did not observe major differences in the participants' experiences based on their town/city of residence with regards to actions perpetuated by the police against Latinx communities. Independent of the town/city of residence, participants reported racialization of their identities by the police through phenotypic (e.g., skin tone) and cultural (e.g., Spanish language usage) markers associated with foreignness. Moreover, these practices were not found to dominate in any one residential town/city; they were independent of whether the town/city was identified for racialized policing.

My findings also suggest that deeper empirical examinations are likely warranted to

better understand several interrelated concepts. The vast majority of the participants in the qualitative strand, 87% of whom were self-identified female, indicated their willingness to contact police. In fact, some reported doing so particularly within the context of domestic violence situations. Other participants shared that they even challenged the police, requesting language congruency when officers were perceived to be Latinx. While not the direct focus of this study, my findings suggest that many of the participants exercised a certain level of personal agency in their interactions with the local police. To better understand these findings and particularly within the context of the on-going work by immigration advocates centered on empowerment, such as *Know Your Rights* and work-place rights, future studies should measure the impact of those efforts through mixed methods research. In addition, given that the vast majority of the participants in the qualitative strand were self-identified female, a critical area for future empirical research would be to explore the experiences, perceptions, and reactions of a diverse sample (e.g., country of origin, education, time in the country) of self-identified Latinx males, particularly those who are undocumented, through qualitative research. Furthermore, comparative examinations between locales that are and are not sanctuaries and the related impact on mental health outcomes among undocumented immigrants could also advance the preliminary understanding gained through this study. Finally, addressing the larger deficits in our collective understanding of mental health well-being among undocumented immigrants, deliberate efforts of future quantitative empirical studies must also focus on understanding diverse mental health needs including anxiety, stress, and trauma.

Limitations

There are several limitations to this research study. First, the quantitative data for this study were extracted from electronic health records. EHR data are not research ready data. Thus, due to the complexity of the data, I instituted a number of provisions, including rigorous decision rules around data coding and cleaning (as described in detail in Chapter II), which could have had a limiting impact on the analysis and related results. The identification of undocumented Latinx in the quantitative strand of the study, for example, relied on the proxy of health care insurance coverage. There is potential for misclassification of documentation status as this variable is not directly and reliably measured which could lead to biased estimates. However, participants in the qualitative strand who reported being undocumented also reported not having health insurance. Second, I focused on depression as the mental health outcome. The PHQ-2 and

PHQ-9 are not measures of mental health needs such as anxiety, fear, stress, panic, distress, and trauma; those principally mentioned by the participants in the qualitative strand of the study.

Third, there are some notable differences in the sociodemographic characteristics between the quantitative sample and qualitative sample. The vast majority of the study participants in the qualitative strand self-identified as female and reported being married compared to the quantitative sample, where a little more than half self-identified as female and reported a relationship status something other than married (e.g., single, separated, divorced, or unreported). In addition, collectively participants in the qualitative strand reported being relatively highly educated (i.e., 40% reporting having completed secondary school and 26% completing University). Although these participants represented a subset of the quantitative sample, their experiences may not be wholly representative, particularly of the population of undocumented Latinx more broadly. Thus, future mixed methods studies should implement additional sampling strategies to facilitate engagement of a more representative sample in the qualitative strand. Furthermore, qualitative findings may not be wholly representative of self-identified Latinx males who are undocumented and not married/in a long term relationship given that the vast majority of the sample in the qualitative strand were self-identified Latinx females. Related to this, the gendered nature of policing may result in unique stressors for Latinx males, particularly those who are undocumented. The findings from the qualitative strand, therefore, may not fully capture the experiences, perceptions, and reactions of Latinx males within the context of policing given their limited representation here. The critical need for additional research to better understand mental health needs among Latinx males, and particularly those who are undocumented, within the purview of policing cannot be overstated.

Fourth, recall bias may be an issue since qualitative interviews surveyed past experiences. Accuracy and completeness of recollection may have been impacted as a result. Fifth, inferences about causality are limited. While this study establishes a preliminary understanding about the impact of racialized policing on Latinx mental health, longitudinal studies will be necessary to determine causal pathways. Sixth, within the context of the qualitative strand of this study, generalizations certainly cannot be made beyond the participant group. The key themes I present, however, may be transferable (within the context of aforementioned limitations; e.g., mostly female participants) to undocumented Latinx immigrants in other communities with similar sociopolitical profiles as Connecticut; other sanctuary states that provide protection to their

undocumented immigrant residents through pro-immigrant policies and laws. Seventh, while I attempted to capture diverse experiences and perspectives by employing recruitment strategies supportive of this goal, my findings may not be reflective of undocumented Latinx immigrants who are consistently more difficult to reach (e.g., immigrants who do not receive mental health care services, those who are unable to pay for care) and therefore often underrepresented in research studies. Future research should attempt to explore recruitment strategies that can better facilitate a more representative sample for inclusion.

Finally, and related to the latter point, data for the quantitative strand of the study were drawn from electronic health records and the qualitative strand engaged a subset of those individuals who at the time of the study were receiving behavioral health care. Thus, I am only able to characterize individuals who can access and are able to afford care. Since this group may represent a select subgroup of the population, results may not be representative of individuals who continuously face structural barriers to care or who experience more fragmented care due to the systemic nature of exclusion from health care access in the US, potentially the more vulnerable and marginalized individuals.

Conclusion

In this convergent parallel mixed methods study, I explored the effect of racialized policing on Latinx mental health, with a focus on documentation status and on depression. Specifically, in the quantitative strand of the study, the analyses centered on examining the effect of differential adherence by Connecticut law enforcement agencies (i.e., police) to the state-level anti-racial/ethnic profiling traffic stop law on depression outcomes among and between documented Latinx, undocumented Latinx, and non-Latinx White patients. The qualitative strand of the study, in which we conducted interviews with 15 Latinx patients engaged in behavioral health care, also focused on racialized policing. Specifically, Latinx participants were asked open-ended questions about their perceptions and experiences with local law enforcement agencies and the related impact on their mental health, including over time.

A within group comparison among documented Latinx patients, undocumented Latinx patients and non-Latinx White patients suggests that the relative frequencies among the respective study populations, when comparing percentage depressed with residences in towns/cities ever identified versus percentage depressed with residences in towns/cities never identified for statistically significant racial and ethnic disparities in their policing practices,

appear to be similar. Moreover, when comparing between respective study populations, independent of the policing profile of the town/city, non-Latinx White patients seemed to represent the largest percentage of depressed individuals, though this percentage did not appear to be too different from the percentage of depressed documented Latinx. Further, there is seeming invariability in median depression scores among respective study populations when comparing those in towns/cities with racialized policing practices to those in towns/cities without racialized policing practices. Finally, there is seemingly lower median depression scores observed among undocumented Latinx patients compared to the documented Latinx and the non-Latinx White patients, respectively, independent of policing practices in towns/cities of residences.

In the qualitative strand, participants shared their concerns about the police using examples from the past, as well as the present, while chiefly grounding their disquietude in the potential for negative interactions with local law enforcement particularly during heightened local immigration enforcement activities. They also evoked their racial and ethnic identities while describing their experiences with the police, highlighting the racism they have endured through overt and covert actions by members of other racial and ethnic groups as well as their own. Some participants also indicated greater trust and appreciation for US local law enforcement relative to local law enforcement in their respective countries of origin. Results from the qualitative strand suggests that there was no significant difference in the findings between participants with residences in towns/cities with racialized policing practices and those with residences in towns/cities without racialized policing practices.

To my knowledge, this is the first study in Connecticut to examine associations between policing and mental health. This study begins to inform our understanding of the impact of community level factors, such as racialized policing, on Latinx mental health, particularly among undocumented Latinx. The findings collectively suggest that, in the short-term, policing may not have had a substantial impact on depression outcomes among the participants but likely had an impact on anxiety, fear, and stress; outcomes not measured in my study. Related to this, FQHCs should consider instituting systematic and targeted screening of their patients, specifically Latinx patients, for mental health outcomes currently not consistently measured by safety-net providers, such as anxiety, stress, and trauma, in order to comprehensively identify and address mental health needs among their vulnerable patient populations, including undocumented Latinx

patients. In addition to this, addressing the larger deficits in our collective understanding of mental health well-being among undocumented immigrants, deliberate efforts of future quantitative empirical studies must also focus on understanding diverse mental health care needs including anxiety and various risk factors for poor mental health, such as fear and stress, in the context of local policing.

The findings from the qualitative strand also suggest that experiences with and perceptions of policing in the US may be viewed through a comparative lens with the home country as baseline. Systematic research is needed to garner better understanding of interpretations of policing practices in the US within this frame and how they inform perspectives on policing practices in the US. Finally, future empirical studies should focus on exploring intra-ethnic tensions, specifically between US-born and foreign born Latinx and their impact on mental health outcomes among the latter group.

Despite the aforementioned limitations, my study makes a number of contributions to existing literature. Through this work, I have been able to chart recommendations for researchers who may want to utilize EHR data in their empirical studies and are interested in delineating documentation status of their participants. The convergent parallel mixed methods approach supported a more robust understanding and established preliminary understanding about policing and mental health among Latinx, including those who are undocumented. The evidence presented here can be leveraged to further advocate for the health and well-being of undocumented immigrants.

The overarching recommendation to support the health and well-being of undocumented immigrants is for the federal government to implement humane and equitable immigration reform that directly addresses the vulnerabilities experienced by undocumented immigrants during their interactions with the local police. At the state-level, policy- and law-makers can further operationalize states' sanctuary status and their commitment to eliminating racial and ethnic disparities in policing practices by instituting measures that go beyond traffic stops to elucidate and address racist and harmful policing practices. Concrete actions are needed such as feedback loops from the community to reveal unjust experiences and to build in related accountability. At the institutional-level, FQHCs and other health service organizations can institute diverse and comprehensive mental health screenings (i.e., anxiety, trauma), as well as treatments among their patient populations, particularly their Latinx patients. The

aforementioned recommendations are informed by the findings from the qualitative strand of the study. It is important that recommendations be informed by communities most impacted, as inclusive approaches to identifying solutions have the potential to be more impactful by honoring voices and understanding needs of communities that have historically been overlooked.

CHAPTER V

Conclusion

When you enter immigration, there's a place that we call the icebox; it is a terrible place. We were in two coolers and then they transferred us to another.... And even when they put us on the bus for the immigrant house, that was the most terrible thing in life. In those buses, you could hardly see. There was like a fog of ice due to how cold it was. I mean it was extreme. I can tell you that I cried that day with my daughters because it is not easy to see your children like that. Your bones ached. You had a headache due to the cold. It seemed like it was done on purpose to damage another human being who is not from this country. That was one of the hardest experiences.... Imagine, after so many injuries [such as immigration journey, leaving some daughters behind in home country], you have a fear that you don't even want to go out the door.... It is because the mind is imagining those things, the things you have lived. [Andrea, 31 y/o, Honduras]

There were police officers that were Hispanics just like me but very racist. I would tell them, "You speak Spanish and can talk in Spanish." They would say, "No, no. I don't care...." [When asked how this made her feel] Very discriminated. Devastated because we are Hispanics. We are the same...regardless of where one comes from. [Ariana, 34 y/o, Guatemala]

Andrea's and Ariana's reactions to unjust treatment by nation states (e.g., US) and state actors (e.g., police) implores us to never forget our shared humanity and echoes declarations of inherent universality and indivisibility of rights. For the estimated 11 million undocumented immigrants in the US, however, rights are differentially recognized, realized, and regulated through immigrant-, immigration- and enforcement-related policies and laws. Public health scholars have recently focused on the effects of these policies and laws on Latinx mental health. Their inquiries have found stringent anti-immigrant policies/laws and growing immigration enforcement practices to negatively impact Latinx mental health (Hatzenbuehler et al., 2017; Raymond-Flesch et al., 2014; Szkupinski Quiroga et al., 2014; J. S. H. Wang & Kaushal, 2019).

This dissertation aimed to advance scholarship in this area by examining the implications of the heightened anti-immigrant sociopolitical milieu during and following the 2016 US presidential election – one characterized by an intensification of xenophobic rhetoric, a proliferation of restrictive immigrant- and immigration-focused policies/laws, and an

amplification of enforcement practices through racialized policing and other denigrating tactics on Latinx mental health by documentation status, focusing on depression – a leading cause of disability worldwide (S. L. James et al., 2018; WHO, 2020). Specifically, the effects of factors at the macro- (e.g., anti-immigrant rhetoric, immigration laws/policies and enforcement practices) and meso- (e.g., racialized policing) levels on depression outcomes among Latinx residents relative to non-Latinx White residents in the state of Connecticut were examined. The research questions were:

- What effects, if any, did the 2016 US presidential election have on depression among documented Latinx, undocumented Latinx, and non-Latinx White residents in Connecticut? (Chapter III)
- What effects, if any, does racialized policing have on depression among documented Latinx, undocumented Latinx, and non-Latinx White residents in Connecticut? (Chapter IV)

The research, grounded in the Theory of Fundamental Causes, which emphasizes contextualizing individually-based risk factors *and* examining social conditions that are fundamental social causes of disease, was further reinforced by Racial Formation Theory and Systemic Racism Theory. In tandem, these theoretical frameworks situate the social processes that underlie the distribution of health-promoting factors between racial groups. They center the social construction of race, foreground the hierarchical system of US racial oppression, and recognize its preservation through racialization processes enacted by multiple actors in positions of power, including in state and civil society. Social factors such as social position (e.g., nationality, socioeconomic position) and structural factors such as policies (e.g., public, social) were centered in this research to closely examine the manifold determinants that put undocumented Latinx at *risk of risks* for poor mental health outcomes (Link & Phelan, 1995).

A convergent parallel mixed methods study design with equal priority (Creswell & Plano Clark, 2011; Creswell, Klassen, Plano Clark, & Smith, 2011; Guest & Fleming, 2014) was employed in two of the three dissertation studies. For the quantitative strands, secondary data were pooled from medical and behavioral electronic health records of patients receiving care from CHCI (both studies). Data related to town/city level racial and ethnic profiling practices by local law enforcement agencies was leveraged from an on-going statewide study which is implemented by the Institute for Municipal and Regional Policy at the University of Connecticut (data relevant to the study on racialized policing practices only). A semi-structured interview guide was specifically developed for the research studies and consisted of 21 (mainly) open-

ended questions and accompanying prompts related to each study's research questions. The sample frame for the qualitative study was made up undocumented Latinx who are currently receiving mental health care from CHCI.

The clinical/administrative real-world electronic health record data underwent a series of iterative cleaning and coding to extract information on studies' central variables: race and ethnicity, documentation status, and depression. Several challenges emerged as analysis of the EHR data as the aforementioned research studies unfolded. In Chapter II, I described the capture/operationalization of the variables in the EHR, challenges I faced with interpretation, and strategies I implemented to address those challenges. Informed by the lessons learned, I provided recommendations for FQHCs to support improvements in data collection and management processes and for researchers interested in using EHR data to engage critical research questions related to the populations who use those health care systems.

The empirical inquiry into the impact of the 2016 US presidential on depression outcomes uncovered the following key findings from the quantitative strand of the study:

- Higher depression scores among non-Latinx White patients compared to the Latinx patients, independent of documentation status.
- Lower depression scores among undocumented Latinx patients compared to the documented Latinx patients and the non-Latinx White patients, respectively.
- Any changes (decrease or increase) in mean depression scores over the years or pre- and post-2016 US presidential election, although found to be statistically significant in some instances, was relatively small (on average, less than one point; scale 0-27)

Results from the qualitative strand of the study suggested important nuances and offered insights towards a more robust understanding of the impact of a persistent and corrosive sociopolitical discourse linked to documentation status and sustained through abiding restrictive immigration- and enforcement-related policies and laws on mental health outcomes. I found that, amongst predominately female participants in the study, all of whom were currently under care at CHCI, the impact of the 2016 US presidential election on depression was limited. Participants, however, reported experiences with anxiety, fear, stress, and worry. Furthermore, I also found that the participants in the study sample experienced enduring determinants of poor mental health related to diverse factors. These included the aforementioned abiding policies and laws linked to their documentation status and the consequential ascribed *lower* social position and bounded personal agency attributed to the assigned identity of being *undocumented*. Without tangible changes,

those that signal inclusivity, in US policies related to immigration and enforcement practices, these determinants persisted independent of changes in the US presidency and impacted multiple facets of their lives directly relevant to health (e.g., employment, health care coverage).

Participants also shared the durable effects of adverse experiences in childhood and adulthood and the resulting lasting negative impact on mental health, as well as the inimical impact of self-physical health and/or the health of loved ones on their mental health.

The empirical inquiry into the impact of the racialized policing on depression outcomes uncovered the following key findings from the quantitative strand:

- Depression scores among undocumented Latinx patients seemed lower compared to the documented Latinx and the non-Latinx White patients, respectively, independent of policing practices in towns/cities of residences.
- When comparing documented Latinx patients, undocumented Latinx patients, and non-Latinx White patients in towns/cities with racialized policing practices to documented Latinx patients, undocumented Latinx patients, and non-Latinx White patients in towns/cities without racialized policing practices, depression scores seemed similar.
- When comparing documented Latinx patients, undocumented Latinx patients, and non-Latinx White patients in towns/cities with racialized policing practices to documented Latinx patients, undocumented Latinx patients, and non-Latinx White patients in towns/cities without racialized policing practices, the percentage depressed seemed similar.

Results from the qualitative strand of this study suggested important nuances and facilitated a more robust understanding of the impact of racialized policing on mental health outcomes. Among the study participants, who were predominately female and currently under care at CHCI, actual or anticipated interactions with the local law enforcement resulted in mental health needs related to anxiety, panic, fear, stress, and trauma. The findings also underscored the critical point that vulnerability in the context of community policing was not solely related to immigrants' deportability but encompassed other intersectional identifying characteristics associated with foreignness such as race, ethnicity, and non-English language usage. These racialization practices by the police were not found to dominate in any one residential town/city; they were independent of whether the town/city had been identified for racialized policing. The participants' narratives suggested that there are some limitations of living in a sanctuary state, such as Connecticut, by revealing the concurrency of (limited) protection and undue harm. Intra- and inter-ethnic racism, harmful, racist actions committed by Latinx police officers, as well as those enacted by neighbors, were also reported.

Together, the findings from the two studies above suggest a number of persistent, socially determined conditions that shape the lived experience of documented and undocumented Latinx in the US, with implications for their mental health and well-being. While linked to the corrosive anti-immigrant sentiment and discourse that characterized the Trump campaign and presidency, these exposures and their mental health implications appear not to be limited to the specific historical moment of the Trump presidency. Rather while there is some indication – particularly in the qualitative interviews – that the stigmatization and related threats experienced by undocumented Latinx were relatively heightened during the Trump presidency, that sociopolitical context extends both prior to and after that moment. Furthermore, and within the context of policing, interactions with the police and their mental health implications for (undocumented) Latinx were often contingent upon racialization processes, the resulting racism, and associated discriminatory practices through overt and covert actions by members of other racial and ethnic groups as well as co-ethnics. Below, recognizing the strengths and limitations of the analyses presented in this dissertation, I consider the implications of these findings for public health and public policy and offer recommendations for future research.

Implications for Public Health

Building on the findings reported from this dissertation, and drawing on related literature, in the following paragraphs I discuss a number of potential public health interventions across multiple levels (i.e., at the institutional, community, and policy levels) that can be undertaken to promote mental health among US-based Latinx individuals, particularly those who are undocumented immigrants. The focus on this population is warranted despite the results from the respective quantitative studies which suggest little change in depression scores among this study group over time, as well as pre- and post-2016 US presidential election, and within the context of racialized policing practices. The findings from the qualitative in-depth interviews with undocumented Latinx individuals, who are currently receiving mental health treatment, suggest a number of stressors linked to mental health well-being (i.e., anxiety, fear, stress, panic, and trauma) within this group. These stressors are related to their specific, socially structured, lived experience. There are opportunities to purposefully address those socially determined mental health outcomes within this group through interventions that could be undertaken across multiple levels (i.e., community, institutional, and policy). Next, I specifically detail recommendations for interventions at each of those levels, beginning with the institutional level.

Institutional Level

A number of diverse entities can play a critical role in supporting the health and well-being of Latinx individuals, particularly those who are undocumented, including safety-net providers, law enforcement agencies such as the police, and academic institutions and affiliated researchers. To maximize meaningful use of EHRs in informed decision-making with regards to patient care and treatment, as well as to support their use in experimental and observational research studies focused on the health and well-being of vulnerable and marginalized populations, safety-net providers can undertake efforts to improve their data capture and management processes (as described in detail in Chapter II). Furthermore, commitments to this end would support efforts towards understanding and addressing health disparities to achieve health equity. In addition, and as suggested by the findings from the qualitative strands of the aforementioned studies, safety-net providers should also consider regularly incorporating diverse mental health screeners in their practice – for example, those related to trauma, anxiety, and stress – to capture mental health needs more accurately and comprehensively among their Latinx populations. Safety-net providers, such as FQHCs, play an especially critical role in the health and well-being of marginalized and vulnerable populations. These entities have been historically underfunded. Thus, the importance of adequately funding FQHCs to support them in their mission to care for their patient populations meaningfully and effectively cannot be overstated. Commitments by the US federal government to allocate sufficient funding towards infrastructure related to clinical practice, including data capture and data management, and programming within these entities cannot be minimized and should/must be bolstered.

Law enforcement agencies, such as the police, can also support the health and well-being of Latinx individuals, particularly those who are undocumented. Results from the qualitative strand of the study on racialized policing suggest that undocumented immigrants contend with various mental health vulnerabilities in their interactions with local police. Moreover, the participants' narratives also suggest that commitments to eliminate racial and ethnic disparities in policing practices by states can be further expanded by instituting measures that go beyond traffic stops to elucidate and address racist and harmful policing practices. Within this purview, more doses of required training programs (i.e., racial/ethnic bias, implicit bias, structural racism, fair and impartial policing, race and equity) are likely necessary, as are assessments of current trainings for efficacy and continuous improvement. They, however, may not be sufficient. Along

with the more training, accountability could also be exercised impartially through feedback loops from the community to garner a more comprehensive understanding of community-police interactions. Finally, and expanding on study findings, police reforms that address the root mechanisms through which disparities in policing occur can be instituted. Federal laws that legislate local policing interventions, such as the aforementioned Traffic Stops Statistics Act of 1997, H.R. 118, can be extended to track police encounters beyond traffic stops to include foot patrol and other modes of local policing, for example.

The implementation of this research project has also unveiled the dearth in quantitative empirical inquiries among undocumented residents in the US generally, and within the context of mental health, more specifically. Although various factors can help explain this paucity, the limited commitment by the US federal government to fund research related to undocumented communities is one possible explanation. Within this purview, academic institutions can play a critical role in supporting the health and well-being of Latinx communities, particularly those who are undocumented, by investing in administrative and research infrastructure steeped in inclusive and collaborative research partnerships. For example, in their commitment to *prioritizing* and *understanding* the health and well-being of undocumented residents in the US, academic institutions can facilitate the use of large scale data by improving access to such databases for their researchers. Furthermore, academic institutions can encourage and advocate for more equitable partnerships in community-based research initiatives by relinquishing institutional power often characterized by full control over resources, as well as research related processes. Moreover, researchers can themselves make concerted efforts to decolonize their empirical inquiries by instituting diverse research teams, including students and staff who are representative of the partnering communities. In their collaborations, researchers could further commit to community-based participatory principles, by fully engaging community partners in the inception of the empirical inquiry, implementation of the research project, and analysis and dissemination of the research findings while learning from and supporting the capacity of community members in research, as well as fortifying community ownership. The incorporation of such practices are just a few examples of how commitment to *prioritizing* and *understanding* the health and well-being of undocumented residents in the US can be centered by academic institutions and affiliated researchers.

Finally, academic institutions, health service organizations, and other immigrant serving

organizations could actively work together on the processes mentioned throughout this section to promote the health and well-being of Latinx communities. For example, public health researchers in partnership with immigrant serving organizations can help law and policy makers understand the effects of immigrant-, immigration- and enforcement related policies, laws, and rhetoric on the (mental) health of undocumented residents in the US. Without such purposeful efforts, the impact of distal factors on health outcomes may not be tangibly apparent and their integral connections may go unrecognized. To this end, research and practice partnerships should be collaborative and inclusive of immigrant communities.

Community Level

At the community level and as suggested by the results from the qualitative strands of the aforementioned studies and particularly inquiries that focused on avenues to better support mental health among (undocumented) Latinx, programs that destigmatize mental health and mental health care seeking behaviors particularly among Latinx communities are urgently needed. These programs should be complemented with mental health care support groups that are culturally and linguistically convergent. Given that many immigrants have likely encountered trauma during their immigration journeys, providing community supports that help them (e.g., trauma therapy that is accessible and acceptable) without retraumatizing them is essential. Programmatic efforts should also focus on Latinx men, including those who are undocumented, as they have consistently been underrepresented in programs, as well as public health research, including in this dissertation project where deficits in understanding their needs persisted.

Community-level interventions could also focus on rights-based training (i.e., Know Your Rights, workplace rights), particularly for undocumented and mixed status families. Peer to peer support networks (i.e., documented individuals, mixed status families, and undocumented individuals) can also be implemented where regular meetings provide opportunities to not only learn about state and federal shifts in laws and policies related to immigration and immigration enforcement (e.g., informational support), but to be a part of social support systems where experiences can be shared, bridging (i.e., between documented individuals and undocumented individuals) and bonding (i.e., among undocumented individuals) ties can be engendered and reinforced, and instrumental (e.g., funding support for health services) and emotional support (e.g., support groups for victims of domestic violence) can be leveraged and utilized. These recommendations stem from the collective findings of the aforementioned studies.

Finally, community-level interventions can further center the health and well-being of Latinx individuals, particularly those who are undocumented, by meaningfully adopting sanctuary city/state status. This recommendation is born out of collective findings from the aforementioned studies that sanctuary locales may partially buffer the impact of federally sponsored anti-immigrant policies and laws. A meaningful adoption entails a movement towards recognizing undocumented immigrants as valued residents and workers, limiting police cooperation with ICE, and tangible policy changes at the state/municipal level as described next.

Policy Level

Collectively, the findings from the convergent parallel mixed methods studies support the critical conception underscored in extant literature that immigrant-, immigration-, and enforcement-related policies, laws, and rhetoric are determinants of health for undocumented immigrants (Cabral & Cuevas, 2020; Castañeda & Melo, 2014; Gurrola & Ayón, 2018). Furthermore, the findings indicate that laws and policies centered on documentation status are the central factors in the mechanisms that drive poor mental health (i.e., anxiety, fear, stress, trauma, and panic attacks) by limiting rights (e.g., health care access), resources (e.g., employment), and a sense of stability and security in navigating everyday life. Poor mental health was also reported to result from poor physical health, as well as adverse events experienced in childhood and/or adulthood. These findings have significant implications for public policy.

Federal Policy. Arguably, and as indicated in the results from the qualitative strands of the analytic studies, the most substantive change in addressing immigrant-, immigration-, and enforcement-related policies and laws as social determinants of health would be just and equitable immigration reform. Within this framework, the focus should prioritize the rights of US-based undocumented immigrants through thoughtful labor policies, through access to health care, and through a pathway to legalization or citizenship. The realization of just and equitable immigration reform can potentially be beneficial to multiple stakeholders. A recent study by Peri & Zaiour (2021) found that citizenship for undocumented immigrants would also boost US economic growth, increasing the US GDP by up to \$1.7 trillion over the next decade (Peri & Zaiour, 2021). Furthermore, in their findings, Peri & Zaiour (2021) also share descriptions and model economic impacts associated with four scenarios that would put undocumented immigrants on a pathway to legalization and citizenship (Peri & Zaiour, 2021). Similarly, a

framework outlining a pathway to legalization and citizenship has also been recently shared by a pro-immigration lobbying group called *FWD.us* (*FWD.us*, 2021). These are just two examples of pathways to legalization or citizenship for undocumented immigrants in the US that can potentially be adopted and implemented.

State & Municipal Level Policies. In addition to or in lieu of the long overdue federal level policy changes, by adopting sanctuary status, states and municipalities can implement policies that limit interactions between local law enforcement and ICE. The aforementioned Connecticut's Transparency and Responsibility Using State Tools Act, for example, can serve as a blueprint for states interested in formulating concrete policy measures towards this end, as the studies' findings suggest that measures such as these may potentially buffer the impact of federally sponsored anti-immigrant policies and laws. With this critical step of adopting sanctuary status, states/municipalities should further actualize their pro-immigrant and immigration stances by implementing policies that support equal access to health care and other resources to thrive. Furthermore, local policies should also adopt equitable labor laws that not only create diverse job opportunities for undocumented residents but also protect them from exploitation and workers' rights violations in the workplace; the latter suggestion would further fortify local intentions of supporting undocumented residents whose rights are often differentially recognized, realized, and regulated through federal laws and policies. States can also provide driver's licenses to their undocumented residents. This concrete policy adoption, as done by Connecticut and other states, has the potential to positively affect physical and social mobility (e.g., access to material resources – healthy foods, employment, schools and social programs) and mental and physical health (i.e., access to health care services). Related to driver's licenses and within the context of local policing, states that haven't already done so can follow suit of state legislatures across the country, including Connecticut, to mandate data collection, as well as develop laws prohibiting law enforcement from using racial profiling.

Institutional Policies. At the institutional level, safety-net providers can adopt more inclusive healthcare practices such as incorporating staff who are more linguistically and culturally representative of the communities served in their practices. This recommendation is derived from existing literature. Safety-net providers and other immigrant serving institutions should also pointedly adopt and internally communicate standard operating procedures that secure the safety of their undocumented clients, including policies and procedures that enable

collection of meaningful data within the purview of their service provision practices.

Strengths and Limitations

This dissertation makes significant contributions to public health, specifically at the institutional, community, and public policy levels, the latter with policy implications at the federal, state/municipality, and institutional levels. Through this work, I have been able to share concrete recommendations for maximizing use of EHR data in research, particularly empirical studies focused on undocumented immigrants. Although additional research is needed, this work also signals the potential protective role of sanctuary locales in the health and well-being of undocumented immigrants. The findings also suggest several enduring determinants of poor mental health among undocumented Latinx immigrants, including historically sustained US immigration and enforcement laws and policies that steadily stigmatize and racialize immigrants. In addition to those fundamental causes/determinants, findings also suggest that adverse childhood and adulthood experiences have long-lasting impacts on mental health. Along with this, I have been able to share concrete suggestions for interventions that are grounded in public health at the policy level (e.g., expanding health care access), the community level (e.g., implementing programs that destigmatize mental health), and the institutional level (e.g., inclusive and collaborative research grounded in equitable community-academic partnerships).

In addition to the aforementioned strengths, the other strengths of this dissertation are founded specifically in the characteristics of research design and implementation itself. The convergent parallel mixed methods design, for example, facilitated a more nuanced understanding of the related empirical inquiries and produced critical insights that otherwise would have been completely missed. Furthermore, this project's grounding in an academic-community partnership was foundational to engaging a highly vulnerable and marginalized community (i.e., undocumented Latinx individuals) through research study designs that utilized primary and secondary data. Moreover, the expertise and experiences of representatives from the community partner added a level of depth to the research processes that would not have been possible otherwise. Finally, members of the qualitative research team, many of whom were formerly undocumented or currently undocumented, brought a level of commitment, dedication, and relatability that was surpassed by none other. Collectively, the members' converging lived experiences, intimate insights, and intersectional identities were an enormous asset to the intimate conversations that transpired with the study participants, as well as the implementation

of the research project and analysis of the qualitative data.

The studies associated with this dissertation are not without limitations. However, the recognition of these limitations, in part, uncover opportunities for future research. First, as cross-sectional studies, inferences about causality cannot be made. Therefore, longitudinal studies will be necessary to determine causal pathways. Second, the sample for the studies is drawn wholly from individuals who receive care at a large FQHC in the state of Connecticut and thus results cannot be extracted to, for example, the broader population of documented and undocumented Latinx who may not be receiving such care. Third, the sampling strategy for the qualitative strands of each study was designed to facilitate inclusion of undocumented Latinx, and is, as such, both a strength and a limitation. Its strength lies in the opportunity to specifically learn from undocumented Latinx who are consistently more marginalized and therefore often underrepresented, if at all represented, in research studies. This non-probability sampling method also means that the resulting sample is not representative of the broader population of undocumented Latinx and therefore findings cannot be generalized to, for example, undocumented Latinx men or those who are not seeking mental health services. Fourth, the secondary data for the quantitative strand of each study were extracted from EHRs. To facilitate use of the data and as described in Chapter II, I instituted a number of rigorous decision rules around data cleaning and coding. This, in turn, could result in some limitations with the analysis, those that would be better understood with the collection of and comparison with additional, primary quantitative data. However, empirical research involving primary quantitative data collection among undocumented immigrants can be challenging as discussed in Chapter II. Further, the use of EHR data is inherently representative of individuals who are engaged in care. Therefore, as with the qualitative strands of our studies, I am not able to speak to those who consistently confront structural barriers in their attempts to access care. Despite these limitations, I was able to chart and share replicable steps to facilitate use of EHR data in observational studies, including delineating documentation status among study participants through the use of proxy variables.

Recommendations for Future Research

Although understanding the health and well-being of undocumented immigrants in the US is accumulating, many gaps persist. Collectively and within the context of a heightened anti-immigrant milieu, the research included in this dissertation has identified critical areas for future empirical

studies. Additional mixed methods studies are needed to better understand the impact of this milieu on mental health care needs, as discussed by participants, related to anxiety and panic disorder, as well as related risk factors including stress and trauma, particularly in variable contexts (e.g., immigrant friendly versus immigrant unfriendly states). Related to this, it will also be important to understand what role, if any, sanctuary locales (e.g., states, cities, towns) play in safeguarding the health and well-being of undocumented residents through their pro-integration immigrant and/or immigration policies and interventions. Research in this area is largely absent but has tremendous potential to inform more equitable pathways to protecting the rights of all residents independent of their legal status and within the purview of oscillating federal immigration policies and laws. The studies also began to name enduring determinants of poor mental health, including those resulting from adverse childhood and adulthood events. To date, this area of empirical inquiry has largely been focused on Latinx youth or Latinx adults not delineated by documentation status. Garnering a deeper understanding on the impact of these factors on mental health among undocumented immigrants over time, who also experience on-going and accumulating day-to-day stressors in the US, through longitudinal studies will be critical for informing mental health promoting interventions, including pinpointing care and treatment planning. Another incipient and critical area of inquiry that requires additional investigations is related to the impact of policing on mental health among undocumented immigrants. Findings from my studies suggest multiple opportunities for further systematic mixed methods research in order to better understand the comparative lens used by undocumented immigrants to view experiences with the local police in the US. Specifically, it will be important to investigate how policing practices in home countries result in social patterning of those experiences and how they, in turn, influence how actions and behaviors of local police in the US are experienced and understood. This area of inquiry is critical given that very little is known about policing and Latinx communities and also given that policing practices have become a serious and on-going public health crisis in the US, one which has intensified dramatically in recent years and even elicited global outcries.

Concluding Comments

When I reflect on this dissertation, I am reminded of commonality in the ending of discussions during in-depth interviews across participants, as shared by Andrea with an RA:

Most of all, thank you. This is very, very beautiful because you feel listened to, you feel valued, you feel that you are worthy. You feel that there are good people and they can

listen to you. I know that it is not easy for you. It is a job that is hard because of so many things you hear, some are good things and some bad things, things that affect you as a person because one becomes unanimous with that person; you imagine what they have experienced. Thank you most of all, thank you for your collaboration in taking the time to listen to us....Thank you most of all for listening to us, for listening to me. For taking that time to think and see the pain of people and to take that time so that people can take out all that is stored. And to say congratulations and that I hope you all can help many more people who are also in the same or worse situations than me. I am eternally grateful to God most of all. I have given thanks to him and I continue to thank him for putting people like you in my path, and opening doors for me, not financial ones, right, but those doors that you need for health and all emotional aspects, that is the most pleasant and the most beautiful thing that I could have.

Andrea underscores the critical importance of understanding the health and well-being of Latinx communities, specifically those among them who are undocumented. As discussed above, there is an urgent need for interventions at the institutional, community, and policy levels to this end. If the root causes of poor mental health among undocumented Latinx immigrants in the US are to be effectively addressed, then identifying and considering the sociopolitical and sociocultural conditions that put them at *risk of risks* can no longer be ignored (Link & Phelan, 1995). Explicitly stated, the US federal government must chart equitable, comprehensive immigration reform effectively and humanely without any further delay. On the local level, actors within states/municipalities, institutions/organizations, and communities hold enormous power to disrupt the abiding negative health impacts of federal-level restrictive, punitive, and stringent immigrant-, immigration-, and enforcement related polices and laws and to ensure that all members of their composite microcosms have the ability to fully participate in their own lives and the larger society. As previously discussed, local-level pro-integration immigrant and/or immigration policies and interventions are promising avenues. The World Health Organization (WHO) Constitution envisages "...the highest attainable standard of health as a fundamental right of every human being" (WHO, 2017). Moreover, within a rights-based framework, health is "a state of complete physical, *mental*, and social well-being and not merely the absence of disease or infirmity" (WHO, n.d.b). A rights-based approach requires that the right to mental health be enjoyed without discrimination on the grounds of race, gender, age, ethnicity, sexuality, legal or any other status. Such an approach obligates nation states to advance the right to mental health through allocation of maximum available resources and compels them to prioritize those most at risk towards greater equity in health. Approaches foundational in human rights must be adopted and implemented.

APPENDICES

APPENDIX A

Table A.1: Studies Reporting Lifetime Prevalence of Major Depression (Mendelson et al, 2008)

Study (year)	Sample (dates)	N	Gender	Ages, in years	Country of origin	Design (region)	Depression measure	Effect size (95% CI)
Blazer et al. (1994)	National Comorbidity Survey (1990-1992)	6,098 W 786 L	50.5% female, 49.5% male	15-54	NR	Stratified, multistage probability sample (nat. rep.)	CIDI for <i>DSM-III-R</i>	0.98 (0.81, 1.20)
Zhang & Snowden (1999)	Epidemiologic Catchment Area Study (early 1980s)	12,176 W 1,433 L	53.4% female, 46.6% male	18+	NR	5-site multistage probability sample (CT, MD, MO, NC, CA)	DIS for <i>DSM-III</i>	1.04 (0.81, 1.33)
Turner & Gil (2002)	Miami-Dade public school study follow-up (1998-2000)	463 W 888 L	NR	19-21	25% Cuban, 25% other Caribbean-basin Hispanic	Public schools, plus random follow-up sample (FL)	Michigan CIDI for <i>DSM-IV</i>	0.89 (0.67, 1.19)
Dunlop et al. (2003)	Health and Retirement Survey (1996)	5,760 W 662 L	51.6% female, 48.4% male	54-65	NR	Probability sample (nat. rep.)	CIDI-SF for <i>DSM-III-R</i>	1.43 (1.10, 1.86)
Breslau, Aguilar-Gaxiola et al. (2005)	National Comorbidity Survey Replication (2001-2003)	4,180 W 527 L	52.9% female, 47.1% male	18+	NR	Stratified, multistage probability sample (nat. rep.)	CIDI	0.71 (0.55, 0.93)
Hasin et al. (2005)	National Epidemiologic Survey on Alcoholism and Related Conditions (2000-2002)	24,507 W 8,308 L	NR	18+	NR	Nat. rep.	AUDADIS-IV	0.62 (0.58, 0.68)
Hernandez et al. (2005)	Colorado Social Health Survey (1985-1986)	3,986 W 473 L	NR	<i>M</i> = 42.6	Mostly Mexican American	Random sample (CO)	DIS for <i>DSM-III</i>	1.04 (0.70, 1.54)
Riolo et al. (2005)	National Health and Nutrition Examination Survey (1988-1994)	2,646 W 3,377 L	NR	15-40	Mexican American	Stratified, multistage probability sample (nat. rep.)	DIS for <i>DSM-III-R</i>	0.75 (0.63, 0.89)

Note. The effect size is an odds ratio. CI = confidence interval; NR = not reported; W = non-Latino White; L = Latino; nat. rep. = nationally representative; CIDI = Composite International Diagnostic Interview; *DSM-III*, *DSM-III-R*, and *DSM-IV* = *Diagnostic and Statistical Manual of Mental Disorders* (3rd ed.; 3rd ed., revised; and 4th ed., respectively); DIS = Diagnostic Interview Schedule; AUDADIS-IV = Alcohol Use Disorder and Associated Disabilities Interview Schedule—*DSM-IV* Version.

APPENDIX B

Table B.1: Studies Reporting Current Prevalence of Depressive Symptoms (Mendelson et al., 2008)

Study (year)	Sample (dates)	<i>N</i>	Gender	Ages, in years	Country of origin	Design (region)	Depression measure	Effect size (95% CI)
Frerichs et al. (1981) [†]	Community survey (1979)	609 W 201 L	NR*	18+	NR	Multistage probability sample (Los Angeles)	CES-D	0.23 (0.07, 0.39)
Griffith (1984) ^{††}	Community survey (1980)	256 W 259 L	NR	<i>M</i> per group = 32-44	Mexican American	Random multistage sampling (southern CA)	Depression Scale (18 items)	0.09 (-0.08, 0.27)
Lloyd & Musser (1989) ^b	Dental student sample (1981-1982)	251 W 22 L	NR*	20-30+ <i>M</i> = 26 (<i>SD</i> = 4)	NR	Dental school (TX)	HSC	-0.43 (-0.87, 0.00)
Golding & Burnam (1990) ^{††}	Los Angeles Epidemiologic Catchment Area Study (early 1980s)	1,088 W 1,206 L	50.4% female, 49.6% male	18+	Mexican American	Multistage probability sample (Los Angeles)	CES-D	0.18 (0.10, 0.26)
Vaden Gratch et al. (1995) ^b	College student sample (dates NR)	163 W 168 L	NR*	<i>M</i> = 24.2	NR	Southwestern university	BDI	0.16 (-0.05, 0.38)
Jackson (1997) ^{†††}	National Survey of Families and Households (1987-1988)	9,419 W 821 L	59.0% female, 41.0% male	18+	76.7% Mexican American, 23.3% Puerto Rican	Multistage probability sample (nat. rep.)	CES-D (12-item format)	0.03 (-0.04, 0.11)
Fitzgibbon et al. (1998) ^c	Community survey (dates NR)	55 W 117 L	100.0% female, 0.0% male	Group <i>Ms</i> = 34.6-40	NR	Women recruited via hospital study or health program	BDI	0.70 (0.37, 1.03)
Tucker & Mitchell-Kernan (1998) ^c	Community survey (1989)	119 W 56 L	100.0% female, 0.0% male	> 18	Two-thirds Mexican American	Subsample of single women from stratified, random sample (CA)	CES-D	0.24 (-0.08, 0.56)
Hao & Johnson (2000) ^{†††}	Health and Retirement Survey, Wave 1 (1992)	6,688 W 543 L	NR	51-61	Mexican American	Individuals born 1931-1941 (nat. rep.)	5-item scale from HRS survey	0.31 (0.23, 0.39)
McGruder-Johnson et al. (2000) ^{a,b}	College student sample (dates NR)	97 W 61 L	100.0% female, 0.0% male	<i>M</i> = 18	Mexican American	Southwestern university	Depression subscale of the Trauma Symptom Inventory	0.25 (-0.09, 0.59)
Gutierrez et al. (2001) ^b	College student sample (dates NR)	269 W 101 L	57.3% female, 42.7% male	17-24 <i>M</i> > 18	NR	Midwestern university	BDI	0.29 (0.06, 0.52)
Bay-Cheng et al. (2002) ^c	Community survey (dates NR)	608 W 60 L	100.0% female, 0.0% male	18-45 <i>M</i> = 34	NR	Women recruited via random digit dialing (nat. rep.)	CES-D	0.48 (0.22, 0.75)
Iwata et al. (2002) ^{b,††}	Miami-Dade public school study follow-up (dates NR)	463 W 888 L	NR*	19-21	NR	Random sample, cohort study & supplemental sample (FL)	CES-D	0.03 (-0.08, 0.15)
Caetano & Cunradi (2003) ^c	National survey (1995)	486 W 422 L	42.7% female, 57.3% male	> 18	NR	National household probability sample of couples	CES-D	0.17 (0.04, 0.30)

Study (year)	Sample (dates)	<i>N</i>	Gender	Ages, in years	Country of origin	Design (region)	Depression measure	Effect size (95% CI)
Gore & Aseltine (2003) ^b	Prospective study of high school seniors, Wave 1 (1998) and Wave 2 (2000)	648 W 145 L	50.7% female, 49.3% male	16-20 <i>M</i> > 18	Modal country of origin: Puerto Rico	Probability student sample from 7 urban school districts (MA)	CES-D (12-item format)	0.15 (−0.03, 0.33)
Contreras et al. (2004) ^b	College student sample (dates NR)	2,703 W 1,110 L	64.5% female, 35.5% male	18-25	NR	San Diego State University (CA)	BDI	0.12 (0.05, 0.19)
Everson-Rose et al. (2004) ^{c†}	Study of Women's Health Across the Nation (1996-1997)	1,318 W 182 L	100.0% female, 0.0% male	42-52	NR	Random sample, 7 sites (MA, IL, MI, CA, NJ, PA)	CES-D	0.60 (0.45, 0.76)
Masten et al. (2004) ^{a,c††}	Community survey (dates NR)	38 W 38 L	100.0% female, 0.0% male	Group <i>M</i> s = 29-32	Mexican American	Women recruited at 2 social service agencies (KS)	CES-D	0.41 (−0.05, 0.86)
Plant & Sachs-Ericsson (2004)	Colorado Social Health Survey (dates NR)	3,995 W 470 L	NR*	18-94 <i>M</i> = 42.7	NR	Random sample (CO)	CES-D	0.19 (0.09, 0.28)
Wei et al. (2004) ^b	College student sample (dates NR)	296 W 163 L	NR*	18-59 <i>M</i> = 22 (<i>SD</i> = 5.7)	NR	Midwestern university	DASS—Short Form	0.18 (0.00, 0.38)
Morera et al. (2005) ^b	College student sample (dates NR)	304 W 194 L	NR*	<i>M</i> ages = 19-20	NR	Southeastern and southwestern universities	BDI	0.07 (−0.12, 0.26)
Switzer et al. (2005)	Survey of potential bone marrow donors (1998-2001)	1,359 W 101 L	9.2% female, 90.8% male	44% W & 59% L < 40	NR	Random sample of potential marrow donors at 65 centers	HSC	0.00 (−0.20, 0.20)
Ullman & Filipas (2005) ^{b,c}	College student sample (dates NR)	161 W 81 L	100.0% female, 0.0% male	<i>M</i> = 19.4 (<i>SD</i> = 2.2)	NR	Urban university	CES-D	−0.04 (−0.30, 0.23)

Note. The effect size is a standardized mean difference. CI = confidence interval; NR = not reported; NR* = reported for the study's total sample but not for the sample used in our review; W = non-Latino White; L = Latino; nat. rep. = nationally representative; CES-D = Center for Epidemiologic Studies Depression Scale; BDI = Beck Depression Inventory; DASS—Short Form = Depression, Anxiety, and Stress Scale (Depression scale); HSC = Hopkins Symptom Checklist (Depression scale).

^a Included in the stratified analysis of Mexican American samples. ^b Included in the stratified analysis of college students. ^c Included in the stratified analysis of female samples.

[†] Surveys administered in Spanish, if requested. ^{††} Nativity status assessed.

APPENDIX C

Table C.1: Immigration-Related Executive Orders & Proclamations (Waslin, 2020)

President	Immigration EOs	Total EOs	Immigration as a Percentage of Total	Immigration Proclamations	Total Proclamations	Immigration as a Percentage of Total
Truman	6	901	0.7	11	357	3.1
Eisenhower	0	486	0.0	8	383	2.1
Kennedy	1	214	0.5	3	173	1.7
Johnson	0	324	0.0	6	330	1.8
Nixon	0	346	0.0	0	416	0
Ford	2	169	1.2	0	175	0
Carter	6	320	1.9	0	335	0
Reagan	4	381	1.1	5	1,118	0.4
G.H.W. Bush	2	166	1.2	1	589	0.2
Clinton	3	364	0.8	12	606	2.0
Bush	4	291	1.4	6	941	0.6
Obama	18	276	6.5	2	1,128	0.2
Trump*	10	125	8.0	9	376	2.4
Total	56	4,363	1.3	63	7,022	0.9

APPENDIX D

*Patient Health Questionnaire (PHQ-2)*³⁷

Over the last 2 weeks, how often have you been bothered by any of the following problems?
(use “√” to indicate your answer)

	Not at all	Several days	More than half the days	Nearly every day
1. Little interest or pleasure in doing things	0	1	2	3
2. Feeling down, depressed, or hopeless	0	1	2	3

Add columns + +

Total

³⁷ Copyright ©1999 Pfizer Inc. (Kroenke, Spitzer & Williams, 2001)

APPENDIX E

*Patient Health Questionnaire (PHQ-9)*³⁸

Over the last 2 weeks, how often have you been bothered by any of the following problems?
(use “√” to indicate your answer)

	Not at all	Several days	More than half the days	Nearly every day
1. Little interest or pleasure in doing things	0	1	2	3
2. Feeling down, depressed, or hopeless	0	1	2	3
3. Trouble falling or staying asleep, or sleeping too much	0	1	2	3
4. Feeling tired or having little energy	0	1	2	3
5. Poor appetite or overeating	0	1	2	3
6. Feeling bad about yourself – or that you are a failure or have let yourself or your family down	0	1	2	3
7. Trouble concentrating on things, such as reading the newspaper or watching television	0	1	2	3
8. Moving or speaking so slowly that other people could have noticed. Or the opposite – being so fidgety or restless that you have been moving around a lot more than usual	0	1	2	3
9. Thoughts that you would be better off dead, or of hurting yourself	0	1	2	3

Add columns + +

Total

10. If you have checked off <i>any problems</i> , how <i>difficult</i> have these problems made it for you to do your work, take care of things at home, or get	Not difficult at all	_____
	Somewhat difficult	_____
	Very difficult	_____

³⁸ Copyright ©1999 Pfizer Inc. (Kroenke, Spitzer & Williams, 2001)

along with other people?	Extremely difficult _____
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APPENDIX F

Demographic Survey (Latinx Individuals in Mental Health Care)

FOR OFFICE USE	
Date: _____(mm/dd/yyyy)	Researcher Name: _____
Respondent Pseudonym: _____	Respondent ID: _____
Interview Site Town: _____	Interview Site ID: _____

1) How old are you? (age in years)

2) What is the month and year of your birth?*(record as mm/yyyy) /

*Confirm that the answers to Q1 and Q2 correspond.

3) Where were you born? _____ (country of birth) (If in the US, skip to Q5)

4) How long have you been in the US?

(years) (months)

5) What is your **current** relationship status? (check one)

- Single/Never married
- In a long-term relationship
- Not legally married, but living with a partner
- Married
- Separated
- Divorced
- Widowed
- Other (specify) _____

6) What is the *highest* level of education you have **completed**? (check one)

- No formal schooling (if selected, skip to Q8)
 - Primary school
 - Middle school
 - Secondary school
 - Technical/vocational school
 - University
 - Graduate school/professional school
 - Other (specify) _____
- }
- }

7) What is the highest grade/class you completed at that level? _____ (grade/class)

8) Which language do you *prefer* to speak? (check one)

- English
- Spanish
- Other (specify) _____

9) Please note any other language(s) that you speak. (check all that apply)

- I do not speak any other language(s)
- English
- Spanish
- Other (specify) _____
- Other (specify) _____

10) Do you think of yourself as a ...? (check one)

- Man
- Woman
- Both
- Neither
- Do not wish to answer

11) What was the sex you were assigned at birth? (check one)

- Male
- Female
- Other (specify) _____
- Do not wish to answer

12) What is your **main** source of income? _____ (if participant does not work/has no income, skip to Q15)

13) Do you have a **secondary** source of income? (check one)

- Yes
- No (skip to Q15)

14) What is your **secondary** source of income? _____

15) Do you currently have health care insurance for yourself? (check one)

- Yes (skip to Q17)
- No

16) Have you ever had health care insurance for yourself? (check one)

- Yes
- No (skip to Q18)

17) What kind of health care insurance do you have now/did you have most recently? (check one)

- Private, through my work
- Private, purchased by me

- Public, from the government (*only* for emergency, *only* for pregnancy, labor & delivery)
- Public, from the government
- Other (specify) _____

18) Approximately, what is your household's **average monthly** income (include income from all sources including employment, government assistance, etc.)?

USD

--	--	--	--	--	--	--	--	--

- Do not wish to answer (skip to Q20)

19) How many people are directly supported through this income (include yourself)?

--	--

20) Approximately, how long have you been receiving care at Community Health Center, Inc.?

--	--

 (years)

--	--

 (months)

APPENDIX G

Interview Guide: Undocumented Latinx Individuals in Mental Health Care

Introduction & Context

I would like to begin by learning a bit about you.

1. Tell me a bit about your life now.
 - Probe: Where you work, who you live with, if you have children and if so, how many, family connections, community connections.
2. Please tell me a bit more about you and your family. Where is your family from? Where were you born? Where did you grow up?
 - Probe: If applicable, the transition to US (e.g., reason for move to the US, when arrived and process of arrival into the country).

Mental Health Care Needs

I would like to better understand your community's impressions about those seeking care when they are feeling sad, anxious or nervous as well as your own mental health needs and care.

3. Can you describe how your community views people seeking care when they are feeling sad, anxious or nervous?
 - Probe: What do you think are the reasons for these views?
 - Probe: How do you feel about the community's views?
 - Probe: What can be done in the community to support acceptance of people who need care when they are feeling sad, anxious, or nervous?
4. For which emotional/mental health needs are you getting care at this moment?
 - Probe: [To facilitate understanding]: Frame as "feelings": feeling sad, feeling anxious, feeling nervous.
 - Probe: Explore each type of mental health need currently experienced and a description of each mentioned.
 - Probe: Can you tell me other emotional/mental health needs for which you received care in the past?
 - Probe: How do you feel about seeking care/support for your emotional/mental health needs?
 - Probe (Focus on needs): Please tell me about changes in your emotional/mental health needs over time. Ask specifically about before and after the 2016 US presidential election.
5. What are those things that affect you emotionally/affect your mental health at this moment?
 - Probe (Focus on factors): Please tell me about changes in those things that affect you emotionally/your mental health over time. Ask specifically about before and after the 2016 US presidential election.

Mental Health Care Utilization and Delivery

Let us talk a bit about the care you receive at the clinic (CHCI). I want to remind you that I will not share anything you tell me with others in ways that tell them who you are. I also want to remind you that your care at CHCI will not be affected by what you share with me today. Our goal is to make

services better.

6. Can you discuss how you made the decision to seek emotional/mental health care?
 - Probe: What are those things that make it easy for you to get emotional/mental health care?
 - Probe: What are those things that make it difficult for you to get emotional/mental health care?
7. Can you help me understand how often you come to the clinic for emotional/mental health care?
 - Probe: How often does your therapist tell you to come in for care?
 - Probe: Would you say you see the same therapist each time?
8. Do you feel supported while you receive mental health care by the clinic?
 - YES: What makes you feel supported while you receive mental health care by the clinic?
 - NO: What makes you feel unsupported?
 - Probe: In what ways are you and your therapist similar? In what ways are you and your therapist different? (E.g., cultural and language concordance between patient and provider.)
 - Probe: Can you please describe the therapy(-ies) you are currently receiving? In what way is it/are they helpful? In what ways is it/are they not helpful? What are those things that you would change so that the therapy(-ies) work(s) better for you?
9. What things can the clinic improve to help you feel (even) more supported while you receive mental health care?
 - Probe: In what ways can your therapist be better?
 - Probe: In what ways can the clinic be better?
 - Probe: How does the clinic think about your complete health/health as a whole? What can be improved about how it thinks about your complete health/health as a whole?

Immigration Enforcement & Community Policing

I am interested in learning more about how experiences with immigration officials and/or the local police impact your community. I want to remind you that I will not share anything you tell me with others in ways that tell them who you are.

- 10a. Let us start with immigration officials (i.e., *la migra* (ICE)). What have been your experiences and/or experiences of others that you know (e.g., family members, community members) with *la migra* (i.e., immigration officials; ICE)?
 - Probe: What has been your experiences or the experiences of others that you know with being questioned about documentation status by immigration officials?
 - Probe: What has been your experiences or the experiences of others that you know with raids or ICE presence in neighborhood/home/workplace?
 - Probe: How have these experiences with *la migra* changed over time? Ask specifically about before and after the 2016 US presidential election.
 - Probe: What are your greatest fears regarding immigration officials?
- 10b. How have these experiences (or threats of these experiences) with *la migra* impacted you emotionally/impacted your mental health?
- 11a. Can you tell me about your experiences and/or the experiences of others that you know (e.g., family members, community members) with the local police?
 - Probe: What has been your experiences or the experiences of others that you know with being racially profiled by the local police?
 - Probe: What has been your experiences or the experiences of others that you know with being questioned about documentation status by the local police?

- Probe: How comfortable are you with calling the local police for help when trouble at home, at the workplace, and/or in the neighborhood?
 - Not comfortable: Why not?
 - Comfortable: Why?
- Probe: How have these experiences with local police changed over time? Ask specifically about before and after the 2016 US presidential election.
- Probe: What are your greatest fears regarding the local police?

11b. How have these experiences with the local police (or threats of these experiences) impacted you emotionally/impacted your mental health?

Macro & Meso Level Changes

I am interested in understanding the larger changes that can be made, outside the clinic that is, to support your mental health wellbeing.

12. If you could change three things in the community to help support your mental health well-being, what would those be?

13. What are your hopes for you and your family? What are your hopes for your community?

COVID-19

As you know, we have been dealing with a major public health problem here and around the world over the last year called COVID-19. I would like to ask you some questions related to this crisis.

14. How do you understand COVID-19?

- Probe: How do you protect yourself/your family from it?

15. In what ways has COVID-19 impacted you and your family personally?

- Probe: Psychological impact, economic impact, health impact

16. In what ways has COVID-19 impacted your friends and larger community?

- In what ways is the impact of COVID-19 the same for your community (Latinos/Latinas/Latinx) as other communities?
- In what ways is the impact of COVID-19 different for your community (Latinos/Latinas/Latinx) compared to other communities?

17. What do you fear the most about COVID-19?

18. Let's talk about the COVID-19 vaccine. Have you taken the vaccine?

- YES: What are the reasons why you have taken it?
- NO: What are the reasons that you don't want to take it?

Closing

19. Is there anything that we have already discussed that you would like to talk more about?

20. Is there anything else that you would like to share?

21. Do you have any questions for me?

Thank you for taking the time to meet with me and for answering all my questions. Please remember that everything you have shared with me will remain confidential. Information gathered in this research study may be published or presented in public forums, but your name will not be used or revealed. Every effort will be made to protect your identify/anonymity.

APPENDIX H

Results – Descriptive Statistics (Chapter III)

In descriptively examining depression as a dichotomous variable (combined PHQ-2 and PHQ-9 scores; depressed/not depressed using established screening cut-offs, respectively) the relative frequencies did not suggest a marked percent difference within or between study populations of interest over the study years (Table H.1; Figure H.1). The percentage of depressed documented Latinx patients seem relatively similar through the years 2013-2019. Similar observations were made for the percentage depressed undocumented Latinx patients and non-Latinx White patients. Further, the non-Latinx White patients seemed to represent the largest percentage of depressed individuals between the three study populations, followed by closely by documented Latinx patients and then undocumented Latinx patients. As a continuous response, the distribution of the depression scores was skewed right. Therefore, the appropriate measure of central tendency, median, was paired with the IQR to measure spread. In descriptively examining depression as a continuous variable (PHQ-9 score) (Table H.2, Figure H.2), measures of central tendency did not suggest a marked difference between the two of the three study populations of interest over the study years. That is, dispersion, or variability, in the depression scores between documented Latinx and non-Latinx White patients over the study years appeared relatively similar given the overlaps in the box plots. Neither study populations seemed to exhibit any outliers. In the years 2013, 2017, 2018, and 2019 non-Latinx White patients appeared to have slightly higher median depression scores compared to documented Latinx patients. In comparison to these two study populations, there seemed to be greater variability in depression scores among undocumented Latinx over the study years. Moreover, the median depression scores among undocumented Latinx patients appeared lower than documented Latinx patients and non-Latinx White patients, respectively. Outliers seem to be observed among undocumented Latinx patients over a majority of the study years, 2013, 2015, 2017, 2019. Further in the context of within group comparison from year to year, variability in depression scores among documented Latinx appeared relatively similar with slightly lower median depression scores in the years 2017 through 2019. Dispersion in depression scores among non-Latinx White patients seemed to be relatively similar from year to year, as did their median depression scores. Finally, there seem to be greater variability in depression scores among undocumented Latinx patients from year to year and median depression scores seemed to be lower in the years 2017-2019.

Table H.1: 2016 US Presidential Election & Depression (Binary Outcome) (individuals with 1 or more responses)

Year*				Demographics									
	Race Ethnicity/ Documentation Status	Depression Status	Total	CT Resident		Sex at Birth			Marital Status		Age		
				Yes	No	Male	Female	NA	Married	Other	Min	Median	Max
2013 (n ₁₃ = 24,043)	<i>White (n = 11,109)</i>	<i>Depressed</i>	1,874 (16.87%)	1,809	65	730	1,144	0	314	1,560	18	46	92
	<i>White</i>	<i>Not Depressed</i>	9,235 (83.13%)	8,979	256	4,117	5,117	1	1,988	7,247	18	46	96
	<i>Latinx Undoc. (n = 1,930)</i>	<i>Depressed</i>	147 (7.62%)	145	2	47	100	0	41	106	18	36	82
	<i>Latinx Undoc.</i>	<i>Not Depressed</i>	1,783 (92.38%)	1,761	22	750	1,033	0	742	1,041	18	36	89
	<i>Latinx Doc. (n = 11,004)</i>	<i>Depressed</i>	1,812 (16.47%)	1,778	34	610	1,201	1	372	1,440	18	41	94
	<i>Latinx Doc.</i>	<i>Not Depressed</i>	9,192 (83.53%)	9,019	173	3,426	5,762	4	2,525	6,667	18	39	96
2014 (n ₁₄ = 24,138)	<i>White (n = 10,489)</i>	<i>Depressed</i>	1,673 (15.95%)	1,628	45	715	957	1	255	1,418	18	45	93
	<i>White</i>	<i>Not Depressed</i>	8,816 (84.05%)	8,612	204	3,990	4,823	3	1,779	7,037	18	47	95
	<i>Latinx Undoc. (n = 1,521)</i>	<i>Depressed</i>	103 (6.77%)	100	3	43	60	0	30	73	18	36	87
	<i>Latinx Undoc.</i>	<i>Not Depressed</i>	1,418 (93.23%)	1,402	16	602	815	1	565	853	18	37	90
	<i>Latinx Doc. (n = 12,128)</i>	<i>Depressed</i>	1,826 (15.06%)	1,797	29	645	1,181	0	363	1,463	18	42	95
	<i>Latinx Doc.</i>	<i>Not Depressed</i>	10,302 (84.94%)	10,137	165	3,957	6,344	1	2,734	7,568	18	41	98
2015 (n ₁₅ = 24,321)	<i>White (n = 10,052)</i>	<i>Depressed</i>	1,687 (16.78%)	1,647	40	646	1,041	0	264	1,423	18	46	92
	<i>White</i>	<i>Not Depressed</i>	8,365 (83.22%)	8,177	188	3,805	4,559	1	1,694	6,671	18	48	100
	<i>Latinx Undoc. (n = 1,691)</i>	<i>Depressed</i>	106 (6.27%)	105	1	48	58	0	38	68	18	35	85
	<i>Latinx Undoc.</i>	<i>Not Depressed</i>	1,585 (93.73%)	1,570	15	640	945	0	634	951	18	37	92
	<i>Latinx Doc. (n = 12,578)</i>	<i>Depressed</i>	1,839 (14.62%)	1,808	31	633	1,205	1	347	1,492	18	41	90
	<i>Latinx Doc.</i>	<i>Not Depressed</i>	10,739 (85.38%)	10,586	153	4,084	6,652	3	2,829	7,910	18	41	98
2016 (n ₁₆ = 23,727)	<i>White (n = 9,839)</i>	<i>Depressed</i>	1,634 (16.61%)	1,591	43	642	990	2	228	1,406	18	46	83
	<i>White</i>	<i>Not Depressed</i>	8,205 (83.39%)	8,029	176	3,750	4,452	3	1,524	6,681	18	48	97
	<i>Latinx Undoc. (n = 1,687)</i>	<i>Depressed</i>	99 (5.87%)	96	3	41	58	0	36	63	19	38	88
	<i>Latinx Undoc.</i>	<i>Not Depressed</i>	1,588 (94.13%)	1,575	13	635	952	1	633	955	18	38	84
	<i>Latinx Doc. (n = 12,201)</i>	<i>Depressed</i>	1,695 (13.89%)	1,666	29	543	1,152	0	272	1,423	18	41	90
	<i>Latinx Doc.</i>	<i>Not Depressed</i>	10,506 (86.11%)	10,356	150	3,989	6,513	4	2,651	7,855	18	42	99
	<i>White (n = 9,306)</i>	<i>Depressed</i>	1,470 (15.80%)	1,444	26	607	863	0	180	1,290	18	45	86
	<i>White</i>	<i>Not Depressed</i>	7,836 (84.20%)	7,707	129	3,654	4,175	7	1,339	6,497	18	48	97

2017 (n ₁₇ = 23,628)	<i>Latinx Undoc.</i> (n = 1,977)	<i>Depressed</i>	114 (5.77%)	113	1	37	77	0	37	77	18	39.50	89
	<i>Latinx Undoc.</i>	<i>Not Depressed</i>	1,863 (94.23%)	1,852	11	760	1,102	1	752	1,111	18	39	89
	<i>Latinx Doc.</i> (n = 12,345)	<i>Depressed</i>	1,538 (12.46%)	1,526	12	507	1,031	0	214	1,324	18	40	89
	<i>Latinx Doc.</i>	<i>Not Depressed</i>	10,807 (87.54%)	10,691	116	4,169	6,633	5	2,461	8,346	18	41	100
2018 (n ₁₈ = 22,198)	<i>White</i> (n = 8,282)	<i>Depressed</i>	1,175 (14.19%)	1,151	24	512	662	1	135	1,040	18	44	88
	<i>White</i>	<i>Not Depressed</i>	7,107 (85.81%)	7,001	106	3,298	3,804	5	1,232	5,875	18	48	94
	<i>Latinx Undoc.</i> (n = 1,947)	<i>Depressed</i>	118 (6.06%)	116	2	37	81	0	43	75	18	37	79
	<i>Latinx Undoc.</i>	<i>Not Depressed</i>	1,829 (93.94%)	1,824	5	749	1,079	1	738	1,091	18	40	93
	<i>Latinx Doc.</i> (n = 11,969)	<i>Depressed</i>	1,438 (12.01%)	1,426	12	467	971	0	224	1,214	18	39	85
	<i>Latinx Doc.</i>	<i>Not Depressed</i>	10,531 (87.99%)	10,454	77	3,930	6,594	7	2,357	8,174	18	41	101
2019 (n ₁₉ = 24,230)	<i>White</i> (n = 8,534)	<i>Depressed</i>	1,268 (14.86%)	1,255	13	560	704	4	134	1,134	18	45	88
	<i>White</i>	<i>Not Depressed</i>	7,266 (85.14%)	7,183	83	3,505	3,755	6	1,175	6,091	18	48	95
	<i>Latinx Undoc.</i> (n = 2,525)	<i>Depressed</i>	132 (5.23%)	132	0	45	87	0	32	100	18	36.50	69
	<i>Latinx Undoc.</i>	<i>Not Depressed</i>	2,393 (94.77%)	2,384	9	946	1,445	2	899	1,494	18	40	89
	<i>Latinx Doc.</i> (n = 13,171)	<i>Depressed</i>	1,506 (11.43%)	1,503	3	525	980	1	217	1,289	18	40	91
	<i>Latinx Doc.</i>	<i>Not Depressed</i>	11,665 (88.57%)	11,612	53	4,542	7,116	7	2,413	9,252	18	40	100

*Note: Sample sizes represent the number of patients with recorded dichotomized depression scores in that given year. Independence is not satisfied by year in this table, as the same respondent can have multiple years of recordings. Conditional percentages are calculated using race/ethnicity totals for each particular year.

Figure H.1: Frequencies for Table H.I (Depression as a Binary Outcome by Year (individuals with 1 or more responses))

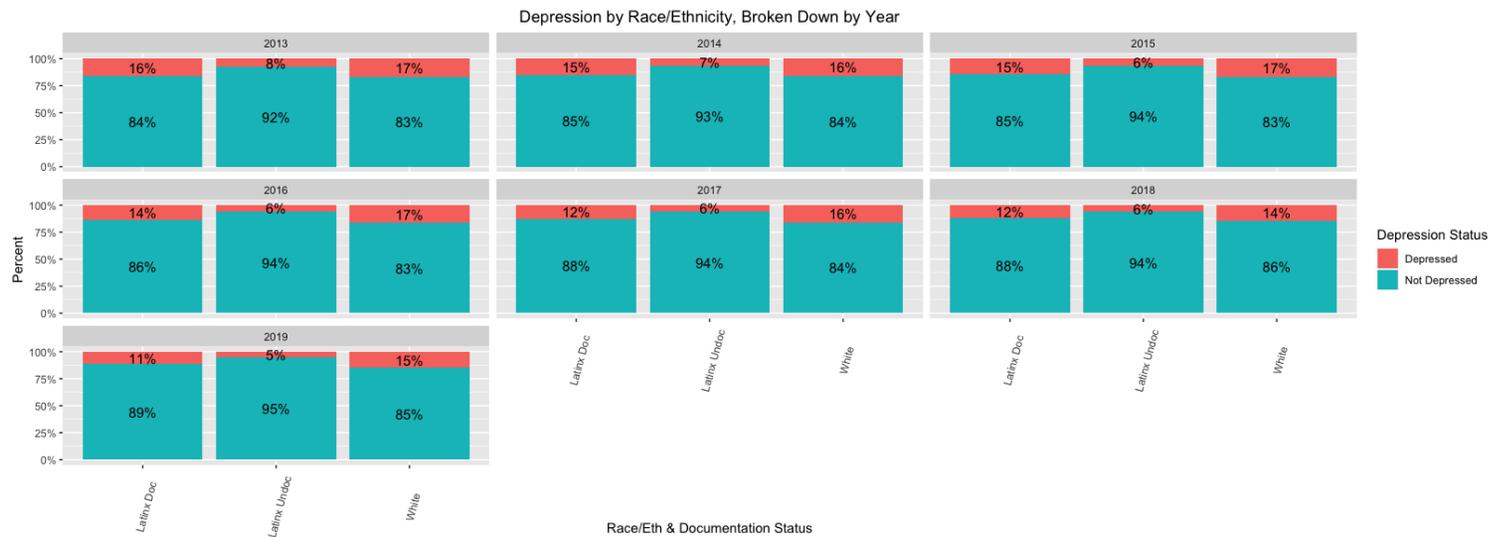
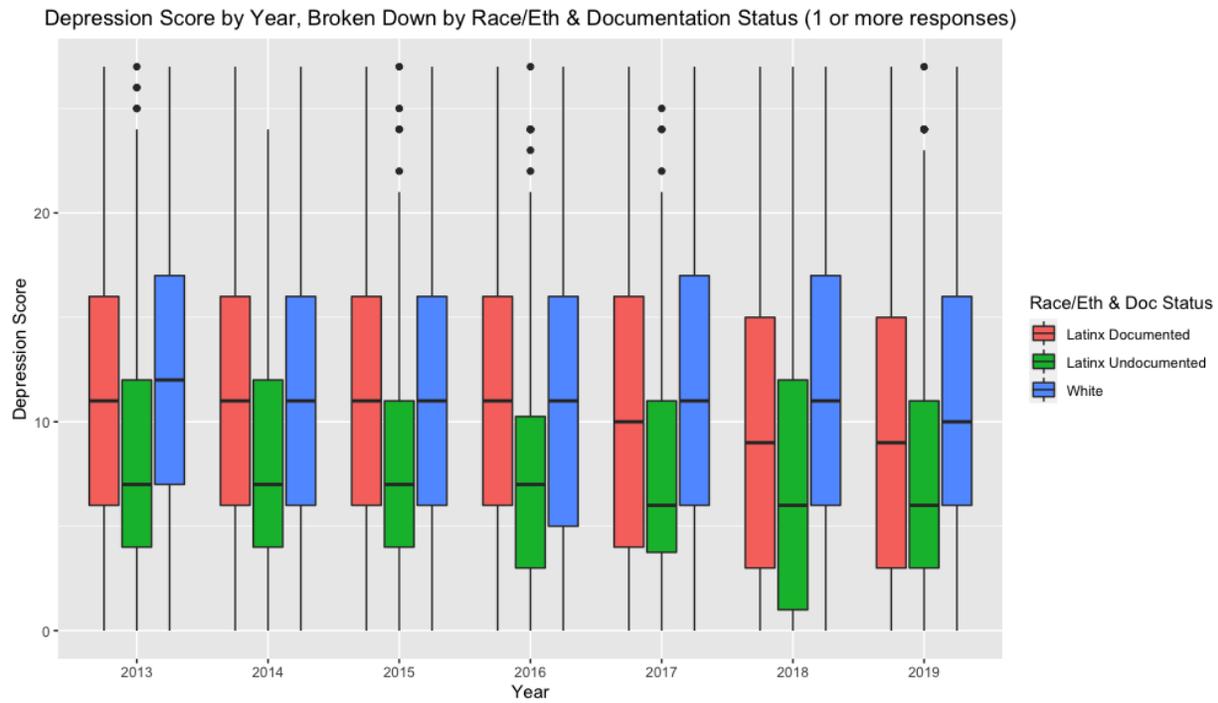


Table H.2: 2016 US Presidential Election & Depression (Continuous Outcome) (individuals with 1 or more responses)

Year*	Race Ethnicity/ Documentation Status	Depression Score Summary Statistics								
		n	Min	Q1 (25 th Percentile)	Median	Q3 (75 th Percentile)	Max	IQR	Mean	St. Dev.
2013	<i>White</i>	3,039	0.00	7.00	12.00	17.00	27.00	10.00	11.82	6.56
	<i>Latinx Undoc.</i>	368	0.00	4.00	7.00	12.00	27.00	8.00	8.27	5.97
	<i>Latinx Doc.</i>	3,091	0.00	6.00	11.00	16.00	27.00	10.00	11.26	6.76
	<i>Total</i>	6,498	0.00	6.00	11.00	16.00	27.00	10.00	11.35	6.67
2014	<i>White</i>	2,911	0.00	6.00	11.00	16.00	27.00	10.00	11.26	6.58
	<i>Latinx Undoc.</i>	265	0.00	4.00	7.00	12.00	24.00	8.00	8.21	5.67
	<i>Latinx Doc.</i>	3,046	0.00	6.00	11.00	16.00	27.00	10.00	11.45	6.67
	<i>Total</i>	6,222	0.00	6.00	11.00	16.00	27.00	10.00	11.22	6.62
2015	<i>White</i>	2,962	0.00	6.00	11.00	16.00	27.00	10.00	11.08	6.61
	<i>Latinx Undoc.</i>	292	0.00	4.00	7.00	11.00	27.00	7.00	7.96	5.64
	<i>Latinx Doc.</i>	3,158	0.00	6.00	11.00	16.00	27.00	10.00	11.05	6.67
	<i>Total</i>	6,412	0.00	6.00	10.00	16.00	27.00	10.00	10.92	6.63
2016	<i>White</i>	2,867	0.00	5.00	11.00	16.00	27.00	11.00	10.98	6.86
	<i>Latinx Undoc.</i>	308	0.00	3.00	7.00	10.25	27.00	7.25	7.67	5.75
	<i>Latinx Doc.</i>	3,011	0.00	6.00	11.00	16.00	27.00	10.00	10.91	6.88
	<i>Total</i>	6,186	0.00	5.00	10.00	16.00	27.00	11.00	10.78	6.85
2017	<i>White</i>	2,525	0.00	6.00	11.00	17.00	27.00	11.00	11.34	7.10
	<i>Latinx Undoc.</i>	324	0.00	3.75	6.00	11.00	25.00	7.25	7.49	5.61
	<i>Latinx Doc.</i>	2,935	0.00	4.00	10.00	16.00	27.00	12.00	10.34	7.15
	<i>Total</i>	5,784	0.00	5.00	10.00	16.00	27.00	11.00	10.62	7.11
2018	<i>White</i>	1,996	0.00	6.00	11.00	17.00	27.00	11.00	11.29	7.07
	<i>Latinx Undoc.</i>	351	0.00	1.00	6.00	12.00	27.00	11.00	7.45	6.59
	<i>Latinx Doc.</i>	2,822	0.00	3.00	9.00	15.00	27.00	12.00	9.80	7.43
	<i>Total</i>	5,169	0.00	4.00	10.00	16.00	27.00	12.00	10.21	7.31
2019	<i>White</i>	2,267	0.00	6.00	10.00	16.00	27.00	10.00	10.77	6.81
	<i>Latinx Undoc.</i>	416	0.00	3.00	6.00	11.00	27.00	8.00	7.51	6.21
	<i>Latinx Doc.</i>	3,078	0.00	3.00	9.00	15.00	27.00	12.00	9.71	7.23
	<i>Total</i>	5,761	0.00	4.00	10.00	15.00	27.00	11.00	9.97	7.05

*Note: Sample sizes represent the number of patients with recorded continuous Q9 depression scores in that given year. Independence is not satisfied by year in this table, as the same respondent can have multiple years of recordings. Scores are skewed in shape.

Figure H.2: Continuous Depression Scores by Year (individuals with 1 or more responses)



APPENDIX I

*Measures – Racial & Ethnic Disparities in Policing Practices*³⁹

In the analysis, the motorists are grouped into four categories: (1) Black (Latinx or non-Latinx), (2) Latinx (any race), (3) aggregate grouping of all non-White (Latinx or non-Latinx), and (4) combined sample of Black and Latinx. Much of the analysis is focused on the first two categories of motorists. A detailed description of each test's methodology follows next. For more detailed information, including associated statistical models, please refer to Ross, Fazzalaro, Barone, & Kalinowski, 2020.

Veil of Darkness – This analytic methodology is used to examine a restricted sample of stops occurring during the “inter-twilight window” – that is, traffic stops made at both dawn (i.e., morning hours) and dusk (i.e., evening hours). The analysis is limited to the inter-twilight window to control for possible differences in the driving population. Further, in addition to a number of robustness checks, time of day, day of week, and statewide daily traffic stop volume are also controlled for in the analysis. The methodology is used to assess relative differences in the ratio of minority to non-minority stops that occur in daylight as compared to darkness.

The technique relies on the idea that, if police officers are profiling motorists, they are better able to do so during daylight hours when race and ethnicity is more easily observed. An estimation of the test statistic, K_{vod} , identifies the presence of a racial or ethnic disparity if the statistic is greater than one. Individual departments are identified for disparate practices if there is a presence of disparity at the 95% confidence level in either the Black or Latinx categories of motorists. This analytical approach is considered the most statistically rigorous of the seven methods/tests (Ross, Fazzalaro, Barone, & Kalinowski, 2020).

Synthetic Control – This method is used to evaluate the number of minority traffic stops in a given department against a benchmark constructed using stops made by all other departments in Connecticut. The technique relies on propensity scores to account for differences between police departments (e.g., time of stops, reason for stops) and the underlying demographics of the population on the roadway. Used as measures of similarity (i.e., how similar a stop made outside a department is to a stop made by the department being analyzed), the scores are used to weight stops when constructing an individual benchmark for each department. The share of minority motorists stopped within a department are evaluated through a direct comparison of a unique synthetic control, with any remaining differences attributable to possible disparate treatment. Individual departments are identified for disparate practices if there is a presence of disparity at the 95% confidence level in either the Black or Latinx categories of motorists.

Descriptive Statistics – Three techniques, which are *descriptive* and non-statistical in nature, are used to compare departmental-level data to three benchmarks: statewide average, estimated commuter driving populations, and resident population. These population benchmarks are commonly used to evaluate racial and ethnic disparities in police data across the US (Ross, Fazzalaro, Barone, & Kalinowski, 2020). By themselves, none of these benchmarks can provide a rigorous enough analysis to draw

³⁹ Ross, Fazzalaro, Barone, & Kalinowski, 2020

conclusions regarding racial disparities. However, they can serve as a useful tool when taken together with more statistically rigorous methods.

The statewide average establishes a baseline for all departments from which the relative differences between department stop numbers and the average for the state are compared. Context (e.g., demographic characteristics of the neighboring town) to understand differences between local jurisdictions is also considered into the analysis. The statewide average comparison is based on the following method:

- Towns that exceed the statewide average for the three racial categories (i.e., minority, Black, Latinx) are selected
- The amount that each town's stop percentage exceeded the state average stop percentage is calculated
- The amount that each town's resident driving age population exceeded the state average for the racial group being measured is determined
- The net differences in these two measures are determined and used to assess orders of magnitude differences in these factors

The commuter driving population is estimated through a modification of residential census data. Data estimates of where people work and where workers live are combined with data from the US Census Bureau and the American Community Survey to create an estimate of the composition of the driving population during typical commuting hours. Individualized estimated driving populations statistics are created for each town to reflect the estimated racial and ethnic demographic makeup for all persons identified in the data as working in the community but residing elsewhere. The analysis includes traffic stops conducted on the weekdays during peak commuting hours.

The resident population descriptive measure involves analysis of residents only stops and compares them to the community demographics based on the 2010 decennial census for residents of driving age. A set of thresholds for determining disparity in resident stops are established based on the difference in percentage points between resident stops and the 16+ resident population in any of the three racial categories (a) minority, (b) Black, non-Latinx, and (c) Latinx. Based on the thresholds, a tier system is constructed to categorize each town's policing practices.

Stop Disposition – This method is used to statistically test whether traffic stops made of minority motorists result in different outcomes relative to non-Latinx White motorists. Outcome data related to stops are aggregated into six categories: (1) no search, ticket or misdemeanor, (2) no search, warning or no action, (3) no search, arrest, (4) search, ticket or misdemeanor, (5) search, warning or no action, and (6) search, arrest. To identify discrimination, the interaction between the reason for a stop and minority status is tested (i.e., to determine if it statistically different from zero) across all six outcomes. Compositional differences across demographic groups are controlled for by including gender and age in the analysis. Temporal controls (e.g., day of week, time of day) are also included in the analysis.

KPT Hit Rate – This method is used to evaluate statistical disparities in the rate of searches across demographic groups and computes the probability of a search resulting in a hit (i.e., finding a contraband such as drugs or illegal weapons) across different demographic groups. Bias-based discrimination is identified when the proportion of minorities stopped for traffic violations does not correspond to the rate at which contraband is found and/or minority drivers are arrested for possession of contraband.

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