# Racial/Ethnic Residential Segregation and Mental Health Outcomes

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## Introduction

Over 100 years ago, W.E.B. Du Bois asserted that the problem of the twentieth century was the problem of the "color line" [1]. This quotation continues to resonate today because the color line is a salient organizing feature of many neighborhoods that undermines health equity. Racial/ethnic residential segregation—the degree to which two or more groups live separately from one another in a geographic region [2]—often evokes the practice of de jure segregation, which refers to intentional actions by federal, state, and local governments to enforce racial codes, such as the Jim Crow laws. Title VIII of the Civil Rights Act of 1968 (also known as the Fair Housing Act) legally sanctioned discrimination in the sale, rental, and financing of housing on the basis of race, color, religion, sex, or national origin. Although the government policies and institutional practices that fostered residential segregation are now illegal, the vestiges of de jure and de facto residential segregation continue to have profound implications for individual and community health.

Williams and Collins situate racial/ethnic residential segregation as a fundamental cause of racial/ethnic disparities in health because of the manner in which it differentially sorts individuals into vastly different economic, physical, and social environments [3]. Racial/ethnic residential segregation is widely considered a spatial manifestation of institutionalized racism. Residential segregation continues to play a significant role in the well-being and health of African Americans and Latinos in the USA and increasingly select ethnic and immigrant groups in the UK. Empirical research on residential segregation and health has grown substantially over the past 25 years. The findings from this body of research suggest, in general, that high levels of residential segregation are associated with poorer physical health outcomes,

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including all-cause mortality, infant mortality, and low birth weight [4–6]. Studies testing the association of residential segregation with mental health outcomes and service utilization have also grown; however, the findings from this body of research are largely mixed, with a majority of the studies demonstrating a beneficial association and several reporting adverse or null associations [7, 8].

This chapter explores the role of racial/ethnic residential segregation (and ethnic density) as a key factor involved in the onset and maintenance of mental health outcomes, utilization of mental health care services, and perpetuation of mental health inequities. It begins with a brief overview of approaches to conceptualize and measure residential segregation and ethnic density. A review of historical and recent residential segregation trends among African Americans, Latinos, and Asians in the USA is provided. This chapter also summarizes the empirical literature and patterns of population mental health outcomes by race/ethnicity. The chapter describes the processes through which residential segregation creates conditions that expose individuals and communities to stressors that increase the risk of mental health problems and limit access to and utilization of quality mental health services (e.g., providers and facilities). Additionally, the mechanisms by which segregation cultivates resources that promote resilience and mitigate material disadvantage are highlighted. The chapter concludes with remarks on future directions for research, clinical practice, and population-based approaches that have an important role to play in stimulating meaningful efforts to reduce the burden of mental health and sustain action toward achieving mental health equity.

## Measuring and Assessing Racial/Ethnic Residential Segregation

The literature makes a theoretical and analytic distinction between residential segregation (the degree to which two or more groups live separately from one another in a geographic region [2]) and ethnic density (the concentration or proportion of a specific racial/ethnic group within a defined geographic area [9]). In this section, attention is devoted to how each measure is defined and operationalized, although prior studies have discussed the choice and implications of their use in greater detail [6].

Residential segregation is a multidimensional construct, which represents distinct geographic patterns of residential mix. The following five dimensions have been conceptualized: evenness (the degree to which groups are evenly distributed); isolation (the probability of interaction between members of the same versus different racial groups); concentration (the spatial density of a racial/ethnic group); centralization (the degree to which a group is primarily located in the city core); and clustering (the grouping of racially similar neighborhoods) [2]. While the five dimensions are correlated, they do not overlap completely, and they represent unique mechanisms by which residential segregation can operate to influence well-being, health, and access to and utilization of health resources [10]. Diverse indices have been developed to represent each dimension [2, 11]. For example, the index of dissimilarity is commonly used to operationalize evenness,

although the Gini index has also been used [12]. Census-based or administrative-based units (e.g., zip codes) are used to calculate residential segregation, which entails describing the distribution of individuals across microunits (e.g., census tracts) within larger macrounits (e.g., metropolitan statistical areas). An index score ranges from 0 (complete integration) to 1 (complete segregation), with scores of 0.60 generally considered to reflect high levels of segregation. Further, Massey and Denton have described high levels of segregation across multiple geographic dimensions as hypersegregation [13]. For example, an area can be considered hypersegregated if the levels of segregation are greater than 0.60 on four of the five dimensions.

Ethnic density—also referred to as neighborhood racial/ethnic composition (i.e., the proportion of blacks in a county) or ethnic concentration—is also measured using census-based or administrative-based measurements of population density. In the USA, various geographic scales have been used to capture ethnic density, such as metropolitan statistical areas (MSAs), counties, zip codes, and census tracts [6]. Subjective measures of ethnic density have also been used, albeit infrequently. A subjective measure is based on participant self-reporting and ascertains one's perception of the ethnic concentration in a defined area [14].

The multidimensional construct of residential segregation and ethnic density are two ways in which studies have conceptualized racial/ethnic residential segregation. Although these are two distinct measures, the terms "residential segregation" and "ethnic density" are often used interchangeably. Both measures are postulated to capture the impact of uneven distribution of social and physical attributes of neighborhoods, lack of access to educational and employment opportunity structures [6]. The use of formal measures of racial/ethnic residential segregation versus ethnic density may be dependent on the geographic scale at which residential segregation is defined. For example, studies that seek to capture metropolitan-level segregation typically use one of the formal dimensions of segregation, while studies that measure neighborhood-level segregation typically use ethnic density [6, 15]. In the UK, many studies use ethnic density and neighborhood-level segregation rather than measures of metropolitan-level residential segregation [16]. For the remainder of this chapter, evidence from studies that use either residential segregation or ethnic density is discussed.

## Historical Trends and Current Patterns

At the end of the nineteenth century and the beginning of the twentieth century, levels of black–nonblack segregation were modest, ranging between 0.22 and 0.47 [17]. The Great Migration of blacks from the South to urban areas in the Northeast and Midwest between 1910 and 1960 led to substantial increases in black–nonblack residential segregation. For example, black–nonblack residential segregation, as measured by the index of dissimilarity, rose from 0.50 to 0.78 [17]. This precipitous increase in residential segregation was largely attributed to legalized and institutionalized discriminatory practices in the housing market, such as redlining in mortgage

lending and discrimination by real estate agents and landlords [10]. Although levels of black segregation peaked during the 1970s, the overall levels of black–white segregation have been decreasing since the 1970s [18]. Despite the declines in overall residential segregation, this conceals less favorable trends of persistently high and intense levels of segregation in many Northeast and Midwest metropolitan areas with large black populations. Researchers contend that the overall decline has been propelled by larger declines in segregation in areas with smaller black populations [19, 20]. For example, Iceland et al. showed modest declines from 1970 to 2009 in the Midwest (0.859–0.718) and Northeast (0.752–0.730), with larger declines in the South (0.808–0.571) and West (0.729–0.558) [19]. Additionally, decreases in patterns of hypersegregation have been observed. Between 1970 and 2010, the number of hypersegregated metropolitan areas declined from 61% to 32% [21]. However, the magnitude of hypersegregation in a subset of metropolitan areas has remained stable [21].

The patterns and processes of segregation vary by racial/ethnic group. Levels of residential segregation among blacks are the highest in comparison with those of other racial/ethnic groups and have been compared to South African apartheid levels [22]. Despite incremental gains in socioeconomic position, blacks—regardless of their socioeconomic status—remain highly segregated [20, 23], and this segregation continues to be qualitatively and quantitatively distinct from that of any other racial/ethnic group. In comparison, the magnitude of segregation among Latinos and Asians has been typically low to moderate [23]; however, recent trends suggest that levels of segregation increased for both groups between 1990 and 2010 [24]. For example, hypersegregation has been observed among Latinos in metropolitan areas (e.g., New York City and Los Angeles) [20, 25]. Among Latinos, the rapid growth of the population since the 1980s, combined with increased immigration, partially accounts for the rising levels of segregation. Moreover, scholars attribute Latino segregation to assimilation processes and immigrant preferences for residence in "ethnic enclaves" and access to culturally relevant resources [26]. One study compared pan-ethnic segregation patterns among Latinos and Asians to segregation patterns of detailed Latino populations (e.g., Dominicans, Puerto Ricans, Mexicans, and Cubans) and Asian populations (e.g., Koreans, Chinese, and Filipinos) [26]. The findings from that study suggested that there was a significant variation in segregation patterns across ethnic groups. For example, Mexicans were less likely than other Latinos to be segregated from whites. The researchers concluded that pan-ethnic segregation is not sufficient to capture the experiences of specific ethnic or immigrant sub-groups [27].

## Linking Racial/Ethnic Residential Segregation to Mental Health Outcomes

Observed racial/ethnic differences in mental health outcomes and service utilization result from a complex interplay of biological and social determinants that generate differential exposure to negative stressors that increase the risk of poor mental

health and differential exposure to resources that promote resilience and reduce the mental health burden [3, 7, 28]. The neighborhood environment may have direct effects on health because of the differential patterns of risk and protection [29], even after individual-level characteristics (e.g., demographics and socioeconomic status) are taken into account [7, 29, 30]. Several frameworks conceptualize racial/ethnic residential segregation as a form of institutional discrimination that patterns unequal access to neighborhood economic, social, physical, and health care resources that are important for maintaining mental health, and sustains mental health care disparities [3, 31, 32]. Further, researchers have shown how constant and cumulative exposure to neighborhood economic, physical, and social stressors over the life course can be particularly detrimental to mental health [33–35]. This section briefly summarizes the pathways of neighborhood-level stressors and stress buffers that act directly or indirectly to impact mental health outcomes.

## Neighborhood Economic Environment

The neighborhood economic environment is one potential mechanism through which residential segregation may directly influence mental health. Highly segregated neighborhoods are often characterized by poverty concentration, economic disadvantage, community disinvestment, and lack of access to employment and educational opportunities [36]. These factors have been shown to lead to an increased risk of mental health problems and exacerbate poor management of mental health outcomes [37].

## Neighborhood Physical Environment

The physical conditions of segregated neighborhoods may be characterized by poor aesthetic quality and signs of physical decay, such as abandoned buildings and graffiti, which can have a negative influence on mental health [33]. A qualitative study of the experiences of families who participated in Moving to Opportunity (MTO)—a federal housing mobility social experiment conducted in five major US cities [38]—described the lived experiences of stressors associated with the physical environment [33]. For example, several participants who were in the experimental group and moved to low-poverty areas described how the change of physical neighborhood conditions enhanced their mental well-being [33].

## Neighborhood Social Environment

Residential segregation may operate via negative stressors—such as community violence—that may be associated with poorer mental health outcomes [37]. Alternative mechanisms such as enhanced social support and collective efficacy, and increased positive social capital (inclusive of social cohesion and social integration) [14, 39] often provide a buffer against negative effects or moderate the impact

of neighborhood economic and physical disadvantage [7]. The findings from MTO also suggested that changes in the social environment (i.e., less violence) also contributed to improved feelings of safety, which were associated with lower levels of depression/depressive symptoms and anxiety. Studies have even shown that segregation of neighborhoods with low levels of political empowerment may additionally contribute to poorer mental health and racial/ethnic disparities [40].

The relationship between residential segregation and mental health may operate indirectly through increased social support [14, 41]. There is considerable evidence documenting the benefit of social support in terms of positive mental health [42]. Enhanced social support could include positive emotional, functional, informational, and financial support. Strong connections and supportive ties with family, friends, and neighbors are associated with positive mental health outcomes [33]. In contrast, a lack of social support, or negative social support, may increase vulnerability to stress, which is associated with a greater risk of adverse mental health outcomes [43].

The term "social capital" refers to resources accessed by individuals as a result of their membership within a network or a group that fosters collective action for mutual benefit [44]. The resources obtained through social capital may be used to buffer against stress and enhance mental health [9, 45–47]. Social capital and related concepts, including social cohesion (which signifies patterns of social interaction, connectedness, and solidarity) and values such as trust and network formation [48], are mechanisms through which residential segregation may positively affect mental health [30]. High levels of social cohesion are hypothesized to enhance mental health by fostering emotional support and diffusing information about access to mental health–related resources that reduce adverse mental health outcomes [33, 47]. For example, one study linked improved mental health outcomes among Latinos living in highly segregated neighborhoods to the social cohesion provided by social and kinship support [41]. Culturally relevant indicators of social capital have been identified for understanding the social resources that can be leveraged for health promotion in highly segregated neighborhoods. For example, Dean et al. identified block parties in predominantly black neighborhoods in Philadelphia as a unique social capital resource with the potential to buffer against the adverse effects of neighborhood deprivation [49].

## Neighborhood Mental Health Care Resources

Residential segregation is posited to shape access to health care, the quality of care and services, utilization of health care, and the availability of health-related resources that are important for managing mental health care needs [10, 32, 50]. Residing in highly segregated neighborhoods can play a role in differential access to mental health service utilization and mental health care resources, which has been shown to be predictive of racial and social disparities in unmet need for mental health services [50]. This limitation or lack of access to mental health services can contribute to poorer mental health outcomes and widen disparities among racial/

ethnic groups [50]. Studies have shown that access to providers, the quality of care, provider characteristics, and the density and type of mental health care provider available (e.g., psychiatrists, social workers, and therapists) are associated with the magnitude of residential segregation [10, 51]. One study showed that Latino segregation was associated with a shortage of psychiatrists, whereas African Americans residing in highly segregated neighborhoods were more likely to have access to nonpsychiatrists (e.g., social workers) as mental health professionals [10]. Moreover, studies have shown that providers practicing in segregated neighborhoods are more likely to be confronted with clinical, logistical, and administrative challenges [50]. Additionally, geographic differences in health care system factors, such as health maintenance organization (HMO) penetration and the payment processes and procedures of Medicaid and Medicare, also contribute to limited access for individuals and families living in segregated neighborhoods [51]. One study found that physicians who work in segregated neighborhoods are more likely to have a patient mix with a higher proportion of Medicaid patients and receive significantly lower reimbursements. Additionally, improvements in access to mental health treatment can help reduce racial/ethnic mental health disparities [50].

### Racism

Residing in neighborhoods with high levels of segregation or ethnic density may lead to better mental health outcomes because it may reduce exposure to racism, racial discrimination, and/or prejudice [7, 14, 41]. Several studies have supported the notion that living in highly segregated or ethnically concentrated neighborhoods in the USA and the UK buffers against experiences of racism and discrimination [36, 52]. For example, some studies have demonstrated that the rate of self-reported experiences of racism is lower in places where there is greater residential segregation or ethnic density [52, 53]. Another study tested the association between perceived ethnic density and depression, and showed that discrimination mediated this association [14]. Another study demonstrated that among African Americans, neighborhood racial composition and the risk of depressive symptoms were mediated through increased levels of racial discrimination [54].

## Empirical Evidence

This section provides a brief summary of the main findings of empirical studies of residential segregation, ethnic density, and mental health. For a more detailed review of the literature, interested readers are referred to systematic reviews [7, 8]. In general, the findings from studies examining residential segregation, ethnic density, and mental health are mixed [7, 8, 16]. While a majority of studies have demonstrated a beneficial association [7], other studies have reported negative [41] or null associations [55]. This is in part attributable to the heterogeneity of the results in terms of the mental health outcome assessed, the sociodemographic (e.g., gender, race/ethnicity,

socioeconomic status) group analyzed, and the method used for conceptualizing residential segregation. The overall findings highlight an important and complex relationship between residential segregation, ethnic density, and mental health.

Depression, anxiety, and psychological distress are the most common mental health disorders studied in relation to residential segregation and ethnic density. Yet, the evidence from studies of residential segregation and these outcomes are inconclusive [36]. This may be a function of the different measures and scales used. For example, the most widely used scales are the Center for Epidemiologic Studies—Depression (CES-D) scale, the General Health Questionnaire (GHQ-12), the Diagnostic Interview Schedule, and the Clinical Interview Schedule. Additionally, studies have used single-item measures to capture depression, psychological distress, or anxiety. However, the evidence for psychotic disorders suggests more consistency in the protective association between ethnic density and mental health outcomes [52]. Other mental health outcomes such as attention deficit hyperactivity disorder (ADHD) [56], suicide [57, 58], and self-harm have not received as much attention.

## Race/Ethnicity

Although the overall prevalence of mental health conditions is similar across racial/ethnic groups, there is a disproportionate burden of illness experienced among blacks, Latinos, and immigrant groups [50]. Racial/ethnic and immigrant disparities in the burden, course, and severity of mental health outcomes, and in service utilization, are widely documented [50, 59, 60]. Moreover, the association between residential concentration and mental health varies across and within racial/ethnic and immigrant groups [7, 30, 61]. The mechanisms linking residential segregation and mental health vary by racial/ethnic group [30, 41], which may also contribute to the equivocal findings [41]. More specifically, the intermediary mechanisms may vary by racial/ethnic group [30]. For example, ethnic density may operate differently by racial/ethnic or immigrant group, depending on the context—in this case the country, stigmatized status, and social norms [36]. Several studies conducted in the UK have examined nonmajority groups in majority countries. A study investigating the relationship between ethnic density and mental health in different nonmajority groups such as Turkish Dutch, Moroccan Dutch, and Surinamese Dutch did not support the ethnic density hypothesis for any of the three major ethnic groups [36]. Some of these differences may be a result of the way in which neighborhoods may provide social support for transitioning to a new country and buffer against language barriers, acculturative stress, and discrimination [14, 62].

## Blacks/African Americans

The results of studies examining the association between residential concentration and mental health outcomes among blacks have been mixed. Several studies have documented protective effects of both residential segregation and ethnic density on

depression and anxiety [41], but there are several studies that have documented a positive association between higher levels of concentration and a greater mental health burden [55]. Among blacks, measures of residential segregation and ethnic density have been shown to perform differently across age, gender, and country of residence [55, 61]. One study revealed gender differences where there was a stronger association between ethnic density and depressive symptoms among African-American women than among African-American men [61]. Becares et al. conducted a cross-national comparison of ethnic density and suicide among black Caribbeans residing in the USA and in the UK [52]. For black Caribbeans, ethnic density was associated with improved mental health outcomes in the USA but adverse mental health outcomes in the UK [52]. The authors suggested that the discrepancies in the magnitude and direction of the ethnic density effects were a result of migration patterns, history, and socioeconomic position [52]. Nonlinear threshold effects have also been observed among blacks. For example, in a study that measured ethnic density among a sample of blacks in the USA, the authors found a protective association between ethnic density and depressive symptoms. However, for ethnic density greater than 85%, the benefits were no longer observed, and ethnic density was associated with greater depressive symptoms [61].

## Latinos

Associations between residential segregation and mental health among Latinos has mostly been studied in a US context [63, 64]. Findings from studies, particularly those testing ethnic density and depression, have overall been mixed [9]; some studies have suggested that segregation and/or ethnic density may be protective against adverse mental health outcomes [39], and other studies have demonstrated a higher risk of poorer mental health outcomes. Protective relationships for US Latinos residing in highly segregated and high–ethnic density neighborhoods have been found [41]. For example, one study showed that lower levels of depression were associated with higher levels of Mexican American neighborhood ethnic concentration [63]. In a study that focused on mental health care service utilization, Dinwiddie et al. demonstrated that Latinos who lived in highly segregated neighborhoods were less likely to be seen by a mental health care provider, because of a disproportionate shortage of providers in these neighborhoods [10]. Study findings also vary by gender, Latino ethnic group, nativity status, acculturation, and the measure of residential segregation that is used [39]. Many US studies on Latino mental health and residential segregation have drawn inferences from studies where Mexican Americans represented a larger proportion of Latinos [41]. However, a few studies examining residential segregation and mental health outcomes have been inclusive of Puerto Ricans, Dominicans, and Cubans. Several studies have measured racial segregation by using formal measures of segregation, such as the index of dissimilarity and the exposure index [39]. Lee found that residential segregation measured by Latino isolation was a stronger predictor of depression than segregation measured by the index of dissimilarity [64]. Yet, in a study by Nobles et al., Latinos

living in communities with high levels of residential segregation measured by the isolation index were found to have lower levels of mental distress [39]. Other interesting findings about residential segregation and mental health outcomes among Latinos have been related to nativity status and acculturation. The results of one study suggested that the protective association may be limited to first-generation and second-generation Latinos [39].

## Asian Americans

The evidence for associations between residential segregation, ethnic density, and mental health outcomes among Asian Americans is sparse, although studies of Southeast Asians in the UK are more common. As in other racial/ethnic groups, ethnic density has not been consistently associated with mental health outcomes, although it should be noted that the number of studies is small. One study was identified that demonstrated an association between greater levels of ethnic density and poorer mental health [41]. After controlling for social cohesion as a potentially mediating pathway, Hong et al. found that Asian Americans were more likely to report poor general mental health [41]. Another study found results that were suggestive of a protective effect but not significant [55]. Mair et al. tested whether racial/ethnic racial composition was associated with depressive symptoms as measured by the CES-D, and found that greater concentrations of Asians were associated with lower CES-D scores in Chinese women, but these findings did not reach statistical significance [55].

## Adolescents

Although much of the research examining the role of residential segregation and mental health has been carried out in adults, some studies have focused exclusively on adolescents [62, 65]. In these studies, protective associations have been observed in largely black and Latino adolescents [7, 62]. Moreover, negative associations between ethnic density and mental health have been observed for immigrant adolescents. A study examining the longitudinal association between immigrant ethnic density and Latino youth depression outcomes found that Latino immigrant density was associated with lower odds of depression among Latino immigrants but not among nonimmigrant Latino adolescents [62].

A common critique of the segregation and health literature is the sole focus on residential context and the lack of attention to exposure to other contexts such as school [24]. School-level segregation is increasingly a prominent factor influencing adolescent well-being and health. Several studies have examined school segregation, which has typically been measured using school-level racial/ethnic composition (i.e., the percentage of non-Latino white students in a school) [66]. School racial segregation is of import because it exists at fairly high levels in schools across the USA and in some areas, schools are resegregating [67]. It has been suggested that the

mechanisms by which school segregation impacts health may work in different directions [67]. For example, segregated schools may have fewer available resources such as books, facilities, and advanced classes but may also protect against racial discrimination [67]. One study analyzed data from a nationally representative sample of US adolescents. It found that black students who attended predominantly black schools were more likely to report fewer depressive symptoms and that such symptoms increased as the proportion of white students in a school increased [66]. However, this association was not observed among other racial/ethnic groups such as Latinos, Asian/Pacific Islanders, and American Indian students [66].

## Research, Clinical Practice, and Population-Based Health Implications

The results from the residential segregation and mental health outcomes literature have implications that can help guide researchers, providers/clinicians, decision makers, and other relevant stakeholders in prevention strategies and intervention approaches to reduce mental health inequities and promote policies that improve population mental health. This section discusses some of the research, clinical practice, and population-based implications of residential segregation and mental health.

### Research

There are several directions for future research that can generate new knowledge to unpack the complex associations linking residential segregation, ethnic density, and mental health outcomes, and advance the field's understanding of strategies to decrease the risk of mental health problems and improve outcomes. More studies are needed to explore factors of resilience. Resilience—the process of positive adaptation achieved in the face of threats to development [59]—is an understudied element in the residential segregation, ethnic density, and mental health literature. Identification of elements and methods to measure mental health resilience among adolescents and adults is a promising research and intervention development direction.

The remaining gaps in knowledge about the relationship between residential segregation, ethnic density, and mental health relate to disaggregation of data by ethnicity and nativity. There has not been sufficient research evaluating the differential effects of residential segregation by ethnic subgroup or nativity [39]. Studies that explore the influence of nativity and immigrant generational status could improve understanding of the mechanisms underlying residential segregation, ethnic density, and mental health. They may provide clues regarding cumulative life exposures and critical timing periods. Attention to the cumulative effects of exposure to segregation along the continuum of health care has the potential to illuminate opportunities for research and action that will lead to promotion and achievement of health equity and improved population health.

## Clinical Practice/Health System

Sustained effort to strengthen mental health services provided by the health care system is one approach to minimize the influence of segregation on management of mental health outcomes and utilization of mental health services. To address these needs, adoption of a patient-centered approach that ensures the provision of culturally tailored, sensitive, and appropriate services is needed [68]. A recent quantitative analysis of depression among residents in a predominantly black, disadvantaged urban neighborhood underscored the significance of diagnosing depression as a function of the presentation of depression in patients, which may be indicative of responses to contextual stressors [68]. Additional considerations relate to mental health care financing. State Medicaid policies strongly influence the accessibility and utilization of mental health services among individuals in segregated communities. Implementation of policies that expand income standards for eligibility and the scope of services provided, increase state Medicaid reimbursements, and incentivize primary and specialist mental health care can potentially improve access to and utilization of mental health services [50]. More importantly, improving the integration and care coordination of behavioral, physical, and social services is increasingly considered an effective approach for strengthening the full spectrum of health and well-being and for fundamentally enhancing management of mental health conditions, especially for individuals residing in segregated neighborhoods [69, 70].

## Population-Based Approaches

Population-based approaches to address the connection between residential segregation and adverse mental health outcomes are likely to be more meaningful than individual-level approaches, which are not adequate to mitigate, eliminate, or address the stressors that occur at the community level. Population-based approaches that include multisector collaboration, legislation, and public campaigns have an opportunity to promote and improve the management of mental health [71].

Local health departments (LHDs) are increasingly recognized as playing a critical role in promoting community mental health and providing mental health preventive care, population-based mental health activities (e.g., surveillance, assessment, planning, and training), and stigma reduction campaigns to maximize mental health [28, 69]. Findings from a recent study demonstrated that the provision of mental health preventive care was associated with lower rates of preventable hospitalizations and a reduction in racial disparities as a result of services provided by LHDs in Maryland [69]. LHDs have the advantage of being uniquely situated to effectively engage and complement the activities of other local health entities (e.g., health systems) and allied sectors (e.g., social service agencies), particularly among vulnerable communities with limited health care access [28].

Innovative primary prevention and promotion campaigns that employ broad strategies (i.e., mass public awareness campaigns and messages that target barriers

such as social stigma, negative beliefs, and social norms) have been implemented [69, 71]. Kwate performed a novel community-based intervention, which consisted of an outdoor advertising countermarketing campaign to stimulate public discourse about racism in two segregated neighborhoods in New York City [72]. Stark facts about racism were advertised. For example, one advertisement stated: "Fast food companies don't target black people; they just don't have any restaurants in white neighborhoods." Kwate showed statistically significant decreases in psychological distress among the treatment participants in the neighborhoods in which the advertisements appeared [72]. In another study conducted among low–socioeconomic status communities in the Netherlands, a community-based participatory media project used cultural resources to challenge stressful social scripts to promote mental health, help minimize stress, and impact mental health outcomes [34]. Large-scale community-based strategies that utilize cultural narratives and support resilience are promising approaches that may collectively produce positive effects on population mental health [34].

**Conclusion**

Racial/ethnic residential segregation is considered a salient social determinant in the etiology of mental health outcomes, the accessibility and utilization of mental health services, and the persistence of mental health inequities. The empirical evidence, although inconclusive in general, suggests that residential segregation and ethnic density have some impact on mental health. Further, greater understanding of the complexity of the mechanisms known to mitigate the effects of residential segregation and ethnic density should be a priority in the development of effective prevention and intervention strategies. Design of culturally relevant and tailored interventions that harness the protective elements of residential segregation and ethnic density to reduce mental health disorders and improve the quality of mental health care is urgently needed. Identification of potential policy levers that will be helpful in improving mental health should aim to highlight community-level factors that may serve as opportunities to reallocate resources. Other potential areas amenable to policy development and community intervention may require an emphasis on integrated care and care coordination, and meaningful engagement of multisector collaborations to mitigate the impact of neighborhood disinvestment.

This chapter has considered the evidence on residential segregation and illuminated the processes through which it influences mental health. Renewed research and clinical and policy attention toward racial/ethnic residential segregation as a social determinant of mental health are necessary to have meaningful and sustained action to improve mental health.

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