The Disproportionate Impact of COVID-19 on Older Latino Mortality: The Rapidly Diminishing Latino Paradox

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Abstract

Objectives: This brief report aims to highlight stark mortality disparities among older Latinos that result from the novel coronavirus disease (COVID-19) pandemic.

Methods: We use recent data from the Centers for Disease Control and Prevention to compute age-specific death rates (ASDRs) for three causes of death: deaths from COVID-19, residual deaths, and total deaths for four age-groups (55-64, 65-74, 75-84, and 85 and older) to assess the impact of COVID-19 on older Latino mortality relative to non-Latino Whites and non-Latino Blacks and also in comparison to residual deaths. Additionally, we obtain ASDRs for all causes of deaths from 1999 to 2018 to provide a pre-pandemic context and assess the extent to which the consistently observed mortality advantage of Latinos persists during the pandemic.

Results: Consistent with previous research, our findings show that Latinos have lower ASDRs for non-COVID-19 causes of death across all age groups compared to non-Latino Whites. However, our findings indicate that Latinos have significantly higher ASDRs for COVID-19 deaths than non-Latino Whites. Furthermore, although the Latino advantage for total deaths persists during the pandemic, it has diminished significantly compared to the 1999-2018 period.

Discussion: Our findings indicate that as a result of the pandemic, the time-tested Latino paradox has rapidly diminished due to higher COVID-19 mortality among older Latino adults compared to non-Latino Whites. Future research should continue to monitor the impact of COVID-19 to assess the disparate impact of the pandemic on older Black, Latino and non-Latino White adults as additional data become available.

Keywords: COVID-19, Health Disparities, Mortality, Latinos

For over 30 years, a preponderance of evidence has shown that Latinos residing in the United States experience greater longevity and lower all-cause mortality than non-Latino Whites (hereafter, "Whites") despite their higher level of poverty and lower levels of educational attainment and health coverage (Arias & Xu, 2019; Garcia et al., 2019; Hummer, Benjamins, & Rogers, 2004; Lariscy, Hummer, & Hayward, 2015; Markides & Coreil, 1986). The phenomenon that Latino longevity and mortality outcomes more closely resemble those of Whites rather than non-Latino Blacks (hereafter, "Blacks") with whom they share relatively similar socioeconomic conditions has been referred to as the "Latino paradox" (Markides & Coreil, 1986; Markides & Eschbach, 2005; Markides & Eschbach, 2011). Explanations for the paradoxical mortality findings of Latinos have focused on: 1) health selection at time of migration (Bostean, 2013; Riosmena, Wong, & Palloni, 2013); 2) protective socio-cultural characteristics such as strong social/family ties and positive health-related behaviors, particularly lower levels of smoking (Antecol & Bedard, 2006; Fenelon, 2013); and 3) return migration (Palloni & Arias, 2004). However, prior studies show that only a small proportion of the Latino mortality advantage can be explained by the "salmon bias," associated with return migration (Palloni & Arias, 2004; Riosmena et al., 2013).

Nonetheless, despite the enduring longevity of the Latino epidemiological paradox, its persistence is under threat. Mounting evidence indicates that COVID-19 morbidity and mortality has been particularly devastating to Black and Latino communities (Millett et al., 2020; Rodriguez-Diaz et al., 2020). Long-standing social inequities in social determinants of health driven by structural racism place Black and Latino adults at an elevated risk of COVID-19 infection, severe illness, and death compared to Whites (Laster Pirtle, 2020). Recent findings indicate that among adults age 65 and older, Black and Latino older adults experience COVID-19 death rates approximately three and two times higher than Whites, respectively (Garcia, Homan, Garcia, & Brown, 2020).

The disparate burden of COVID-19 mortality among Latino adults is projected to result in a 36% decline in their survival advantage at birth compared to Whites (Andrasfay & Goldman, 2020). However, it remains unclear what impact the coronavirus has on Latino mortality outcomes. As the coronavirus pandemic continues to devastate communities of color, documenting trends that differentially impact population mortality outcomes is imperative to inform healthcare policies that seek to reduce the disproportionate burden of COVID-19 deaths. Although a clear advantage in all-cause mortality has been documented among older Latinos, research examining the impact of COVID-19 mortality on the Latino mortality advantage is lacking. Thus, this research brief aims to document stark racial/ethnic disparities in mortality that result from the ongoing pandemic to highlight the impact of COVID-19 on the rapid diminishing of the Latino paradox.

Data and Methods

We draw on 2020 provisional death data based on race/ethnicity and age of individuals who have died from COVID-19 between February 1 to August 22, 2020 (updated August 26, 2020) to conduct the analysis (Centers for Disease Control and Prevention, 2020a). These data were used to compute age-specific death rates (ASDRs) for three causes of death (deaths from COVID-19, residual deaths, and total deaths) for four age groups (55-64, 65-74, 75-84, and 85 and older) for Blacks, Latinos and Whites. We include Blacks in the analysis as the they represented a comparative group in the original analysis that identified the Latino paradox (Markides & Coreil, 1986). Unfortunately, the mortality data are not available for five-year age groups nor by gender. Age-specific population estimates for Blacks, Latinos and Whites were obtained from the Centers for Disease Control and Prevention (2020b). The formula for the computation of the ASDRs is:

$$ASDR = (Deaths_{i,j,k} / Estimated\ Population_{j,k}) * 100{,}000$$

where i represents cause of death (COVID-19 deaths, residual deaths, and total deaths), j signifies race/ethnic group (Black, Latino and White), and k denotes age group (55-64, 65-74, 75-84, and 85 and older). The ASDR is the number of deaths per 100,000 persons.

The analysis of the ASDRs allows for the assessment of the impact of COVID-19 on older Latino mortality relative to Black and White adults. The computation of ASDRs for residual deaths for the three racial and ethnic groups provides an illustration of what the death rates would look like in the absence of COVID-19. In addition, ASDRs are computed for all causes of deaths for Latinos and Whites across the four age groups from 1999 to 2018 (Centers for Disease Control and Prevention, 2020c) to provide a pre-pandemic context—the Latino mortality advantage of Latinos--for the ASDRs for 2020. These ASDRs are used to calculate the ratio of the Latino-to-White ASDRs for the four age groups for the years 1999 to 2018 and 2020 to assess the extent to which the consistently observed mortality advantage among Latinos persists during the pandemic.

Results

The Impact of COVID-19 on Older Latino Adults

The original conceptualization of the Latino paradox compared Latinos to Whites and Blacks (Markides & Coreil, 1986). The researchers pointed out that while Latinos resembled Blacks with respect to socioeconomic status, they more closely resembled Whites with regards to mortality. For decades, Latinos have consistently exhibited lower mortality rates than Whites (Fenelon, Chinn, & Anderson, 2017; Hummer et al., 2004; Lariscy et al., 2015; Markides & Coreil, 1986; Markides & Eschbach, 2005; Markides & Eschbach, 2011). However, with regard to COVID-19 mortality, this is not the case. Table 1: Panel A (Figure

1) shows that across the four age groups, Latinos experience a higher burden of death from the disease than Whites. The magnitude in ASDRs between Latinos and Whites is greatest among the younger segments of the older adult population. Our results indicate that Latinos 55 to 64 years of age have a mortality rate that is 6.1 times higher than Whites, 4.5 times higher among individuals 65 to 74 years of age, 2.9 times higher among those 75 to 84 years of age, and 1.6 times higher for adults 85 and older. In addition, contrary to decades of findings showing that Latino mortality deviated greatly from Blacks, our results indicate that COVID-19 mortality rates of Latinos are more similar to Blacks than to Whites across all age categories. While Blacks exhibit the highest COVID-19 death rates in three of the four age groups, the death rates closely resemble those of Latinos, particularly among individuals 55 to 64 where the death rate of Latinos is actually 4.5 percent higher than that of Blacks, and among individuals 65 to 74 years of age where the death rate of Latinos is 7.5 percent lower.

Table 1 Here

However, the Latino paradox associated with lower mortality among Latinos compared to Whites persists for residual deaths (Table 1: Panel B). Across the four age categories, Latinos have non-COVID-19 death rates that are approximately one-fifth lower than Whites and, nearly two-fifths lower than Blacks. Furthermore, the Latino paradox persists to a certain extent in the case of all-cause mortality (Table 1: Panel C). The Latino mortality advantage over Whites is greatest among individuals 85 and older where the death rate of Latinos is 16 percent lower than that of Whites. However, the Latino mortality advantage vis-vis Whites narrows tremendously among individuals 55 to 64 years of age with Latinos holding a death rate advantage only 1.2 percent lower than that of Whites, and the Latino advantage has disappeared among individuals 65 to 74 years of age where Latinos now have a death rate that is 3 percent higher than that of Whites. While Latinos have all-cause death rates much lower than Blacks, the gaps narrow from a Latino advantage of 43

percent in the 55-64 category to 18 percent in the 85-and-older category. Next, we examine how the current Latino advantage over Whites in overall mortality compares to prior years before the pandemic.

Figure 1 Here

The Rapidly Diminishing Latino Paradox

The ratios of the Latino-to-White ASDRs for the four age groups between 1999 and 2020 (data for 2019 are not yet available) are shown in Figure 2. Every year between 1999 and 2018, Latinos exhibited lower mortality rates than Whites across the four age groups (Figure 2). Furthermore, the ratio of the Latino-to-White ASDRs has decreased between 1999 and 2018, signifying a rising advantage in mortality among older Latinos relative to Whites with the decline being greatest among individuals in the 55-64 (-12.1 percent) and 85-and-older (-13.6 percent) age categories. The 2020 data reveals an upward tick in the ratio, reflecting the major impact of COVID-19 on older Latino mortality. Thus, for up to approximately seven months of pandemic- based data used here, the Latino paradox persists somewhat among older Latino adults, although it has disappeared among individuals 65 to 74 years of age, and will also fade shortly among those 55 to 64 years of age. It is likely that the Latino advantage will also vanish in the 75-84 age category in the coming months.

Figure 2 Here

Conclusion

The literature on older Latino mortality outcomes in the United States is dominated by the concept of the Latino paradox, in which Latinos exhibit more favorable longevity and mortality outcomes than Whites despite having socioeconomic characteristics similar to Blacks (Markides & Coreil, 1986; Markides & Eschbach, 2005; Markides & Eschbach,

2011). The aim of this research brief was to highlight the impact of the coronavirus on the rapidly diminishing Latino paradox. Our results indicate that the Latino mortality advantage relative to Whites has already disappeared among individuals 65 to 74 years of age and is likely to also vanish in the coming months among those in the 55-64 and 75-84 age categories. Emerging evidence indicates that advanced age and underlying health conditions significantly contribute to the severity of infections, hospitalizations, and mortality caused by COVID-19 (Bialek et al., 2020; Garg et al., 2020), and Black and Latino communities are particularly hit hard by the ongoing pandemic (Millett et al., 2020; Rodriguez-Diaz et al., 2020). This is particularly concerning as older Latinos are more likely than Whites to have underlying health conditions (i.e. diabetes, hypertension, and obesity) that put them at a higher risk for infection and death (Brown, 2018; Garcia, Garcia, & Ailshire, 2018). Moreover, recent evidence indicates that although older Latinos have more favorable life expectancies than Whites, they overwhelmingly spend more years with a chronic condition and a significantly larger proportion of their late-life with morbidity (Cantu, Hayward, Hummer, & Chiu, 2013; Garcia, Garcia, Chiu, Raji, & Markides, 2018). Taken together, these studies highlight the glaring health disparities older Latinos face that contribute to their high hazard to COVID-19 mortality.

In addition to their high susceptibility due to underlying health conditions, older Latinos are at higher risk for exposure to COVID-19 infection and death relative to Whites due to structural racism in the forms of occupational and residential segregation as many hold jobs that have been categorized as essential, including occupations in grocery stores, transportation (e.g.. bus drivers, subways, etc.), health care, agriculture, and meatpacking that entail ongoing occupational exposure (Dyal et al., 2020). Moreover, these older adults are less likely to have paid sick leave or the ability to work remotely (Gould & Shierholz, 2020). Older Latinos are also more likely to live in densely populated areas with high poverty,

crowded and multigenerational housing (Centers for Disease Control and Prevention, 2020d; Cohn & Passel, 2018), and lack health care coverage compared to their White counterparts (Sáenz, 2015), all which contribute to a higher risk of exposure to COVID-19. In addition, research shows that nursing homes where Latinos and Blacks comprise at least 25 percent of residents are much more likely to have at least one coronavirus infection than nursing homes with less than 5 percent of minority residents (Gebeloff et al., 2020). Low levels of educational attainment and income, lack of health insurance coverage and access to health care, occupational and residential segregation, and inequalities in other societal domains resulting from structural racism have been posited to be "pre-existing pathological social conditions" that drive weathering processes among marginalized communities and result in greater disease burden that exacerbates racial/ethnic mortality disparities during the COVID-19 pandemic (Garcia, Homan, Garcia, and Brown, 2020).

Our findings should be considered in the context of several limitations. First, the data used in the analysis are provisional and are subject to change as missing racial/ethnic identification are updated, causes of deaths are clarified, and current and future death records are processed.

Second, the determination of cause of death is always difficult with respect to the identification of the immediate cause of death, underlying cause of death, and multiple causes of death, even under times without a pandemic (National Vital Statistics System, 2020; Pappas, 2020). This issue becomes even more difficult during a pandemic. Deaths associated with COVID-19 are classified using a new ICD-10 code: UO7.2. According to the Centers for Disease Control and Prevention (2020e; see also National Vital Statistics System, 2020), the UO7.2 code is used "When COVID-19 is reported as a cause of death—or when it is listed as a 'probable' or 'presumed' cause—anywhere on the death certificate…This can include cases with or without laboratory confirmation." This task is made more difficult with

the continued challenges to testing, variations in rules and regulations related to the identification of cause of death across states and communities, lack of consistency in the certifier completing the death certificate (e.g., physician, medical examiner, coroner, etc.), and the low levels of autopsies especially during the pandemic (Pappas, 2020). While there are likely to be both undercounts and overcounts across geographic areas, overall COVID-19 deaths are more likely to be undercounted (Pappas, 2020).

Third, there is undoubtedly an unknown amount of error in the classification of race and Latino identification. Indeed, the accuracy of such identification suffers in the context of the separation of infected individuals in hospitals from their families. Physicians, medical examiners, and coroners may not be clear on the racial/ethnic identification of the deceased, particularly when the deceased's relatives or friends are not available.

Finally, research shows substantial variability in longevity and the risk of mortality among older Latinos by racial identification (e.g. White Latino/Black Latino), country of origin, nativity status, duration in the U.S., age of migration, birth cohort, educational attainment, and gender (Arias, Johnson, & Vera, 2020; Fenelon et al., 2017; Garcia et al., 2020; Reyes & Garcia, 2019; Riosmena, Everett, Rogers, & Dennis, 2015; Van Hook, Frisco, & Graham, 2020). In particular, prior research has observed that among adults 65 and older, only Latinos who were racially classified as White had a mortality advantage over Whites (Borrell & Crawford, 2009). Furthermore, recent findings show that U.S.-born Latinos who were racially identified as White had a mortality advantage over non-Latino Whites, whereas Latinos who were racially identified as Black or American Indian and Alaska Native exhibited a mortality disadvantage relative to Whites (Arias et al., 2020). Given the evidence above, death rates observed in this study may not accurately capture the racial heterogeneity among Latinos and thus bias our results.

Despite these limitations, our findings indicate that older Latinos, in the context of COVID-19, face a rapidly diminishing advantage in mortality outcomes compared to Whites. Indeed, in the case of COVID-19, older Latino adults have higher levels of mortality than Whites. Mounting evidence indicates that structural and economic inequalities in the U.S. disproportionately impact the number of confirmed cases and deaths associated with the coronavirus among people of color (Evelyn, 2020; Garcia, Homan, Garcia, and Brown, 2020). Due to the elevated risk of mortality and the disproportionate impact on persons of color, it is imperative that federal, state, and local governments collect and release racial and ethnic information on the number of confirmed deaths due to the COVID-19. Thus, continued research is needed to inform public policies that can address the disparate burden of the COVID-19 pandemic, particularly among older marginalized communities. Until racial and ethnic disparities in socioeconomic status and health-care access are addressed, people of color and immigrants will continue to suffer from adverse health outcomes from the ongoing crises.

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Table 1: Age-specific death rates per 100,000 population for groups aged 55 and older by race/ethnicity and cause of death as of August 22, 2020.

Panel A: COVID-19 Deaths

Age Group	White	Latino	Black	Latino-White Ratio	Black-White Ratio
55-64	21.7	131.2	125.6	6.05	5.79
65-74	65.1	295.2	319.1	4.53	4.90
75-84	203.4	588.7	694.1	2.89	3.41
85+	699.4	1135.4	1,394.2	1.62	1.99

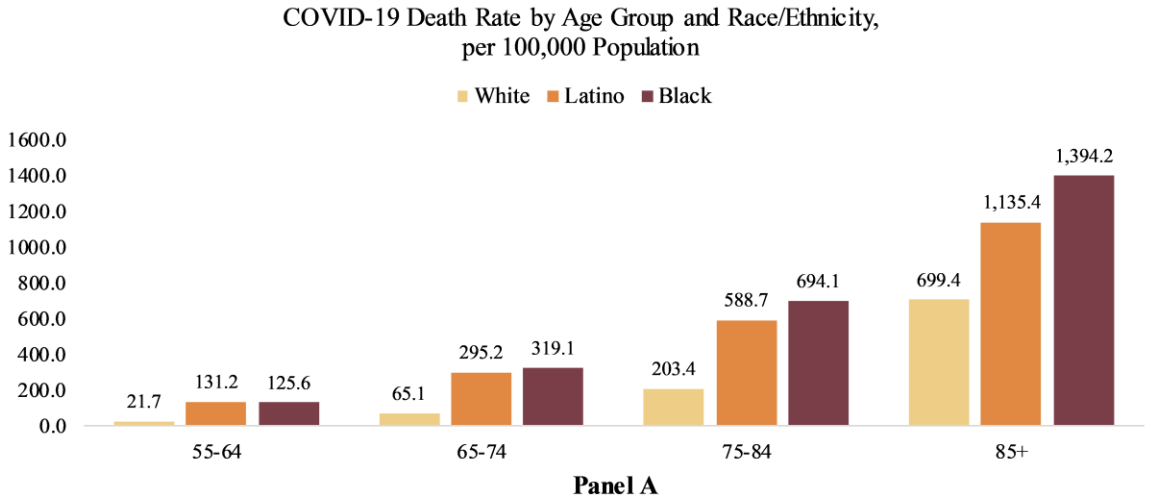
Panel B: Residual Deaths

Age Group	White	Latino	Black	Latino-White Ratio	Black-White Ratio
55-64	494.2	378.5	764.7	0.77	1.55
65-74	1030.9	831.8	1,536.5	0.81	1.49
75-84	2,567.2	2,069.3	3,026.0	0.81	1.18
85+	7,719.6	5,932.9	7,250.3	0.77	0.94

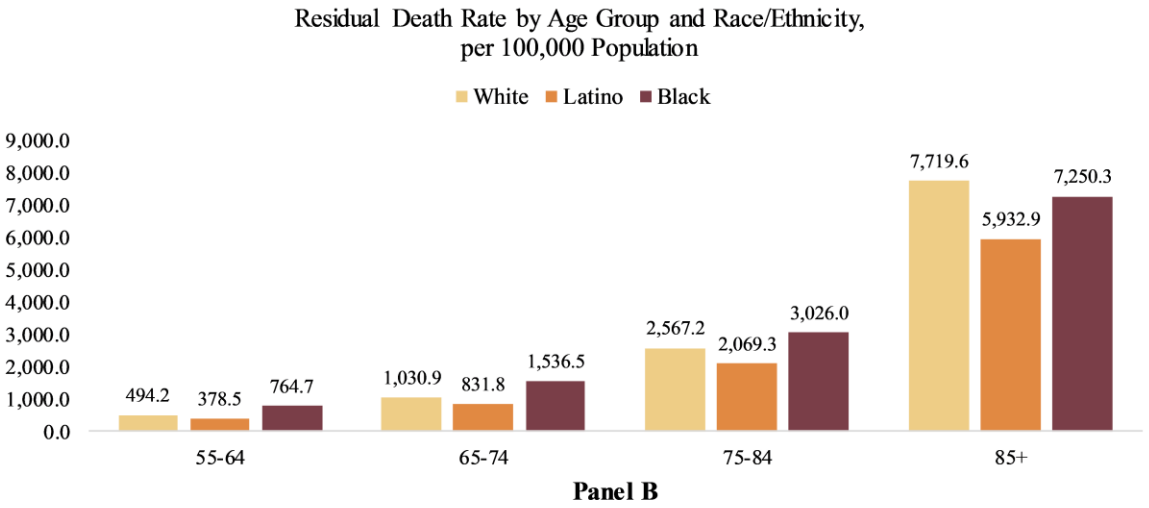
Panel C: Total Deaths

Age Group	White	Latino	Black	Latino-White Ratio	Black-White Ratio
55-64	515.9	509.7	890.3	0.99	1.73
65-74	1,096.0	1,127.0	1,855.6	1.03	1.69
75-84	2,770.7	2,657.9	3,720.0	0.96	1.34
85+	8,419.0	7,068.3	8,644.5	0.84	1.03

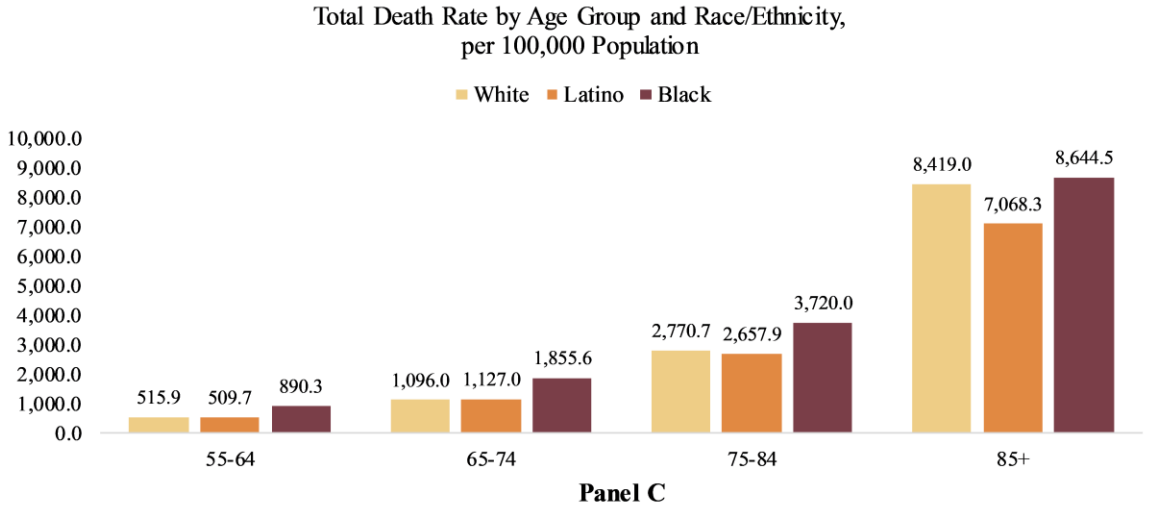
Figure 1



Panel A



Panel B



Panel C

Figure 2