

Background & Context

With the onset of the COVID-19 pandemic and its largescale consequences, the year 2020 will historically be recognized as a critical point in time across the US and the globe. COVID-19's toll on Mortality quickly became evident. Near the end of 2020, the US experienced the 9th highest COVID-related mortality behind several other large countries including Mexico, Peru, Brazil, and the United Kingdom.¹ Within the US, Texas experienced the 10th highest COVID-related mortality among the 50 states, with a rate of 105.2 deaths per 100,000 population. Zooming in further, Bexar County's 2020 COVID-19 mortality rate of 98.1 per 100,000 population ranked 3rd among the 10 largest counties in Texas.

Deaths due to numerous top causes of deaths such as heart disease, diabetes, and accidents also increased in 2020, taking a dramatic toll not just on COVID-19 mortality but on mortality overall. Like in many regions of the US, Bexar County's mortality burden is a direct reflection of the underlying socioeconomic, racial/ethnic, and health disparities that it has long experienced. Coming into 2020, 18% of San Antonio residents did not have a high school diploma, compared to 13% nationally. Poverty affected 15.7% of Bexar County residents, higher than both the state average (14.7%) and the national average (13.4%). San Antonio's child poverty rate stood at 27%, compared to 20% nationally. Additionally, 15.2% of Bexar County residents were uninsured, starkly higher than the national average of 8.8%. Looking within the city, Hispanic/Latino and Black communities experience more poverty, higher economic disadvantage, and lower education levels compared to their non-Hispanic White and Asian counterparts. Such racial/ethnic disparities in socioeconomic standing directly translate to racial/ethnic disparities in health. Illness, hospitalization, and complications due to major diseases such as asthma, cancer, heart disease, and diabetes disproportionately affect Black and Hispanic communities across Bexar County. For example, NH-Blacks consistently have the highest asthma and diabetes hospitalization rate, while Hispanic/Latinos carry the highest burden of hospitalization for diabetic amputations. In turn, such health disparities manifest as disparities in mortality.

The following report provides a detailed look at 2020 Mortality in Bexar County, highlighting differences over time, by age-group, by sex, by race/ethnicity, and by the leading causes of death. Mortality data in this report can be used to:

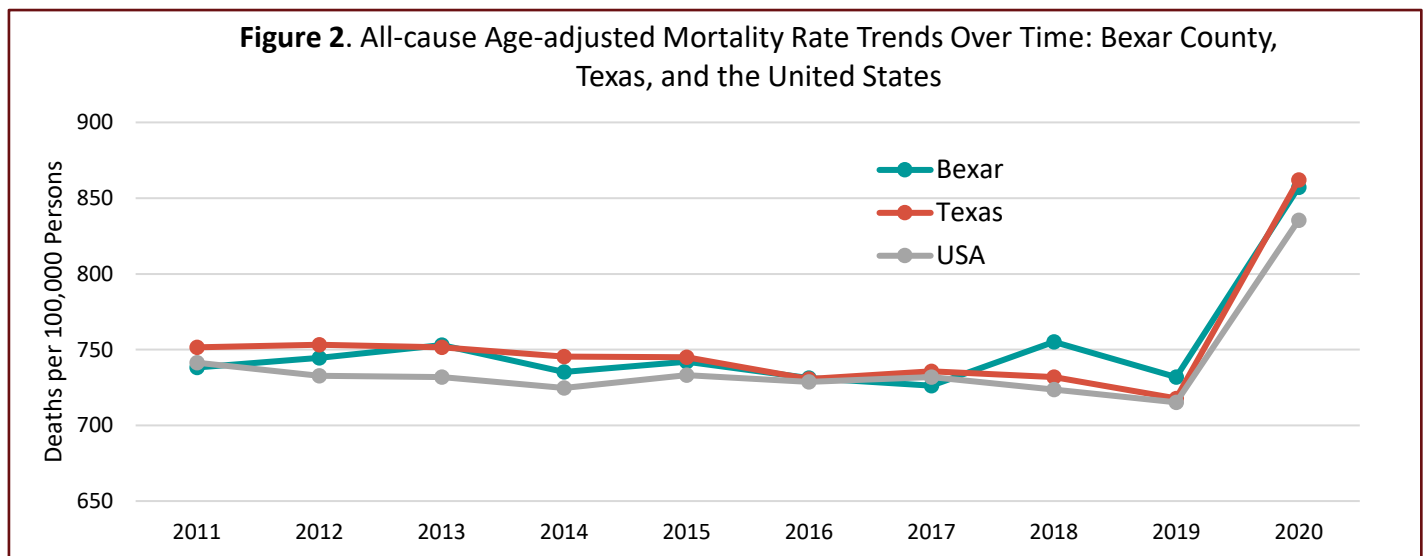
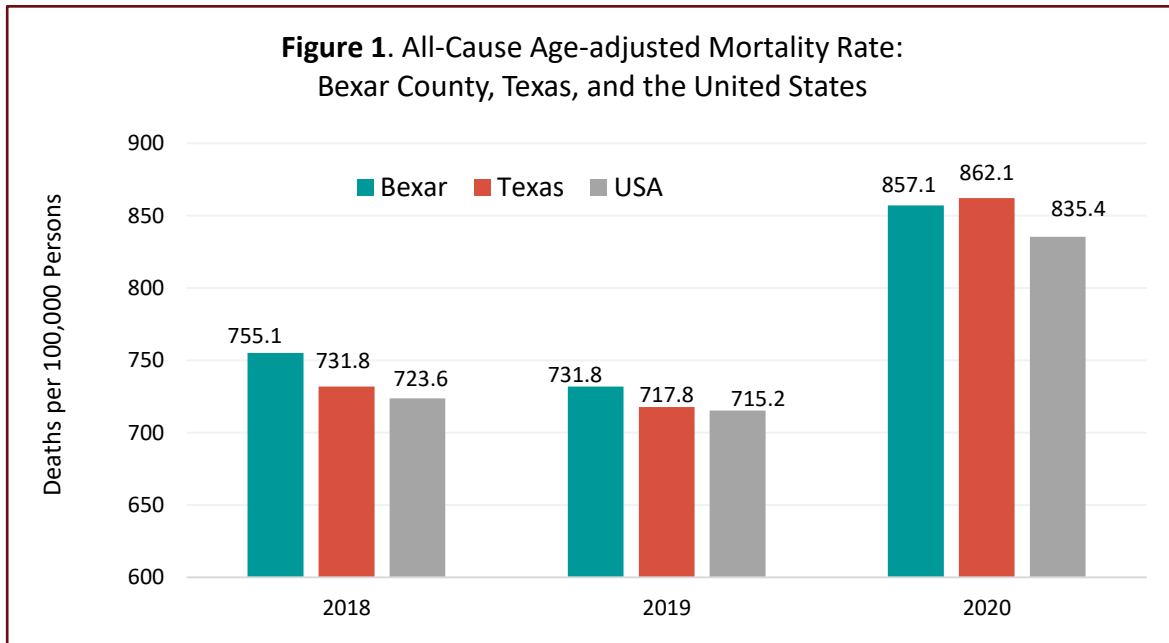
- Identify populations and communities at greater risk of death from specific diseases and injuries.
- Inform health care and public health planning, resource allocation, and priorities for prevention.
- Identify and highlight social disparities in health and mortality, which can help to better target resources.
- Identify and characterize emerging and re-emerging public health issues.

Key Points from this Report

- Over the past decade up to 2019, the mortality rate had generally fluctuated by 2% each year. Between 2019 and 2020, however, the mortality rate increased by 17% in Bexar County, 20% in Texas, and 17% across the US.
- The mortality rate increased between 2019 and 2020 for all age-groups in Bexar County, except for infants <1.
- Males continue to have a 50% increased risk of death compared to females, and have notably higher mortality rates for many top causes of death, particularly heart disease, cancer, and now COVID-19 as of 2020.
- The mortality rate among Hispanics in Bexar County increased by an unprecedented 26% from 2019 to 2020. However, the Non-Hispanic (NH)-Black race/ethnic group continues to have the highest overall mortality rate compared to the NH-White and Hispanic groups.
- Heart disease and cancer continued as the top causes of death in 2020 for Bexar County. COVID-19 became the third highest cause of death in 2020, and Bexar County's mortality rate for COVID-19 surpassed that of the US.
- When examining mortality due to COVID-19 by race/ethnicity, Hispanics had the highest mortality rate in Bexar County, across Texas, and across the US overall.
- Bexar County continues to have a higher diabetes mortality rate than Texas and the US overall. In addition, Bexar County's diabetes mortality rate increased by almost 15% from 2019 to 2020. NH-Blacks continue to experience diabetes mortality at twice the rate when compared to NH-Whites
- The NH-Black race/ethnic group in Bexar County consistently experiences mortality due to homicide at a rate 3-4 times higher rate than that among NH-White and Hispanic groups.

All-Cause Mortality

The 2020 year is often defined by the effects of the COVID-19 pandemic. One of the greatest impacts was seen in the all-cause mortality rate with an unprecedented increase in Bexar County, Texas, and the entire United States (**Figures 1 and 2**). For the past decade, the mortality rate had fluctuated about 2% each year – as of 2020, it increased by 17% for Bexar County, 20% for Texas and 17% for the United States (**Figure 2**).



Rates are per 100,000 population; age-adjusted rates are adjusted to the 2000 Standard population.



Mortality rates can be reported as crude rates or age-adjusted rates. **Crude rates** are simply calculated as the number of deaths in a place divided by population size of that place. They do not take in consideration the age-distribution of the population in that place. However, to compare mortality rates between one location and another, or between one time point and another, age-adjusted rates are necessary.

Age-adjusted rates are calculated using statistical techniques that weigh the different age-groups according to a reference, standard population, thus eliminating the effect of different age distributions when comparing one place to another or one time period to another.

Between 2019 and 2020, age-adjusted mortality increased significantly across all of the ten largest counties in Texas. Hidalgo County experienced the largest percent increase in age-adjusted mortality (51% increase), followed by El Paso County (45% increase) and Harris County (21% increase). Bexar County saw a 17% increase in age-adjusted mortality. Bexar County’s mortality rate ranked at the top among the ten largest Texas counties in 2019, but in 2020 it was surpassed by El Paso County and Hidalgo County (**Figure 3**).

Figure 3. Total Deaths and Mortality across the Ten Largest Counties in Texas, 2019 vs 2020

2019				2020			
Location	Deaths	Population	Age-Adjusted Rate	Location	Deaths	Population	Age-Adjusted Rate
1. Bexar County	13,945	2,003,554	731.8	1. El Paso County	8,436	841,286	1,005.1
2. Dallas County	16,531	2,635,516	714.8	2. Hidalgo County	7,272	875,200	921.6
3. Tarrant County	13,537	2,102,515	713.2	3. Bexar County	16,703	2,026,823	857.1
4. Harris County	26,730	4,713,325	664.4	4. Dallas County	20,071	2,635,888	854.2
5. El Paso County	5,724	839,238	693.7	5. Tarrant County	16,418	2,123,347	845.1
6. Travis County	5,866	1,273,954	585.3	6. Harris County	32,986	4,738,253	801.0
7. Denton County	4,124	887,207	595.8	7. Travis County	6,989	1,300,503	675.4
8. Hidalgo County	4,763	868,707	612.0	8. Denton County	4,864	919,324	656.1
9. Collin County	4,869	1,034,730	566.3	9. Fort Bend County	4,565	839,706	641.2
10. Fort Bend County	3,608	811,688	535.9	10. Collin County	5,722	1,072,069	636.3

Rates are per 100,000 population; age-adjusted rates are adjusted to the 2000 Standard population. For each of the years, counties are ordered from largest age-adjusted mortality rate to smallest age-adjusted mortality rate.

Mortality - by Age Group

All age groups in Bexar County showed an increase in mortality between 2019 and 2020, except for infants less than one year old which showed a 20% decrease from 2019 to 2020 (**Figure 4**). However, fluctuations of this magnitude are common for this age group and may not be indicative of a trend.

Figure 4. Total Deaths and Mortality Rates by Age-group in Bexar County, 2019 and 2020

Age Group	2019			2020			Percent Change between 2019 and 2020
	Deaths	Population	Crude Rate	Deaths	Population	Crude Rate	
<1 year	170	26,629	638.4	133	26,341	504.9	-20.9%
1-14	61	395,942	15.4	75	396,928	18.9	22.7%
15-24	190	288,370	65.9	229	290,529	78.8	19.6%
25-44	848	595,524	142.4	1,025	604,970	169.4	19.0%
45-64	2,980	449,246	663.3	3,649	452,052	807.2	21.7%
65-74	2,723	148,209	1,837.3	3,433	153,739	2,233.0	21.5%
75-84	3,137	71,098	4,412.2	3,803	73,495	5,174.5	17.3%
85+	3,835	28,536	13,439.2	4,355	28,769	15,137.8	12.6%

Rates are per 100,000 population

Mortality - by Sex

Both male and female mortality rates increased by 15% and 18% respectively (**Figure 5**). However, the proportion of male to female deaths in 2020 stayed the same as 2019, with males continuing to have a 50% increased risk of death.

Figure 5. Total Deaths and Mortality Rates by Sex in Bexar County, 2019 and 2020

	2019			2020			Percent Change between 2019 and 2020
	Deaths	Population	Age-Adjusted Rate	Deaths	Population	Age-Adjusted Rate	
Female	6,530	1,013,764	600.8	7,901	1,025,747	713.3	18.7%
Male	7,415	989,790	891.9	8,802	1,001,076	1,030.1	15.5%

Rates are per 100,000 population

Mortality - by Race/Ethnicity

The mortality rate increased from 2019 to 2020 for all race/ethnic groups (**Figure 6**). However, the Hispanic community experienced an unprecedented 26% increase in mortality. In comparison, the mortality rate increased by 11% for NH-White and NH-Black groups, and by 19% for the Asian/Pacific Islander group. NH-Black residents continued to experience the highest mortality rate among the different race/ethnic groups in Bexar County in 2020.

Figure 6. Total Deaths and Mortality Rates by Race/Ethnicity in Bexar County, 2019 and 2020

	2019			2020			Percent Change from 2019-2020
	Deaths	Population	Age-Adjusted Rate	Deaths	Population	Age-Adjusted Rate	
NH-White	5,969	559,990	774.5	6,705	557,745	865.2	11.7%
NH-Black	1,120	154,570	864.8	1,298	158,108	959.7	11.0%
Hispanic	6,602	1,215,788	695.7	8,392	1,171,150	880.3	26.5%
Asian/Pacific Islander	183	67,451	345.9	235	69,973	412.0	19.1%
American Indian/ Alaska Native	*	5,755	*	*	5,818	*	*

Rates are per 100,000 population; age-adjusted rates are adjusted to the 2000 Standard population.

*Data is suppressed when numbers are too small (<20) to calculate stable rates or meet confidentiality requirements.

Leading Causes of Death

Heart disease and cancer continue to be the top 2 causes of death in Bexar County, Texas, and the US (**Figure 7**). The three most common cancers attributing to mortality were lung cancer, pancreatic cancer, and breast cancer for both 2019 and 2020. COVID-19 became the 3rd leading cause of death in 2020 across the nation. Bexar County’s 2020 mortality rate for COVID-19 was lower than the rate for Texas but higher than the rate for the US overall.

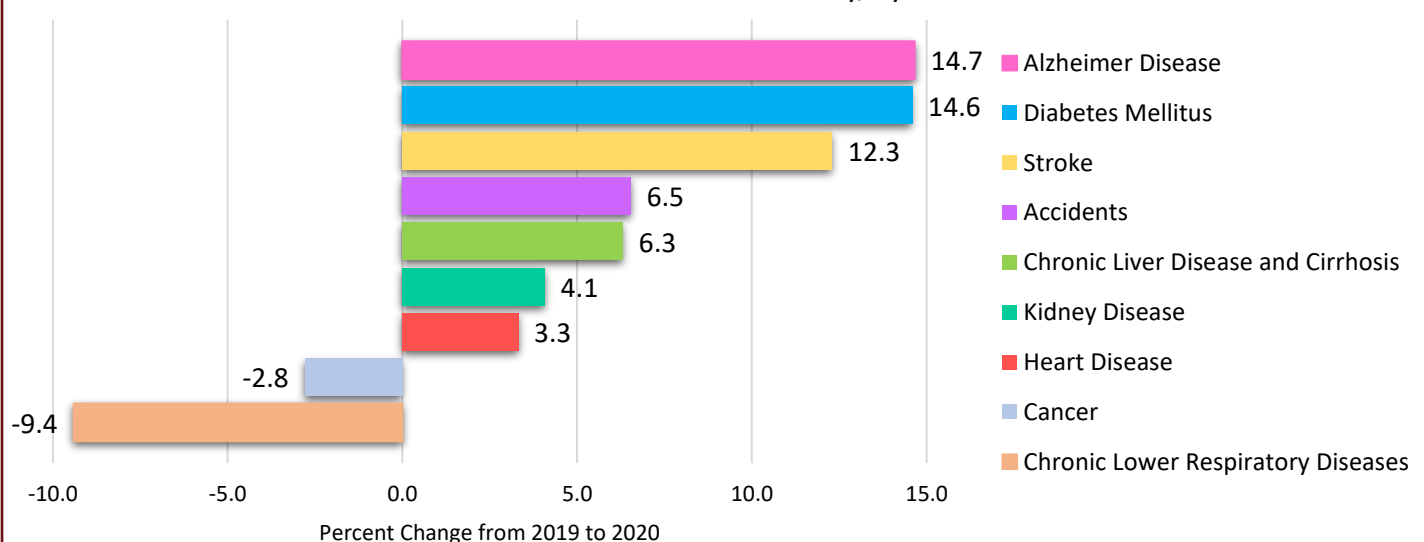
Figure 7. Number of Deaths and Mortality Rates for the 10 Leading causes of Death in Bexar County Compared with Texas and USA, 2019 and 2020

Cause of death	2019		2020			
	Deaths	Age-Adjusted Rate	Deaths	Age-Adjusted Rate	Texas Age-Adjusted	USA Age-Adjusted
1. Heart disease	3,261	171.9	3,445	177.6	173.9	168.2
2. Cancer	2,640	136	2,628	132.2	139.8	144.1
3. COVID-19	*	*	1,952	98.1	105.2	85.0
4. Stroke	807	43.1	926	48.4	41.1	57.6
5. Accidents	809	41.3	875	44.0	44.2	38.8
6. Alzheimer's Disease	685	38.2	792	43.8	44.6	32.4
7. Diabetes Mellitus	545	28.1	640	32.2	26.7	24.8
8. Chronic Lower Respiratory Diseases	592	31.9	550	28.9	36.2	36.4
9. Chronic Liver Disease and Cirrhosis	381	19	418	20.2	15.8	13.3
10. kidney disease	279	14.7	300	15.3	15.1	12.7

Rates are per 100,000 population; *COVID-19 was not a cause of death in 2019

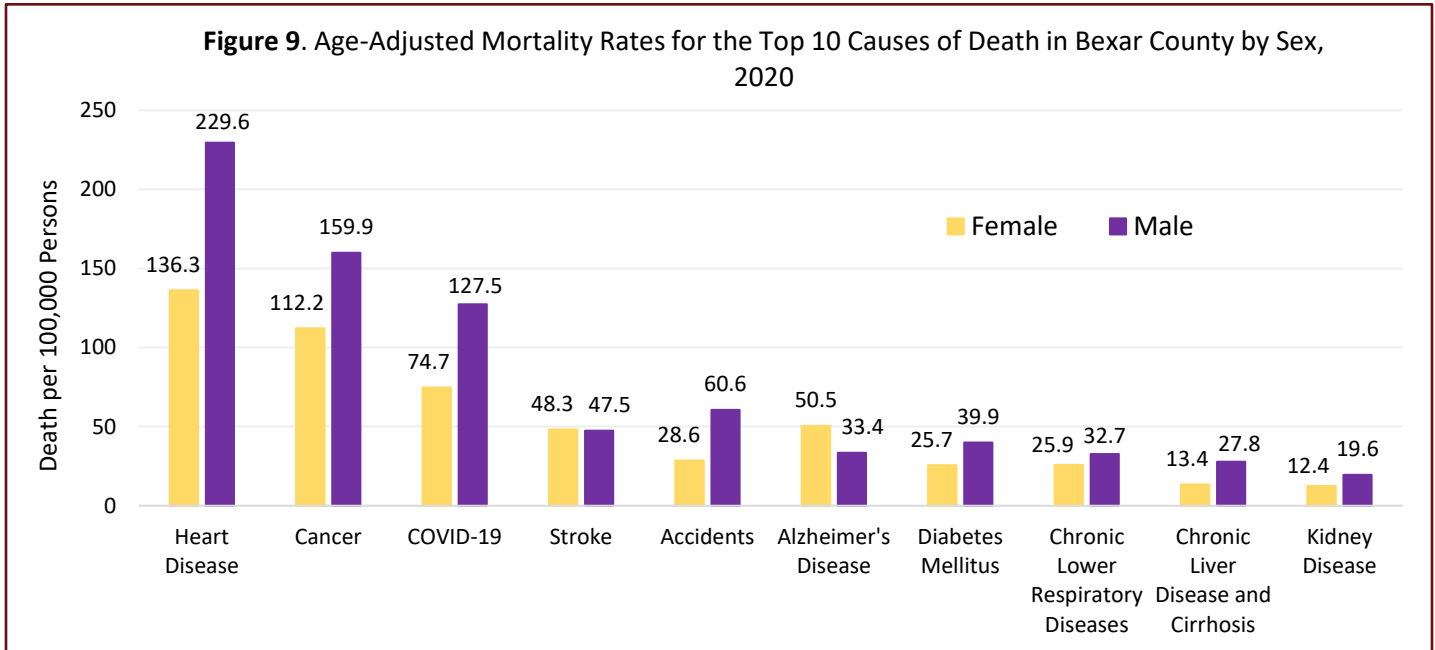
Mortality due to Alzheimer and diabetes increased 14% in rate from 2019 to 2020 (**Figure 8**). The mortality rate for stroke increased by 12%. However, Mortality due chronic lower respiratory disease experienced close to a 10% decrease in rate between 2019 and 2020.

Figure 8. Percent Change Age-adjusted Mortality Rate between 2019 and 2020 in Bexar County, by Cause of Death

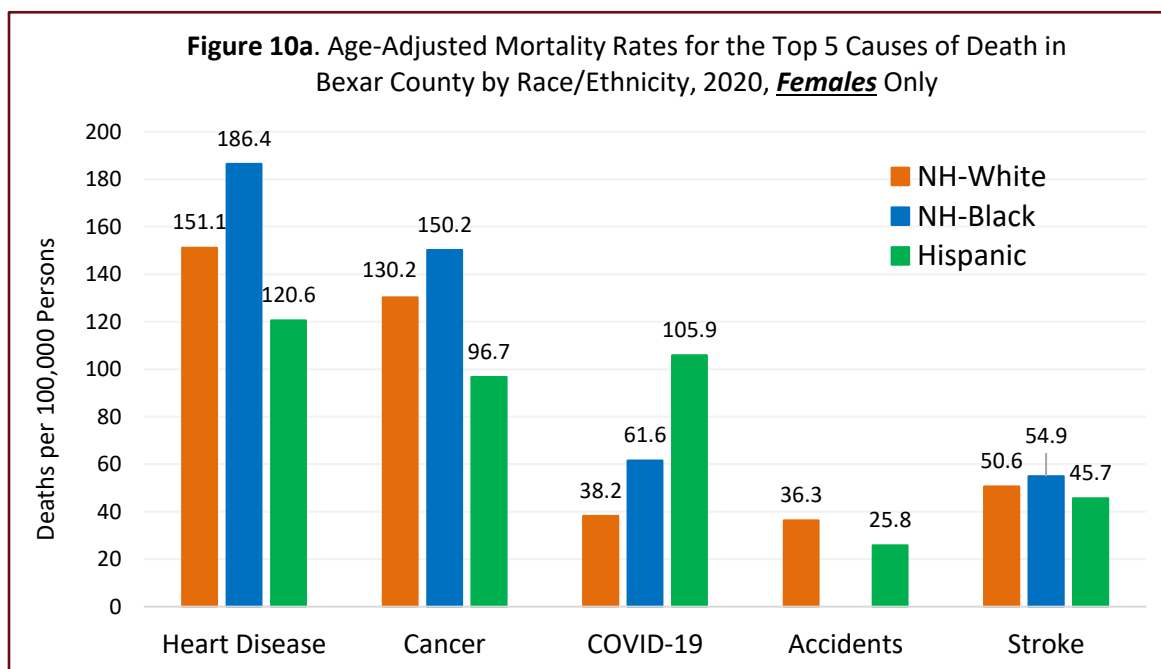


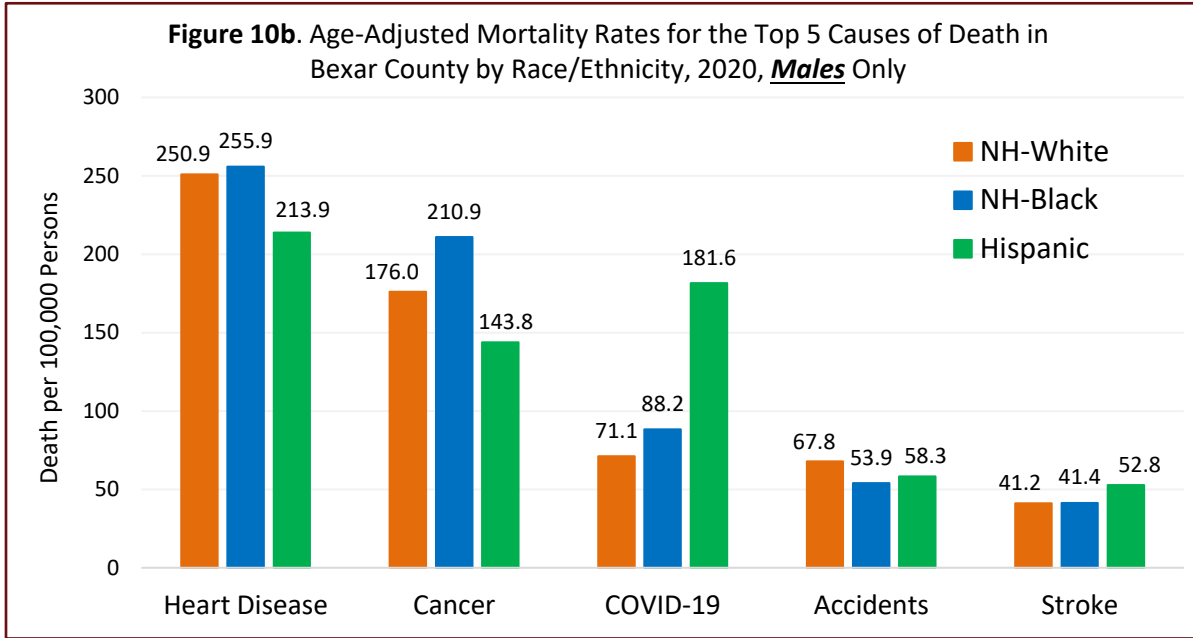
Leading Causes of Death – by Sex and Race/Ethnicity

Males generally show higher mortality rates for the top 10 causes of death compared to females, except for Alzheimer’s disease. In addition, males experienced a higher mortality due to COVID-19 compared to females in 2020.



Racial/Ethnic disparities in mortality persisted in 2020 within Bexar County and were unfortunately further exacerbated due to the COVID-19 pandemic. Among the female population, NH-Blacks led the mortality rate for heart disease, cancer, and stroke (**Figure 10a**). Among males, NH-Blacks experienced the highest mortality rate for heart disease and cancer while Hispanic males had the highest rate for stroke (**Figure 10b**). Regardless of sex, Hispanics experienced mortality due to COVID-19 at the highest rate - more than twice the rate when compared to NH-whites.





A closer look at Mortality due to Diabetes

Diabetes persists among the top 10 causes of death in the US and especially in Bexar County (**Figure 11**). In 2020, Bexar County had the highest diabetes mortality rate among the 5 largest counties in Texas – similar to 2019. Bexar County’s diabetes mortality rate also continues to surpass that of Texas and the US overall (**Figure 11**).

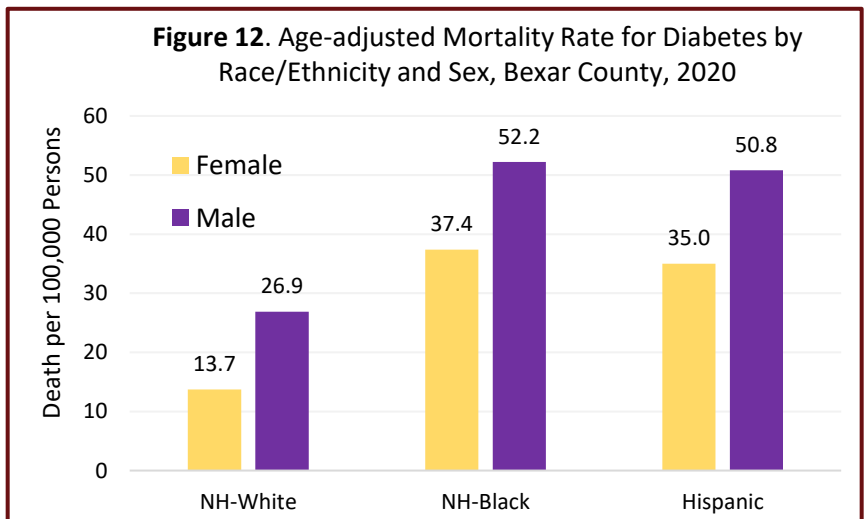
When comparing males to females, males had a higher diabetes mortality rate than females across all race/ethnic groups in 2020 (**Figure 12** – *purple bars are always higher than yellow bars*).

When examining the diabetes mortality rate by race/ethnicity, NH-Blacks have the highest diabetes mortality rate regardless of sex (**Figure 12**).

Figure 11. Diabetes Mortality Rates Across the Five Largest Counties in Texas, 2020

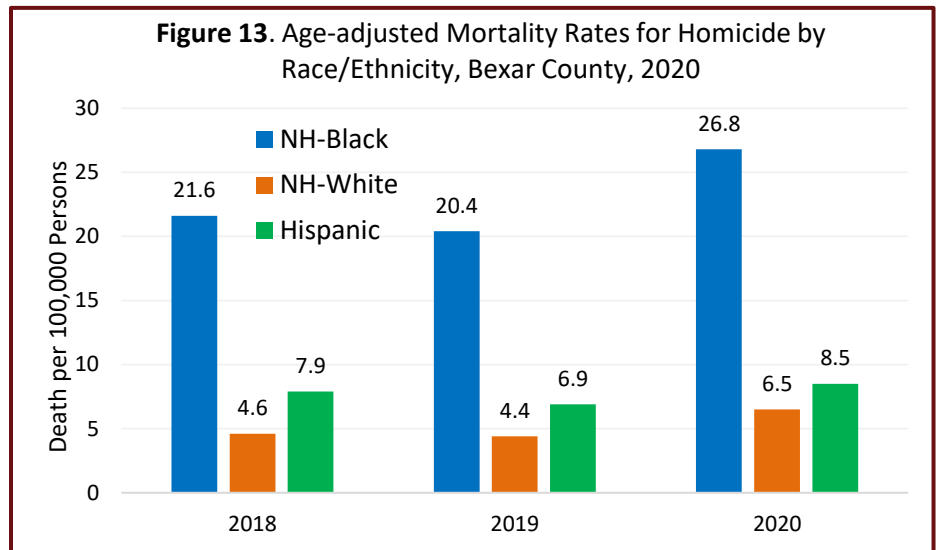
County	Deaths	Population	Age-adjusted Mortality Rate
Bexar County, TX	640	2,026,823	32.2
Tarrant County, TX	608	2,123,347	29.6
Dallas County, TX	624	2,635,888	25.8
Harris County, TX	1,028	4,738,253	23.7
Denton County, TX	137	919,324	17.0
Texas	7990	29360759	26.7
USA	102188	329484123	24.8

Rates are per 100,000 population



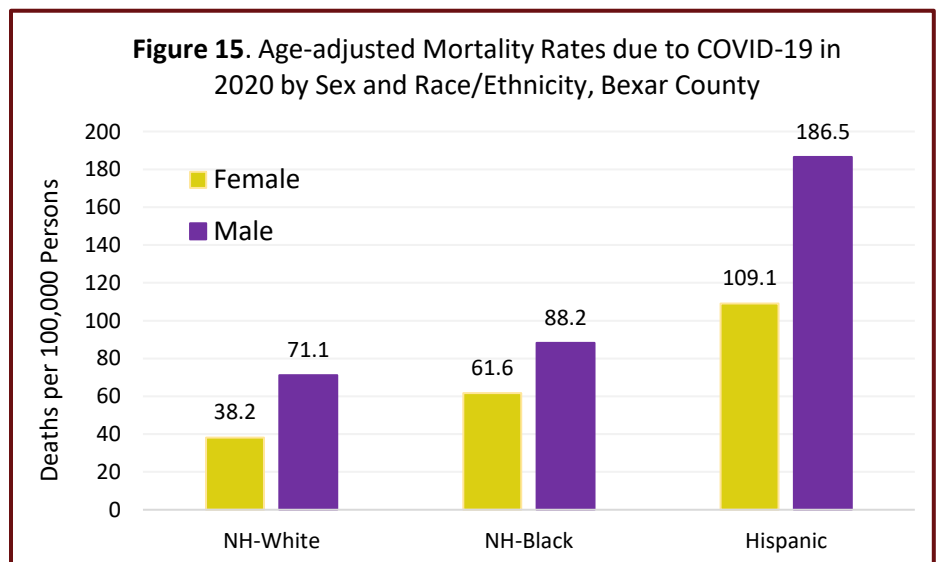
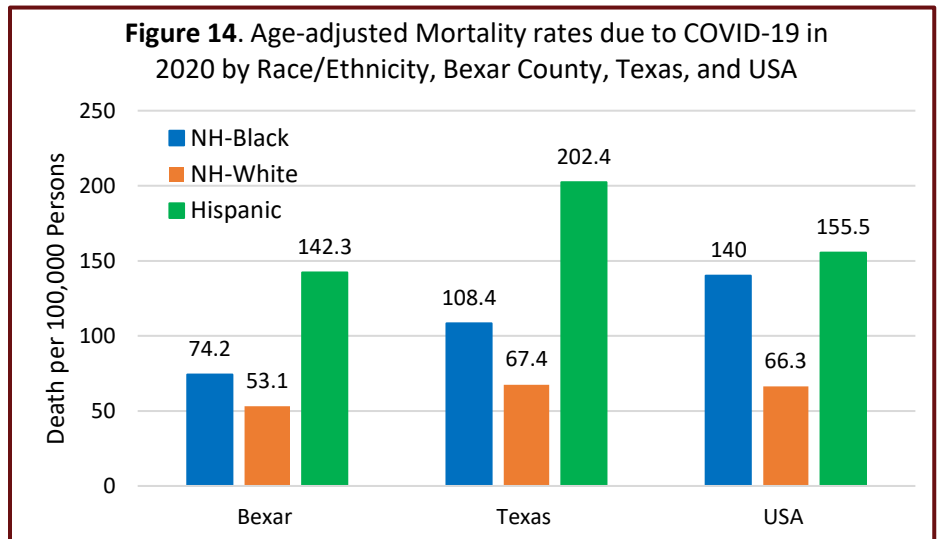
Mortality due to Homicide

NH-Blacks in Bexar County consistently experience mortality due to homicide at a rate 3-4 times higher rate than the rate among NH-Whites and Hispanics. (Figure 13).



Mortality due to COVID-19

Racial/Ethnic disparities in mortality due to COVID-19 were evident in 2020 across Bexar County, Texas, and the USA – Hispanic/Latinos had the highest COVID-19 mortality rate in Bexar County and across the nation, while NH-Whites had the lowest COVID-19 mortality rate (Figure 14). When comparing males to females, males had a higher rate of mortality due to COVID-19 in 2020 compared to females across all race/ethnic groups (Figure 15).



Report produced by San Antonio Metro Health's Informatics Unit. Authors: Tina Lopez, PharmD, MSPH; Golareh Agha, PhD.

Data source for all tables and figures: Centers for Disease Control and Prevention, National Center for Health Statistics. Underlying Cause of Death, 1999-2019 on CDC WONDER online database: <https://wonder.cdc.gov/ucd-icd10.html>. All age-adjusted rates are adjusted to the US 2000 standard population.