

## 3-4-50: Chronic Disease Deaths in San Diego County – South Region, 2000-2019

### What is 3-4-50?

Chronic diseases are now among the leading causes of death and disability worldwide. This reflects an improvement in the prevention and treatment of infectious diseases and significant changes in dietary habits, physical activity levels, and tobacco use in the population.<sup>1</sup> **Three** behaviors (poor diet, physical inactivity, and tobacco use) contribute to **four** chronic diseases (cancer, heart disease and stroke, type 2 diabetes, and lung diseases such as asthma) that result in over **50** percent of all deaths worldwide. This is the foundation of the 3-4-50 concept.<sup>2</sup> The influence of these three unhealthy behaviors may be seen in San Diego County as these four chronic diseases are among the most common causes of death and disability in our region. Considered together, the 3-4-50 diseases cost \$4 billion in direct treatment expenditures in San Diego County in 2007.<sup>3</sup>

### 3-4-50 in San Diego County

From 2000 to 2019, there has been a decrease in the percentage of county deaths due to chronic disease, as well as a decrease in the rate of chronic disease related deaths. In 2000, 63% of all deaths were due to chronic disease. However, by 2018, the percentage had decreased to 50% and remained at 50% in 2019. In addition, the rate of chronic disease deaths decreased from 440.6 per 100,000 residents in 2000 to 325.4 per 100,000 residents in 2019. Among the Regions, South Region had the highest percentage of deaths due to chronic disease every year from 2000 to 2019. However, South Region also generally had the lowest and second lowest number of deaths from all causes in the county during the same time period. The rate of death due to chronic disease was generally highest in East Region and lowest in Central Region from 2000 to 2015, with the exception of North Central region, which had the lowest rates in 2002, 2010, 2014, and 2016 to 2019. Within the regions there were considerable differences in the percentage of deaths due to chronic disease among the Subregional Areas (SRAs), as well as in chronic disease death rates. More detailed information is provided in the following tables and graphs.

## Understanding Public Health Data

This document presents San Diego County death statistics on stroke, coronary heart disease (CHD), diabetes, chronic obstructive pulmonary disease (COPD), asthma, and cancer from 2000 – 2019. Beginning in 2017, COPD includes chronic lower respiratory diseases (COPD/chronic lower respiratory diseases).

- A percentage is a way to express how small or large a quantity is relative to another quantity.
- A rate is the number of cases divided by the population, usually multiplied by a constant. For example, 987 cases, divided by population of 654,321 would be a rate of 150.8 per 100,000 population. This means for every 100,000 people, 150-151 cases would be expected.

Both measures are provided to give a more balanced look at the burden of chronic disease within the County. Percentages allow for the comparison of the number chronic disease deaths relative to the number of deaths overall. Percentages are influenced by both the number of chronic disease deaths and the number of all cause deaths. It is important to keep this in mind when interpreting the data. For example, two regions could have the same number of chronic disease deaths, but could have completely different percentages of chronic disease deaths based on the number all cause deaths in each area.

	Region A	Region B
Number of Chronic Disease Deaths	50	50
Number of All Cause Deaths	100	80
Percentage of Deaths Due to Chronic Disease	$(50/100)*100\% = 50\%$	$(50/80)*100\% = 62.5\%$

Rates were calculated to allow for comparison between regions, accounting for the size of each area's population.

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<sup>1</sup> World Health Organization (WHO). "The Global Strategy on Diet, Physical Activity and Health." [http://www.who.int/dietphysicalactivity/media/en/gsf\\_general.pdf](http://www.who.int/dietphysicalactivity/media/en/gsf_general.pdf) (Accessed September 22, 2011).

<sup>2</sup> 3Four50, [www.3four50.com](http://www.3four50.com) (Accessed September 22, 2011).

<sup>3</sup> County of San Diego, Health and Human Services Agency, Public Health Services, Community Health Statistics Unit, "Economic Burden of Chronic Disease" (September 2010).

### 3-4-50 Deaths in San Diego County – South Region, 2000-2019

The following tables and charts display trends in chronic disease deaths for the South Region of San Diego County.

**3-4-50 Death<sup>†</sup> Percentages Among San Diego County Residents - South Region, 2000-2019**

By SRA

Area	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
<b>San Diego County<sup>a</sup></b>	63%	63%	61%	60%	59%	58%	57%	57%	56%	56%	56%	54%	54%	55%	54%	53%	53%	51%	50%	50%
<b>South Region</b>	67%	66%	63%	64%	63%	62%	60%	59%	59%	59%	60%	59%	56%	59%	56%	57%	55%	54%	53%	51%
<b>SRA</b>																				
Chula Vista	68%	68%	63%	66%	63%	64%	61%	60%	58%	58%	60%	58%	57%	58%	55%	55%	55%	53%	54%	51%
Coronado	61%	63%	63%	59%	62%	60%	57%	56%	55%	55%	54%	55%	50%	55%	51%	44%	47%	51%	49%	47%
National City	72%	65%	63%	54%	67%	58%	59%	54%	61%	60%	62%	59%	54%	60%	59%	58%	58%	57%	53%	51%
South Bay	64%	67%	63%	65%	61%	63%	60%	61%	59%	61%	61%	61%	58%	61%	55%	61%	56%	55%	53%	53%
Sweetwater	68%	63%	61%	72%	61%	56%	62%	61%	61%	61%	58%	56%	55%	59%	55%	56%	54%	53%	52%	51%

<sup>a</sup>Deaths with unknown Region or SRA are reflected in the county total, but not in the individual categories. Category sums may not add up to county total.

§ Rates and Percentages not calculated for fewer than 5 events. Rates not calculated in cases where zip code is unknown.

†3-4-50 deaths include stroke, coronary heart disease (CHD), diabetes, COPD, asthma, and cancer. Beginning with 2017, COPD includes chronic lower respiratory diseases (COPD/chronic lower respiratory diseases).

Source: California Department of Public Health, 2000-2013 Death Statistical Master Files, 2014-2019 California Vital Records Business Intelligence System (VRBIS).

Prepared by County of San Diego (CoSD), Health & Human Services Agency (HHSA), Public Health Services (PHS), Community Health Statistics Unit, 2021.

**3-4-50 Death<sup>†</sup> Rates\* Among San Diego County Residents - South Region, 2000-2019**

By SRA

Area	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
<b>San Diego County<sup>a</sup></b>	440.6	435.2	402.8	402.7	386.7	373.8	357.8	353.1	347.5	336.6	347.0	347.0	346.2	356.3	329.6	338.8	339.5	334.4	324.0	325.4
<b>South Region</b>	415.5	419.7	372.4	374.1	365.6	362.2	332.2	340.7	328.6	327.3	337.9	341.5	326.2	343.9	318.2	326.9	334.5	340.3	333.7	323.8
<b>SRA</b>																				
Chula Vista	673.1	705.9	585.5	643.0	620.6	663.1	583.4	588.8	564.5	551.4	581.4	565.1	553.2	561.1	382.9	392.4	395.2	380.7	395.9	370.7
Coronado	485.5	490.4	459.3	379.5	379.8	405.2	454.1	457.2	419.9	362.7	368.4	394.4	314.8	461.2	320.8	268.6	269.5	387.1	392.0	252.1
National City	447.4	445.2	439.0	345.5	473.6	346.6	308.4	300.1	348.8	375.3	425.3	403.5	362.5	390.5	383.1	392.8	425.1	409.0	368.9	380.1
South Bay	316.9	318.5	301.9	306.3	280.2	291.6	277.4	297.9	266.1	289.3	280.2	321.2	317.9	326.9	300.3	315.2	323.8	344.8	319.7	329.3
Sweetwater	157.3	148.7	139.2	173.7	142.5	139.8	149.6	158.6	154.9	151.3	144.8	136.2	130.7	143.7	245.2	255.4	255.3	258.5	260.8	258.3

\* Rates per 100,000 population.

<sup>a</sup>Deaths with unknown Region or SRA are reflected in the county total, but not in the individual categories. Category sums may not add up to county total.

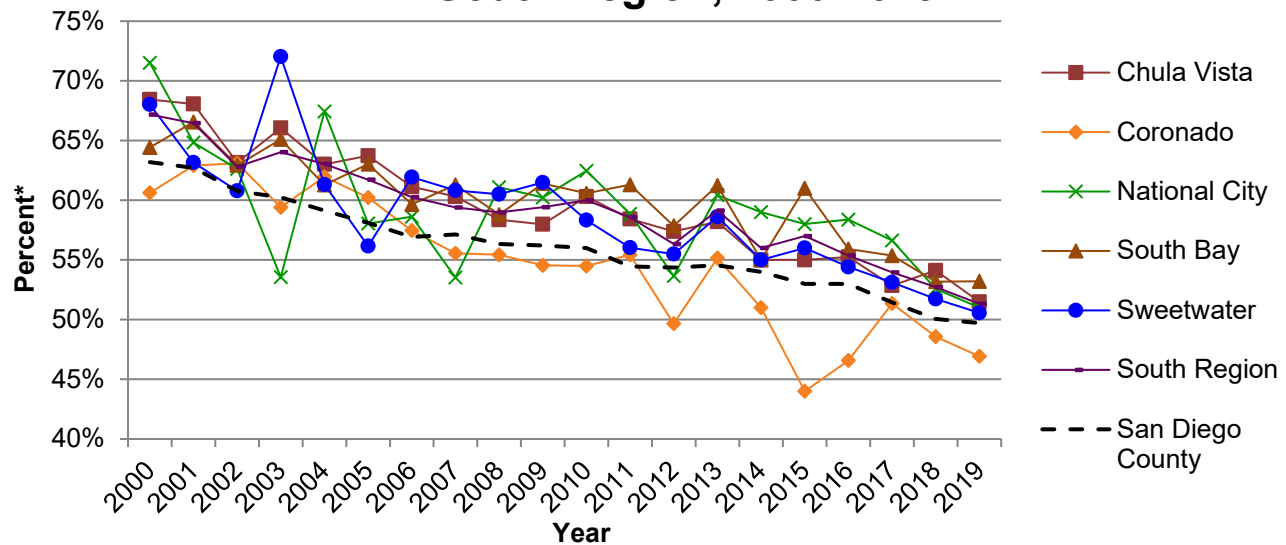
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†3-4-50 deaths include stroke, coronary heart disease (CHD), diabetes, COPD, asthma, and cancer. Beginning with 2017, COPD includes chronic lower respiratory diseases (COPD/chronic lower respiratory diseases).

Source: California Department of Public Health, 2000-2013 Death Statistical Master Files, 2014-2019 California Vital Records Business Intelligence System (VRBIS).

Prepared by County of San Diego (CoSD), Health & Human Services Agency (HHSA), Public Health Services (PHS), Community Health Statistics Unit, 2021.

## 3-4-50 Death† Percentages Among San Diego County Residents South Region, 2000-2019



\*3-4-50 deaths as a percentage of all cause deaths.

†3-4-50 Deaths include Stroke, Coronary Heart Disease (CHD), Diabetes, COPD, Asthma, and Cancer. Beginning with 2017, COPD includes chronic lower respiratory diseases (COPD/chronic lower respiratory diseases).

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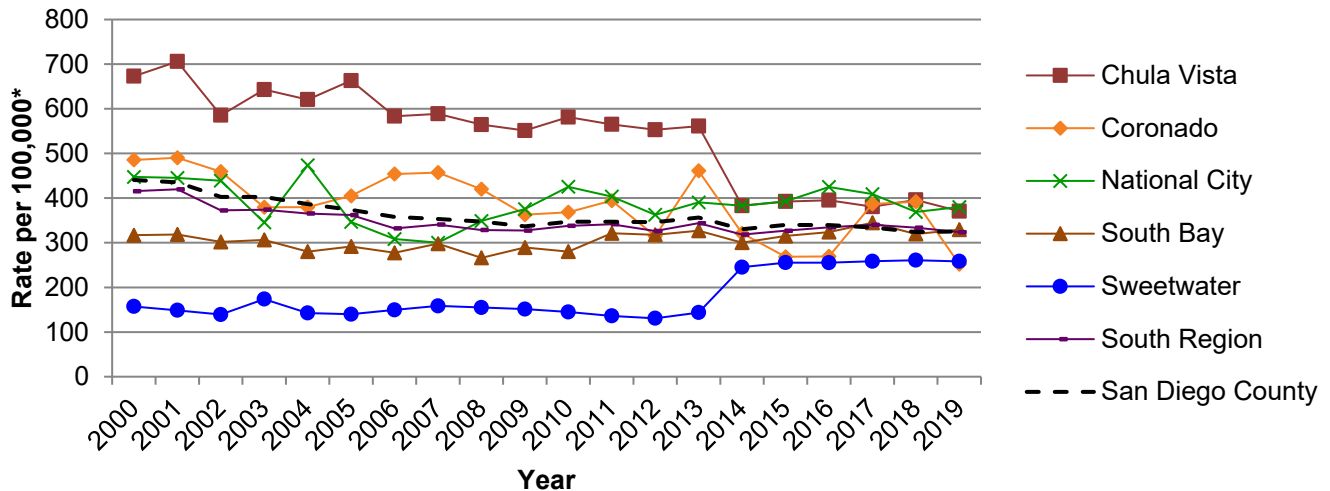
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### 3-4-50 in South Region:

- Overall, the percentage of deaths due to chronic disease decreased in South Region and its Subregional Areas (SRAs) from 2000-2019.
- Compared to the county, South Region had higher percentages of deaths due to chronic disease every year from 2000-2019.
- Among the South Region SRAs, South Bay and National City generally had the highest percentages of deaths due to chronic disease from 2000-2017 and South Bay had the highest percentage in 2019.
- Among the South Region SRAs, Coronado had the lowest percentage of deaths due to chronic disease in 2000 and from 2008-2019.

## 3-4-50 Death<sup>†</sup> Rates Among San Diego County Residents South Region, 2000-2019



\*Rates per 100,000 population.

†3-4-50 Deaths include Stroke, Coronary Heart Disease (CHD), Diabetes, COPD, Asthma, and Cancer. Beginning with 2017, COPD includes chronic lower respiratory diseases (COPD/chronic lower respiratory diseases).

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### 3-4-50 in South Region:

- Overall, the chronic disease death rate decreased in South Region from 2000-2019.
- While the overall chronic disease death rate for South Region decreased over time, the South Bay SRA and Sweetwater SRA have increased from 2000-2019.
- Among South Region SRAs, Chula Vista had the highest chronic disease death rates in every year from 2000-2013 and 2018, while National City had the highest chronic disease death rate from 2014-2017 and 2019.
- Among the South Region SRAs, Sweetwater had the lowest chronic disease death rates from 2000-2018 while Coronado had the lowest chronic disease death rate in 2019.