

## 3-4-50: Chronic Disease Deaths in San Diego County – East 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 or 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 that 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	$(50/100) \times 100\% = 50\%$	$(50/80) \times 100\% = 62.5\%$

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 – East Region, 2000-2019

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

**3-4-50 Death<sup>†</sup> Percentages Among San Diego County Residents - East 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>East Region</b>	64%	65%	62%	61%	59%	59%	58%	59%	57%	54%	56%	55%	55%	55%	54%	54%	54%	52%	50%	51%
<b>SRA</b>																				
Alpine	61%	68%	68%	61%	63%	56%	57%	62%	60%	52%	50%	46%	56%	50%	56%	47%	58%	53%	42%	55%
El Cajon	63%	65%	58%	60%	57%	60%	56%	60%	58%	52%	55%	55%	56%	53%	54%	54%	53%	51%	50%	51%
Harbison Crest/El Cajon**	64%	65%	61%	60%	58%	60%	57%	59%	58%	53%	56%	55%	56%	53%	54%	54%	53%	51%	50%	52%
Harbison Crest															54%	54%	55%	51%	51%	54%
Jamul	70%	69%	59%	57%	54%	57%	55%	54%	58%	61%	59%	57%	54%	65%	53%	59%	59%	61%	52%	55%
La Mesa	65%	62%	64%	64%	59%	57%	54%	58%	57%	55%	53%	55%	54%	54%	55%	51%	48%	55%	45%	48%
Laguna-Pine Valley	56%	73%	53%	53%	63%	64%	64%	61%	57%	65%	76%	61%	73%	37%	56%	54%	60%	47%	51%	58%
Lakeside	66%	66%	66%	62%	60%	63%	65%	57%	58%	60%	52%	57%	58%	52%	54%	56%	56%	52%	52%	53%
Lemon Grove	60%	64%	65%	62%	62%	56%	61%	59%	51%	52%	58%	51%	48%	54%	51%	57%	53%	53%	52%	48%
Mountain Empire	66%	72%	62%	74%	67%	61%	56%	59%	62%	53%	66%	52%	39%	54%	52%	66%	58%	43%	56%	52%
Santee	66%	68%	65%	62%	59%	61%	62%	61%	57%	57%	58%	56%	56%	56%	57%	52%	56%	51%	51%	48%
Spring Valley	64%	65%	59%	58%	58%	54%	55%	56%	54%	53%	59%	58%	59%	61%	54%	54%	54%	53%	51%	50%

\*\*Harbison Crest/El Cajon is an aggregation of the Harbison Crest and El Cajon SRAs. Due to geographic limitations, the Harbison Crest SRA is not shown alone for 2000-2013. Due to new methodology, estimates for Harbison Crest alone can be produced beginning with 2014.

<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 - East 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>East Region</b>	517.7	539.1	491.5	504.0	458.6	456.5	451.4	455.7	452.1	417.1	423.7	436.7	434.1	441.6	415.4	429.1	451.5	420.2	410.3	424.8
<b>SRA</b>																				
Alpine	352.4	601.0	592.8	463.3	509.2	400.5	415.8	481.7	566.1	410.1	425.7	343.0	453.2	460.0	387.2	351.2	456.3	405.5	385.9	471.9
El Cajon	393.8	439.2	370.7	404.4	374.9	406.5	385.0	402.4	397.0	344.3	349.3	372.8	380.0	364.6	447.8	435.1	445.1	418.8	407.9	432.9
Harbison Crest/El Cajon**	330.6	355.6	310.2	309.7	292.1	310.0	294.8	307.0	298.5	272.7	280.2	285.0	291.8	518.6	443.9	433.7	444.0	418.2	406.2	434.2
Harbison Crest															411.0	421.5	443.9	412.9	391.1	445.5
Jamul	530.3	593.7	535.7	508.0	454.1	385.2	455.4	420.5	441.0	460.5	321.8	409.6	320.8	478.0	290.3	366.8	405.2	423.7	344.0	387.9
La Mesa	885.9	763.3	773.9	836.2	691.0	690.4	626.0	649.7	674.1	571.1	539.8	633.5	618.3	579.9	508.2	496.7	488.4	505.3	400.2	438.6
Laguna-Pine Valley	172.3	153.5	192.2	159.9	238.9	176.7	356.9	216.5	155.2	194.5	246.3	194.9	282.9	124.3	322.0	452.6	462.8	478.2	393.5	405.4
Lakeside	373.2	350.4	331.6	369.6	288.2	305.7	345.1	305.8	342.4	339.4	282.0	335.3	328.4	307.6	406.2	445.2	461.0	397.5	428.5	474.3
Lemon Grove	399.3	530.5	447.2	519.7	464.5	473.6	434.1	422.7	363.1	379.1	389.1	364.0	318.9	388.5	433.0	501.0	453.6	498.7	483.9	445.2
Mountain Empire	724.7	605.5	630.8	819.5	763.7	569.7	529.5	598.3	721.0	651.0	553.4	458.5	362.0	442.5	380.4	428.5	422.3	257.1	548.4	472.4
Santee	441.0	493.6	419.6	436.1	393.5	383.7	385.9	410.7	358.3	355.6	424.2	375.3	404.2	433.9	385.7	373.2	425.2	375.6	402.0	375.1
Spring Valley	295.8	316.3	287.6	267.8	273.6	247.7	275.7	258.6	255.6	249.1	287.7	288.7	268.8	335.9	351.3	386.0	441.8	385.8	389.5	378.5

\* Rates per 100,000 population.

\*\*Harbison Crest/El Cajon is an aggregation of the Harbison Crest and El Cajon SRAs. Due to geographic limitations, the Harbison Crest SRA is not shown alone for 2000-2013. Due to new methodology, estimates for Harbison Crest alone can be produced beginning with 2014.

<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.

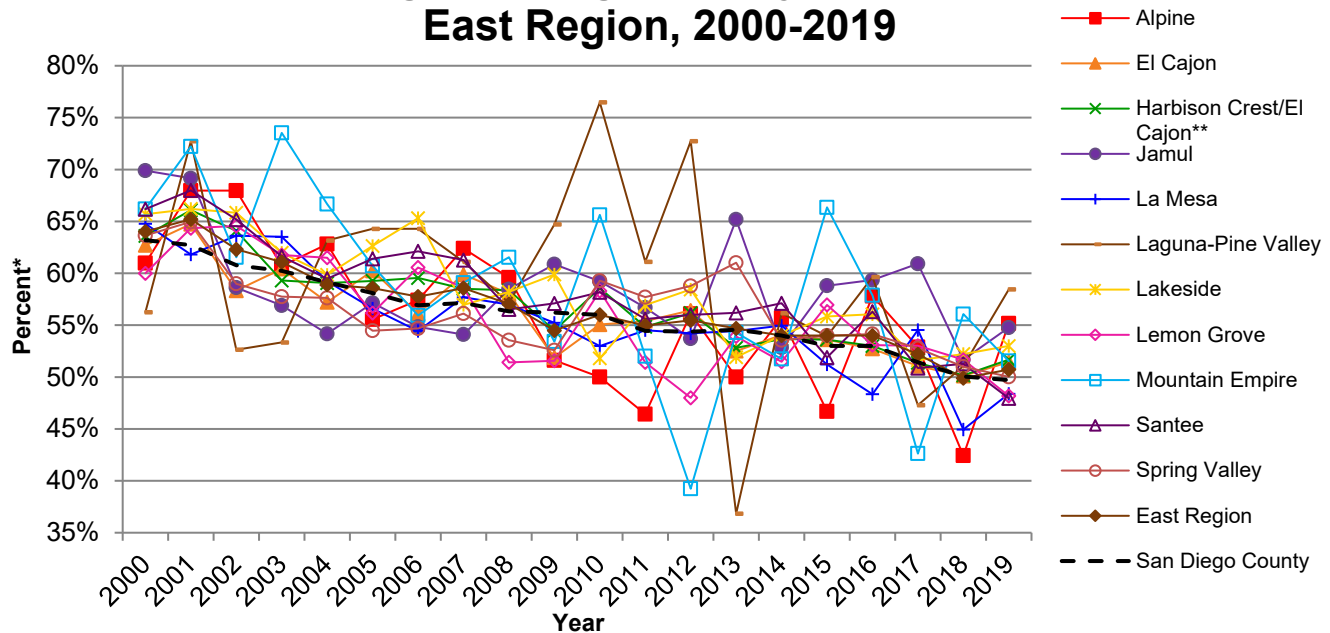
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†3-4-50 deaths include stroke, coronary heart disease (CHD), diabetes, COPD, asthma, and cancer. Beginning with 2017, COPD includes chronic lower respiratory diseases (COPD/chronic lower respiratory diseases).

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 - East 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).

\*\*Harbison Crest/El Cajon is an aggregation of the Harbison Crest and El Cajon SRAs. Due to geographic limitations, the Harbison Crest SRA is not shown alone. See the Data Guide for more information.

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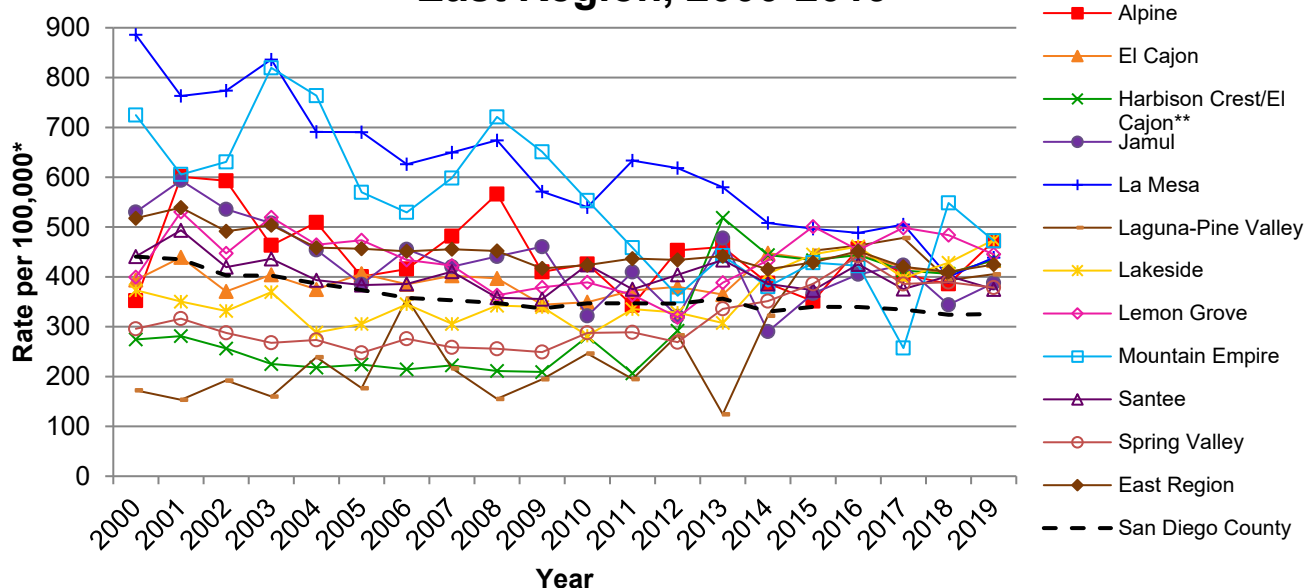
Source: California Department of Public Health, 2000-2013 Death Statistical Master Files, 2014-2019 California Vital Records Business Intelligence System (VRBIS).

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

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

- Overall, the percentage of deaths due to chronic disease decreased in East Region and its Subregional Areas (SRAs) from 2000-2019, with the exception of Laguna-Pine Valley SRA where there was a small increase.
- Compared to San Diego County, East Region had slightly higher percentages of deaths due to chronic disease almost every year from 2000-2019.
- Among the East Region SRAs, Laguna-Pine Valley had the highest percentage of deaths due to chronic diseases in 2019.
- Among the East Region SRAs, Santee had the lowest percentages of deaths due to selected chronic diseases in 2019.

## 3-4-50 Death<sup>†</sup> Rates Among San Diego County Residents - East 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 East Region:

- Although the chronic disease death rate decreased in East Region from 2000-2019, the death rates in some of its SRAs have increased over time. The SRAs with decreases in chronic disease death rates from 2000-2019 were Jamul, La Mesa, Mountain Empire, and Santee.
- Among the East Region SRAs, La Mesa generally had the highest chronic disease death rate from 2000-2017 while Lakeside had the highest rate in 2019.
- Among the East Region SRAs, Laguna-Pine Valley generally had the lowest chronic disease death rate each year from 2000-2013 while Santee had the lowest rate in 2019.