HEALTH BEHAVIORS LEADING TO CHRONIC DISEASE

ALL MAPS MADE IN ESRI
San Diego County is the 2nd most populous county in California and 5th most populous in the United States!

San Diego has:

- Close to 3.2 million residents.
- Majority minority population.
- Busiest land border crossing in the world – 1 of every 13 people who enter US come through San Ysidro.
- 70 miles of Coastline.
- 16 naval and military installations.
- 18 federally recognized Indian reservations.
- A total area of 4,526 square miles, larger than Rhode Island and Delaware combined.
Did you know…

3 Lead To Behaviors
- No Physical Activity
- Poor Diet
- Tobacco Use

4 Result in Diseases
- Cancer
- Heart Disease & Stroke
- Type 2 Diabetes
- Lung Disease

Over 50 Percent
- Of deaths in San Diego

Change your life by…
- Walking for 30 minutes every day
- Eating healthy, at least 5 fruits and veggies daily
- Not smoking!
# Measuring Results

<table>
<thead>
<tr>
<th>Areas of Influence</th>
<th>Definition</th>
<th>Top 10 Indicators</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health</td>
<td>Enjoying good health and expecting to live a full life</td>
<td>• Life Expectancy • Quality of Life</td>
</tr>
<tr>
<td>Knowledge</td>
<td>Learning throughout the lifespan</td>
<td>• Education</td>
</tr>
<tr>
<td>Standard of Living</td>
<td>Having enough resources for a quality life</td>
<td>• Unemployment Rate • Income</td>
</tr>
<tr>
<td>Community</td>
<td>Living in a clean and safe neighborhood</td>
<td>• Security • Physical Environment • Built Environment</td>
</tr>
<tr>
<td>Social</td>
<td>Helping each other to live well</td>
<td>• Vulnerable Population • Community Involvement</td>
</tr>
</tbody>
</table>
### 3-4-50 BEHAVIORS

<table>
<thead>
<tr>
<th>Behavior</th>
<th>San Diego County</th>
</tr>
</thead>
<tbody>
<tr>
<td>Smoking</td>
<td>9.4% teens and adults were current smokers.</td>
</tr>
<tr>
<td>Lack of Physical Activity</td>
<td>Nearly 1 in 4 children engaged in physical activity for at least 1 hour daily.</td>
</tr>
<tr>
<td>Poor Diet</td>
<td>Over 1 in 6 residents ate fast food three or more times in the past week.</td>
</tr>
</tbody>
</table>

*Indicates a statistically unstable estimate. Proceed with caution. Estimate is included for trending purposes. Source: UCLA Center for Health Policy Research, California Health Interview Survey (CHIS), 2014.
<table>
<thead>
<tr>
<th>Disease</th>
<th>San Diego County</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cancer</td>
<td>Cancer was the leading cause of death.</td>
</tr>
<tr>
<td>Heart Disease &amp; Stroke</td>
<td>5.6% of adults had ever been diagnosed with heart disease.</td>
</tr>
<tr>
<td>Diabetes</td>
<td>1 in 15 adults had ever been diagnosed with diabetes.</td>
</tr>
<tr>
<td>Lung Disease</td>
<td>Over 1 in 7 residents had ever been diagnosed with asthma.</td>
</tr>
</tbody>
</table>

*Indicates a statistically unstable estimate. Proceed with caution. Estimate is included for trending purposes. Source: UCLA Center for Health Policy Research, California Health Interview Survey (CHIS), 2014.
3-4-50 Deaths Among San Diego County Residents, 2000-2013

† 3-4-50 Deaths include Stroke, Coronary Heart Disease (CHD), Diabetes, COPD, Asthma, and Cancer.
Source: Death Statistical Master Files (CA DPH), County of San Diego, Health & Human Services Agency, Epidemiology & Immunization Services Branch; SANDAG, Current Population Estimates, 10/2014.
Prepared by County of San Diego (CoSD), Health & Human Services Agency (HHSA), Community Health Statistics, 5/8/2016.
East Region, followed by North Inland residents were at greater risk of death for all total chronic diseases compared to the county.

†3-4-50 deaths include stroke, coronary heart disease (CHD), diabetes, COPD, asthma, and cancer.

Prepared by: County of San Diego, Health & Human Services Agency, Public Health Services, Community Health Statistics Unit, 2015.
3-4-50 BY RACE/ETHNICITY

RISK OF 3-4-50 DEATH† OUTCOMES BY RACE/ETHNICITY GROUP, 2013

- The percent of whites in the county is 47.1%.
- The percent of blacks in the county is 4.2%.

†3-4-50 deaths include stroke, coronary heart disease (CHD), diabetes, COPD, asthma, and cancer.

*3-4-50 deaths as a percentage of all cause deaths. Rates per 100,000 population.


Prepared by: County of San Diego, Health & Human Services Agency, Public Health Services, Community Health Statistics Unit, 2015.
What we had not looked at until this project was the spatial relationship between the three health behaviors and the chronic disease outcomes.
METHODS

3-4-50 BURDEN CALCULATIONS

➢ Community hospitalization, emergency department discharge, and death cases from our in-house community profiles were added to assess the chronic disease burden on the system.

➢ The percent of the 3-4-50 burden attributed to one disease was calculated based on the total burden (e.g. in a specific community, 75% of the 3-4-50 burden was cancer, 5% was heart disease, etc.).

➢ This specific disease profile of a race/ethnicity group by community was then mapped.
### Example of Burden Calculations

<table>
<thead>
<tr>
<th></th>
<th>White Type 2 Diabetes Burden</th>
<th>White Heart Disease/Stroke Burden</th>
<th>White Cancer Burden</th>
<th>White Lung Disease Burden</th>
<th>Total 3-450 Burden</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alpine</td>
<td>8.2%</td>
<td>33.3%</td>
<td>27.1%</td>
<td>31.3%</td>
<td>100.0%</td>
</tr>
<tr>
<td>Anza-Borrego Springs</td>
<td>5.2%</td>
<td>36.1%</td>
<td>48.5%</td>
<td>10.3%</td>
<td>100.0%</td>
</tr>
<tr>
<td>Carlsbad</td>
<td>6.7%</td>
<td>42.0%</td>
<td>32.0%</td>
<td>19.3%</td>
<td>100.0%</td>
</tr>
<tr>
<td>Central San Diego</td>
<td>13.7%</td>
<td>28.7%</td>
<td>19.4%</td>
<td>38.1%</td>
<td>100.0%</td>
</tr>
<tr>
<td>Chula Vista</td>
<td>10.8%</td>
<td>32.4%</td>
<td>20.0%</td>
<td>36.8%</td>
<td>100.0%</td>
</tr>
<tr>
<td>Coastal</td>
<td>6.8%</td>
<td>40.1%</td>
<td>33.4%</td>
<td>19.8%</td>
<td>100.0%</td>
</tr>
<tr>
<td>Coronado</td>
<td>8.7%</td>
<td>36.8%</td>
<td>30.7%</td>
<td>23.8%</td>
<td>100.0%</td>
</tr>
<tr>
<td>Del Mar-Mira Mesa</td>
<td>8.1%</td>
<td>33.9%</td>
<td>33.6%</td>
<td>24.4%</td>
<td>100.0%</td>
</tr>
<tr>
<td>El Cajon</td>
<td>10.2%</td>
<td>35.2%</td>
<td>22.1%</td>
<td>32.4%</td>
<td>100.0%</td>
</tr>
<tr>
<td>Elliott-Navajo</td>
<td>7.6%</td>
<td>36.9%</td>
<td>28.5%</td>
<td>27.1%</td>
<td>100.0%</td>
</tr>
<tr>
<td>Escondido</td>
<td>13.4%</td>
<td>31.0%</td>
<td>27.7%</td>
<td>27.9%</td>
<td>100.0%</td>
</tr>
<tr>
<td>Fallbrook</td>
<td>8.5%</td>
<td>39.0%</td>
<td>24.3%</td>
<td>28.2%</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

**Diabetes = Black**
**Lung Disease = Yellow**
**Heart Disease = Magenta**
**Cancer = Cyan**
3-4-50 DISEASE BURDEN
WHITE POPULATION, 2013

Maps/Analysis by County of San Diego, Community Health Statistics Unit.
Contact: Benjamin Schumacher or Leslie Ray, 619.285.6429
3-4-50 DISEASE BURDEN
ASIAN/PACIFIC ISLANDER POPULATION, 2013

Maps/Analysis by County of San Diego, Community Health Statistics Unit.
Contact: Benjamin Schumacher or Leslie Ray, 619.285.6429
3-4-50 DISEASE BURDEN
BLACK POPULATION, 2013

Map/Analysis by County of San Diego, Community Health Statistics Unit.
Contact: Benjamin Schumacher or Leslie Ray, 619.285.6429
➢ Different race/ethnicity groups experience different disease profiles.

➢ This allows targeted interventions to be developed for specific race/ethnicity groups in small-area communities.

➢ We now know that a county-wide intervention for heart disease may not efficiently reduce the 3-4-50 burden for all race/ethnicity groups across geographic locations.
Insert total pop compass rose burden

Show co-localizations of behaviors and disease in select sras
LIMITATIONS

➢ Maps:

➢ Race/ethnicity groups may cluster in different parts of the community.

➢ Burden calculations only account for hospitalizations, emergency department discharges, and deaths.

➢ Demographics:

➢ Race/ethnicity is self-reported.

➢ Next steps: predictive modeling and trending over time
For more information:

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