# CVP

Center for Vulnerable Populations
at San Francisco General Hospital and
Trauma Center

# CHARM

**C**enter for **H**ealth **A**nd **R**isk in
**M**inority youth and young adults

Funded by the National Institute of Minority and Health Disparities

Issue Brief: Chronic Disease — Type 2 Diabetes in Youth

*February 2013*

# Type 2 diabetes once called 'adult onset diabetes', is now a disease of youth

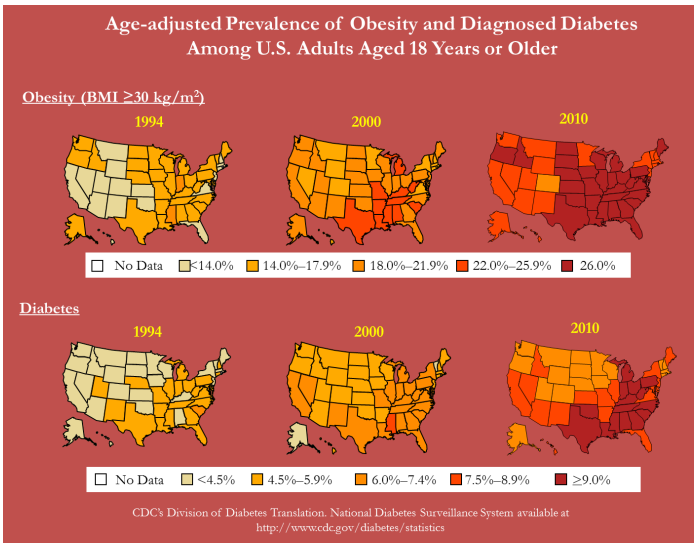
## Key Insights

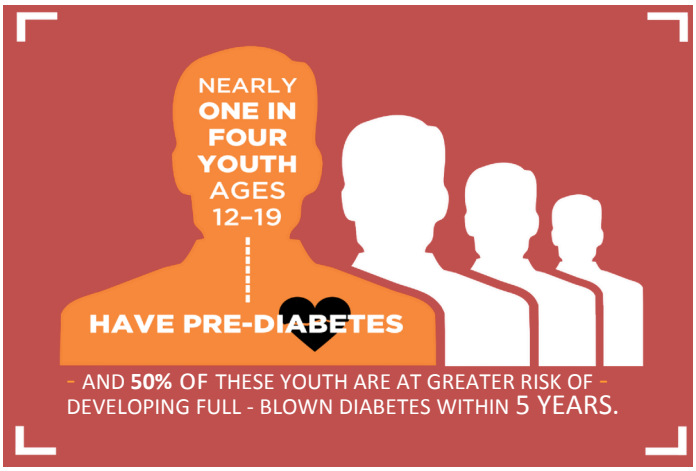
- **Type 2 diabetes accounts for 95% of all diabetes cases. It used to only be found in adults but has rapidly increased among young adults and children, especially in urban and poor neighborhoods, and communities of color**
- **50% of African American youth, 33% of Latino youth and 25% of white youth born in the year 2000 will get type 2 diabetes in their lifetime [1]**
- **50 years ago, the average American consumed about 20 lbs of sugar and corn sweetener in a year. That number has risen to almost 130 lbs[2]**
- **Since the start of the U.S. wars in Iraq and Afghanistan over 1000 Americans have all or part of their leg amputated due to injury. In that same time period, over 70,000 Californians have had all or part of their leg amputated as a result of diabetes**

## What happens when you get diabetes?

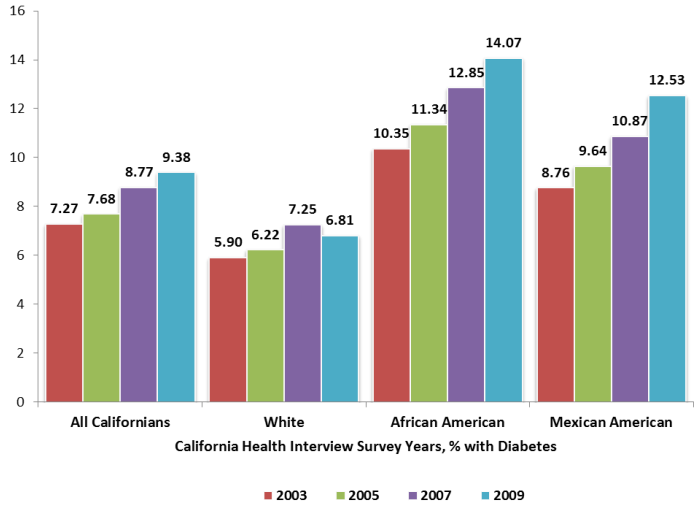
The disease if left untreated, can lead to high blood pressure, stroke, kidney failure, blindness, erectile dysfunction, heart attack, amputation of limbs, and even death.

## Nationally, diabetes and obesity prevalence has significantly increased over past 19 years



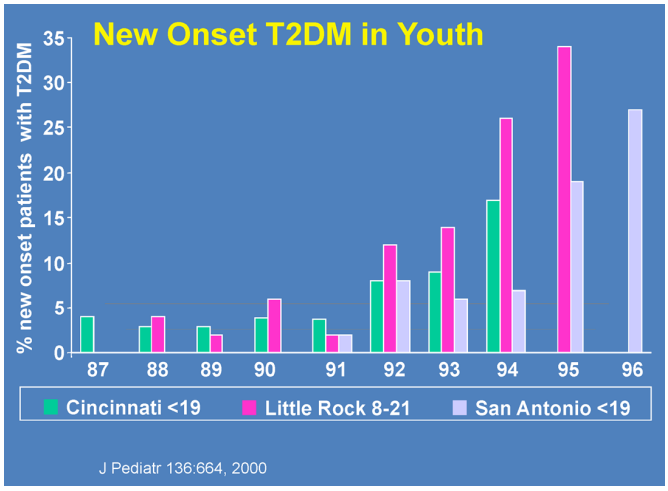



## Racial/ethnic differences in diabetes




## prevalence are pronounced

## Type 2 diabetes (T2DM) prevalence in




## youth has been growing steadily

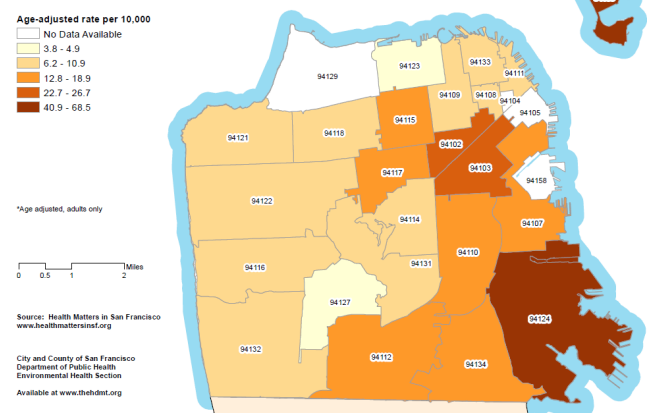
The graph above shows data from a study conducted in 3 U.S. cities. While a small study, it is indicative of the national trend. The table below shows a disproportionate prevalence of poor glycemic control among minority youth when compared to whites.

| Race/Ethnicity | Type 1 (%) | Type 2 (%) |
|---|---|---|
| Non-Hispanic White | 12.3 | 12.2 |
| African-American | 35.5 | 22.3 |
| Hispanic | 27.3 | 27.4 |
| Asian / Pacific Islander | 26.0 | 36.4 |
| Native American | 52.2 | 43.8 |

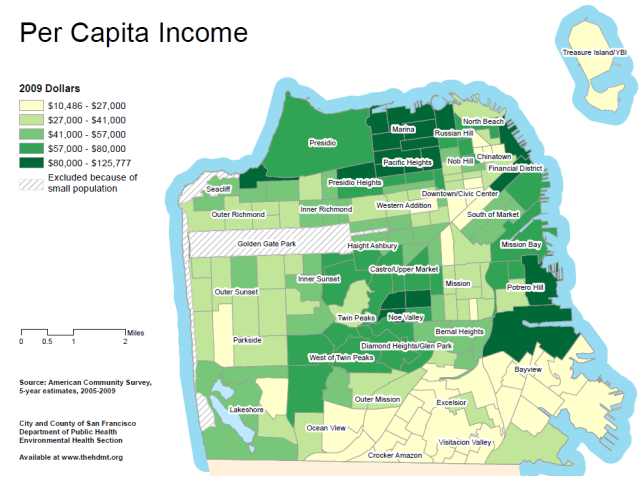
(p<0.001 for both T1D and T2D)

*Petitti D, et al, J Peds, e-pub 2009*

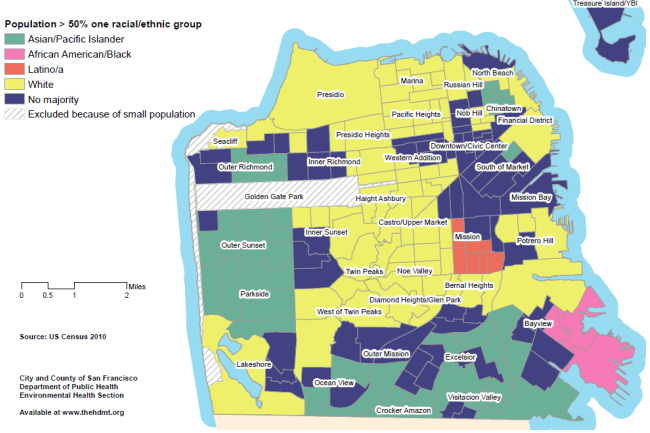
Diabetes Hospitalization Rate*, per 10,000, 2007-2009



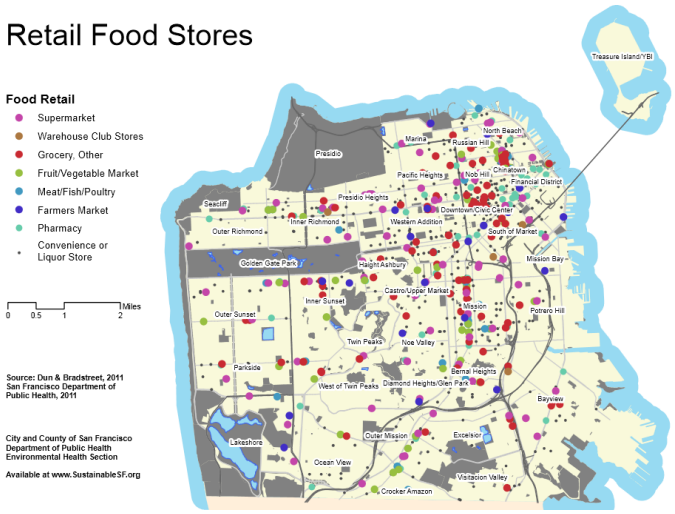

Per Capita Income




Areas with a Majority Race/Ethnic Population



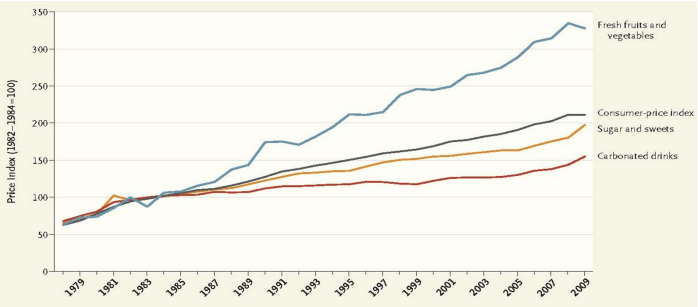
## Access to healthy food is a significant driver of diabetes epidemic




The map above shows locations of retail food stores by type in San Francisco. Compared to the maps on page 2, note that the areas of highest level of diabetes hospitalizations relate to areas with low access to healthy food retail locations.

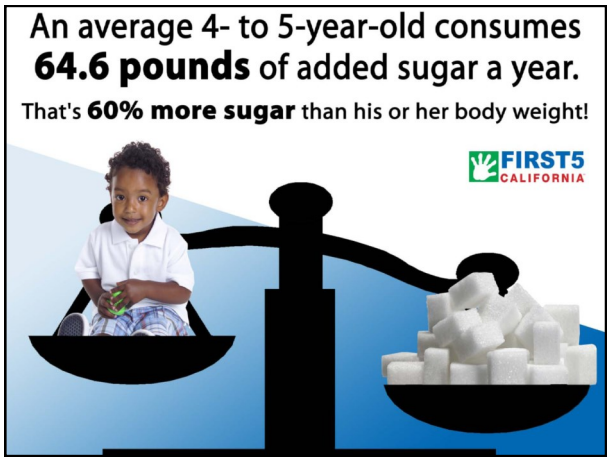
## Poverty and quality food access

- Living in a low income neighborhood with limited access to healthy food increases one's chance of getting diabetes by 20%[3]
- From 1978 to 2009, the price increase for fresh fruits and vegetables was much more significant than the price increase for sugars, sweets, and carbonated drinks (see below). High sugar consumption has been associated with diabetes[4]




## Food and drink marketing

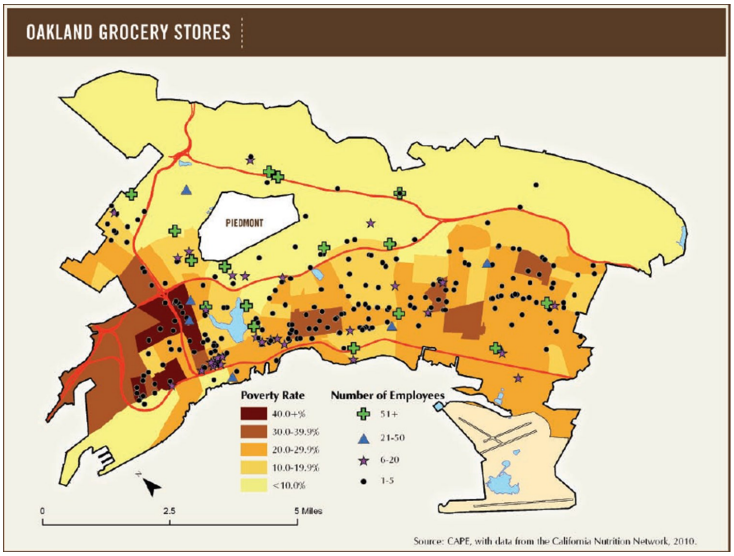
- The food and beverage industry in the U.S. spends almost $12 billion a year (one million dollars every hour of every day) targeting people to buy unhealthy food[6]
- From 2008 to 2010, children's and teens' exposure to full-calorie soda TV ads doubled[7]
- Companies are particularly targeting black and Latino children and youth for high-sugar foods and drinks[7]
- Black children and teens saw 80 percent to 90 percent more ads compared with white youth, including more than twice as many for Sprite, 5-hour Energy, and Vitamin Water[7]
- From 2008 to 2010, Hispanic children saw 49 percent more ads for sugary drinks and energy drinks on Spanish-language TV, and Hispanic teens saw 99 percent more ads[7]



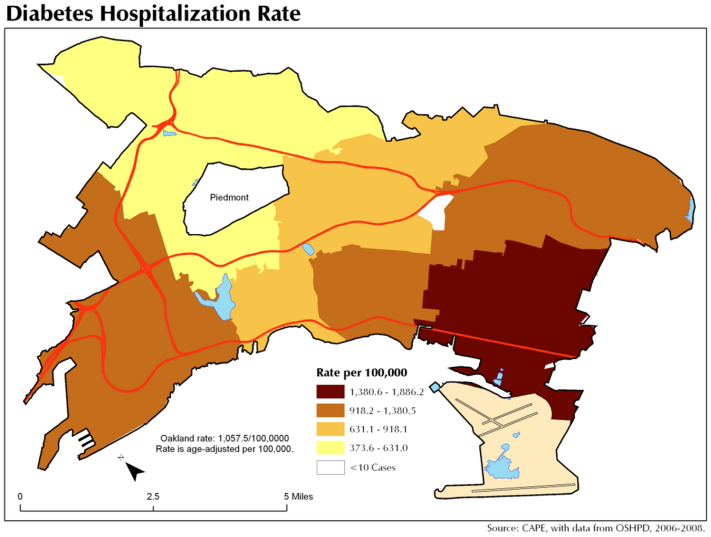

## Food and drink marketing in California schools

- In CA Schools, more than 60% of posters and signage for food products were for "discouraged foods": candy, soda, chips[6]
- Most vending machine ads were for sugar-sweetened beverages[6]
- 71% of logos on sports equipment were for sweetened beverages[6]
- 94% of all marketing activities were from companies that make high fat, high sugar foods[6]

## Maps of Oakland also show relationship between food access, poverty rates and diabetes prevalence




**Diabetes Hospitalization Rate**




Source: CAPE, with data from OSHPD, 2006-2008.

## References

[1]*CDC JAMA 2003*

[2]*Lustig, Robert. Correspondence. University of California San Francisco.*

[2]*Vos, M.B. Kimmons, J.E. Gillespie, C. Welsh, J. Blanck, H.M. Dietary fructose consumption among US children and adults: the Third National Health and Nutrition Examination Survey. et al. Medscape Med J 10:160, 2008.*

[3]*http://www.publichealthadvocacy.org/RFEI/presskit_RFEI.pdf*

[4]*N Engl J Med. 2009 Apr 30;360(18):1805-8. Epub 2009 Apr 8.*

[5]*Bronwell KD, Frieden TR. Ounces of Prevention — The Public Policy Case for Taxes on Sugared Beverages. N Engl J Med. 2009 Apr 30;360(18):1805-8. Epub 2009 Apr 8.*

[6]*Public Health Institute 2006 "Food Marketing to Children and Youth: Threat or Opportunity?" The National Academies Press, (Washington, DC), Institute of Medicine National Academies of Science, 2006.*

[7]*Sugary Drink FACTS Report, Yale Rudd Center for Food Policy & Obesity, 2011. http://www.sugarydrinkfacts.org/*

## Additional Resources

**The Bigger Picture**
*http://youthspeaks.org/thebiggerpicture/*

**San Francisco Sustainable Communities Maps**
*http://www.sustainablesf.org/webpages/view/39*