

# Health Indicators

## View from a State Public Health Department

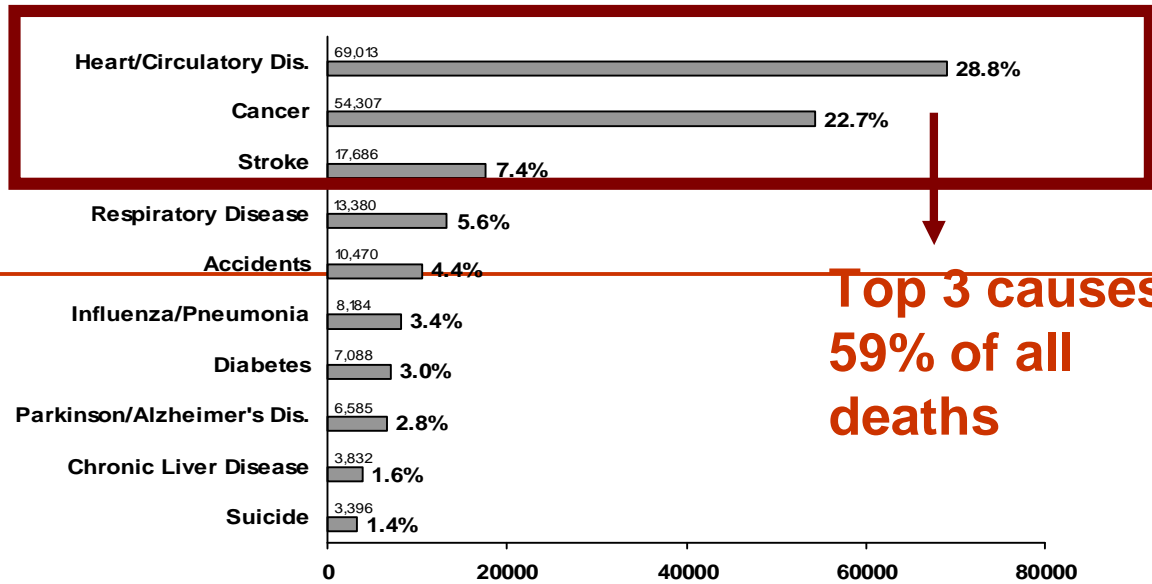


Linda Rudolph, MD, MPH  
California Department of Public Health  
January, 2010

# CDPH Context

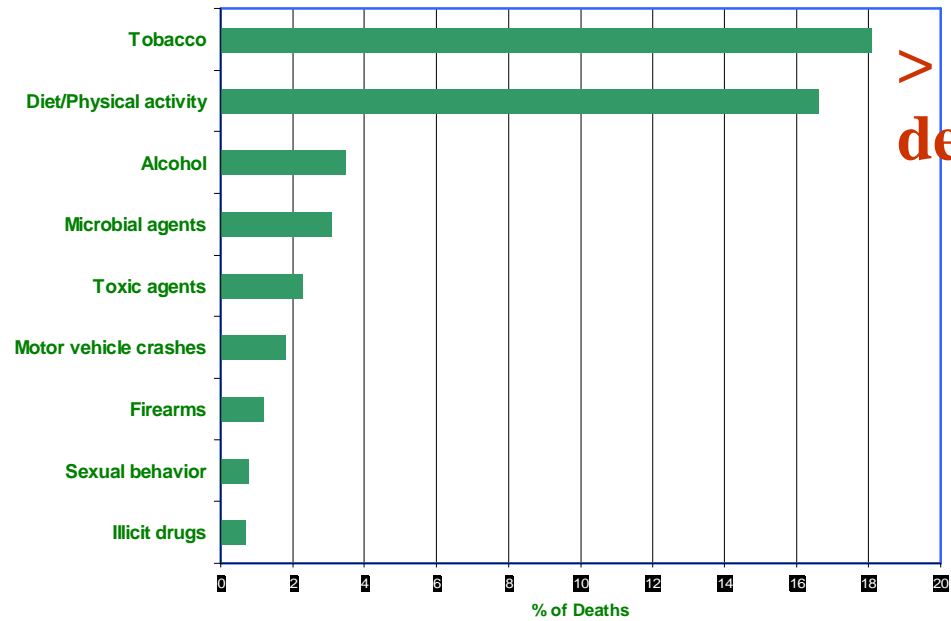
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- ⌘ Goal 1: Increase Quality and Years of Healthy Life, Reduce Disparities and Promote Health Equity
- ⌘ CA deficit – 2009 \$60B, 2010 \$21B
  - ⌘ Budget cuts, furloughs, freezes
- ⌘ Robust LHD infrastructure
  - ⌘ No chronic disease infrastructure
  - ⌘ Focus on services, health education
- ⌘ Strong PH advocacy and CBOs
- ⌘ Opportunities for strategic partnerships



**Top 3 causes  
59% of all  
deaths**

**Number of Deaths, Total = 239,325**



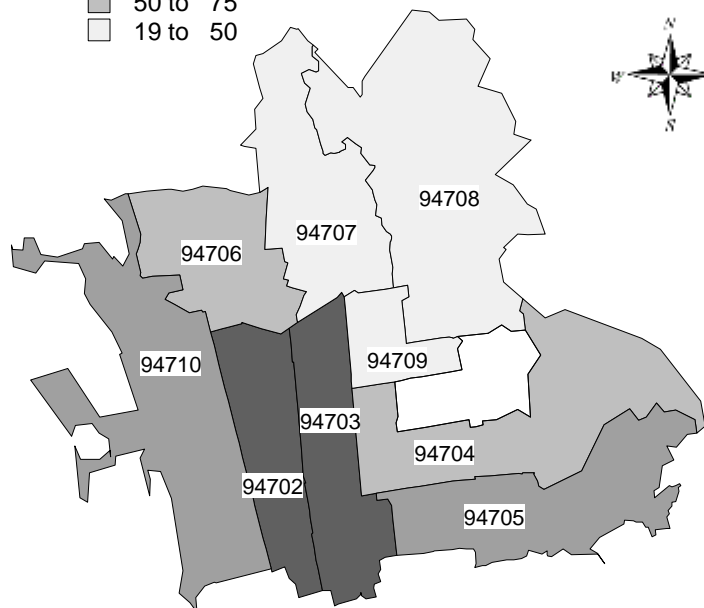
**> 1/3  
deaths**

# Hospitalization Rates Differ by Neighborhood

## Hypertensive Heart Disease

Age-Adjusted Rate per 100,000

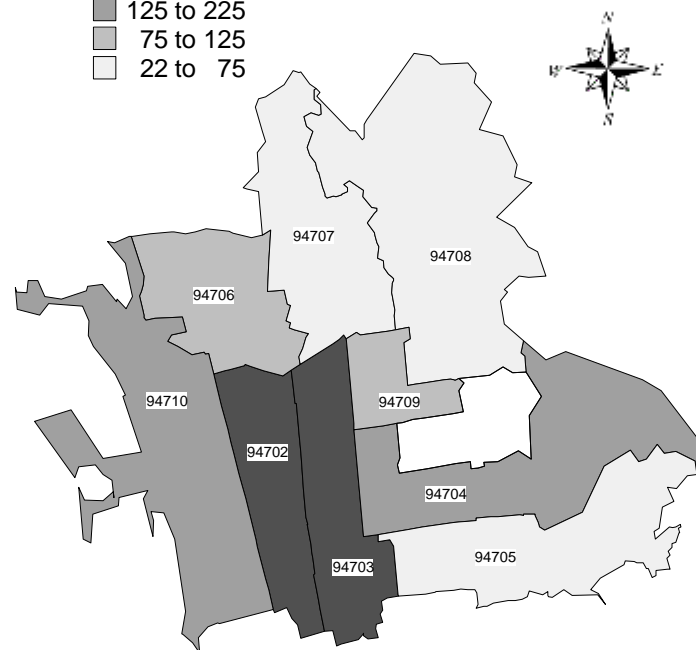
- 175 to 281
- 75 to 175
- 50 to 75
- 19 to 50



## Diabetes

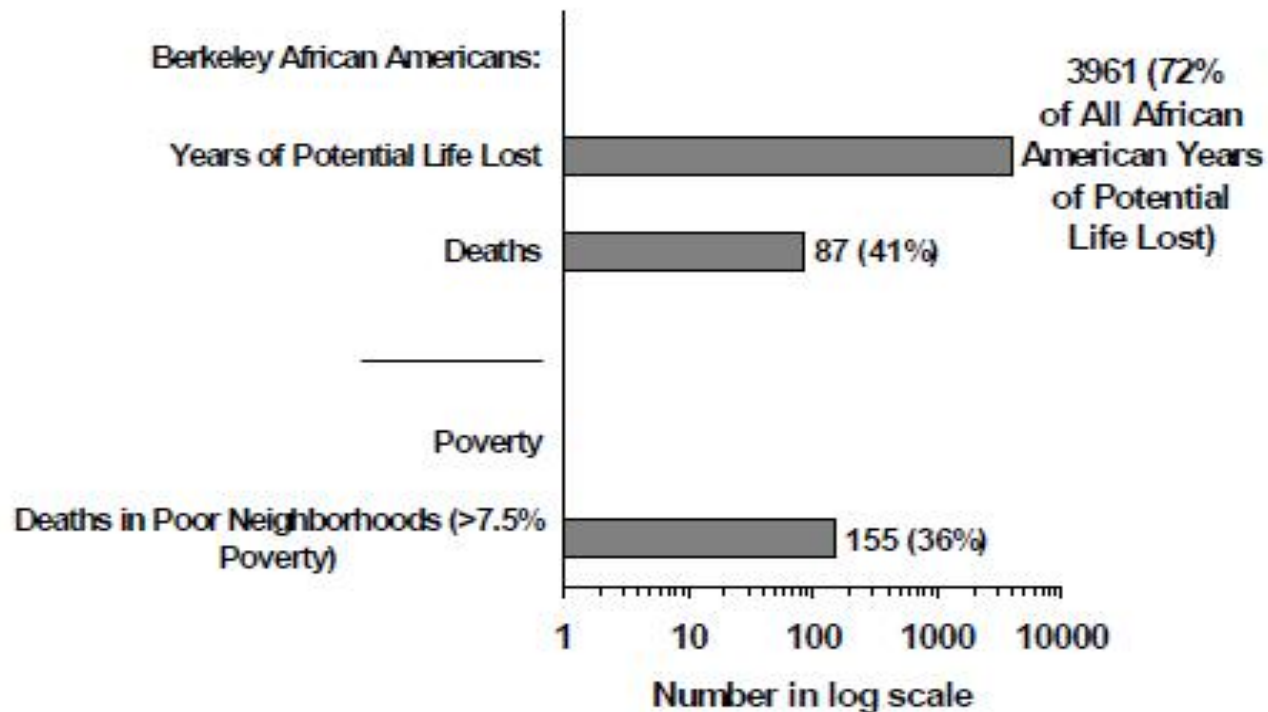
Age-Adjusted Rate per 100,000

- 225 to 291
- 125 to 225
- 75 to 125
- 22 to 75



Source: Office of Statewide Health Planning and Development, U.S. Census 2000

**Figure 1.38 – Inequities in Mortality: Annual Number of Avoidable Deaths and Years of Potential Life Lost If White/African American Inequities and Poverty Were Eliminated, Berkeley, 2000**

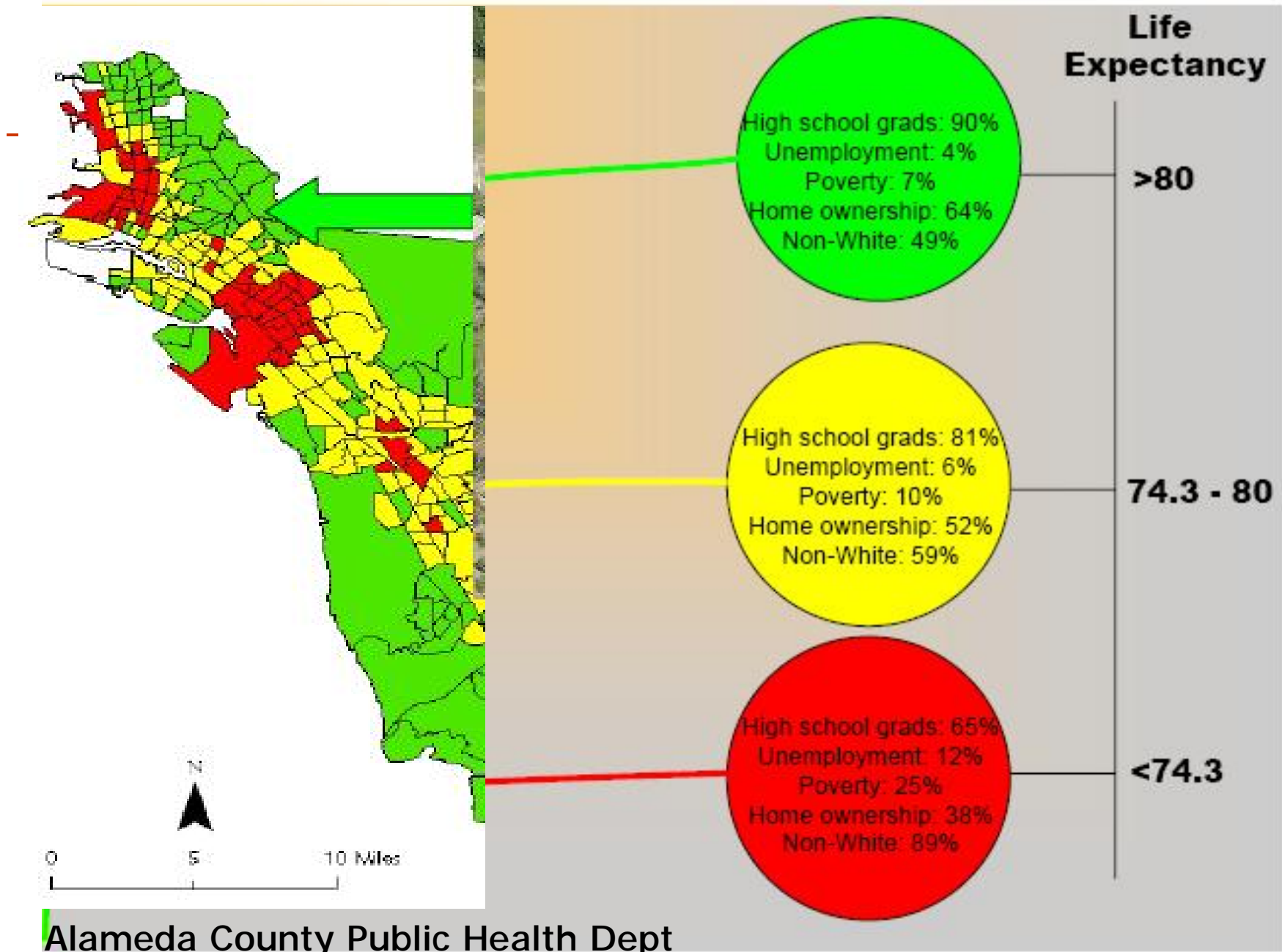


Source: Berkeley Public Health Division death certificates, U.S. Census, 2000

If everyone in the Bay Area lived as long as people in the areas with lowest poverty, death rates in the highest poverty areas would be reduced by nearly half, while death rates in the “middle class” neighborhoods would be reduced by 20% (BARHII)



# Life Expectancy by Tract, Oakland CA



# Why is Jason sick?

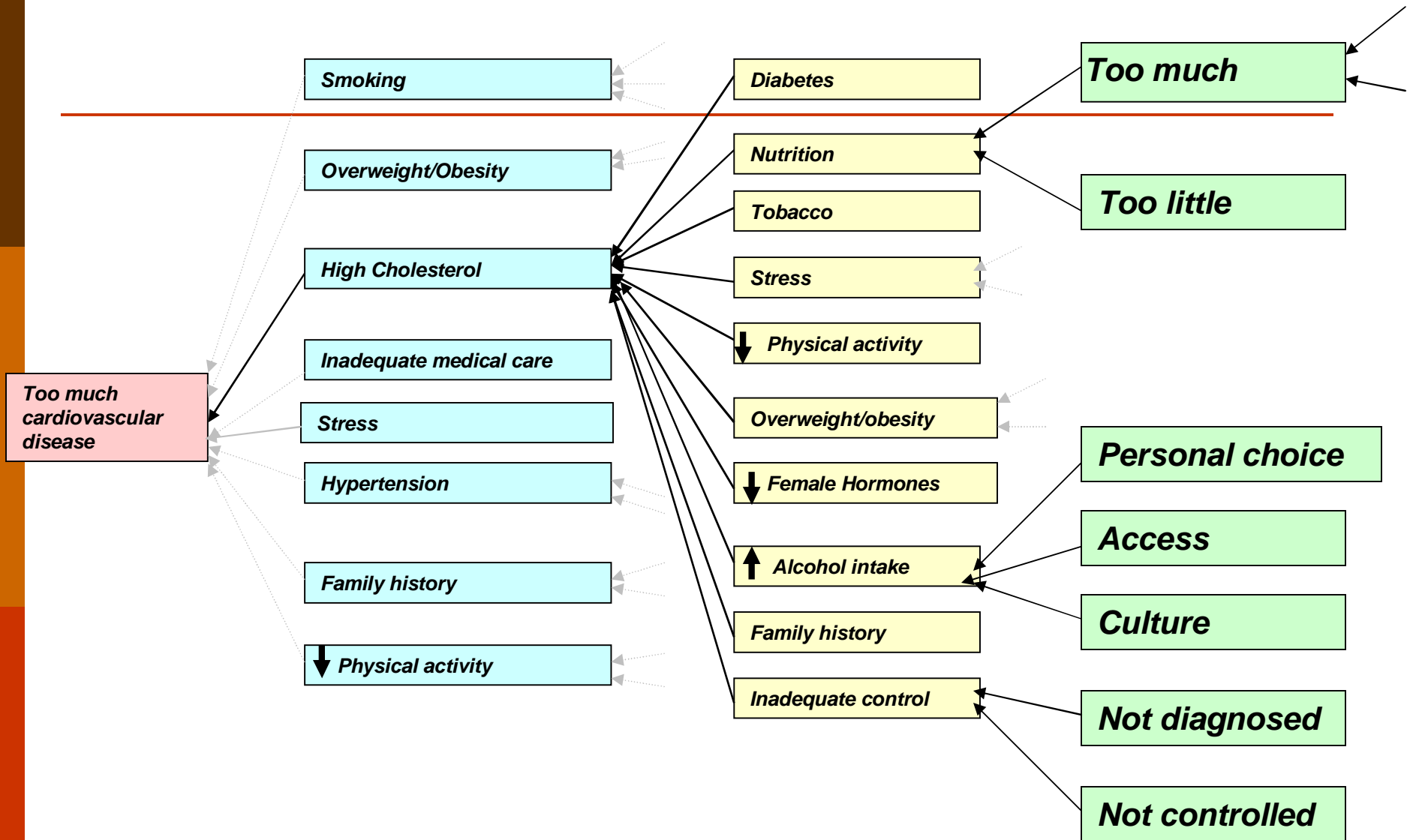
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- § *He has a cut on his leg and it got infected.*
- § **But why does he have a cut that got infected?**  
*He was playing in a junk yard near his house and fell down on some broken glass.*
- § **But why was he playing in a junk yard?**  
*Because his neighborhood is kind of run down. A lot of kids play there and there is no one to supervise them.*
- § **But why does he live in the that junkyard? But why was there no supervision?**  
*Because his parents can't afford a nicer place to live, and there's no playground and no affordable after school care.*
- § **But why can't his parents afford a nicer place to live?**  
*Housing is really expensive. His Dad already works two jobs and his Mom is sick a lot.*
- § **But why...?**

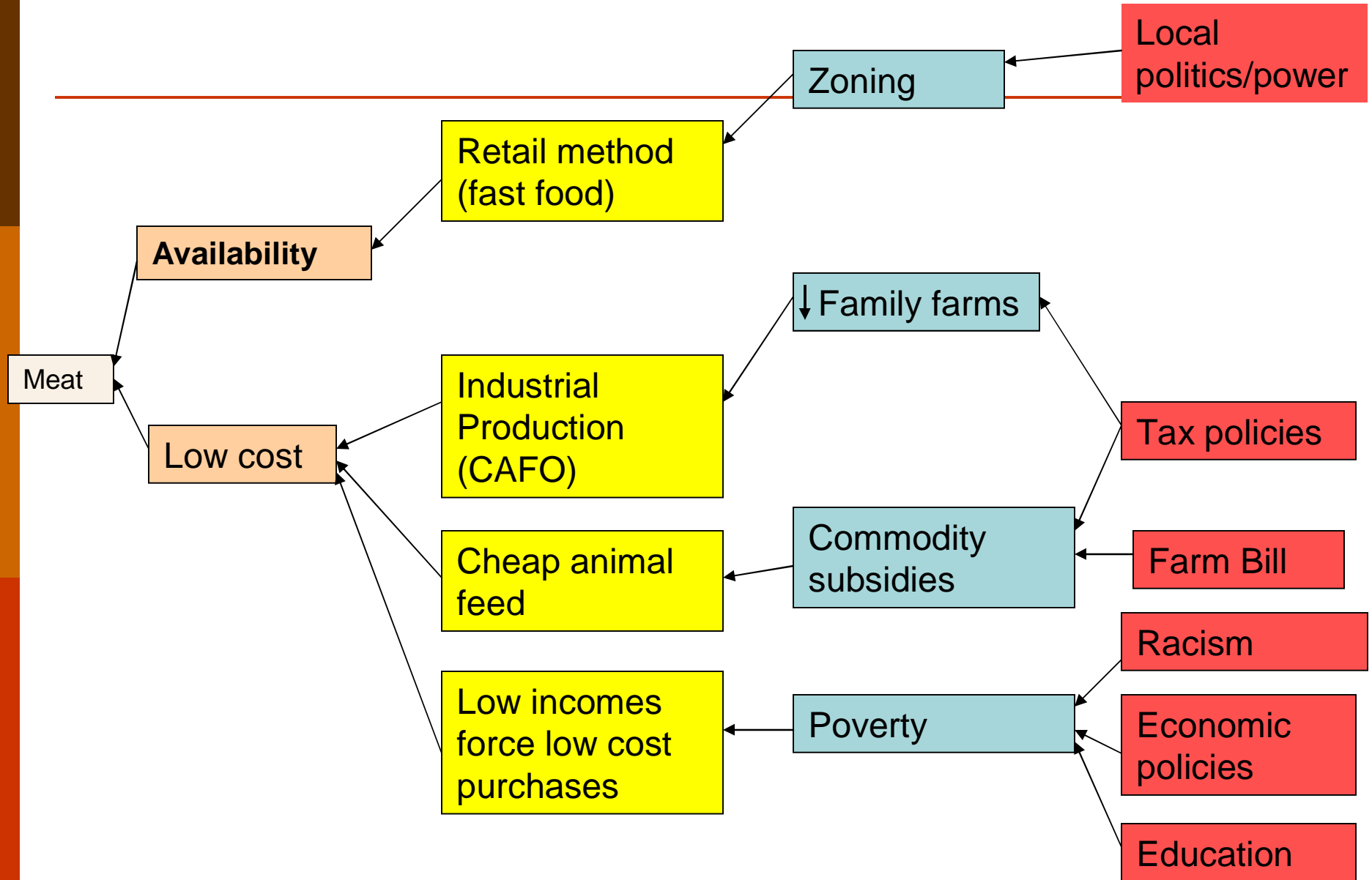
Adapted from Health Canada website



# Why are cardiovascular disease rates so high?

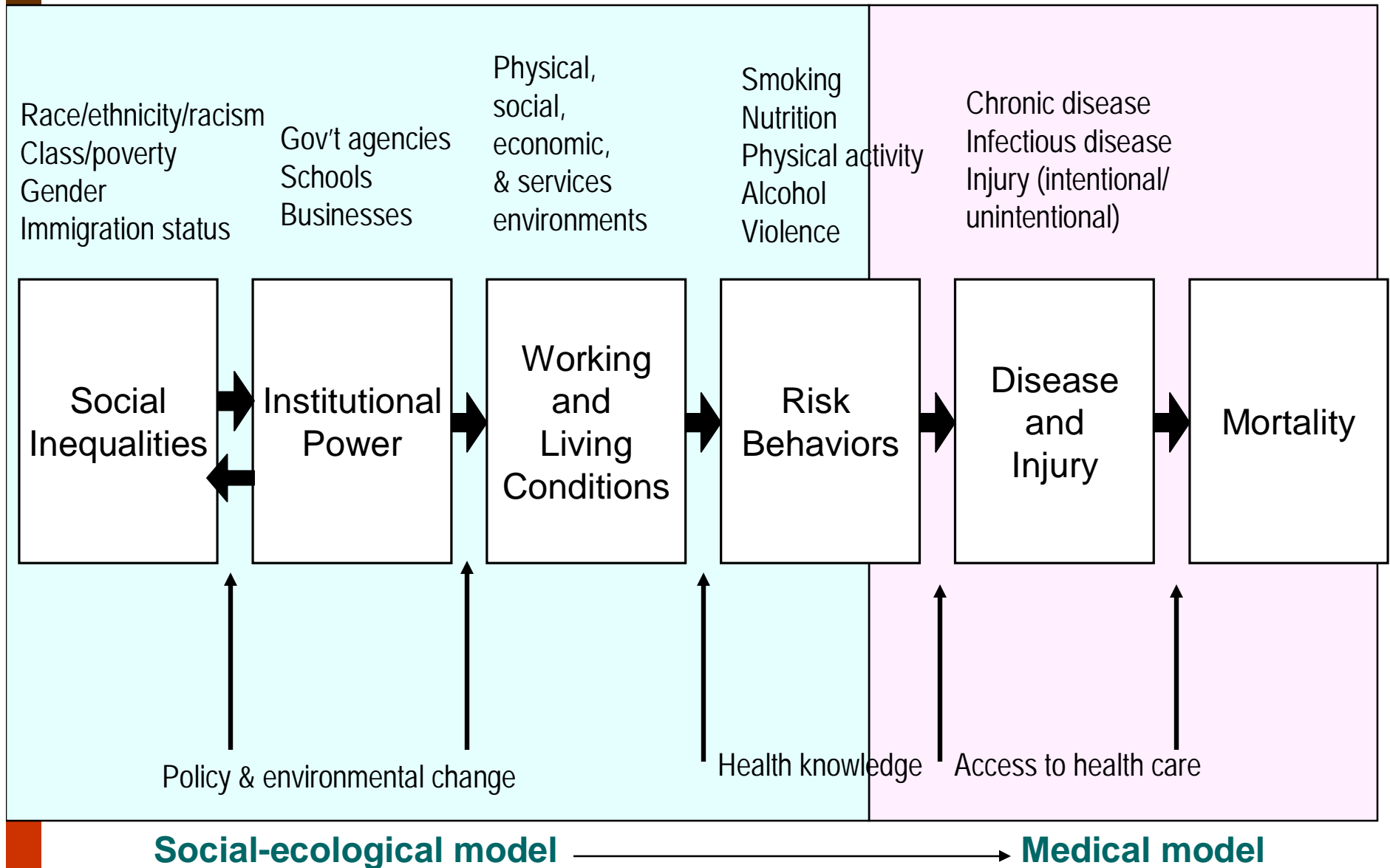


# Why do we eat too much meat?



# The Root Causes of Disease

BARHII Framework



# Inter-sectoral Obesity Prevention

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## p Education

- n Walk to school campaigns
- n School gardens
- n Healthy school breakfast/lunch
- n Daily PA in PE in all grades
- n After-school non-competitive sports
- n Restrict unhealthy food/drink sales
- n Liability protection (joint-use)

## p Food & Agriculture

- n Farmers' markets
- n Community gardens
- n Labeling packaged/other foods
- n Crop subsidies fruits/veggies

## p Media

- n Social marketing campaigns
- n Restrict ads for unhealthy foods

## p Tax policy

- n VMT, gasoline
- n HFCS, electronic entertainment

## p Housing

- n Tax credits for parks, walking trails, PE facilities
- n Transit-oriented development

## p Parks & Recreation

- n Expand parks/rec facilities

## p Land Use & Planning

- n Anti-sprawl measures/zoning
- n Parking access & distance
- n Fast food zoning restrictions

## p Transportation

- n Expand mass transit
- n Improve bike/walk infrastructure
- n "Complete streets"

## p Workplace

- n Healthy commute incentives
- n Tax credits PE opportunities
- n Healthy foods
- n Healthy behavior incentives

# Transportation Sector GHG Mitigation Strategies & Co-Benefits

Mitigation strategies	Effects	Health Co-Benefits
<ul style="list-style-type: none"> <li>Fuel efficiency</li> <li>Hybrids</li> <li>Biofuels</li> </ul>	<p>Reduced:</p> <ul style="list-style-type: none"> <li>GHG emissions</li> <li>Air pollution</li> </ul>	<p>Reductions in:</p> <ul style="list-style-type: none"> <li>Respiratory disease</li> <li>Heart disease</li> </ul>
<ul style="list-style-type: none"> <li>Public transport</li> <li>Active transport</li> <li>Land-use planning</li> <li>Reduce speed</li> </ul>	<p>Noise</p> <p>Community Severance</p> <p>Increased:</p> <ul style="list-style-type: none"> <li>Physical Activity</li> <li>Social Capital</li> </ul>	<ul style="list-style-type: none"> <li>Traffic injuries</li> <li>Depression</li> <li>Osteoporosis</li> <li>Diabetes</li> <li>Cancer</li> <li>Stress</li> </ul>

# Health in All Policies

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- ⌘ How do we ensure that health impacts – both positive and adverse – are considered in all key policy processes at all levels?

# CA Health in All Policies Opportunities

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- **Climate Policy**

- **AB32 Global Warming Solutions Act**

- **Strategic Growth Council**

- **SB375**

- **Reduce GHG emissions through land use/transportation**

- **Sustainable Community Strategies**

- **Governor Obesity Conference**



People are asking

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**What is a Healthy Community?**



# Healthy Development Measurement Tool

A comprehensive evaluation metric to consider health needs in urban development



Association of Public Health Observatories and  
Health Development Agency  
Local basket of inequalities indicators

## Community Counts



COMMUNITIES COUNT

SOCIAL AND HEALTH INDICATORS ACROSS KING COUNTY  
2008

MEASURING REGIONAL PROGRESS

# COUNTY HEALTH STATUS PROFILES

## 2009

## REDEFINING progress

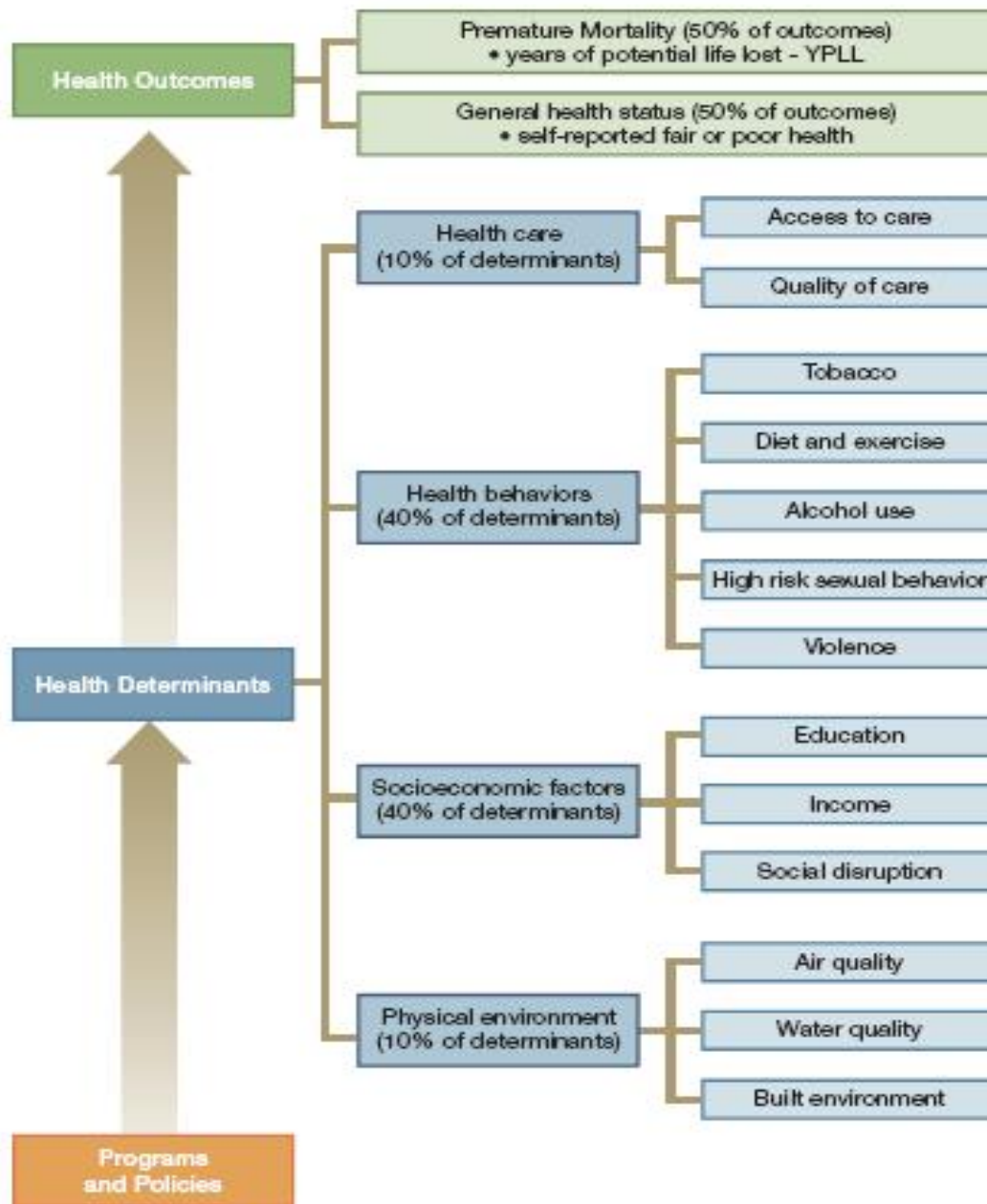
The Nature of Economics

## Wisconsin County Health Rankings



## CIV Community Indicators Victoria

## Glendale Quality of Life Indicators



# King County Communities Count

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- ⌘ Improve community conditions thru information advocacy
- ⌘ Report on health/well-being of people/communities
  - ⌘ For use by gov't, agencies, CBOs, residents
- ⌘ 38 indicators – 6 domains
  - ⌘ Basic needs and social well-being
  - ⌘ Positive deveopment through life stages
  - ⌘ Safety and health
  - ⌘ Community strength
  - ⌘ Natural and built environment

# Healthy Development Measurement Tool – San Francisco DPH

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- ⌘ evaluation metric to consider health needs in urban development plans, projects
- ⌘ connects public health to urban development planning to achieve a higher quality social and physical environment that advances health
- ⌘ 125 indicators, 6 elements
  - ⌘ Environmental stewardship, safe and sustainable transportation, social cohesion, public infrastructure/access to goods & services, housing, economy, demographics, health outcomes

# Community & Health Indicators

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- ρ Missoula Matters
- ρ Prevention Institute THRIVE
- ρ West Oakland Environmental Indicators
- ρ Indicators for Community Action
- ρ Sustainable San Mateo
- ρ Redefining Progress
- ρ Richmond Quality of Life
- ρ City of Pasadena
- ρ Healthier San Joaquin
- ρ Etc. – 100s if not 1000s

# Association of Public Health Observatories – UK Health Development Agency

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- p** Local basket of inequalities indicators
  - n** support local action to achieve the public health goals (reduce health inequalities)
  - n** highlight information relevant to addressing the health targets
  - n** Assist local areas with monitoring progress towards goals
  
- p** **70 indicators** (employment, poverty & deprivation, housing, homelessness, education, crime, pollution, physical environment, community development, diet, smoking, PA, injury, mental health, MCAH, older people, major killers)

# Community Indicators Victoria

## VicHealth

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- ⌘ Community well-being indicators
  - ⌘ Tools for translating broad community goals to clear outcomes
  - ⌘ Assess, communicate progress toward goals
  - ⌘ Tools for democracy, evidence-based policy making, reporting/evaluation
- ⌘ Action oriented part of a change process
- ⌘ 75 indicators – 5 domains
  - ⌘ Healthy, safe, inclusive communities
  - ⌘ Dynamic resilient economies
  - ⌘ Sustainable built/natural environment
  - ⌘ Culturally rich/vibrant communities
  - ⌘ Democratic, engaged communities

# Nova Scotia

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- ρ Livelihood security
- ρ Safety & freedom from crime
- ρ Environmental quality
- ρ Educational attainment
- ρ Risk behaviors and prevention
- ρ Social support
- ρ Time use and balance
- ρ Health outcomes and status
- ρ Other – activities for youth, aesthetic quality of community environment

<http://web.uvic.ca/~lalonde/manuscripts/2005HealthyCommunities.pdf>

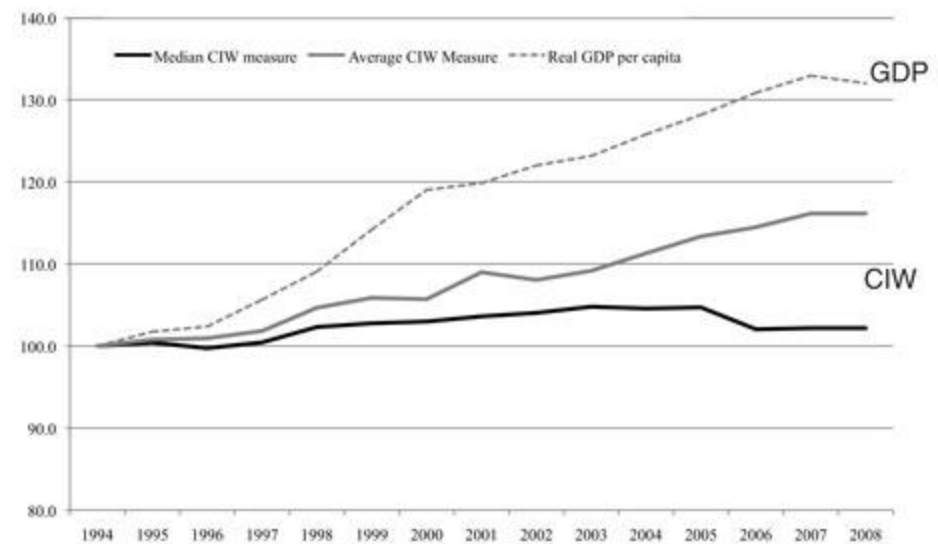


# Canadian Index of Well-Being

## p Domains

- n Living standards
- n Healthy populations
- n Community vitality
- n Education
- n Environment
- n Democratic engagement
- n Arts, culture, recreation
- n Time use

An illustration of trends in the CIW with two domains (Living Standards and Healthy Populations) compared with the GDP, 1994-2008.



NOTES:

- Once the numbers in each domain are all converted into a common denominator, a single number (either an average or median) can be plotted
- Not necessarily comparing one number against another, but comparing one trend against another
- The CIW median and average lines have increased at a much slower pace than the GDP over the same period

<http://www.ciw.ca/en/TheCanadianIndexOfWellbeing.aspx>

# Public Health Stakeholder Input

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- ρ CDPH Executive Management Team
- ρ CDPH Public Health Advisory Committee
- ρ Strategic Alliance
- ρ Prevention Institute
- ρ Healthy Places Coalition
- ρ California Pan-Ethnic Health Network
- ρ Etc.

# What is a Healthy Community

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- ⌘ Meets basic needs of all
- ⌘ Quality and sustainability of environment
- ⌘ Adequate levels of economic and social development
- ⌘ Social and health equity
- ⌘ Social relationships that are supportive and respectful

# Meets basic needs of all

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- n Safe, sustainable, accessible and affordable transportation options
- n Affordable, accessible and nutritious healthy foods
- n Affordable, high quality, socially integrated and location-efficient housing
- n Affordable, high quality health care
- n Complete and livable communities including affordable and high quality schools, parks and recreational facilities, child care, libraries, financial services, and other daily needs

# Indicators: Meets basic needs: Healthy transportation options

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## p Means of transport

- n Motorized connectivity index
- n Modal split work, school
- n VMT per capita
- n % commute trips solo auto
- n Daily vehicle hours delay
- n % ave income on transportation expense

## p Miscellaneous

- n Residential parking ratio

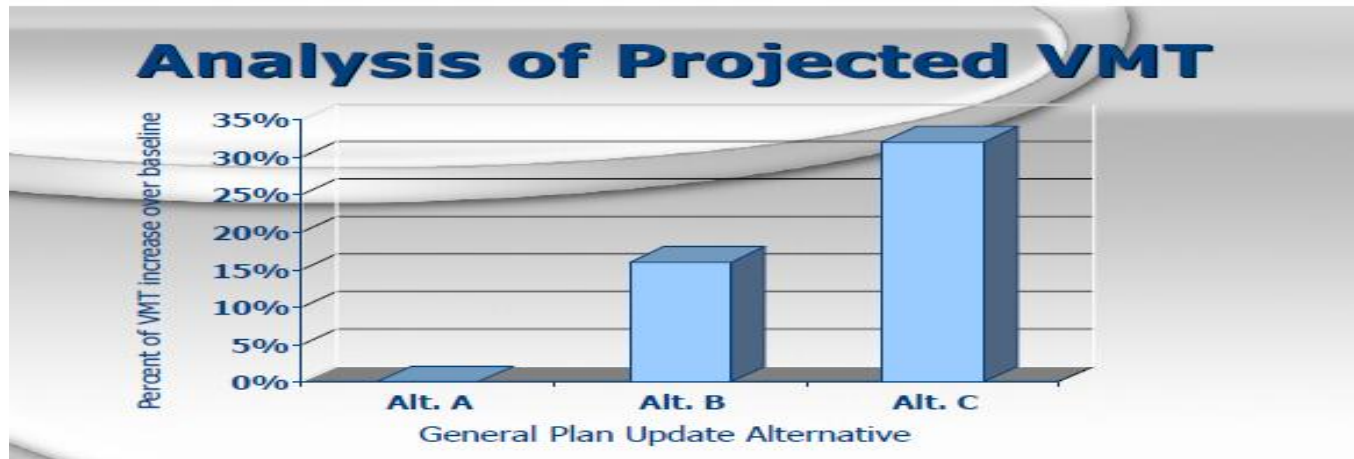
## p Public transit

- n Cost/passenger/mile
- n % adults who use
- n % commuters who use
- n % households w/in ½ mile regional bus/ferry

## p Non-motorized transit

- n Pedestrian environmental quality index
- n Ratio sidewalk/bike lane miles to street miles
- n % traffic injuries to cyclists/pedestrians

# Why is VMT a health indicator?



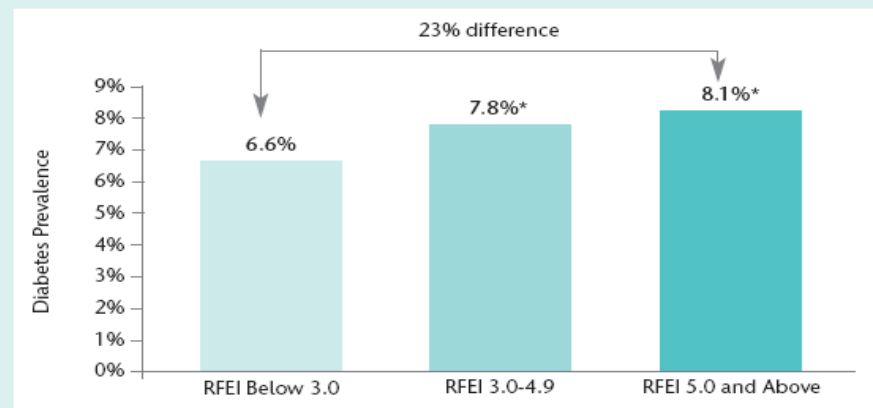
- ⌘ **Safety** – reduced auto injuries
- ⌘ **Active transportation** – increased physical activity
- ⌘ **Improve air quality** – reduce asthma/CV disease
- ⌘ **Decrease commute** - increase social/civic time
- ⌘ **Purchase power** (food, health care) with lower transportation costs
- ⌘ **Access to essential goods & services**
- ⌘ **Increase Social connections**

Humboldt County General Plan HIA

# Retail Food Environment Index

- q Average RFEI = 4.5
- q 4.5 x more fast food & convenience stores than groceries and produce vendors

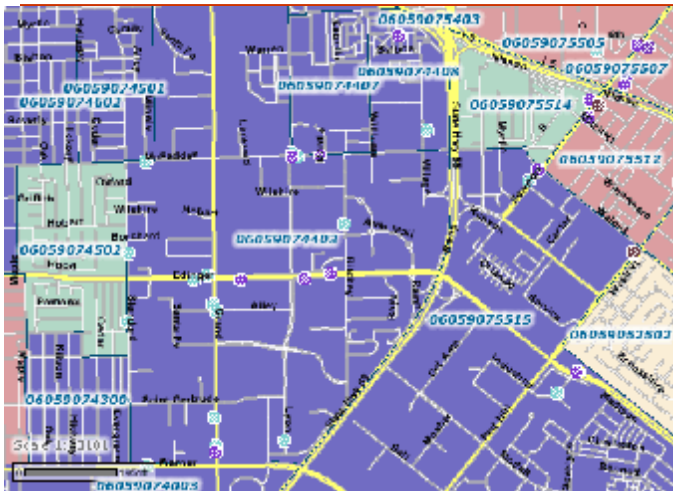
FIGURE 2  
Diabetes Prevalence by Retail Food Environment Index,  
Adults Age 18 and Over, California, 2005



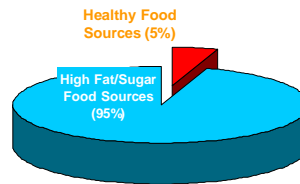
\*Significantly different from "RFEI Below 3.0";  $p < 0.05$ . RFEI was calculated using buffers of 0.5 mile for respondents in urban areas, 1 mile for respondents in smaller cities and suburban areas and 5 miles for respondents in rural areas.

Source: 2005 California Health Interview Survey and 2005 InfoUSA Business File

# CX<sup>3</sup>: Tools for Healthy Change



Healthy (5%) vs. Unhealthy (95%) Food Sources\*



Neighborhood-level indicators

Standardized tools and measures

Training to over 30 local health departments

90+ low-income neighborhoods (urban dense, suburban, rural, etc.)

**Santa Maria Nuova CX**

**Towermart Quality Scorecard**

Category	Item	Actual Score	Max Possible Score
Overall Score	Only 10% of fresh fruit	0	10
	Only 10% of fresh veg	0	10
	Only 10% of frozen fruit	0	10
	Only 10% of frozen veg	0	10
Other categories	More than 10% of items are unhealthy	10	10
	More than 10% of items are healthy	10	10
	At least 10% of items are healthy	10	10
	At least 10% of items are healthy	10	10
	At least 10% of items are healthy	10	10
	At least 10% of items are healthy	10	10
	At least 10% of items are healthy	10	10
	At least 10% of items are healthy	10	10
	At least 10% of items are healthy	10	10
	At least 10% of items are healthy	10	10
<b>Total Quality Score</b>		100	100



# Quality, sustainability environment

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- n Clean air, soil and water, and environments free of excessive noise
- n Tobacco and smoke free
- n Preserved natural and open spaces, including agricultural lands
- n Minimized waste, toxics, and GHG emissions
- n Affordable and sustainable energy use

# Indicators: Quality environment:

## Air quality

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- ρ Days exceeding 8-hour ozone standards
- ρ Days exceeding PM standard
- ρ % households w/in 300 meters major stationary source
- ρ % households w/in 300 meters roadway
- ρ # complaints re air quality
- ρ Toxic air released by permitted facilities

# Adequate levels of economic, social development

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- n Living wage, safe and healthy job opportunities for all
- n Support for healthy development of children and adolescents
- n Opportunities for high quality and accessible education

# Indicators: Economic/social: Education

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- ρ Educational attainment
- ρ API scores
- ρ Per pupil school expenditures
- ρ % Head Start eligible children unserved
- ρ Ratio public school population to school-aged population
- ρ % kindergarten children no school ready
- ρ High school graduation rate
- ρ High school drop-out rate

# Health and Social Equity

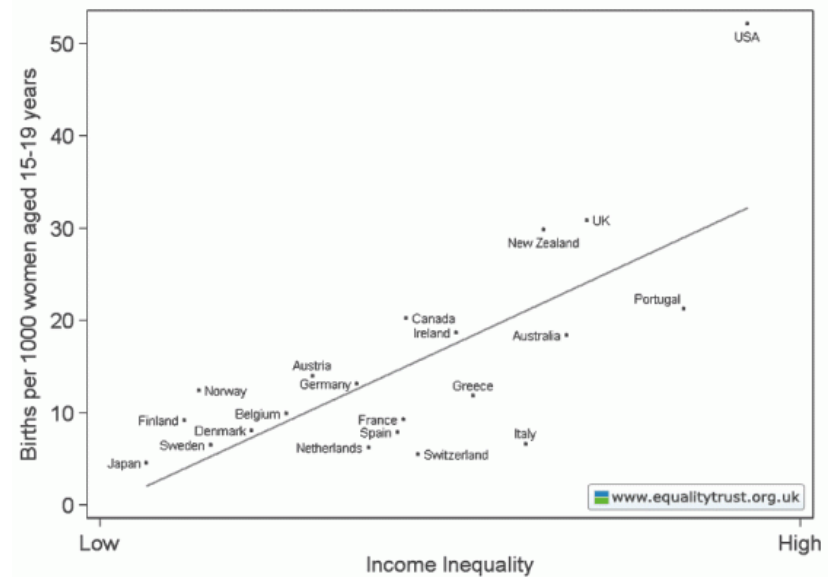
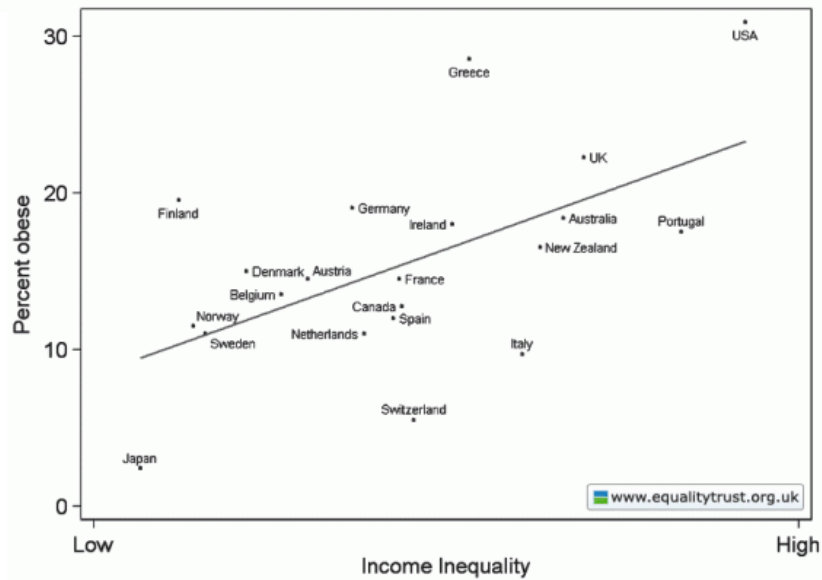
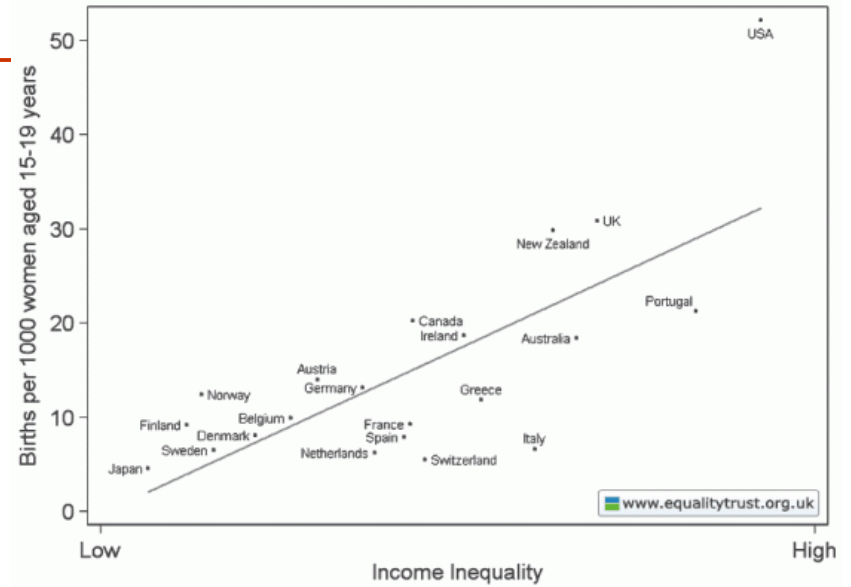
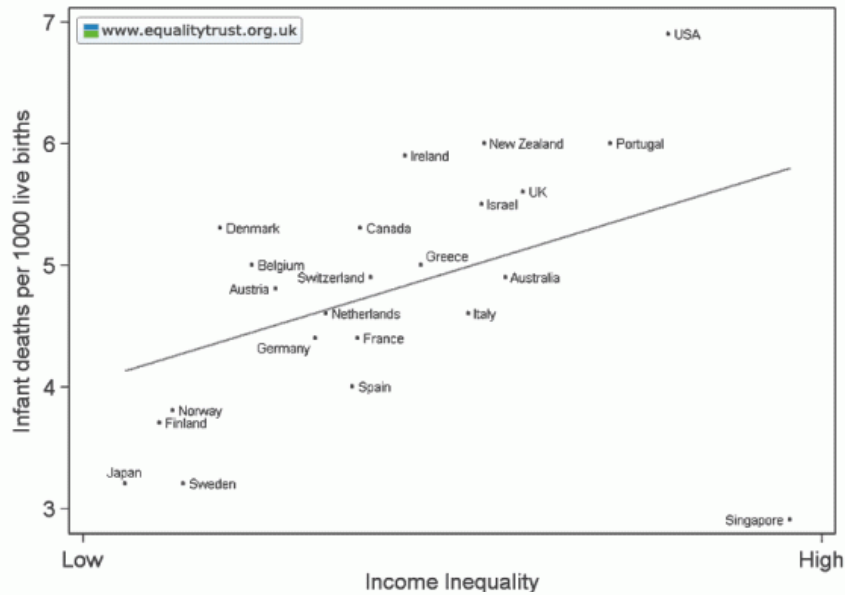
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## p Social equity

- n Gini coefficient
- n Unemployment rate
- n CEO-minimum wage ratio
- n Ratio top 20% income vs lowest 20% income

# Income Inequality and Health

Wilkinson & Pickett: The Spirit Level



# Social relationships supportive, respectful

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- n Robust social and civic engagement**
- n Socially cohesive and supportive relationships, families, homes, and neighborhoods**
- n Safe communities, free of crime and violence**

# Indicators: social relations:

## Safe and supportive relationships

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- ρ Child abuse rates
- ρ # hate crimes
- ρ % households w/ children age 2 – 5 where children read to/told stories
- ρ Homicide rate
- ρ Property crime rate
- ρ # police officers/capita
- ρ Calls to rape crisis center
- ρ # children in foster care/1000 children
- ρ # children receiving protective services
- ρ % reporting experience of discrimination



# What is a healthy community?

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A Healthy Community provides for the following through all stages of life:

**p Meets basic needs of all**

- n Safe, sustainable, accessible and affordable transportation options
- n Affordable, accessible and nutritious healthy foods
- n Affordable, high quality, socially integrated and location-efficient housing
- n Affordable, high quality health care
- n Complete and livable communities including affordable and high quality schools, parks and recreational facilities, child care, libraries, financial services, and other daily needs

**p Quality and sustainability of environment**

- n Clean air, soil and water, and environments free of excessive noise
- n Tobacco and smoke free
- n Preserved natural and open spaces, including agricultural lands
- n Minimized waste, toxics, and GHG emissions
- n Affordable and sustainable energy use

**p Adequate levels of economic, social development**

- n Living wage, safe and healthy job opportunities for all
- n Support for healthy development of children and adolescents
- n Opportunities for high quality and accessible education

**p Health and social equity**

**p Social relationships that are supportive and respectful**

- n Robust social and civic engagement
- n Socially cohesive and supportive relationships, families, homes, and neighborhoods
- n Safe communities, free of crime and violence

# HiAP example – SGC RFAs

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- ⌘ Sustainable Communities planning grants
- ⌘ Urban greening grants
  
- ⌘ How will you promote a healthy community?
- ⌘ Describe collaboration with LHD
- ⌘ Identify potential adverse health impacts and how you will address them

# Challenges

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**p** *Data Availability*

- n at the neighborhood or community level
- n accessible (easy, inexpensive, routinely up-dated)

**p** *Relevance, buy-in, engagement*

- n applicable across community sizes & types
- n relevant to multiple groups – communities & experts
- n core + expandable to address local needs

**p** *Practicality and usefulness*

- n usefulness to help communities & policy makers make decisions that promote health
- n actionable

**p** Few “healthy communities” indicators meet these criteria

Adapted from Curran et.al. *Jl Comm Rural Develop* 2 (2006) 59-74

# Healthy California 2020

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Thank You!

