



# A ROADMAP TO BETTER HEALTH

## COMMISSIONER HARRY CHEN

# What is Public Health?

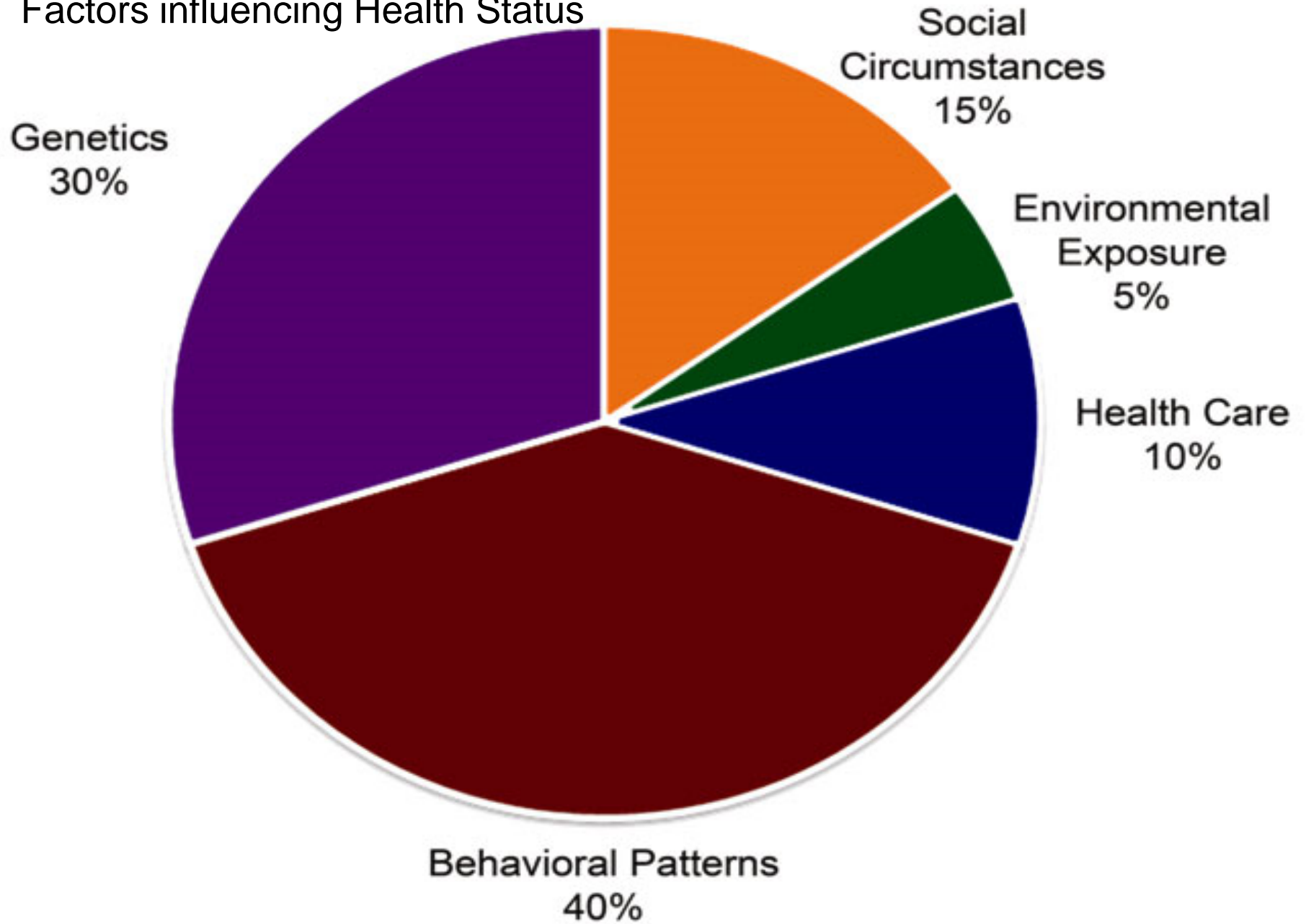
What we, as a society do to collectively assure the conditions in which people can be healthy

– Institute of Medicine, 1988

***Public Health = Healthy Populations***

# Determinants of Health

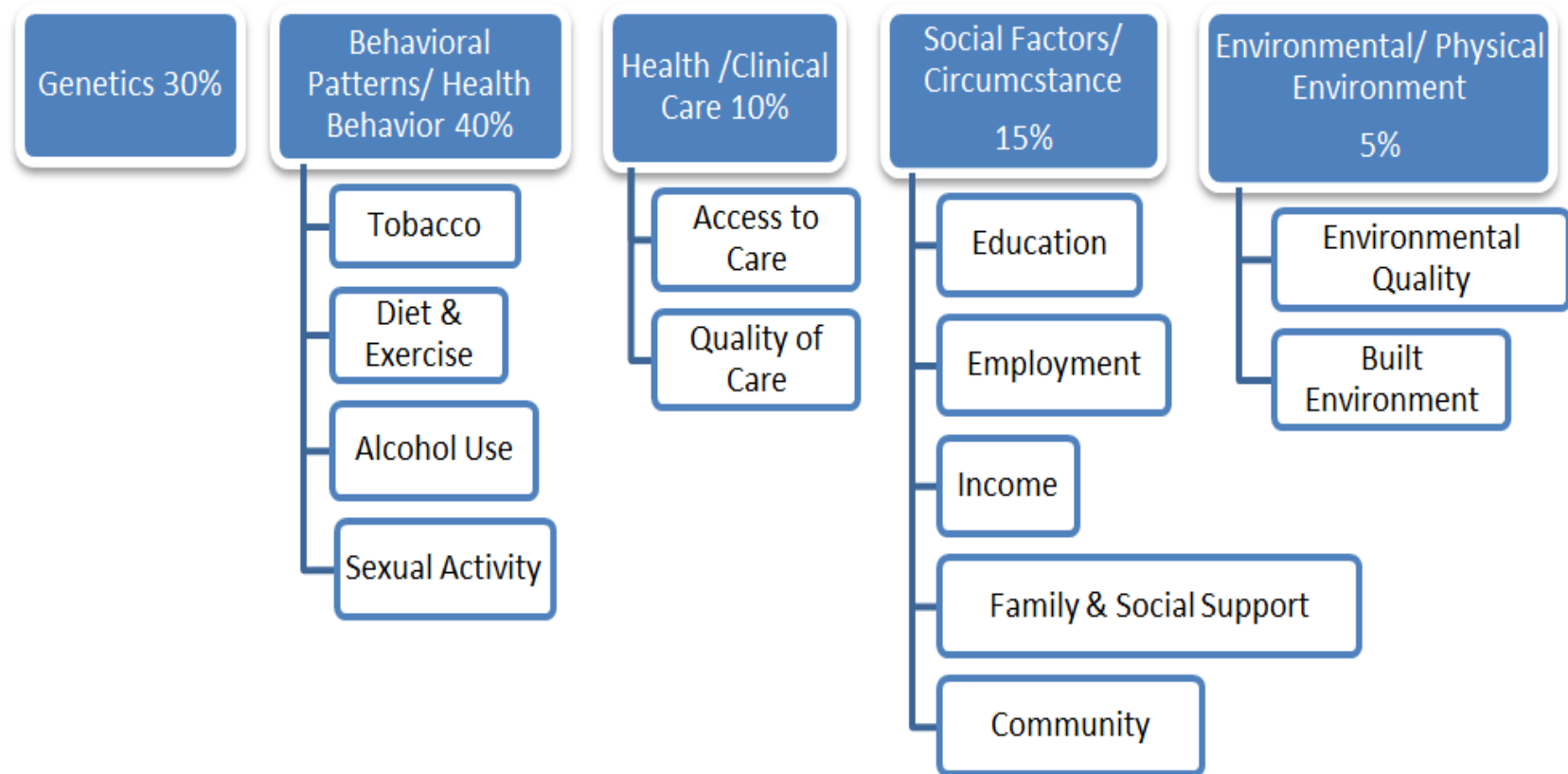
Factors influencing Health Status



# Determinants of Health

## Factors influencing health status

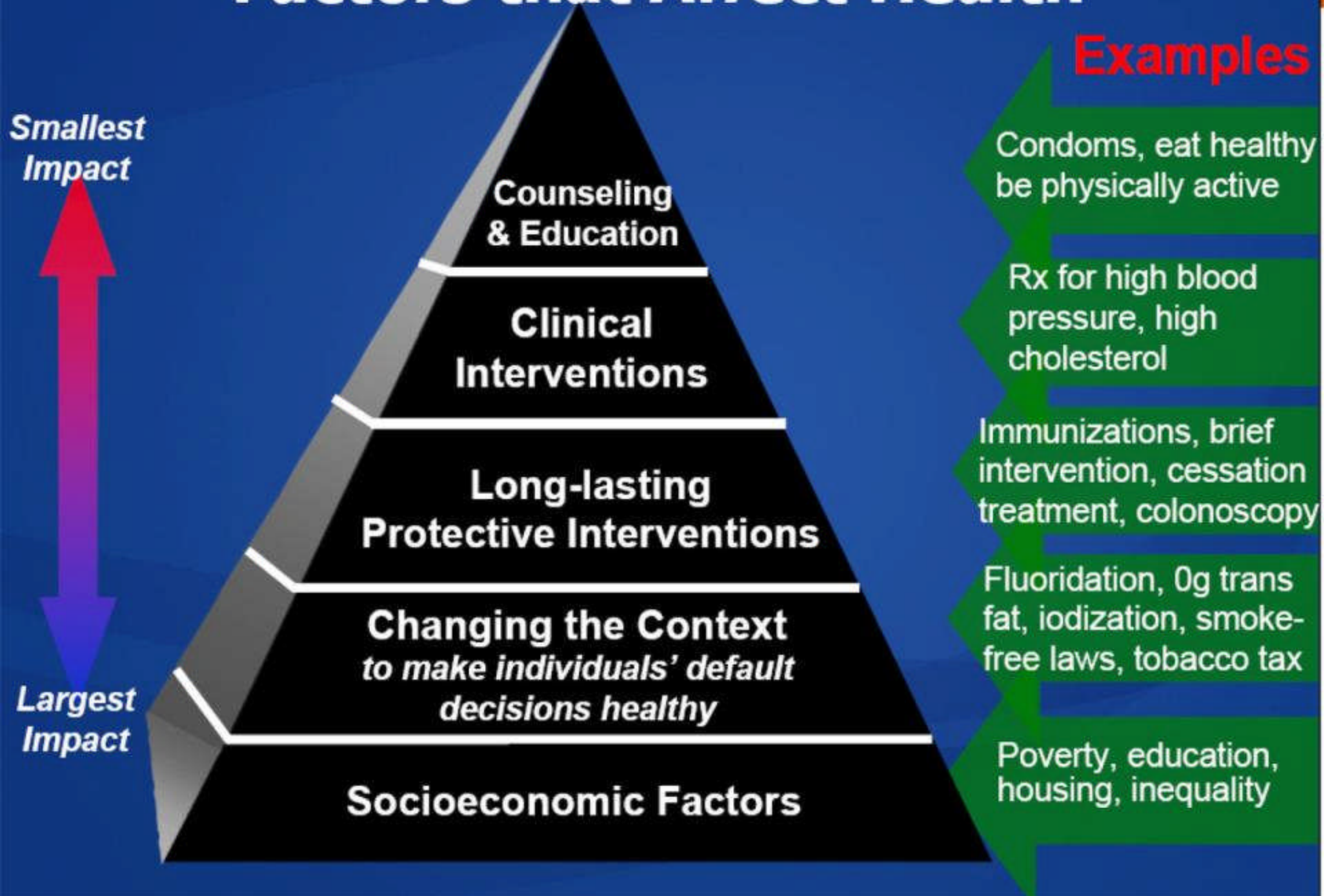
**Figure 2. Factors Affecting Health Outcomes**



Adapted to include genetics and McGinnis weighting of factors approach

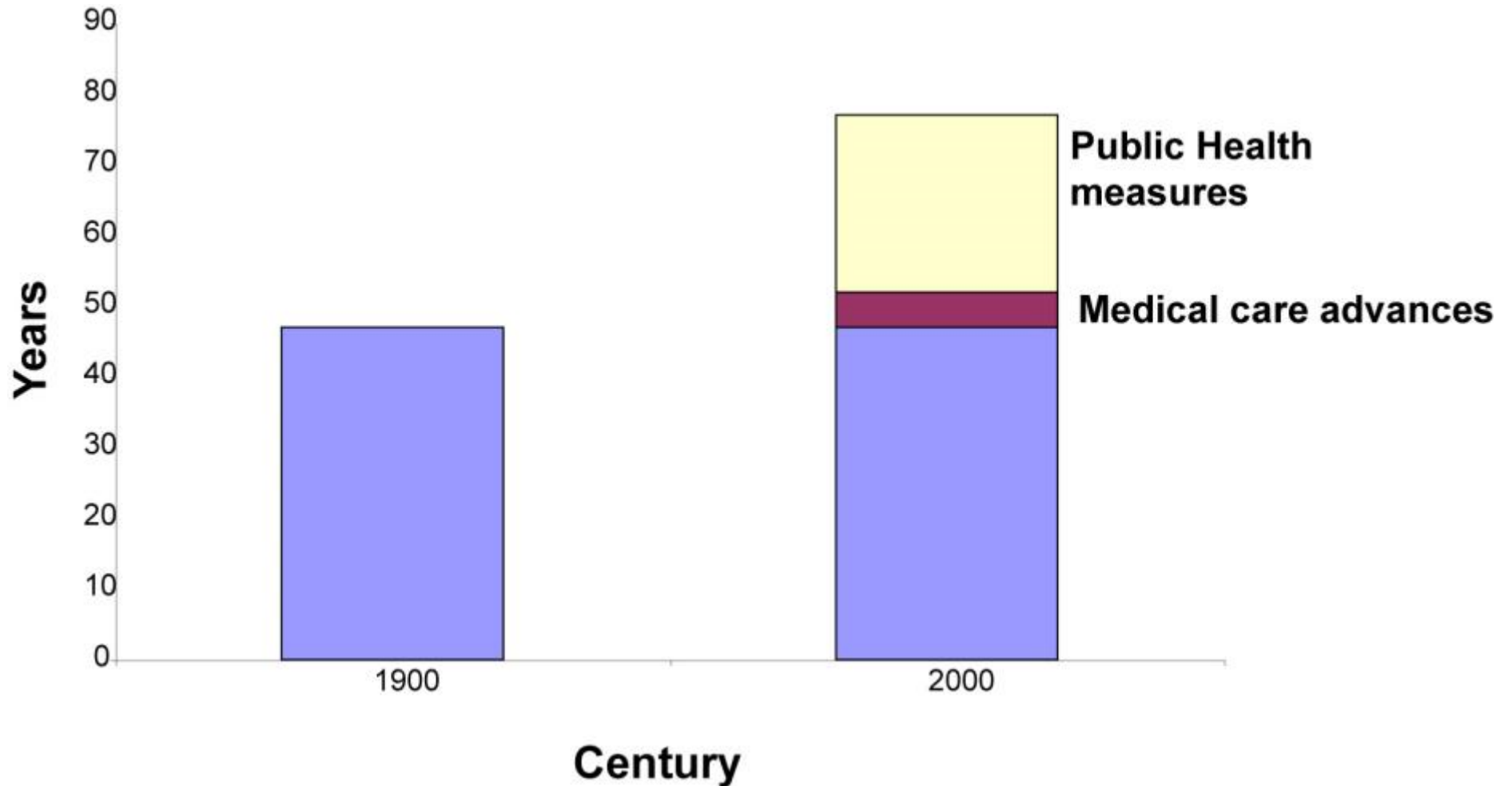


# Factors that Affect Health



# Improvements in Longevity

## 100 years of Progress



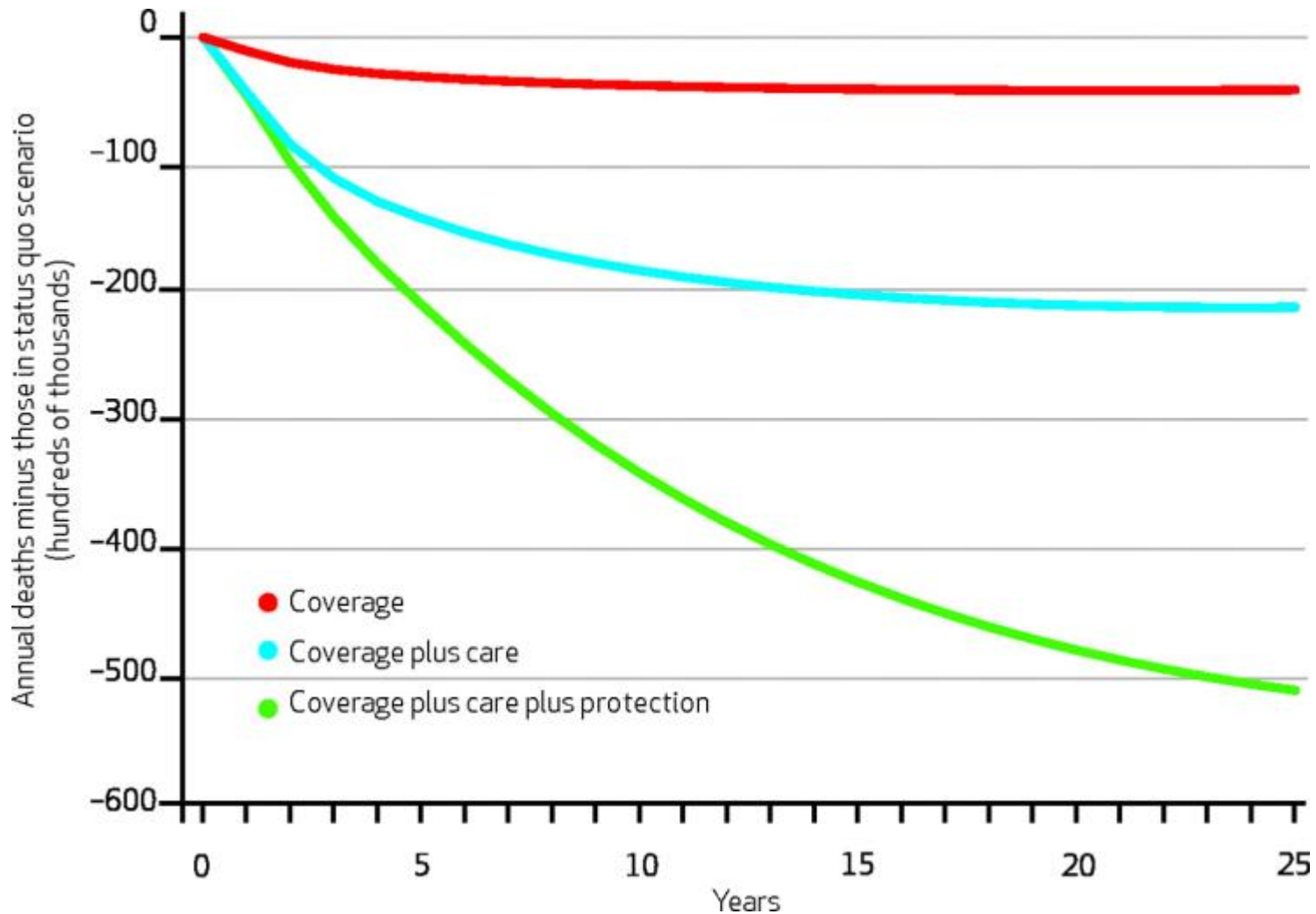
# Public health keeps kids healthy and communities strong

## Public health and prevention programs in your community:



**We all benefit**

## Annual Deaths, Three Layered Intervention Scenarios, Year 0 To Year 25.



Milstein B et al. Health Aff 2011;30:823-832

HealthAffairs

# Vision: Healthy People in Healthy Communities



*As Vermonters, we take great pride in our quality of life, strong communities, natural places and commitment to healthy living.*

*We share a common goal:  
to ensure that our state continues to be  
one of the healthiest and best places in the U.S.  
for all of us to live, work and play.*





## Core Measures

**Behaviors**

**Community &  
Environment**

**Policy**

**Clinical  
Care**



**Health  
Outcomes**

# Core Measures



## Behaviors

- Smoking
- Excessive Drinking
- Drug Deaths
- Obesity
- Physical Inactivity
- High School Graduation

## Policies

- Lack of Health Insurance
- Public Health Funding
- Immunization Coverage

## Community & Environment

- Violent Crime
- Occupational Fatalities
- Children in Poverty
- Air Pollution
- Infectious Disease

## Clinical Care

- Low Birthweight Infants
- Primary Care Physicians
- Dentists
- Preventable Hospitalizations

## Health Outcomes

- Diabetes
- Poor Mental Health Days
- Poor Physical Health Days
- Disparities in Health Status
- Infant Mortality
- Cardiovascular Deaths
- Cancer Deaths
- Premature Death

Vermont is still the **2<sup>nd</sup> healthiest** state.

# Vermont

RANK: 2

No Change  
from  
2014

2014 Rank: 2  
No Change

TOP FIVE HEALTHIEST STATES:

1. Hawaii
2. Vermont
3. Massachusetts
4. Minnesota
5. New Hampshire



## Smoking

16.4%



of people in Vermont smoke  
compared with 18.1% nationally

Healthy People 2020 Goal: 12.0% of adults

## Drug Deaths

12.9



deaths per 100,000 people in Vermont  
from drug overdose compared with 13.5 deaths  
per 100,000 nationally

Healthy People 2020 Goal: 11.3 deaths per 100,000

## Physical Inactivity

19.0% or about

1 in 5



adults in Vermont are  
physically inactive compared  
with 22.6% nationally

## Infant Mortality

4.3



deaths per 1,000 live births in Vermont  
compared with 6.0 deaths per 1,000 nationally

Healthy People 2020 Goal: 6.0 infant deaths per  
1,000 live births

## Obesity/Diabetes

24.8%

of adults in Vermont are obese



7.9%

of adults in Vermont have diabetes

Nationally, 29.6% of adults are obese,  
and 10.0% have diabetes.

## Immunizations—Children

71.8%



of children in Vermont received vaccinations  
compared with 71.6% nationally

Healthy People 2020 Goal: 80.0% of children



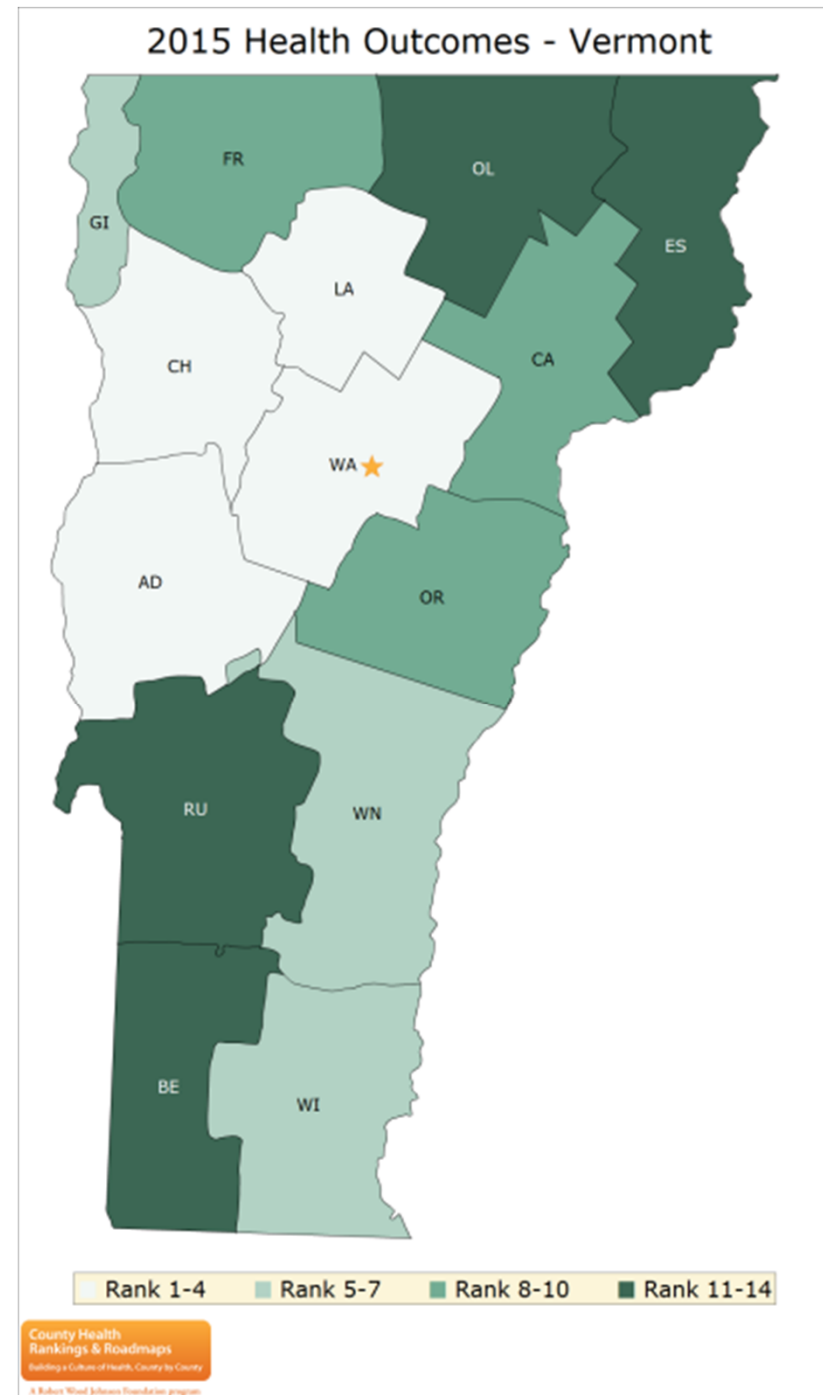
## Vermonters are not equally healthy

The overall rankings in health outcomes represent how healthy counties are within the state. The healthiest county in the state is ranked #1.

The ranks are based on 2 types of measures:

- how long people live
- how healthy people feel while alive

<http://www.countyhealthrankings.org/sites/default/files/state/download/s/2015%20Health%20Outcomes%20-%20Vermont.png>



NEW Dietary Guidelines  
Require Less Sugar for All  
and Less Meat for Boys...



WELL  
Rethinking Weight Loss  
and the Reasons We're  
'Always Hungry'



WELL  
Mexican Soda Tax  
Followed by Drop in  
Sugary Drink Sales



PHYS ED  
How Training Without  
Helmets Could Reduce  
Head Injuries



WELL  
Ask Wel  
Diabetes

## HEALTH

## Death Rates Rising for Middle-Aged White Americans, Study Finds

By GINA KOLATA NOV. 2, 2015



Angus Deaton with his wife, Anne Case, right, last month after he won the 2015 Nobel Memorial Prize in Economic Science. Together, they wrote a study analyzing mortality rates.  
Ben Solomon for The New York Times

Something startling is happening to middle-aged white Americans. Unlike every other age group, unlike every other racial and ethnic group, unlike their counterparts in other rich countries, death rates in this group have been rising, not falling.

That finding was reported Monday by two Princeton economists, Angus Deaton, who last month [won the 2015 Nobel Memorial Prize in Economic Science](#), and Anne Case. Analyzing health and mortality data from the Centers for Disease Control and Prevention and from other sources, they concluded that rising annual death rates among this group are being driven not by the big killers like heart disease and [diabetes](#) but by an epidemic of suicides and afflictions stemming from [substance abuse](#):

*... an epidemic of **suicides** and afflictions stemming from substance abuse: **alcoholic liver disease** and **overdoses** of heroin and prescription opioids.*



Email

[alcoholic liver disease](#) and overdoses of heroin and prescription opioids.



# State Health Improvement Plan • 2013-2017



# State Health Improvement Plan (SHIP)



## The Health Department's priorities:

**GOAL 1:** Reduce prevalence of smoking & obesity

**GOAL 2:** Reduce the prevalence of substance abuse and mental illness

**GOAL 3:** Improve childhood immunization rates

# Building A Culture of Health in Vermont



# RWJF Culture of Health & Health in All Policies

Health begins in...



health care  
happiness  
education  
fresh air  
**physical activity**  
safe streets  
strong relationships  
fresh foods  
clean water  
community  
livable wage



# How do we put this into practice?



- **Culture of Health:**

  - What we do as a **society**

- **Health in All Policies (HiAP):**

  - What we do through **governmental** action

- **Health Impact Assessments (HIA):**

  - A tool for assessing impact

# What is Health in All Policies?

- Collaborative approach to improving the health of all by incorporating health considerations into decision making across sectors and policy areas
- Ensures that decision-makers are informed about health consequences of various policy options during the decision making process





# Why Health in All Policies?

- Health is determined by **factors outside health care**
- **Complex problems** require team work across state agencies for collective impact
- Collaborative action brings opportunities for **greater efficiency and accountability** in government:
  - establish clear and achievable goals
  - track and maximize success

# Health in All Policies Task Force



## **Executive Order No. 7-15**

The Health in All Policies (HiAP) Task Force will identify strategies to more fully integrate health considerations into all state programs and policies, and promote better health outcomes through interagency collaboration and partnership.

# Health in All Policies: Five Key Elements

1. Promotes health, equity and sustainability
2. Supports collaboration across sectors, disciplines, agencies
3. Benefits multiple partners
4. Engages stakeholders
5. Creates structural change



# Health in All Policies: A Win for All

- ❑ meet Vermont's climate change goals
- ❑ plan sustainable communities
- ❑ improve air and water quality
- ❑ protect natural resources and agricultural lands
- ❑ increase availability of affordable housing
- ❑ improve infrastructure systems
- ❑ promote active lifestyles



# Vermont Examples

- ❑ Health & Community Planning
  - ❑ Barre Town Plan
  - ❑ ECOS sustainability project
- ❑ Health & Housing
  - ❑ Support and Services at Home (SASH)
  - ❑ Indoor Air Quality and Lead Abatement
- ❑ Health & Agriculture & Food
  - ❑ Community Supported Agriculture (CSA)
  - ❑ Farm to School and Farm to Plate
- ❑ Health & Transportation
  - ❑ Complete Streets
  - ❑ Health Impact Assessment
- ❑ Health & State Parks
  - ❑ Prescriptions for health



# Opportunities for System-wide Change

- Create a legacy for health: institutionalize the vision for sustainability and health
  - Criteria and analytic tools to be used by all gov't branches
  - Interagency Task Force
- Use existing administrative authority
  - Healthy food procurement
  - Staff wellness programs
  - Contract and grant guidance
- Evaluate public policy proposals
- State-wide and Municipal Planning (PSB, Act 250, DRBs)

# Task Force Members

- Agency of Administration
- Agency of Agriculture
- Agency of Commerce and Community Development
- Agency of Education
- Agency of Human Services
- Agency of Natural Resources
- Agency of Transportation
- Natural Resources Board
- Public Service Department
- Public Service Board
- Vermont Housing and Conservation Board
- Vermont Housing Finance Agency



# HIA: A Tool for Implementing HiAP



## Act 48 Sec. 11. **HEALTH SYSTEM PLANNING, REGULATION, AND PUBLIC HEALTH**

Charges the state with “recommending a plan to institute a public health impact assessment process to ensure appropriate consideration of the impacts on public health resulting from major policy or planning decisions made by municipalities, local entities, and state agencies.”



## Health Impact Assessment

A systematic process that uses an array of data sources and analytic methods and considers input from stakeholders to determine the potential effects of a proposed policy, plan, program or project on the health of a population and the distribution of those effects within the population. HIA provides recommendations on monitoring and managing those effects.

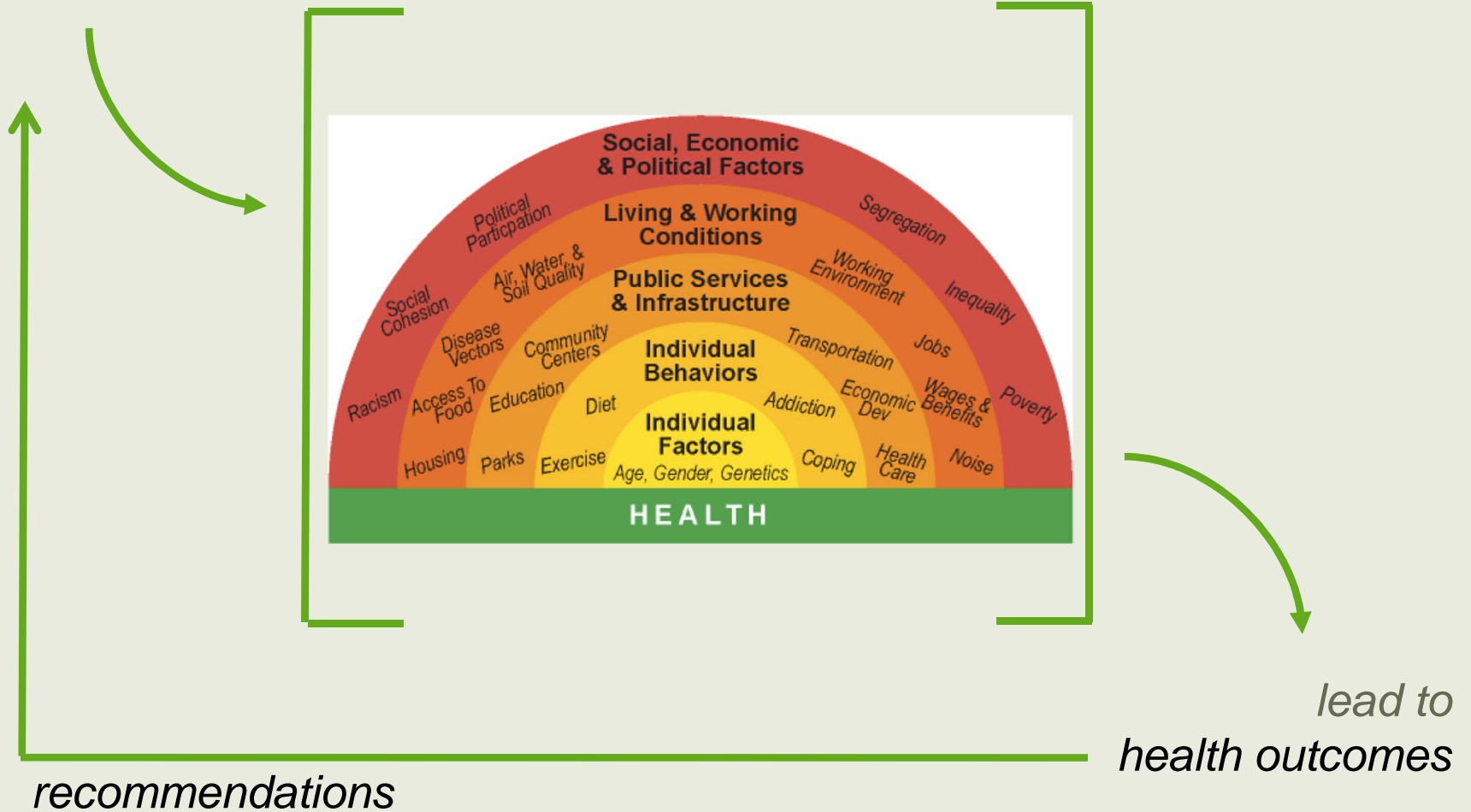
National Research Council of the National Academies, 2011

# HIA Addresses Determinants of Health



*How does the proposed project, plan, policy*

*affect*



# Unintended Benefits to Health



## 1996 Olympic Games, Atlanta

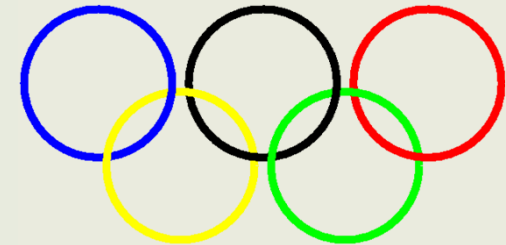
24 hour public transportation

Addition of public buses

Reduction of auto travel and congestion

Public announcements

Was shown to decrease acute childhood asthma events



## Introduction of EZ Pass, Northeastern U.S.

Reduced traffic congestion

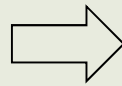
Reduced motor vehicle emissions

Resulted in reduction of low birth-weight infants



# Unintended Adverse Impacts on Health

## Highway Policy



Increases in driving and traffic

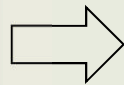
Lack of physical activity

Air pollution

Traffic injuries

Estimated costs of traffic-related health outcomes in the US could be as great as \$400 billion annually

## Education Policy



Has lead to disproportionately poor education among low income and minorities

Impacts opportunities for jobs and income, as well as life expectancy

# HIA: Essential Questions



- How will the proposed change impact health – positively or negatively?
- Are potential health benefits and risks distributed equitably?
- Are there ways in which the proposal can be modified to maximize beneficial impacts and minimize harmful ones?

# HIA Distinguishing Features



- Initiated to inform a decision-making process, and conducted in advance – decision point
- Utilizes a systematic analytic process – best data
- Solicits and utilizes input from stakeholders – community values
- Identifies appropriate recommendations, mitigations and/or design alternatives – improved decisions

# Steps of HIA

HIA Step	Description
Screening	Determines the need and value of an HIA
Scoping	Determines which health impacts to evaluate, methods for analysis, and a work plan
Assessment	Provides: 1) a profile of existing health conditions 2) evaluation of potential health impacts
Recommendations	Provide strategies to manage identified adverse health impacts and maximize benefits to health
Reporting	Includes: 1) development of the HIA report 2) communication of findings & recommendations
Evaluation & Monitoring	Tracks and evaluates: 1) the process of conducting the HIA 2) impacts on decision-making processes and implementation of the decision 3) impacts of the decision on health outcomes

# HIA: United States

- Housing redevelopment
- Highway corridor redevelopment
- Pedestrian/bicycle trail development
- Highway bridge replacement
- Transit line
- Community transportation plan
- Local area and comprehensive plans
- After-school programs
- Living wage ordinance
- Paid sick leave policy
- Coal-fired power plant
- Low income home energy subsidies
- Oil and gas leasing policies

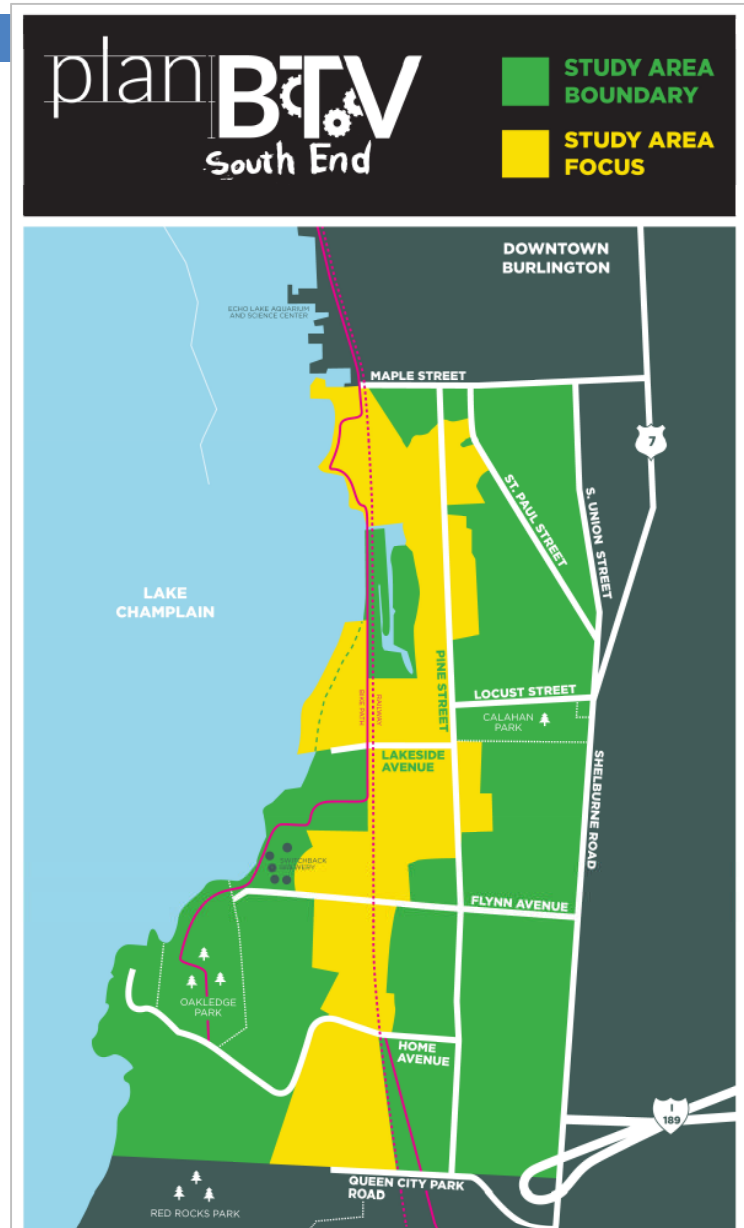


# Health Impact Assessment — HIA

## planBTV South End

- **Topic:** Development of a master plan for the South End of Burlington
- **Health Impacts studied:**
  1. Physical activity as it relates to chronic disease
  2. Mental health as it relates to depression, social isolation, and stress

Vermont Department of Health



# Health Impact Assessment — HIA

## Milton US 7 Corridor

- **Topic:** Complete Streets Corridor Revision
- **Health Impacts studied:**
  1. Physical activity
  2. Access: to healthy food, health care, and community services
  3. Safety/unintentional injury



Source: Google Earth Pro Streetview

# Health Impact Assessment — HIA

## Paid Sick Leave Policy

- **Topic:** Effect of a statewide paid sick leave policy
- **Health Impacts studied:**
  1. spread of infectious disease especially in child care and food service settings
  2. access of domestic violence victims to health and social services and maintain employment.
  3. preventable hospitalizations and associated health care costs



# Building A Culture of Health in Vermont

Understanding Vermont's total investments in health and creating joint accountability for health across sectors



# Mismatch in Spending

What **Makes** Us Healthy



What We **Spend** On Being Healthy



# Building A Culture of Health in Vermont

## Grant Overview



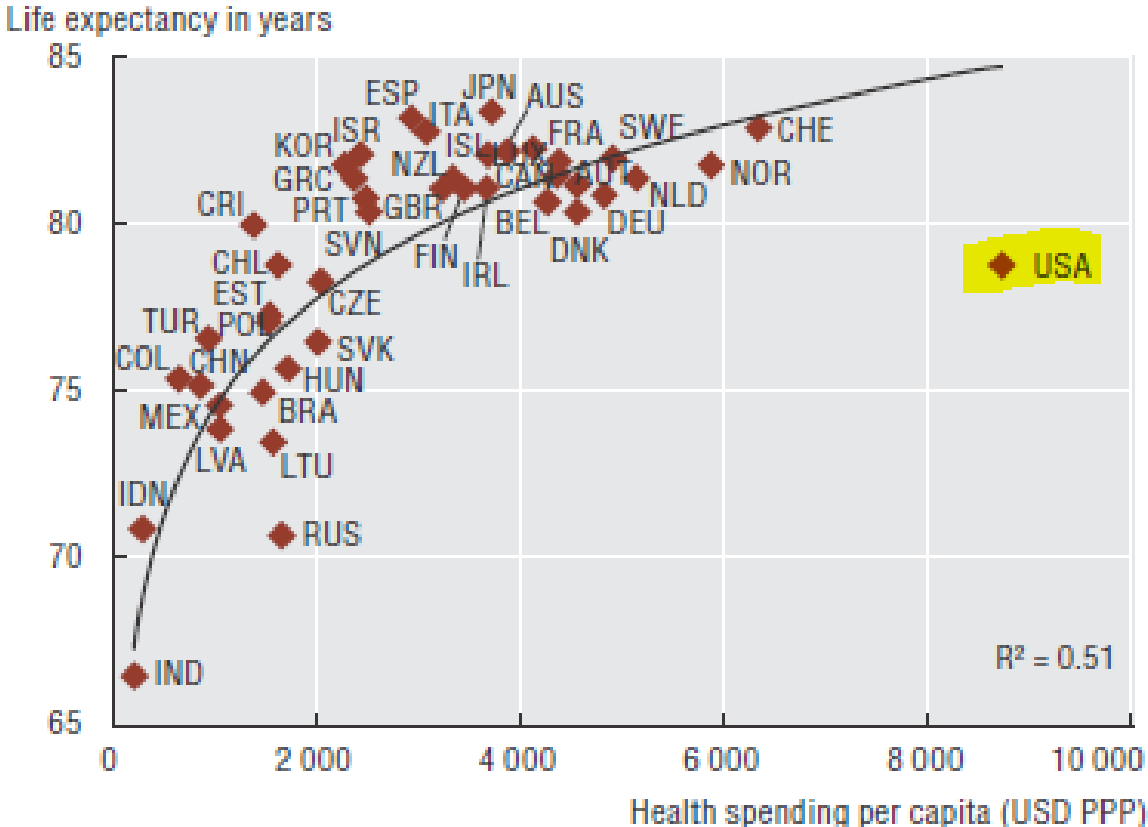
Widen the lens on health care reform to incorporate the diverse set factors associated with quality of life and create joint accountability for health across sectors.

### Major Grant Projects:

- Expand the existing Health Care Expenditure Analysis to a **Health Expenditure Analysis** that quantifies the State's current investments in health across state agencies.
- Evaluate agency **performance dashboards** and recommend measures that **reflect a culture of health across state government.**

# U.S. High Health Spending ≠ Excellent Health Outcomes

## 3.3. Life expectancy at birth and health spending per capita, 2013 (or latest year)

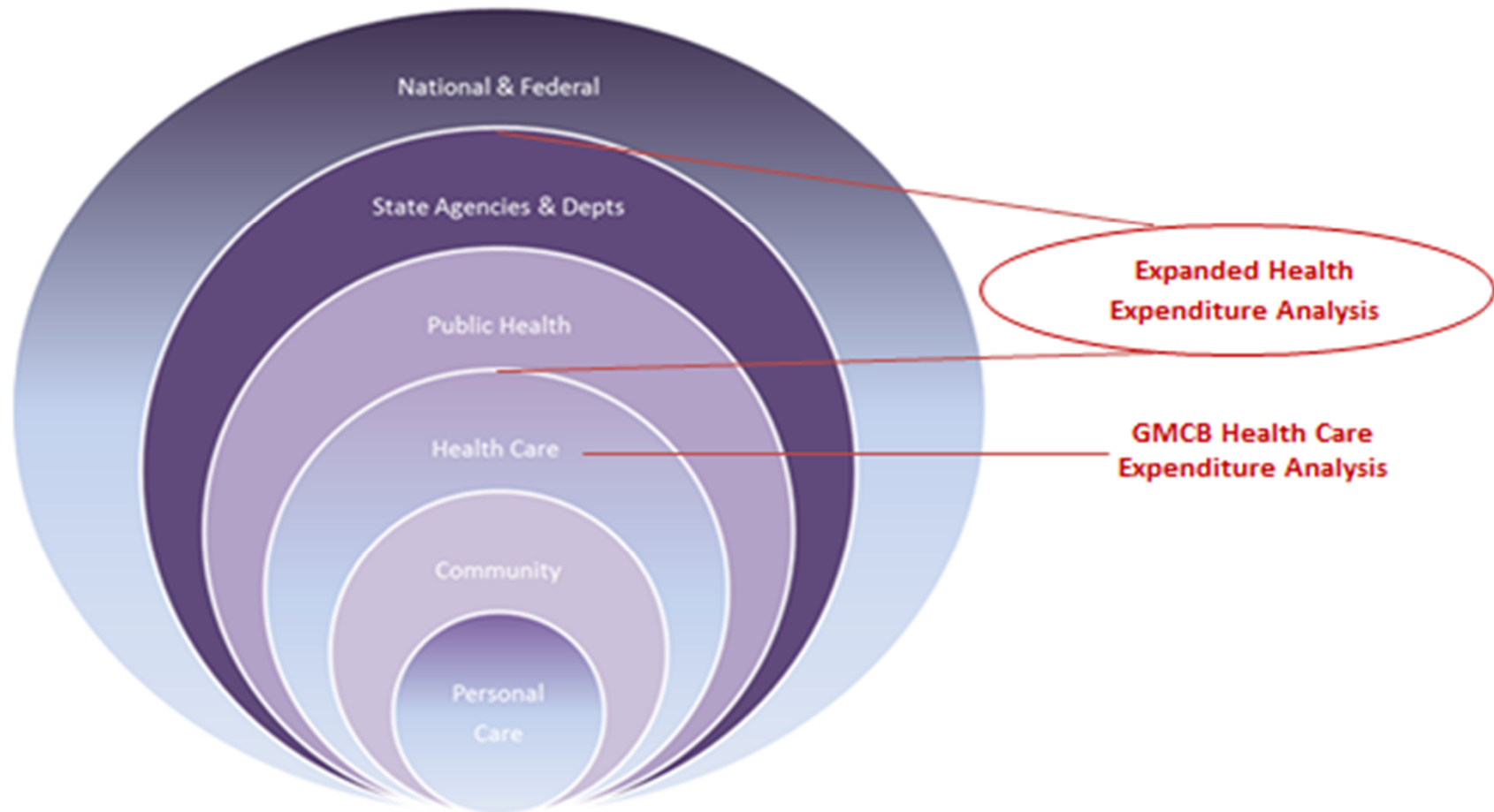


Source: OECD Health Statistics 2015, <http://dx.doi.org/10.1787/health-data-en>.

StatLink  <http://dx.doi.org/10.1787/888933280727>



# Vermont Unified Health Budget



The Expanded Health Expenditure Analysis builds on the GMCB Health Care Expenditure Analysis to include spending on public health and non-health programs that affect health (e.g. bike paths under the Agency of Transportation).



# Expanded Health Expenditure

- Novel and ambitious
- A demonstration project
- Phase I- Develop framework; inventory total investments; simple analysis on spending across determinants of health
- Phase II- Deeper health impact analysis
  - Health effects of investments on individuals and the population
  - Monetary effects of specific investments, such as direct health savings (e.g. reduced future care spending) and other economic effects (e.g. productivity)
  - Crosswalk investments and health outcomes with evidence-based interventions
- A tool for decision-makers and researchers to inform and analyze funding options
- Complimentary to other state health reform efforts and national initiatives
- A model for other states



# Dashboard Recommendations

- Foster shared accountability for health across state government by applying a health lens to decision-making in non-health sectors
- Work together with agencies to identify opportunities to integrate performance measures that reflect a culture of health



## Two Types of Recommendations:

- **Universal**—Indicators that can be integrated in all agencies
  - E.g. Incorporation of Health Impact Assessments in policies and grants
  - Employee wellness services
- **Agency/Department-Specific**—Indicators unique to individual departments/agencies
  - E.g. % of smoke-free affordable housing units
  - # of Complete Street policies
  - % of adults involved in social, civic, sports, religious groups
  - % reduction in travel commute time



What if we acted as if disease was **not** inevitable?

# Information is not enough

Just telling people how to be healthy doesn't work, we need to change the environment.



# Behavioral vs. Standard Economics

## Standard Economics

- Make rational decisions to maximize happiness
- Have all needed information
- Market forces correct mistakes

## Behavioral Economics

- Experience “bounded rationality”
- Impossible to have all needed information
  - Have limited information-processing abilities anyway
- Make repeated systematic decision errors

(Ariely, 2008)

## Bad popcorn in big buckets:

### portion size can influence intake as much as taste

- Moviegoers in Philadelphia
- Popcorn in medium and large buckets
- Fresh and 14 day old popcorn
- Large buckets + fresh popcorn – **+45%**
- Large buckets + stale popcorn – **+34%**

Wansink and Kim, 2005

Vermont Department of Health



# Choice Architecture in Action



Photo: Whole Foods



# Choice Architecture in Action!





# Creating Healthier Defaults



(Just & Wansink, 2009)

# Loss Aversion

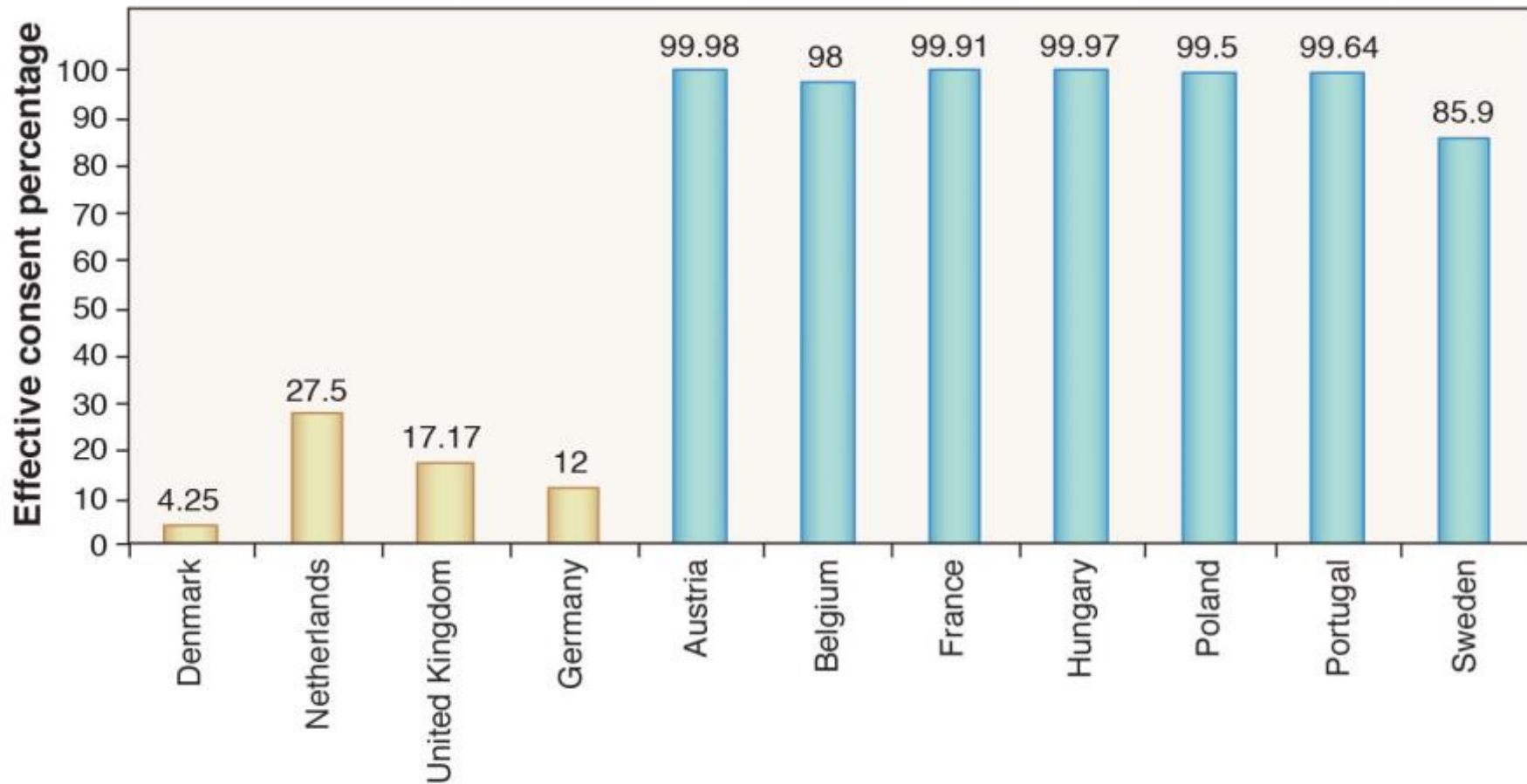
- We like to avoid losses more than we like to experience gains
- Assign inflated value to OUR possessions (seller)



Descriptive Statistics

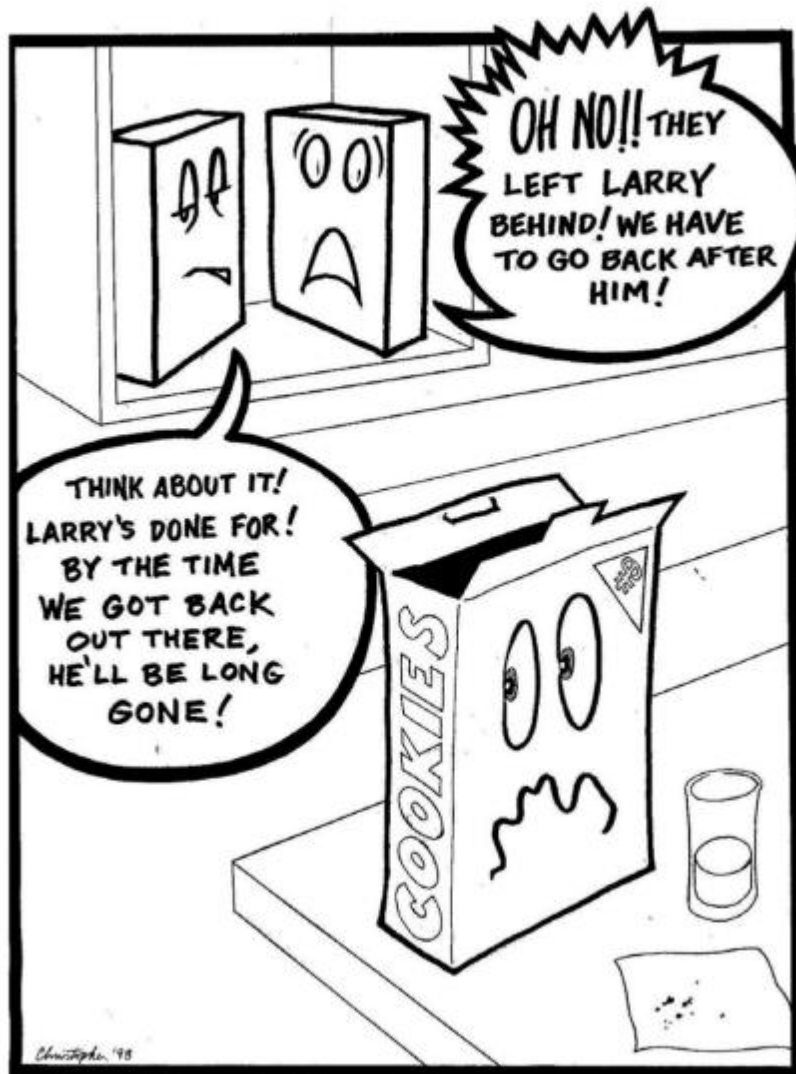
	N	Minimum	Maximum	Mean	Std. Deviation
Seller_Price	42	.00	5.00	.7979	1.12189
Buyer_Price	42	.00	1.00	.2990	.26876
Valid N (listwise)	0				

# Opt-in, Opt-out?



**Effective consent rates, by country.** Explicit consent (opt-in, gold) and presumed consent (opt-out, blue).

## Foods Left Out are Eaten Twice as Fast



Painter, Wansink & Hieggelke, *Appetite*, 2002

<http://rulethediet.blogspot.com/2014/01/easy-changes-to-eating-habits-just-few.html>

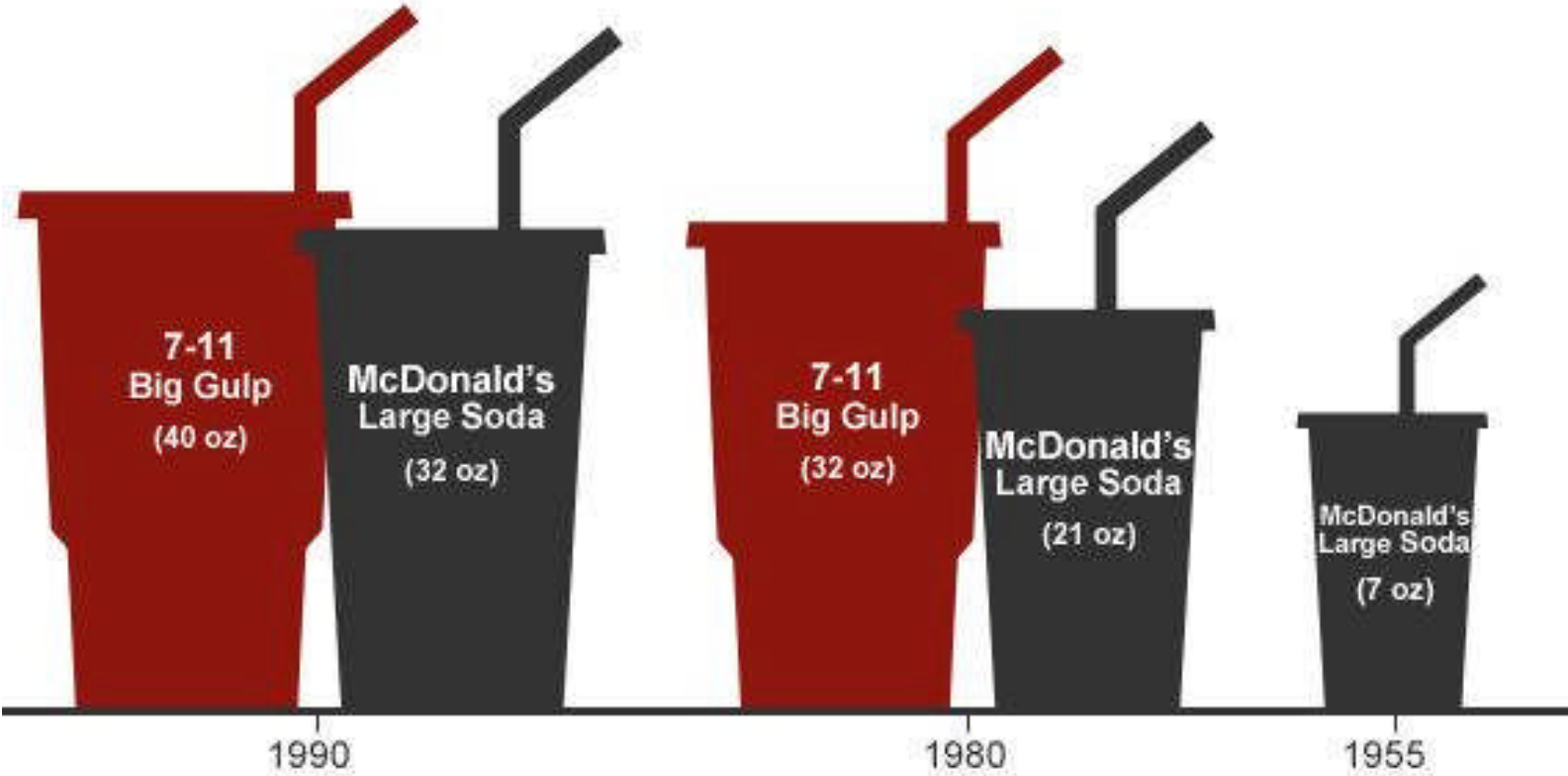
# Make Sure to Digest This . . .



- ❑ Behavioral economics is the study of irrational decision making
- ❑ Many of our food and exercise decisions could be seen as irrational
- ❑ We use decision-making heuristics or shortcuts to direct our everyday choices
- ❑ Behavioral economic strategies such as arranging choice architecture, changing defaults, and providing incentives may help people make decisions that benefit their long-term health
- ❑ Behavioral economics is seriously cool and useful

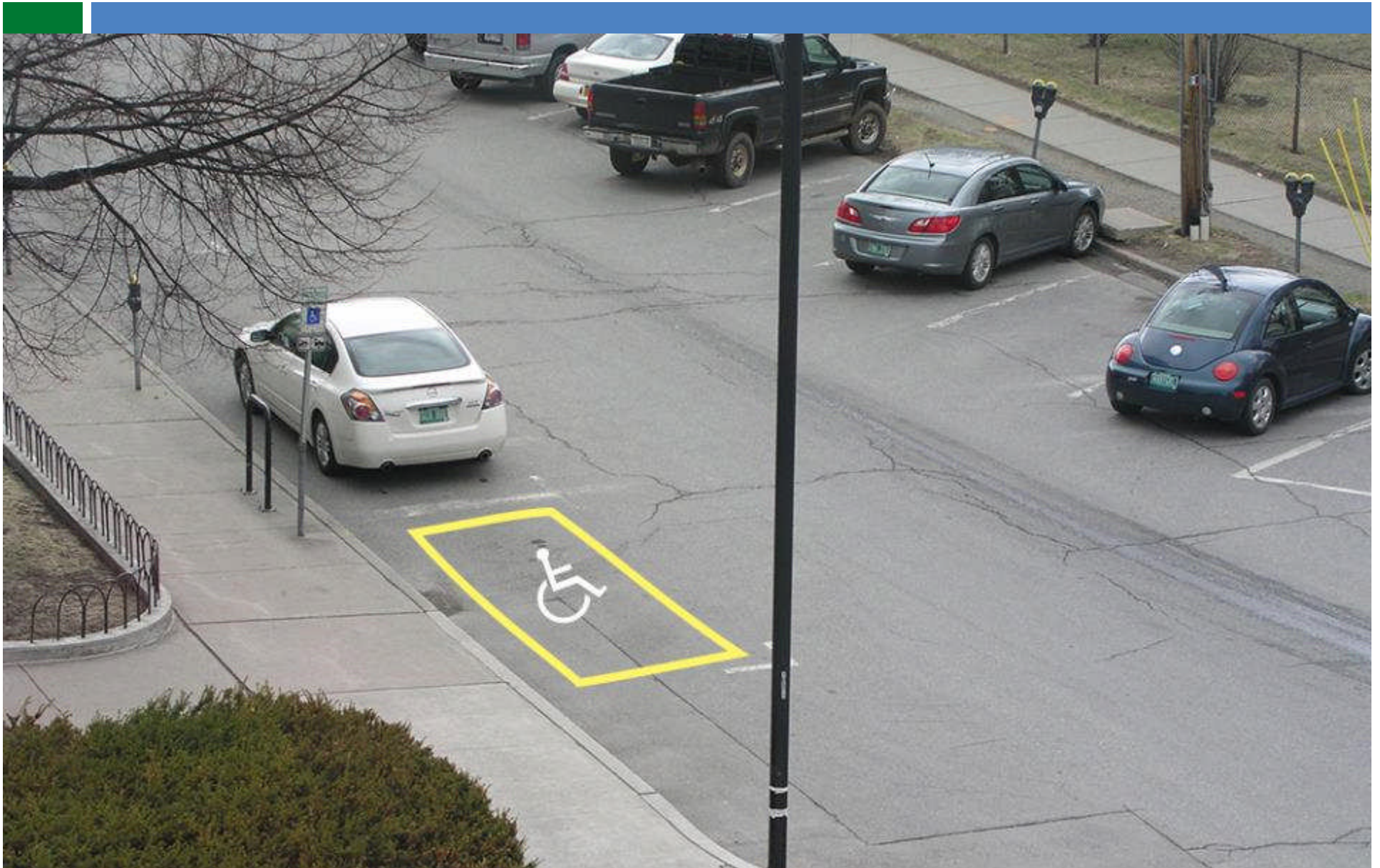
# Size Matters

## SODA FOUNTAIN DRINK SIZE CHANGES





# Is this really the choice spot?





# Choice Architecture tools





**Eat Well • Move More • Learn Better • Live Longer**

