



Comprehensive Center of Excellence for Health
and Risk in Minority Youth and Young Adults

Strategic Science

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Are we doing research that
makes a difference to the health
of the public?

Does the research we do help to
alleviate disparities in health?

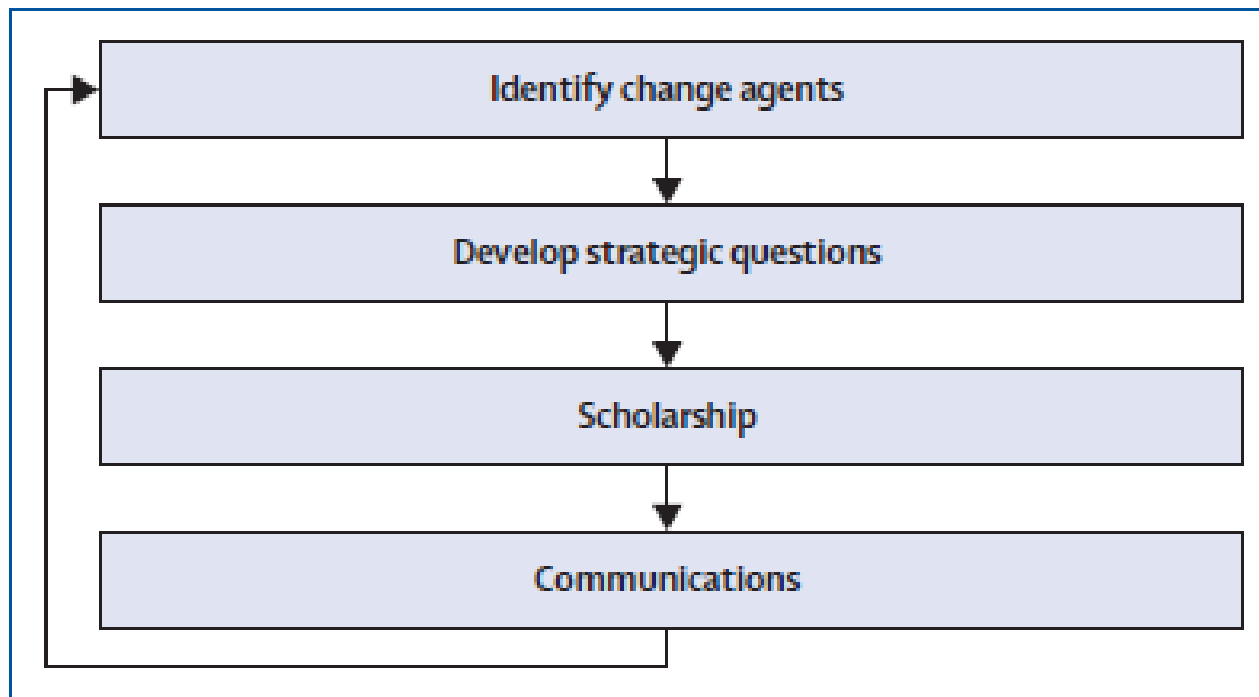


Figure: A model of strategic science designed to enhance links between science and policy

From Brownell and Roberto, Lancet 2015

DEVELOPING RESEARCH QUESTIONS



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Strategic research questions

- Be inspired by the things that make you angry, upset, things that are unfair, things that you want to change.
- Understand the gaps in our understanding OR the gaps in awareness that research can address.
- Know what questions you have the tools to address.
- Who is the audience? Who are the change agents?

Additional considerations

- Be wary of research questions chosen only for expediency
 - But recognize that publications are important
- A good strategic research question may still require several smaller questions to lay the groundwork.
- The value of working in teams/
transdisciplinary research

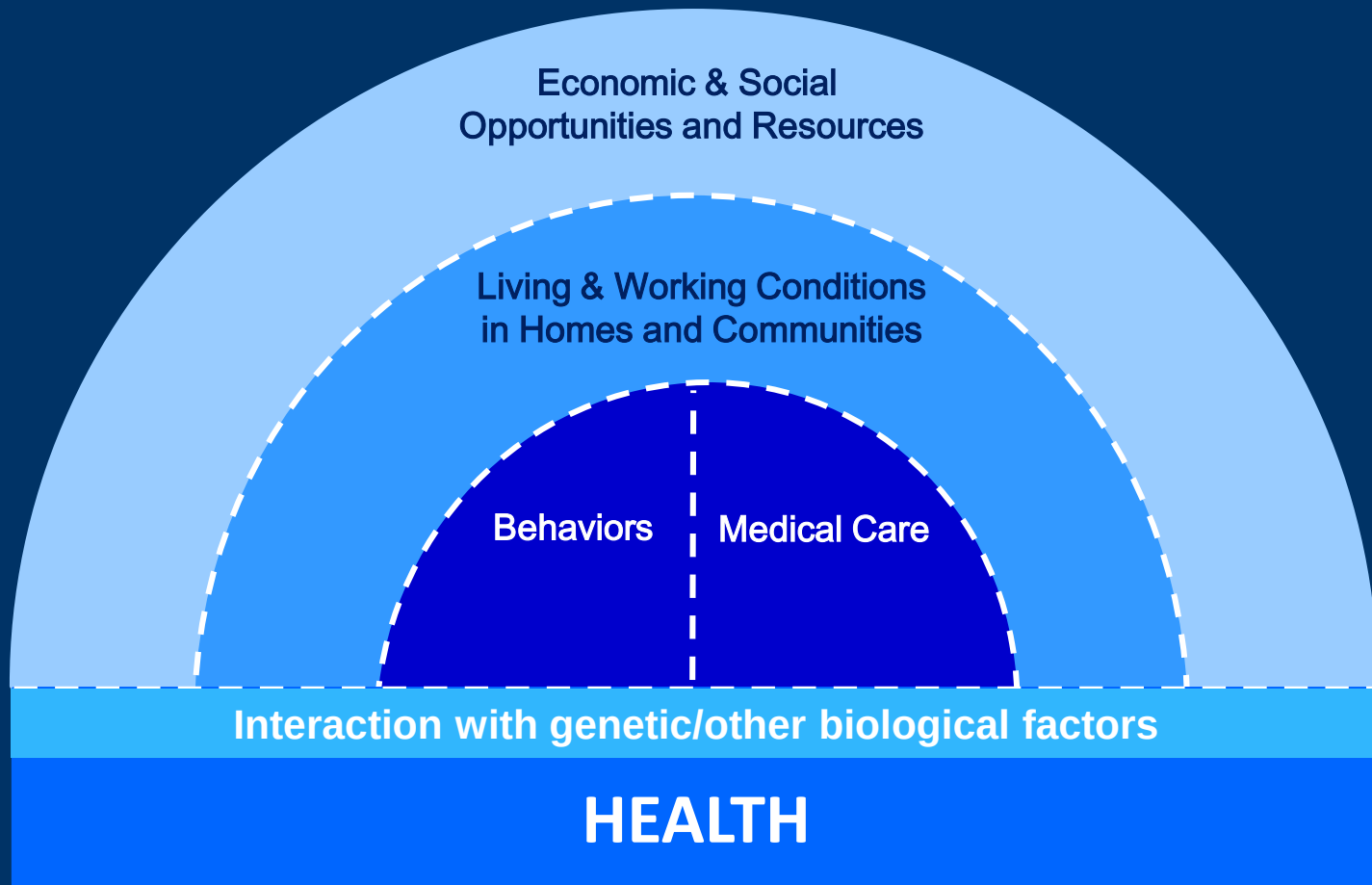
UNDERSTANDING THE CONTEXT OF YOUR RESEARCH



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Understanding patterns of health and disease



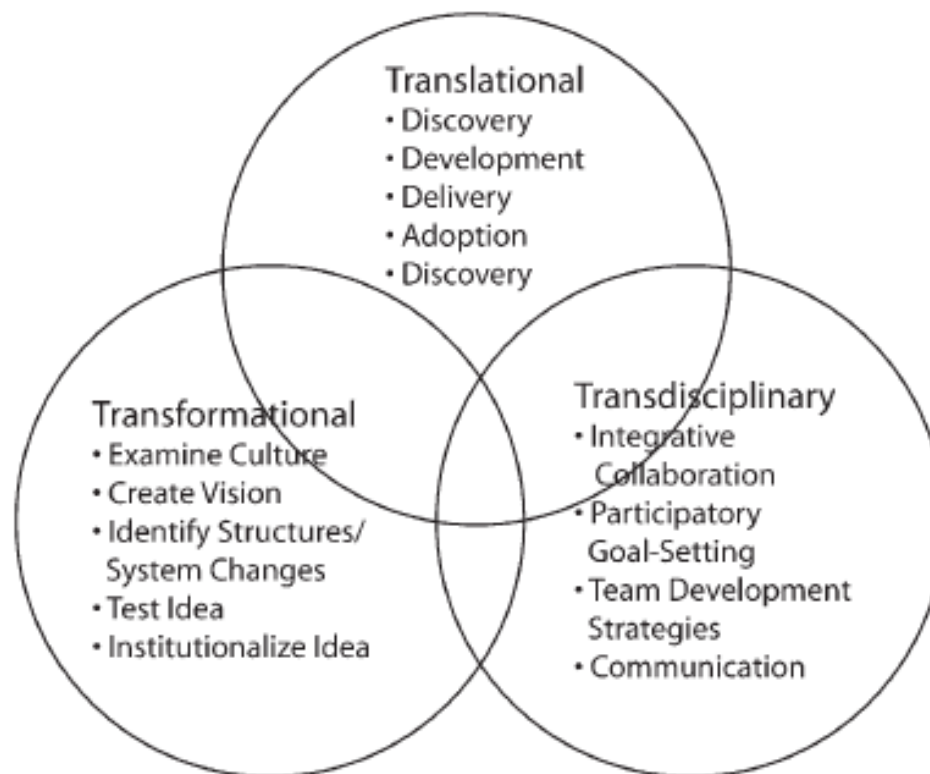


FIGURE 3—Innovations in health disparities science at the intersections of translational, transformational, and transdisciplinary research.

Dankwa-Mullins et al.

CONDUCT AND PUBLISH HIGH QUALITY RESEARCH



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Academic currency

- Rigorous analysis
 - Skeptical objectivity
 - Peer review publication
 - High impact journals
 - Who is the audience you are trying to reach?
-
- Researcher or advocate?

CASE STUDY: MY PATIENT



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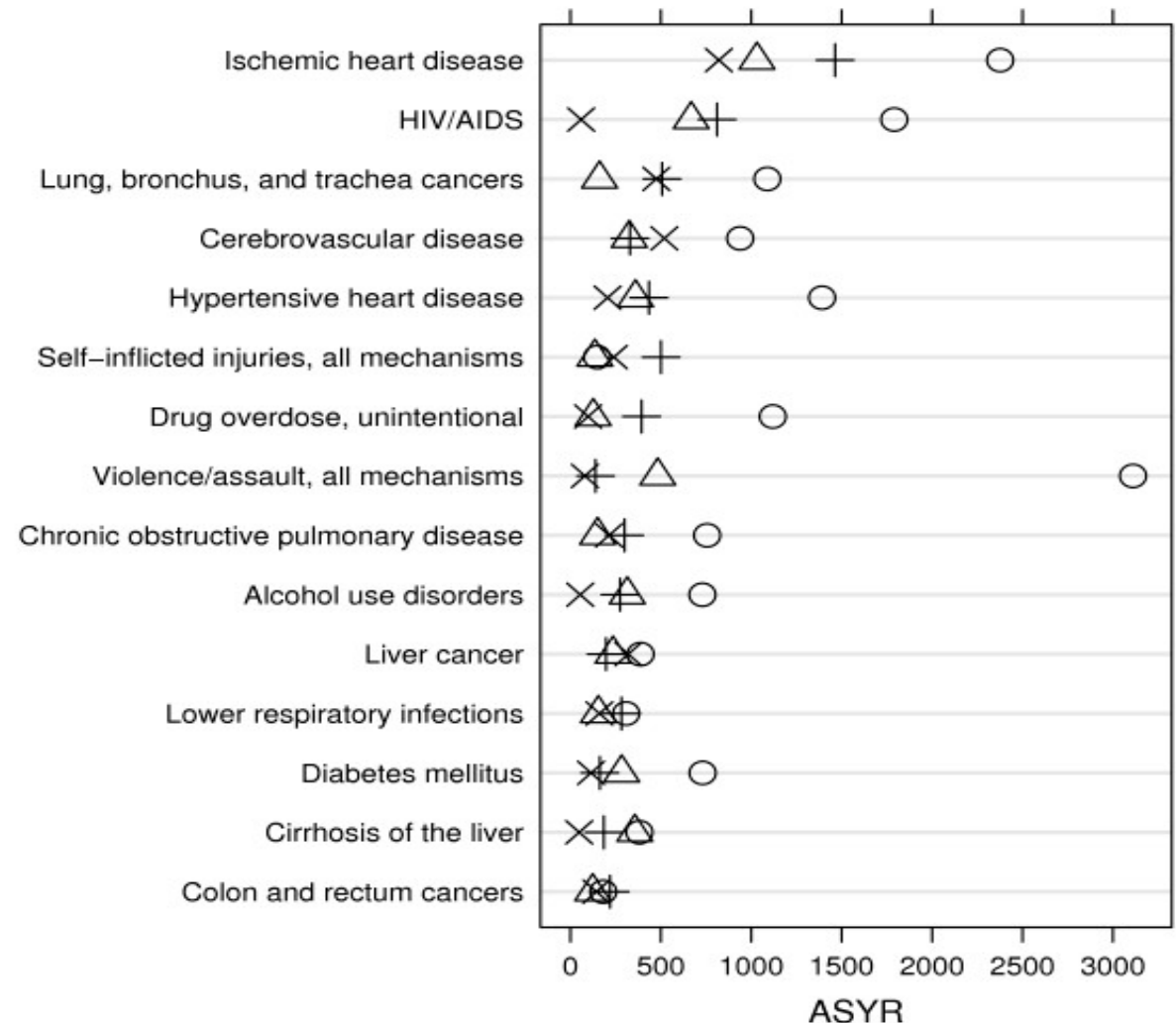


Causes of premature mortality in SF

African American (o)
 Latino/Hispanic (Δ)
 Asian/Pacific Isl (x)
 White (+)

Similar data for women
 (heart disease #1) but
 trauma/drugs replaced
 by cancers

Aragon, et al. BMC
 Public Health 2008

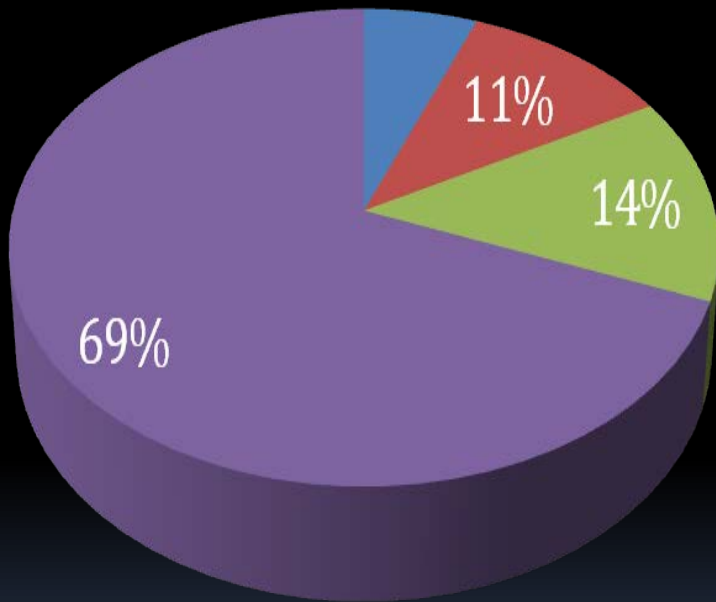


CVP

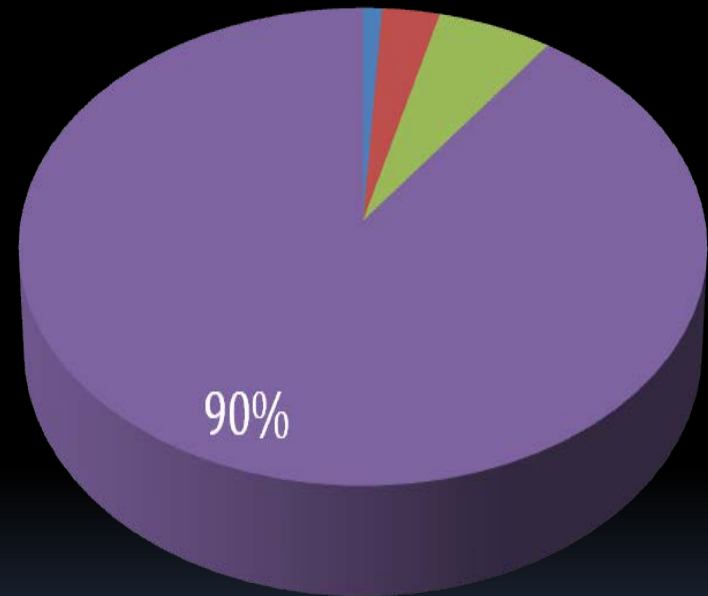
Center for Vulnerable Populations
 at San Francisco General Hospital and Trauma Center

When do Heart Failure Deaths Occur?

US Blacks



US Whites



35-44 Yrs



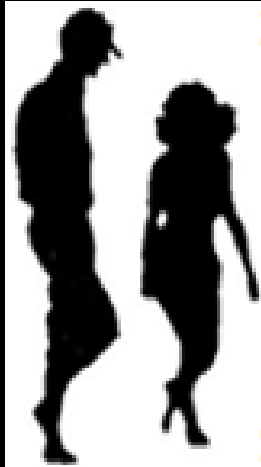
45-54 Yrs



55-64 Yrs



65 +



CARDIA

Coronary Artery Risk Development in Young Adults

The NEW ENGLAND JOURNAL *of* MEDICINE

ESTABLISHED IN 1812

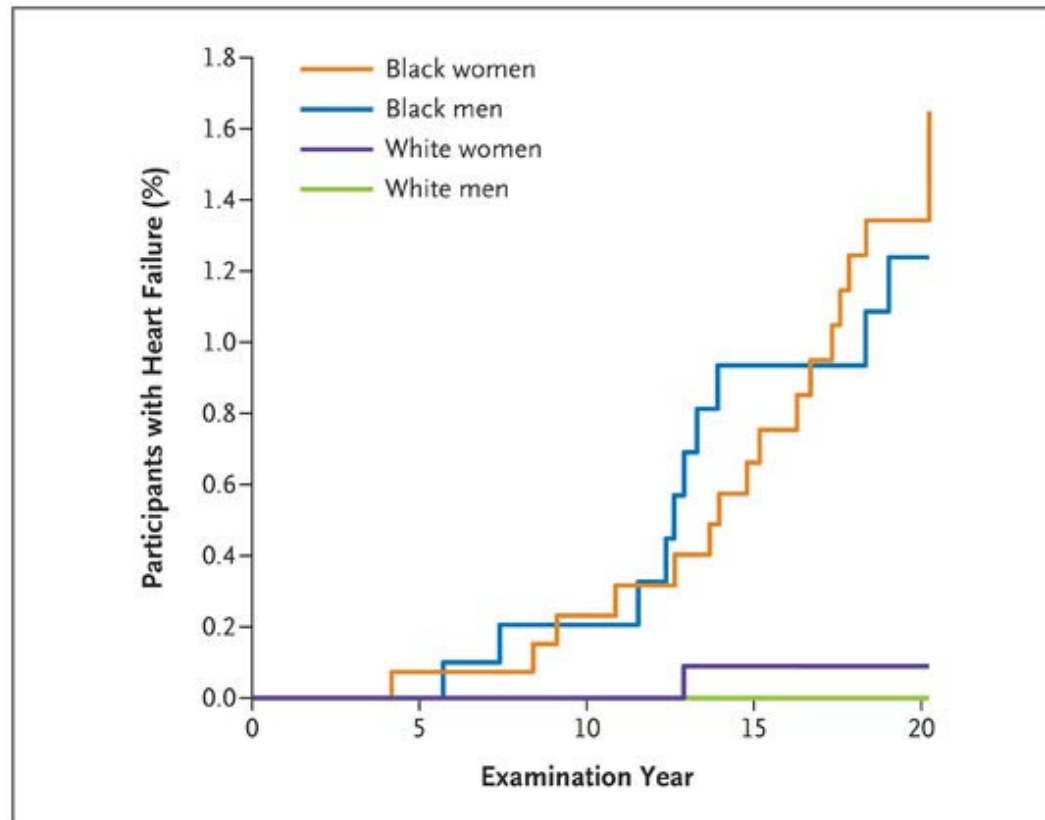
MARCH 19, 2009

VOL. 360 NO. 12

Racial Differences in Incident Heart Failure among Young Adults

Kirsten Bibbins-Domingo, Ph.D., M.D., Mark J. Pletcher, M.D., M.P.H., Feng Lin, M.S., Eric Vittinghoff, Ph.D.,
Julius M. Gardin, M.D., Alexander Arynchyn, M.D., Cora E. Lewis, M.D., O. Dale Williams, Ph.D.,
and Stephen B. Hulley, M.D., M.P.H.

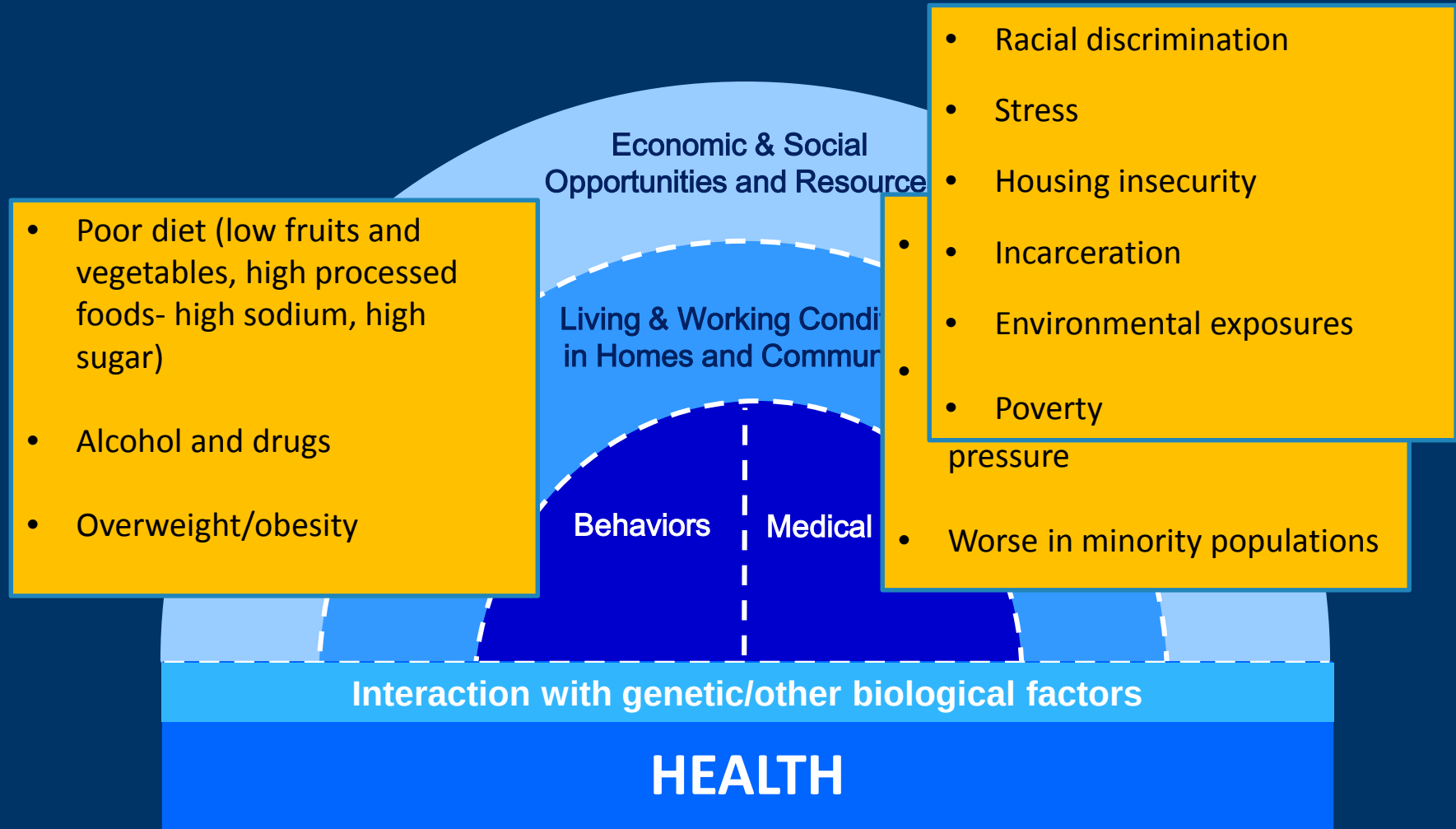
New Cases of Heart Failure in the Black and White Young Adults



In our study of over 5000 young adults followed for 20 years:

- 1 in 100 black men and women develop heart failure before age 50.
- Blood pressure elevation in 20's was strongest predictor.
- Development of diabetes in 20's and 30's also important.

My mental map for heart failure and hypertension



CASE STUDY: POLICIES THAT HARM OUR EFFORTS AT PREVENTION



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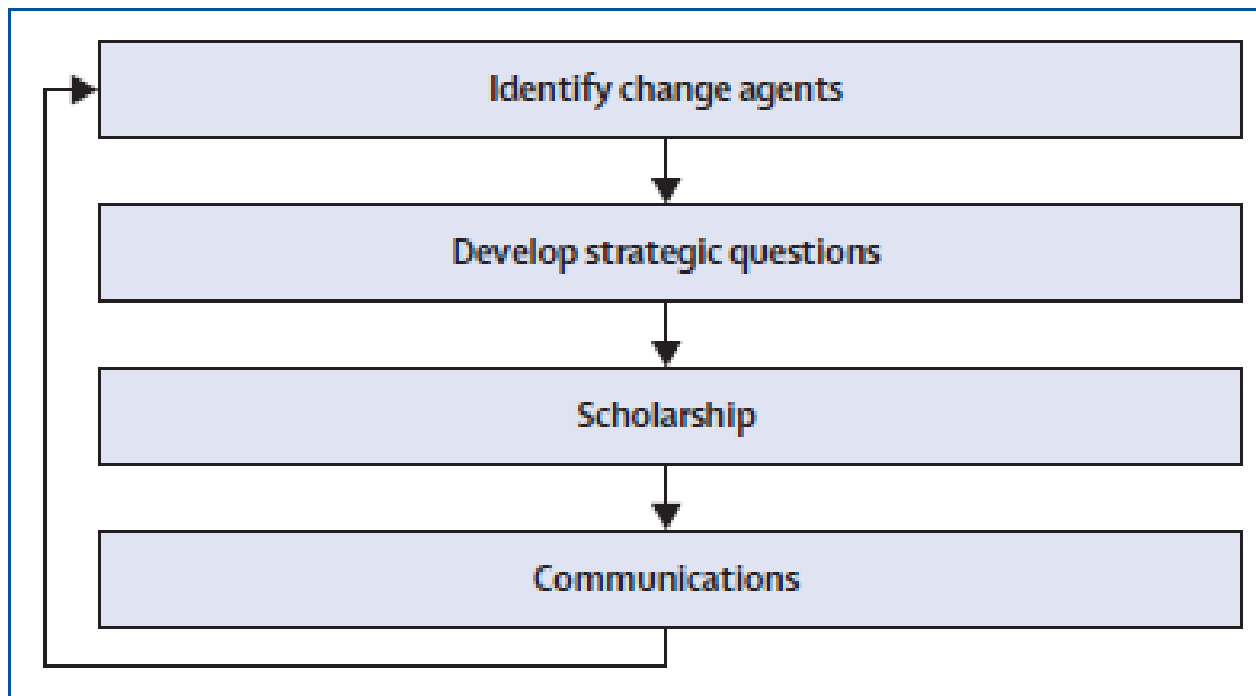


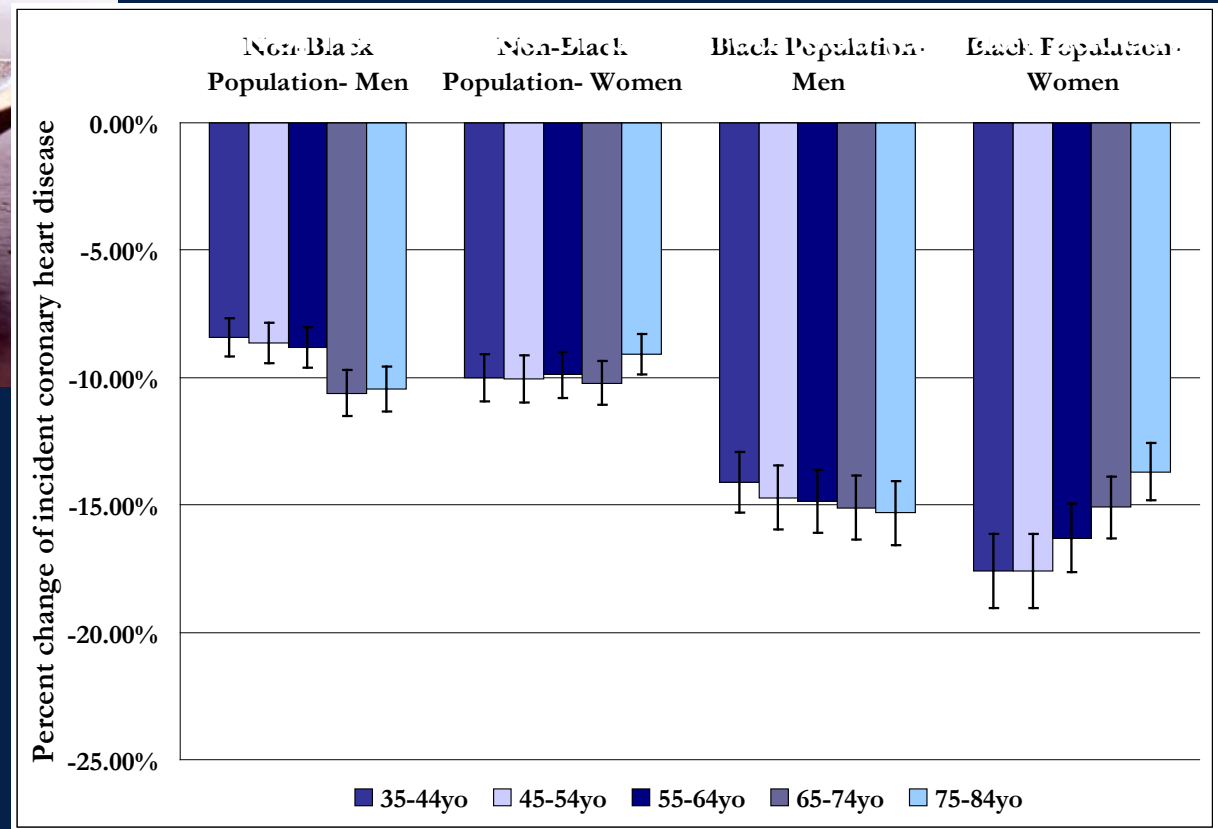
Figure: A model of strategic science designed to enhance links between science and policy

From Brownell and Roberto, Lancet 2015



Most of us are eating far too much salt

Small reductions in food supply could result in large benefits in cardiovascular disease prevented.



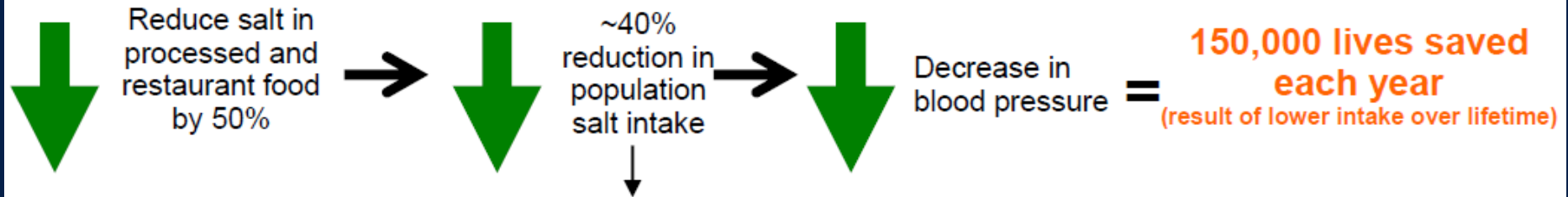
Bibbins-Domingo, K. et. al. NEJM, 2010, 362 (7):590-99.

The Washington Post

**FDA plans to limit amount of salt
allowed in processed foods for health**

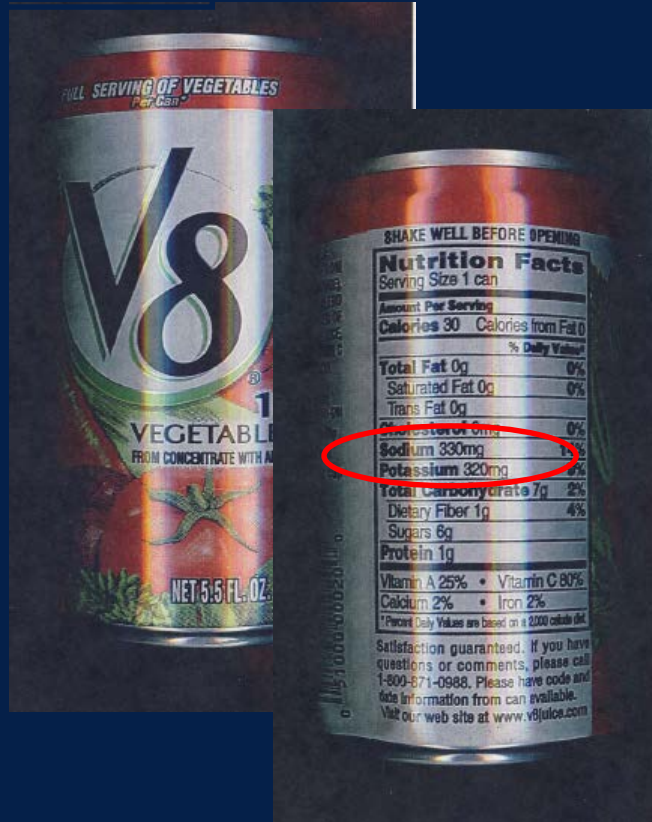
National Sodium Reduction Initiative (NSRI)

National health organizations call for a 50% reduction in the amount of salt in restaurant and processed food in 10 years.

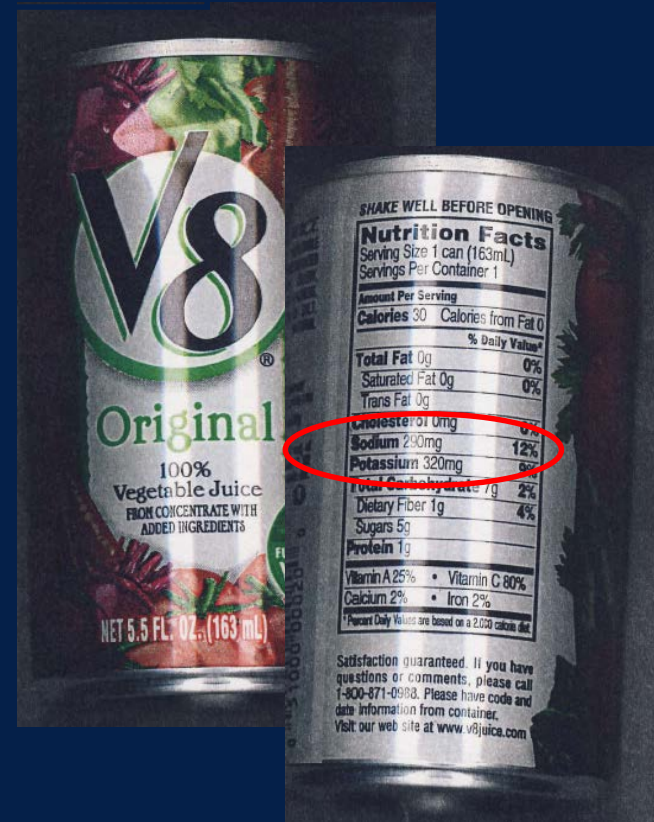


To ensure progress toward the 40% reduction in population salt intake, we commit to an interim goal of a 20% reduction in 5 years.

2006



2011



Slide courtesy of Dr. Cheryl Anderson

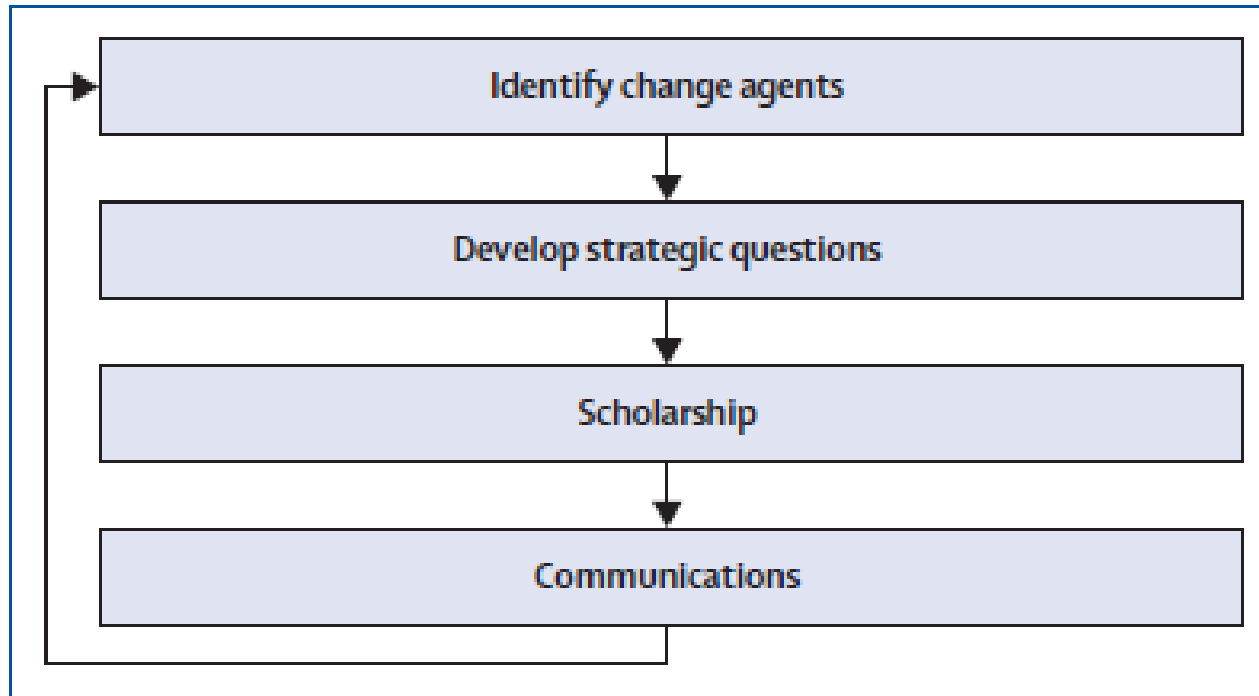


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From Brownell and Roberto, Lancet 2015

New Drugs for Cholesterol Lowering: PCSK9 Inhibitors

By The Cardiology Times - December 16, 2016 · 1647 · 2

Price Chop for Evolocumab: PCSK9 Inhibitor Cost Cut by 60%

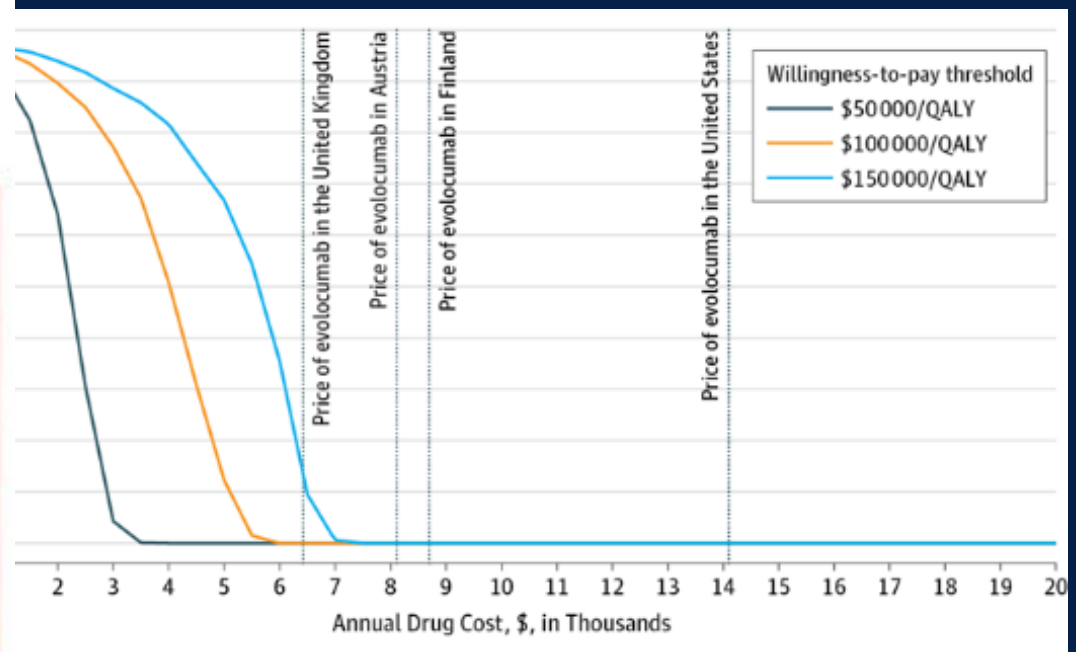
The reduction is intended to improve access for Medicare patients, a group with high monthly copays who frequently never fill their prescriptions.



By Michael O'Riordan · October 25, 2018



Highly effective cholesterol-lowering agents
priced at \$14,000 per year



Kazi, et al. JAMA. 2016;316(7):743-753

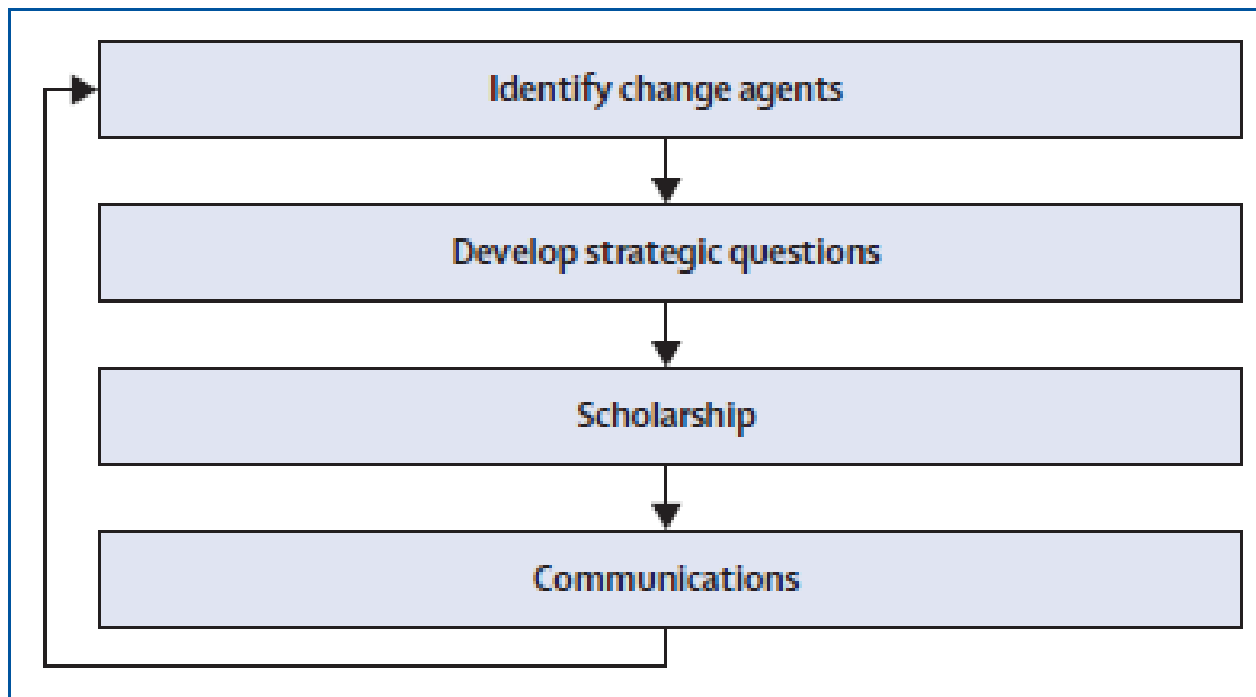


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From Brownell and Roberto, Lancet 2015



17 billion dollar savings
from cardiovascular
disease avoided

Additional 13 billion
revenue from tax

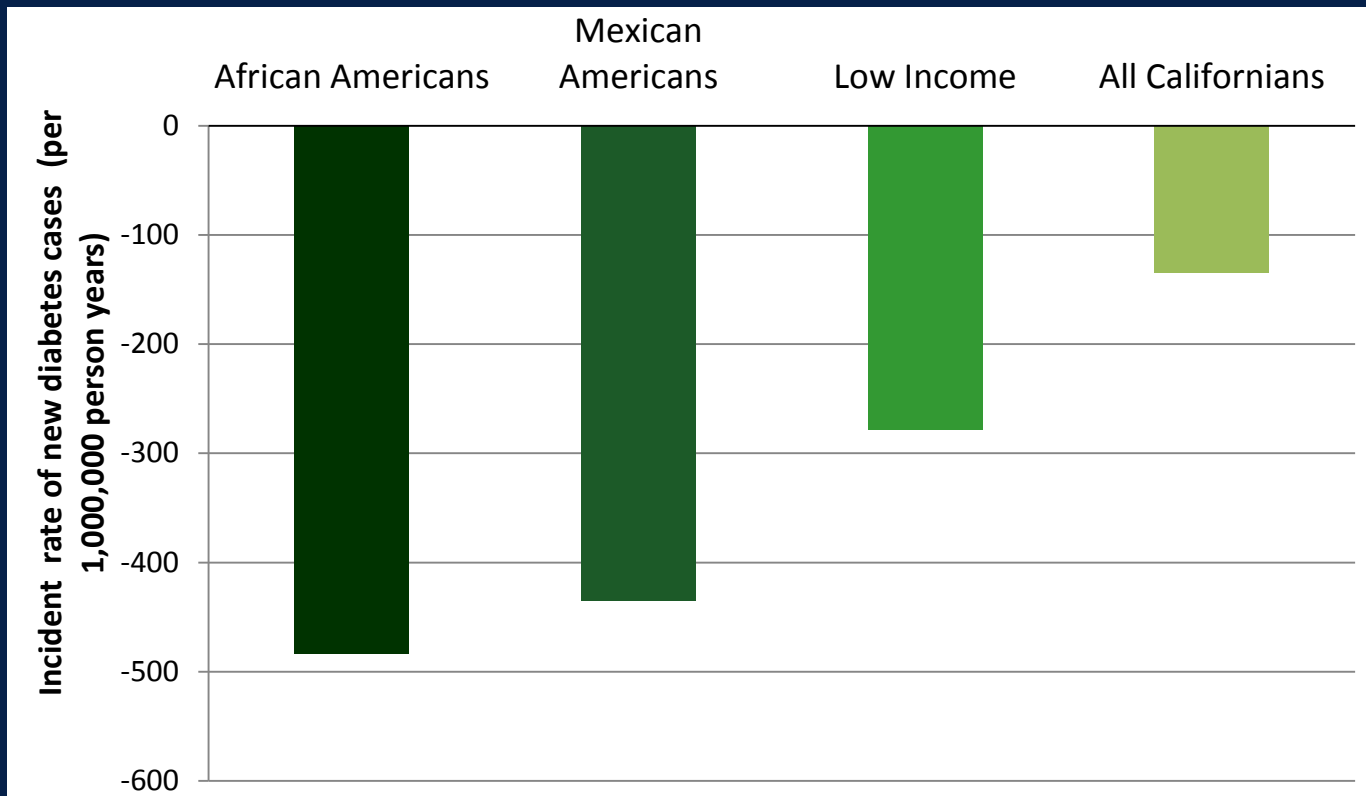
EXHIBIT 2

Projected Ten-Year Savings In Medical Costs From A Penny-Per-Ounce Tax On Sugar-Sweetened Beverages

Group	Diabetes cost savings (\$ billions)	Cardiovascular disease cost savings unrelated to diabetes (\$ billions)	Total cost savings (\$ billions)
Both sexes, ages 25-64	9.6	7.4	17.1
Men			
Ages 25-44	1.6	1.5	3.2
Ages 45-64	4.6	3.5	8.1
Women			
Ages 25-44	0.9	0.9	1.8
Ages 45-64	2.5	1.6	4.1

Wang, et al. Health Affairs (Millwood) 2012 Jan;31(1):199-207.

Isn't the soda tax a regressive tax?



Mekonnen PLOSOne 2013 Dec 11;8(12):e81723

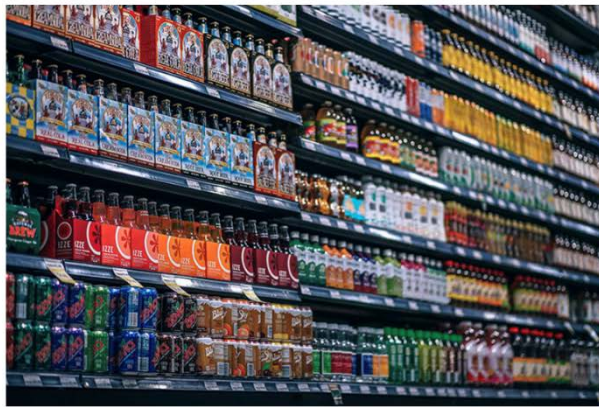
Three years into soda tax, sugary drink consumption down more than 50 percent in Berkeley

By [Kara Manke](#) | FEBRUARY 21, 2019



Consumption of sugary drinks in Berkeley's diverse and low-income neighborhoods dropped precipitously in 2015, just months after the city levied the nation's first soda tax on sugar-sweetened beverages.

Three years later, residents in these neighborhoods reported drinking 52 percent fewer servings of sugary drinks than they did before the tax was passed in November 2014, shows [a new report](#) from the University of



Consumption of sugary drinks dropped 52 percent among Berkeley's low-income residents in the three years after the city enacted a penny-per-ounce excise tax on sugar-sweetened beverages in early 2015. (Image courtesy Pexels.com)

Sugary Drink Ban Tied to Health Improvements at Medical Center

Workers at the University of California, San Francisco, lost belly fat and showed metabolic benefits after a ban on sugary drinks went into effect.



CASE STUDY: WRITING TO REFRAMING THE DISCUSSION



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The story of BiDil

- 1990's - V-Heft trial mortality benefit from isordil/hydralazine combination
 - Use superseded by ACE inhibitors
- 2000's – Nitromed creates combo pill
 - FDA refuses NDA
 - Trial in African Americans only
 - FDA approves NDA for African Americans
 - Price of generic medications -> increases to 3000/yr

BiDil[®]
isosorbide dinitrate/hydralazine HCl

arbor
patient
DIRECT
ArborPatientDirect.com

CO-PAY AS LOW AS

\$25*

Click here to find out how



I am a **healthcare provider** interested in prescribing BiDil to my patients

I am a **patient/caregiver** interested in learning about BiDil for African Americans with heart failure



CHARM

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UCSF

BiDil for Heart Failure in Black Patients: Implications of the U.S. Food and Drug Administration Approval

Kirsten Bibbins-Domingo, PhD, MD, and Alicia Fernandez, MD

In 2005, the combination of hydralazine hydrochloride and isosorbide dinitrate was approved by the U.S. Food and Drug Administration (FDA) for treating heart failure in black patients. In departing from its long history of approving drugs for general clinical indications without regard to demographic classification, the FDA cited the need to address racial disparities in health as an important contributor to their decision. The authors argue that this decision, although perhaps well-intentioned, was based on flawed scientific interpretation of trial results that claimed differential drug response

by race and ignored the considerable literature on the cause of racial disparities in health and health care. Because of its potential impact on future drug approvals, the FDA's decision is a setback in the scientific and policy discourse on medical therapeutics and race and specifically hinders the efforts aimed at eliminating health and health care disparities.

Ann Intern Med. 2007;146:52-56.

For author affiliations, see end of text.

www.annals.org

1. Drug approval for a specific group implies a differential response that has not been tested
2. In approving a drug for a specific race-ethnic group, FDA risks incentivizing trials in less diverse patient populations
3. In turn, this may lead to more studies designed solely for niche marketing

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1. By endorsing race as a treatment indication, the FDA unscientifically endorsed a biological model of race.
2. The use of the health disparities argument to justify approval suggests a “solution” (race-targeted pharmacology) for a “problem” (racial disparities in health) and elevates biological difference in medication response to an important cause of health disparities without evidence.
3. Using health disparities to justify the “creation” of an expensive medication is perverse.

Focus on the right health fight

Kirsten Bibbins-Domingo, Alicia Fernandez Published 4:00 am, Monday, March 5, 2007



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It's official: The House Intelligence Committee is a joke 6:13 AM

What's a Jeff Flake or John Kasich to do?

With Republicans nervous, more Democrats need to weigh in on...

Damage control at White House to reverse Trump's stunning blunder

Ad



In its quest to advance civil rights and end disparities in health, the **NAACP** has picked the wrong fight.

The NAACP's New England branch recently accused Medicare of racism for deciding not to require coverage of BiDil, a heart failure drug approved by the **Food and Drug Administration** for the treatment of African-American patients. But the venerable civil rights organization has fallen for the same marketing ploy that the FDA did in approving BiDil in the first place, and that could set a dangerous

If we want to get at the root causes of disparities in heart disease, we need to look at a number of factors, such as under-use of common, standard therapies in African Americans, as well as inadequate preventive care. We need to pay attention to the complex social problems -- most notably poverty and inequality -- that interact with human biology to produce poor health. And finally, we must recognize that eliminating health disparities also requires access to high-quality, affordable health care for all Americans -- the important issue that Congress is rightly debating.

Dissemination

- For academic publications – think about the simple take-home message for the audience you want to reach
- Do not confuse academic publication with the type of dissemination that can create change.
- Learn to use the language of:
 - Media, Healthcare organizations, Guideline-making organizations, Politicians, Advocacy groups, Community members
- Takes time, but has its own rewards

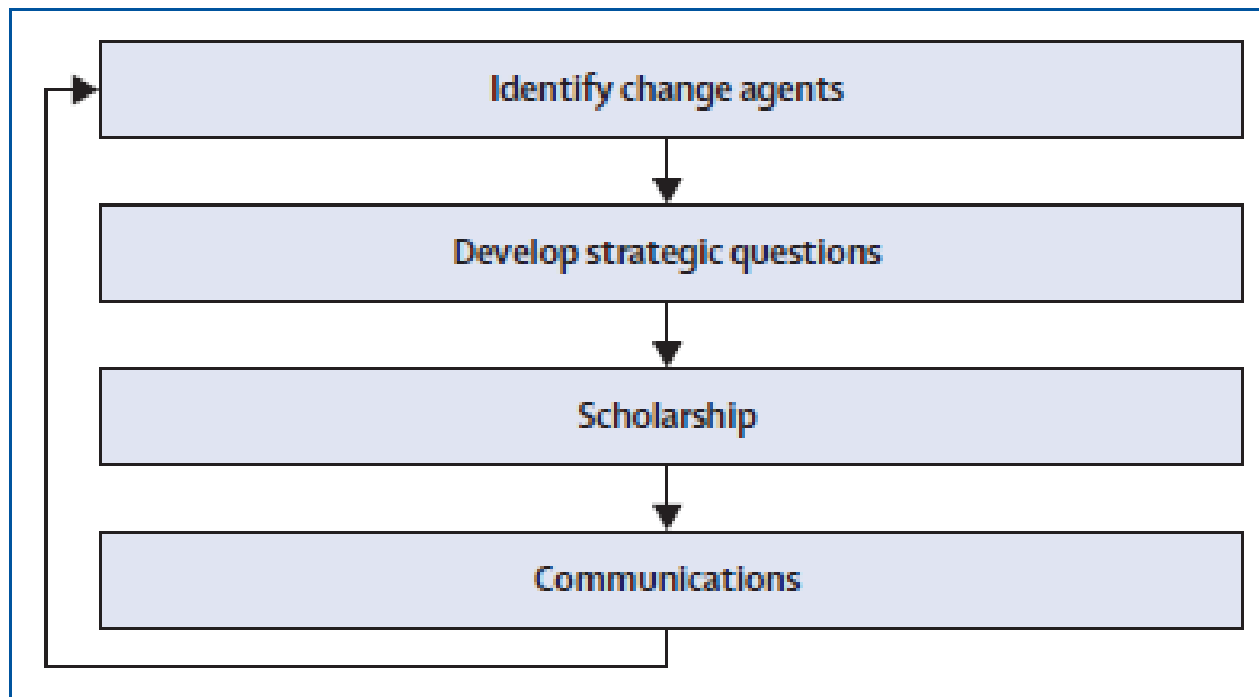


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Understanding patterns of health and disease

