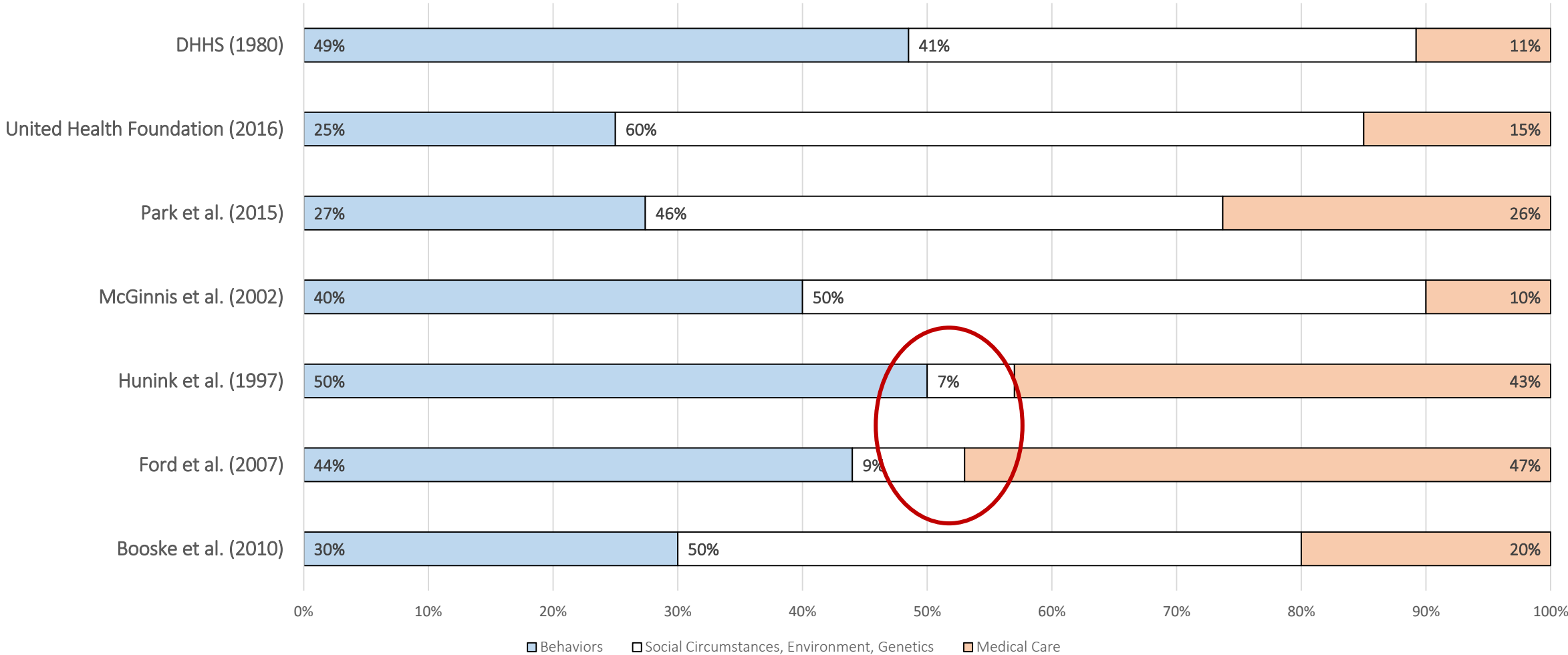# Medical Care as a Cause of Improved Health

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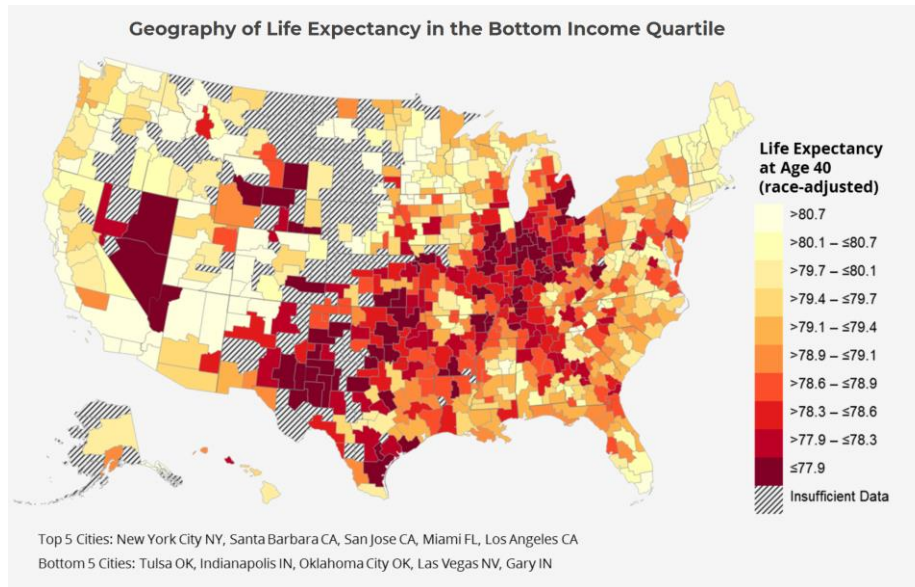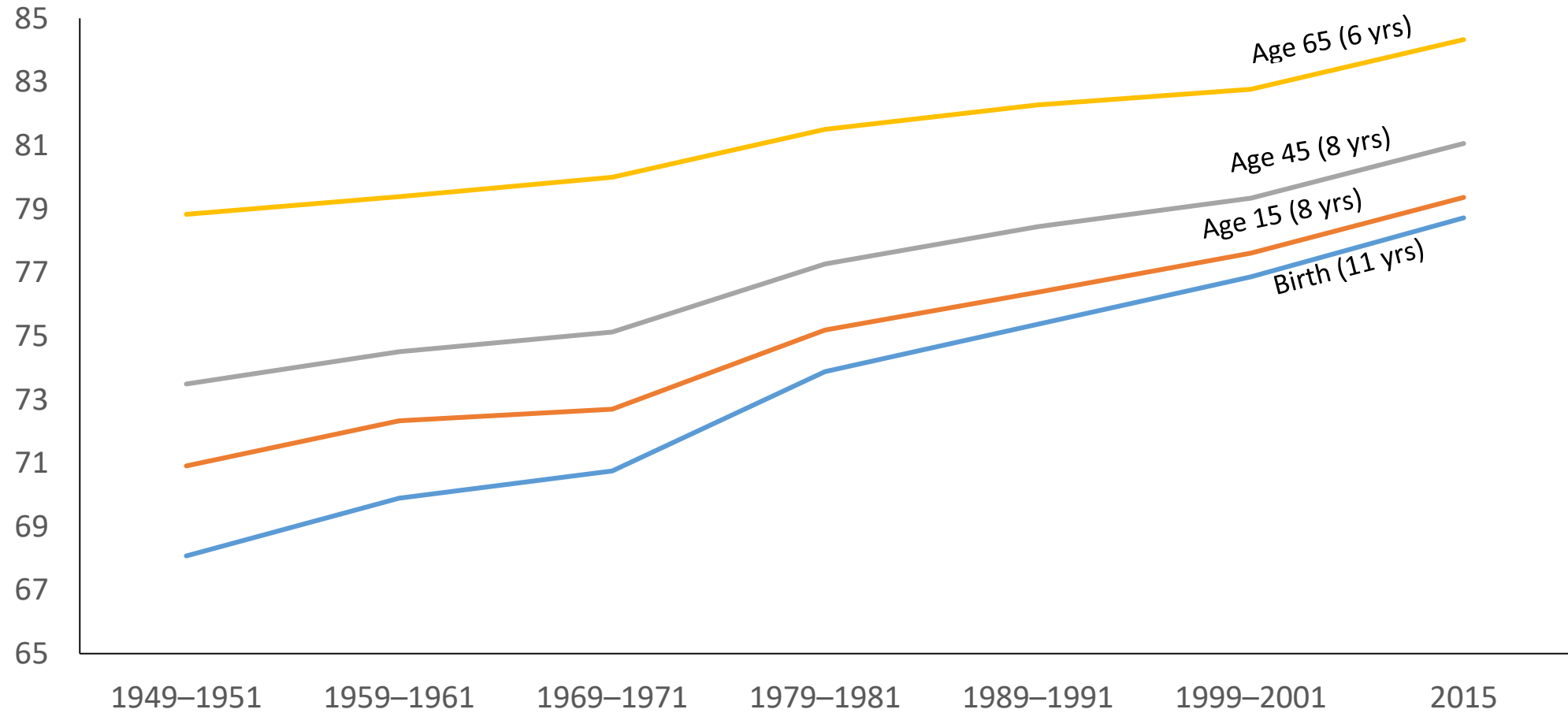
What matters for health?

Biggest difference – cross-section v. time series

Health knowledge and technology is the same everywhere → most of difference due to behaviors and social factors

Technology is a lot better now than then → medical care matters more

Geography of Life Expectancy in the Bottom Income Quartile

Life Expectancy at Age 40 (race-adjusted)
>80.7
>80.1 – ≤80.7
>79.7 – ≤80.1
>79.4 – ≤79.7
>79.1 – ≤79.4
>78.9 – ≤79.1
>78.6 – ≤78.9
>78.3 – ≤78.6
>77.9 – ≤78.3
≤77.9
Insufficient Data

Top 5 Cities: New York City NY, Santa Barbara CA, San Jose CA, Miami FL, Los Angeles CA
Bottom 5 Cities: Tulsa OK, Indianapolis IN, Oklahoma City OK, Las Vegas NV, Gary IN
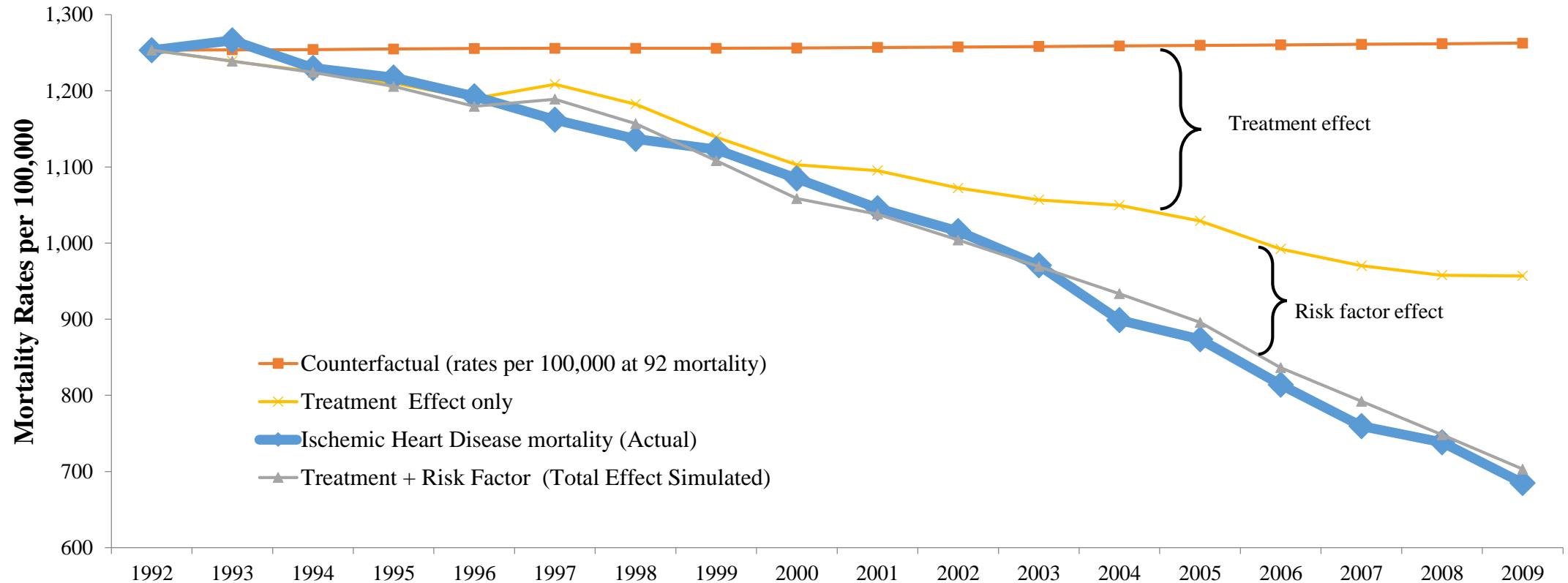
Expected age at death, by current age

Change in Life Expectancy by Condition, 1990-2014
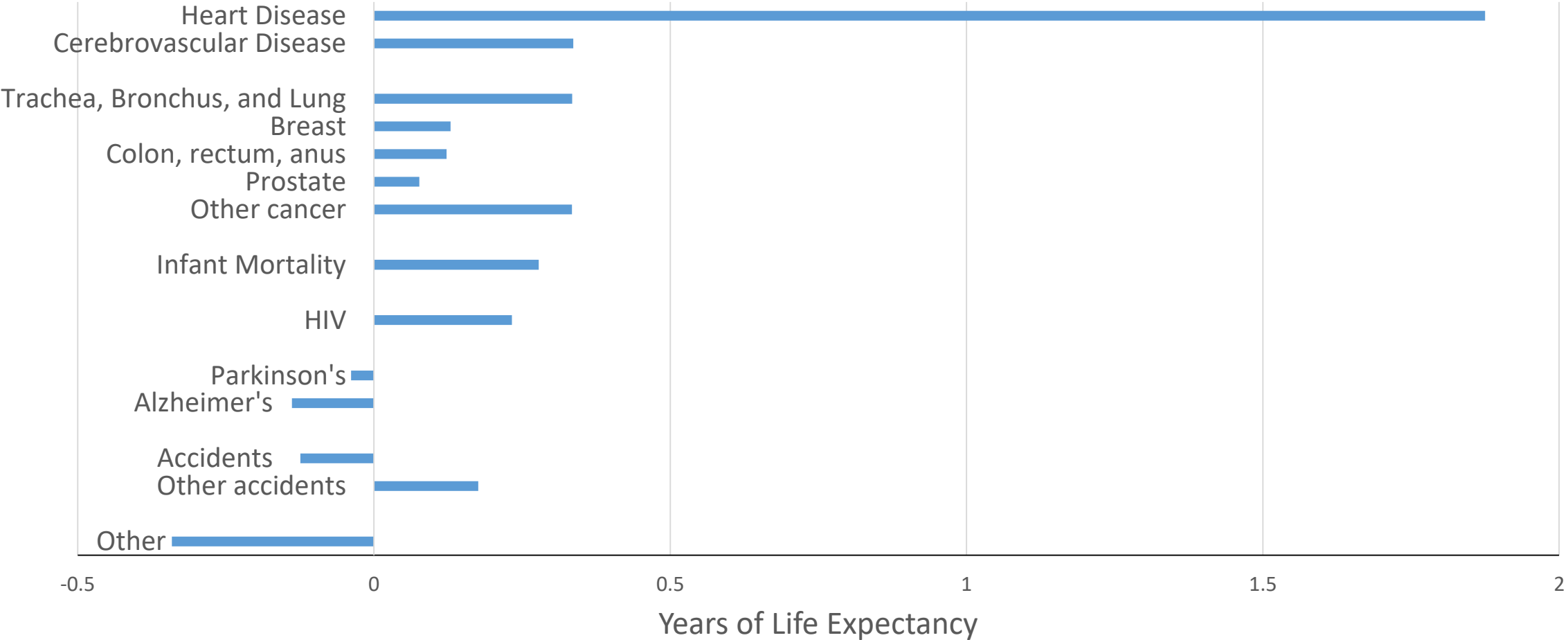
Ischemic heart disease mortality rates per 100,000: Actual vs. simulated in elderly Medicare beneficiaries

Treatment effect

Risk factor effect

Mortality Rates per 100,000

Counterfactual (rates per 100,000 at 92 mortality)
Treatment Effect only
Ischemic Heart Disease mortality (Actual)
Treatment + Risk Factor (Total Effect Simulated)

Chernew et al., 2015, based on IMPACT model of Ford et al.

Estimated deaths prevented or postponed in the elderly United States population: Treatment effect in elderly Medicare beneficiaries

Legend:
- Anti-hypertensive treatments (non-IHD cohort)
- Statins + Warfarin (primary prevention in non-IHD cohort)
- IHD (ICD9 410.XX- 414.XX) hospitalized cohort (Aspirin, Beta-blockers, ACE inhibitors Resuscitation, Primary PCI and CABG)
- Statins + Warfarin (IHD cohort)
- Ace inhibitors & Beta Blockers (IHD cohort)
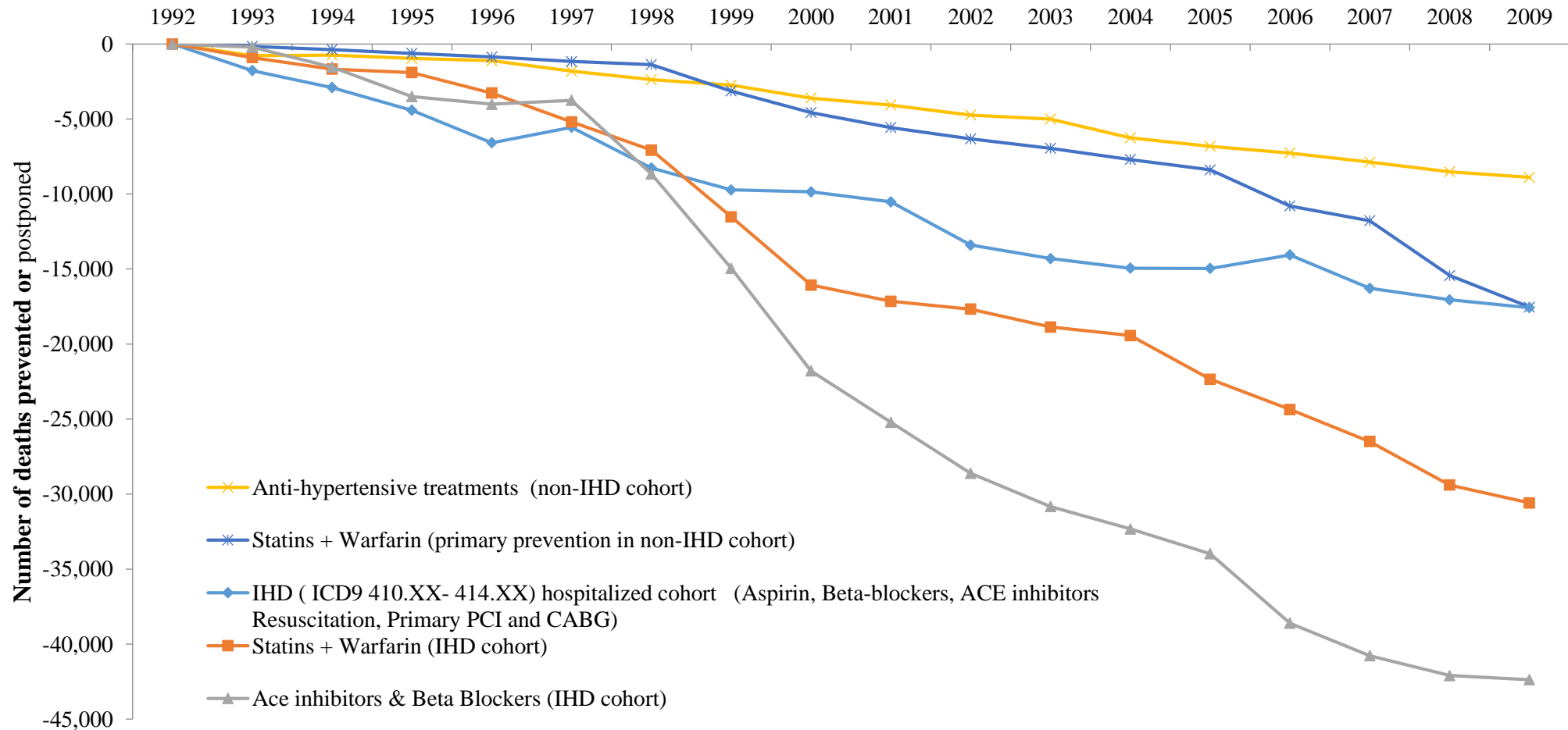
Trends in Risk Factor Control

Cardiovascular risk factors (20 years and older): age-sex adjusted to 2009-2010 NHANES
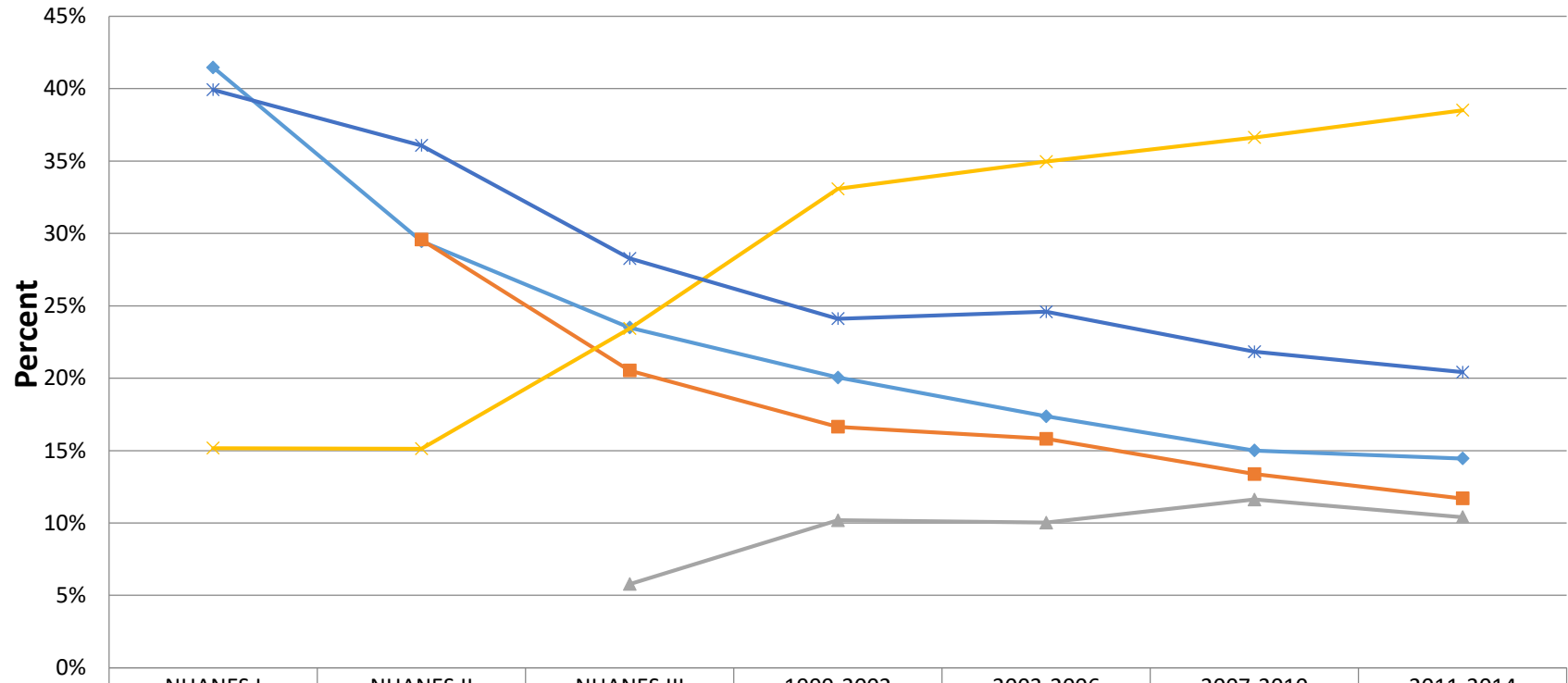
	NHANES I	NHANES II	NHANES III	1999-2002	2003-2006	2007-2010	2011-2014
Hypertension (uncontrolled)	41%	29%	23%	20%	17%	15%	14%
Hyperlipidemia (uncontrolled)		30%	21%	17%	16%	13%	12%
Obese	15%	15%	23%	33%	35%	37%	39%
Current Smoker	40%	36%	28%	24%	25%	22%	20%
Diabetes (uncontrolled)			6%	10%	10%	12%	10%

My questions

1. How to get people to do what they want?
    - Take meds, stop smoking, lose weight, avoid addictive substances
    - How to talk to their doc about $$$
    - Not all of this is medical, but some is

2. How to harness innovation of the medical system for good?
    - Most important areas: Pain; dementia

The importance of pain

(a) Percent on SSDI or SSI

(b) Average Number of Functional Limitations

(c) Percent with Back, Neck, or Joint Pain

(d) Percent with Chronic Knee Pain