

**POVERTY AND POOR HEALTH:
CAN HEALTH CARE REFORM
NARROW THE RICH-POOR GAP?**

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JUNE 21ST , 2011

ROBERT AND JOANN LAMPMAN

(1990)



PLAN FOR TALK

Evidence of **Link between poverty and poor health** in the U.S.

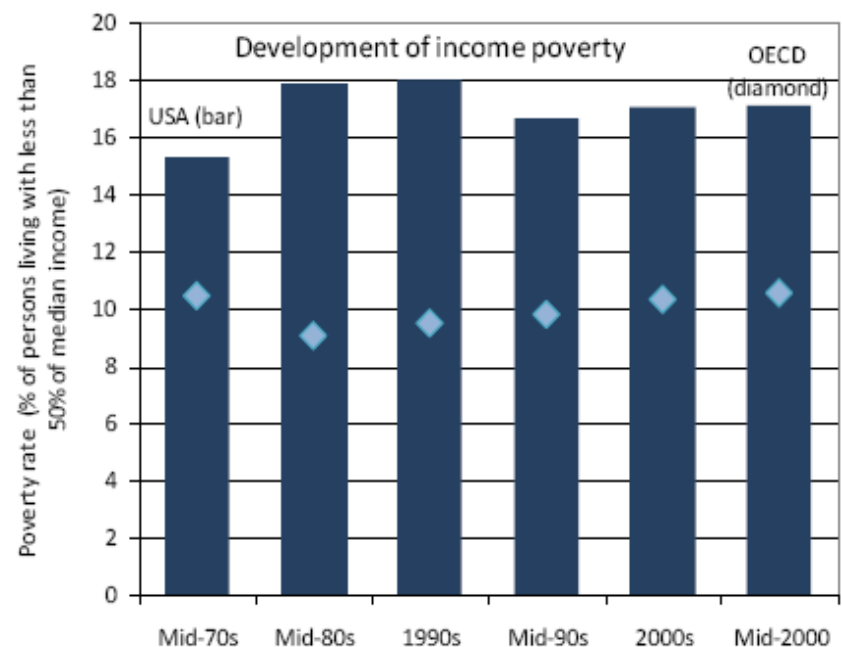
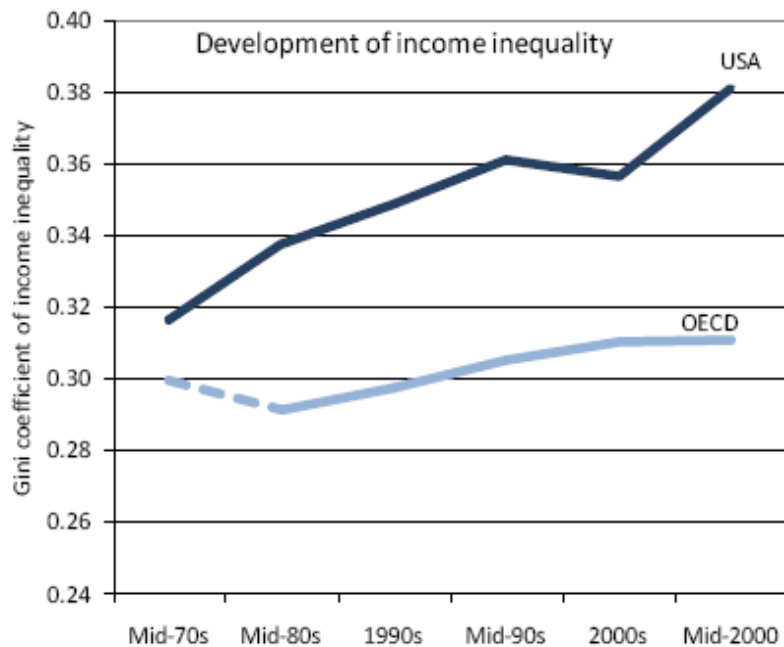
What Do We Know About The **Sources** and **Duration** of these Inequalities?

What will ACA do for the Poor that may reduce the gap?

- Evidence from Massachusetts
- ACA

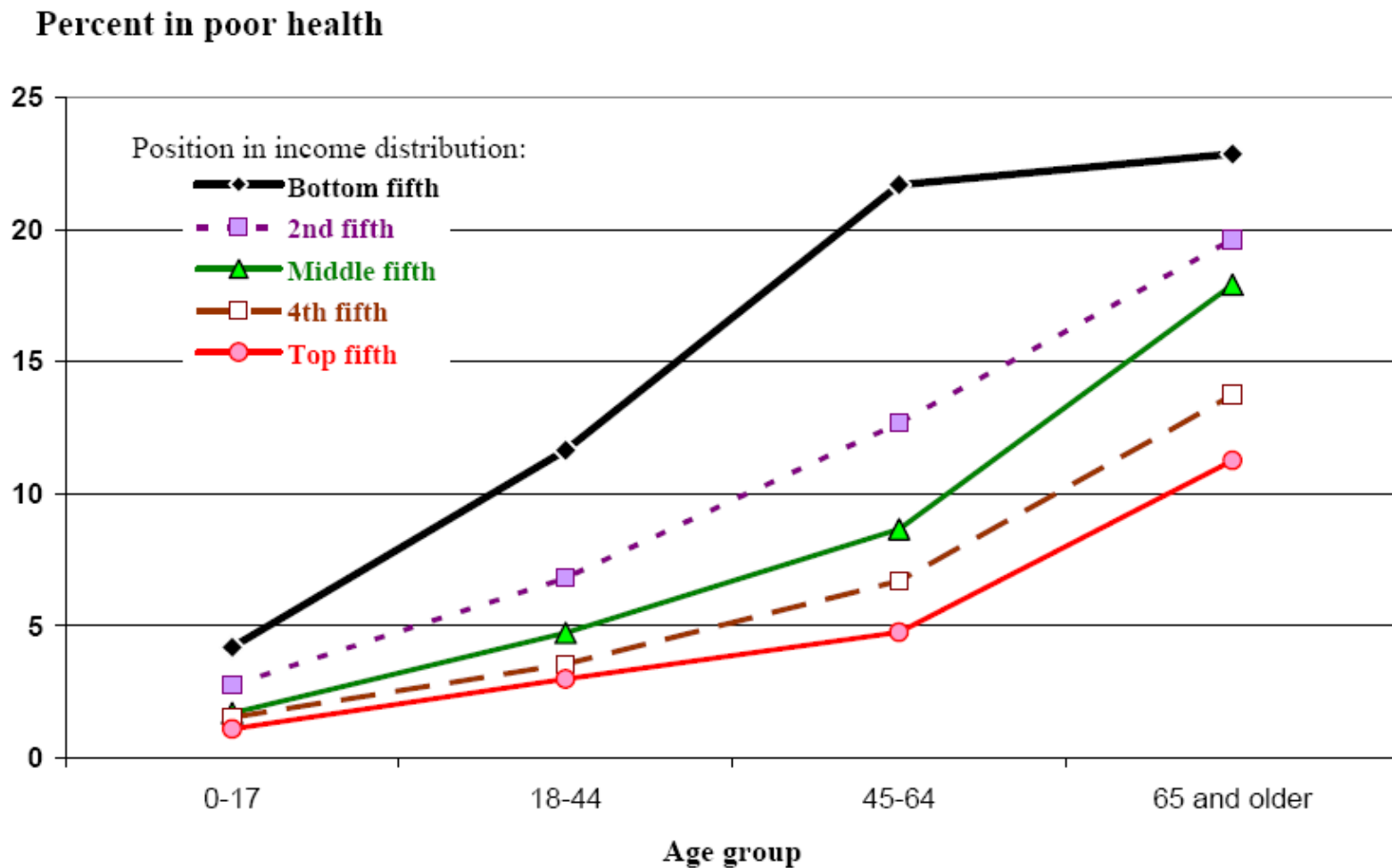
GROWING UNEQUAL - USA

Figure 1. Income inequality and poverty continue to increase, especially since 2000



Source: *Growing Unequal?*, OECD 2008. Income is disposable household income adjusted for household size.

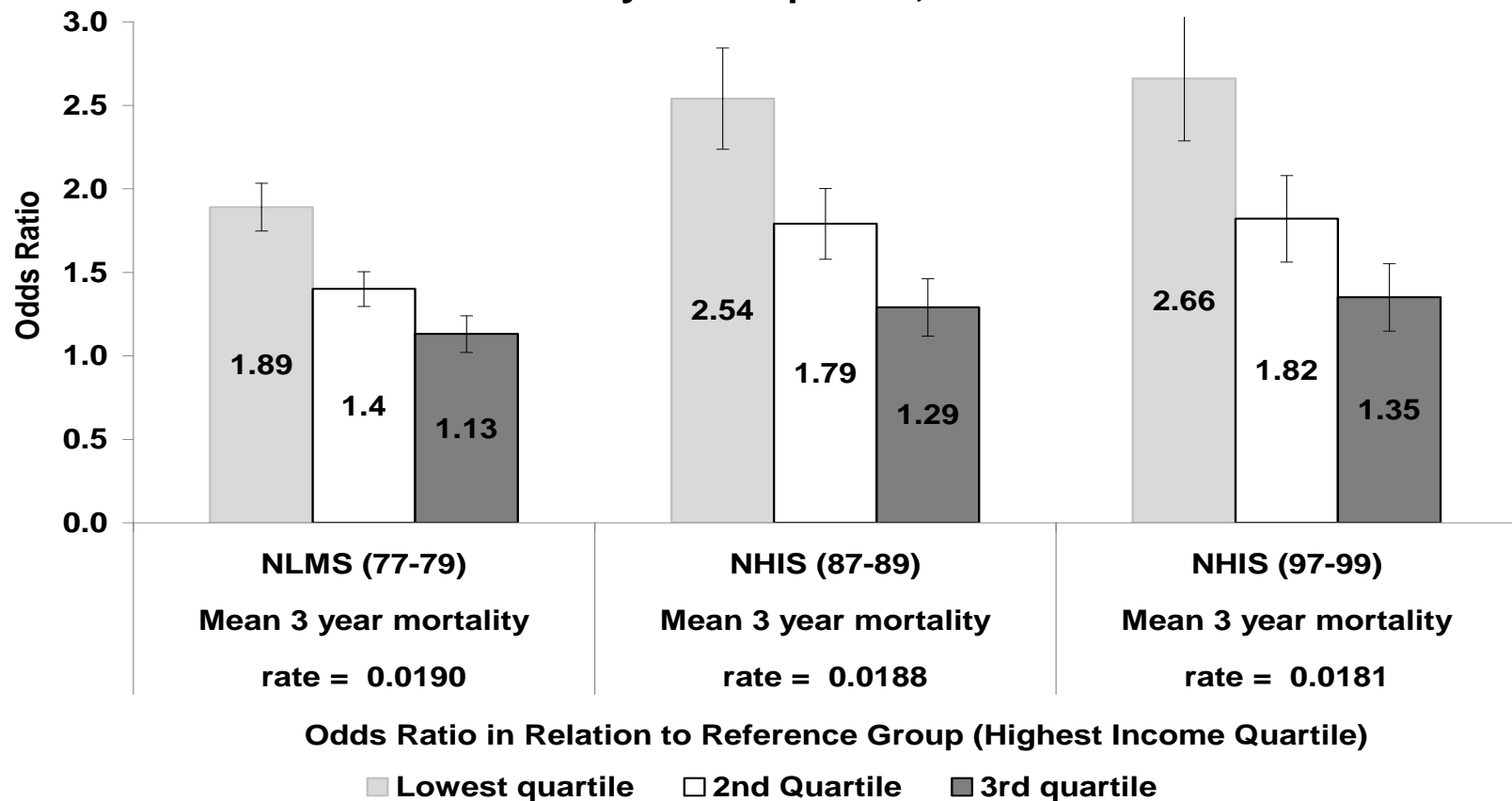
TIES BETWEEN POOR HEALTH STATUS AND INCOME BY AGE, USA 1996-2005



Source: Authors' tabulations of 1996-2005 MEPS household files.

TIE BETWEEN INCOME AND MORTALITY

Figure 4: Odds Ratio for Income Variables from 3-Year Mortality Rate Equation, Adults 18-74



BOTTOM LINE

Those with more income tend to have better health and Live Longer

But what is the pattern of the health gaps?

INCOME GRADIENT PATTERNS: EVIDENCE BASED ON CHILDREN

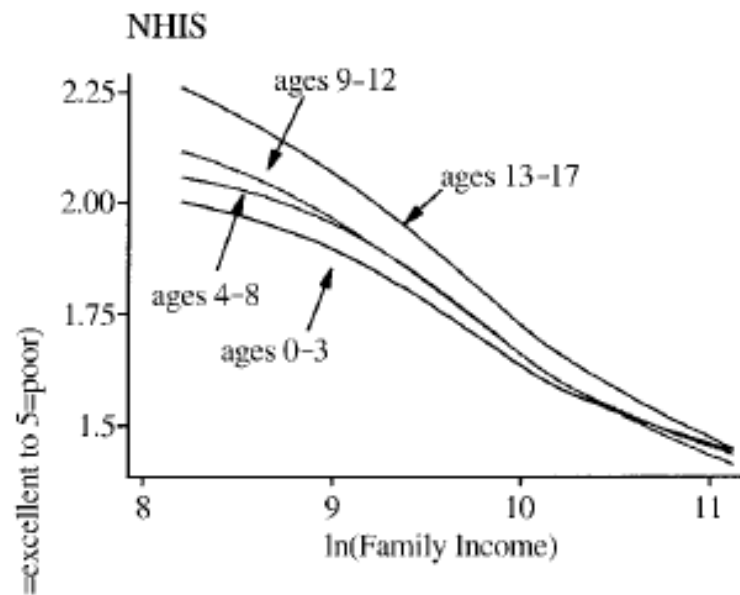
Large literature documenting income-health gradient

- Most studies in developed countries focus on children to move closer to causality
 - Children do not contribute to household income

Concern that health insults during childhood have lasting effects

- Origin of the adult income or SES gradient

RESULTS FOR GENERAL HEALTH (1=EXCELLENT TO 5=POOR) SHOW THE INCOME GRADIENT FROM CASE ET AL 2002.



General shape has been replicated in studies of other developed countries.

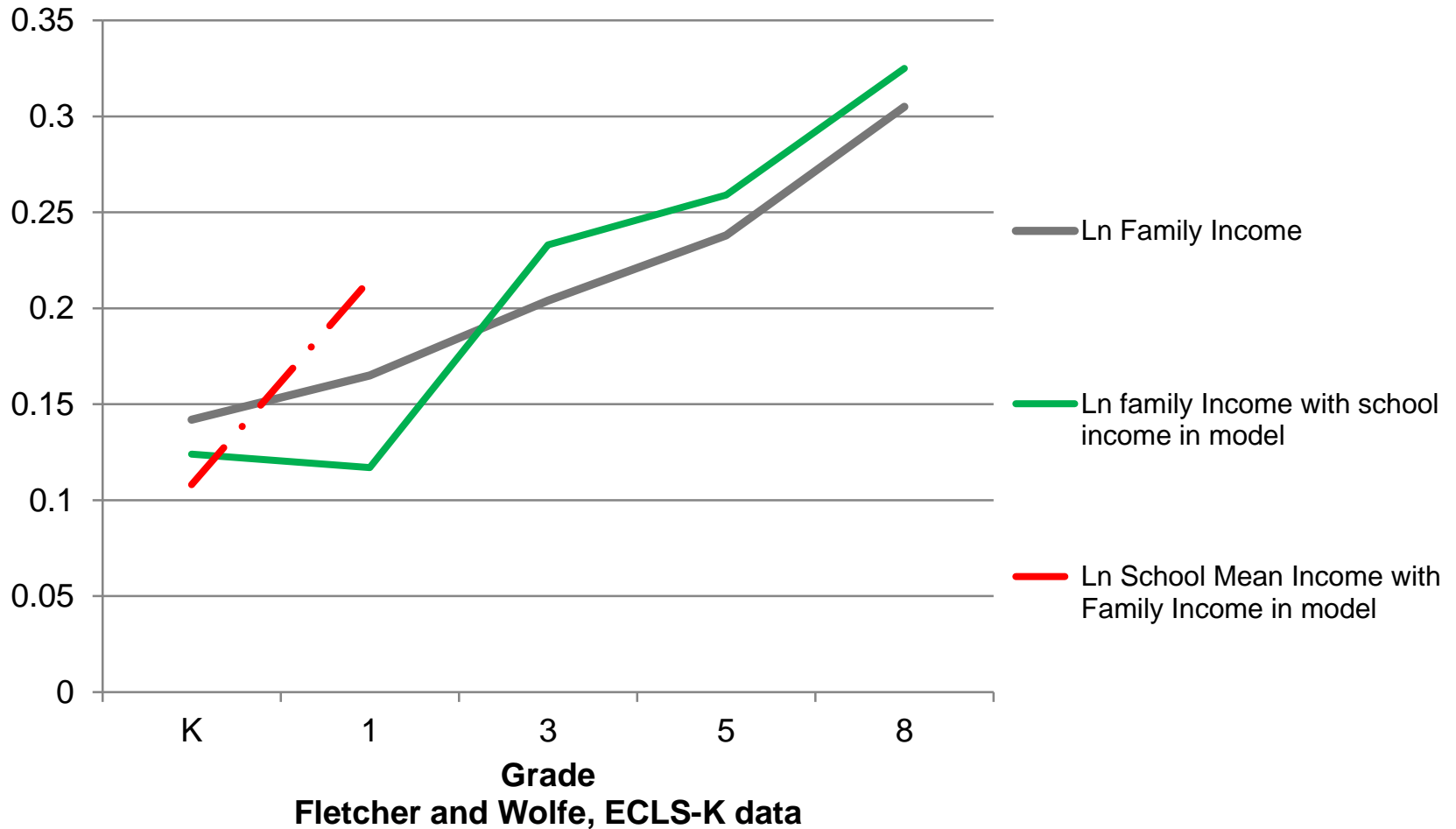
ADDITIONAL RESEARCH ON INCOME GRADIENT USING A NATIONAL SCHOOL BASED DATA SET WITH 6500 CHILDREN AND A LONG PANEL.

Jason Fletcher and I are using data from the Early Childhood Longitudinal Study—Kindergarten Cohort (ECLS-K)-5 observations per child from K to grade 8.

Have more data on income including repeated measures of family and neighborhood (school) income along with data on birth weight (allowing control for initial health) then other analysis.

Findings are on next slides

Tie between Family and School Income and Child Health



Only coefficients statistically significant at traditional levels graphed

LIFE COURSE STUDY APPROACH USING A BIRTH COHORT TO STUDY A POPULATION OVER THEIR LIFETIME.

Data

- Trace Children from particular locations through official death records or use birth cohorts

Poor Conditions at home during early life predict future health conditions in middle age such as Hypertension and Schizophrenia (Wadsworth and Kuh)

They also predict higher probability of deaths especially ages 55 to 80. (Frijters et al)

Part of transmission related to greater prevalence of diseases in early childhood in lower income families.

DISPARITIES MAY START BEFORE BIRTH: FETAL ORIGINS LITERATURE

Fetal origins – mainly uses animals but more recently use periods of extreme hardship among humans

Core idea: The health of an embryo depends on a steady supply of nutrients and oxygen. A critical period of intra-uterine life occurs when cells are dividing rapidly.

A reaction to lack of nutrients or oxygen is to slow rates of cell division, thereby reducing the number of cells.

“Fetal growth restriction - is an important cause of some of the most common, costly and disabling medical disorders of adult life including coronary heart disease, hypertension, stroke and type 2 diabetes.” (Barker, 2006).

FETAL ORIGINS –LOOK FOR PERIOD THAT IS SUBSTANTIALLY DIFFERENT BUT SHORT.

Recessions.

- Those born in recessions suffer up to 7 percent higher mortality rates after the first year of life compared to those born just prior to the recession

Famine

- Dutch famine of 1944-5: By middle age poorer self reported health, more coronary heart disease, and antisocial personality

Stress

- Children in 2nd trimester during Israel's June 1967 war significantly more likely to develop schizophrenia as young adults

Pandemic--influenza

- Children in utero during 1918 influenza pandemic had less schooling, more physical disability, lower incomes.

EVIDENCE OF FETAL ORIGINS ON OBESITY

2006 study compared children born to obese mothers pre and post having anti obesity surgery

- Children born to same mother after surgery 52% less likely to be obese than sibs born pre surgery
- The evidence is that the surgery changed the metabolism of the mother and hence the experience of the fetus. This is called *epigenetic modification*.

RESEARCH ON TIE BETWEEN ANATOMY OF BRAIN AND POVERTY

(JAMIE HANSON, SETH POLLAK BARBARA WOLFE + OTHERS)

- **Goal of project** : Bring insight into what “causes” the income gradient of health.
- Analyze whether there is any evidence that growing up in a poor family leads to a *differential pattern of growth of the brain* in regions that matter to health and cognitive ability.
- Focus on Gray matter for infants and selected areas of the brain important for children and adolescents.
 - Hippocampus: *learning and memory*
 - Prefrontal lobe: *organizing, problem solving*
 - Occipital lobe: *vision*
 - Cerebellum: *least influenced by genes, behavioral problems*

DATA

- **Data drawn from NIH MRI Study of Normal Brain Development**
- **MRI, Demographic, Behavioral and Neuropsychological Data collected at same interviews**
- **Infants to age 4: N= 200 based on 81 infants.**
- **Children 4-18: N=818 children (over 3 waves; unbalanced panel)**
- **Scans “interpreted” using a structural imaging technique (voxel based morphometry.)**

- **We statistically analyzed these data using models designed to understand the determinants of relevant brain volume measures, focusing on family permanent income**

Sample Results children (4-16)
Hippocampal Gray Matter tied Income
Coefficient on Ln Income, $\beta=0.045$ (0.018)

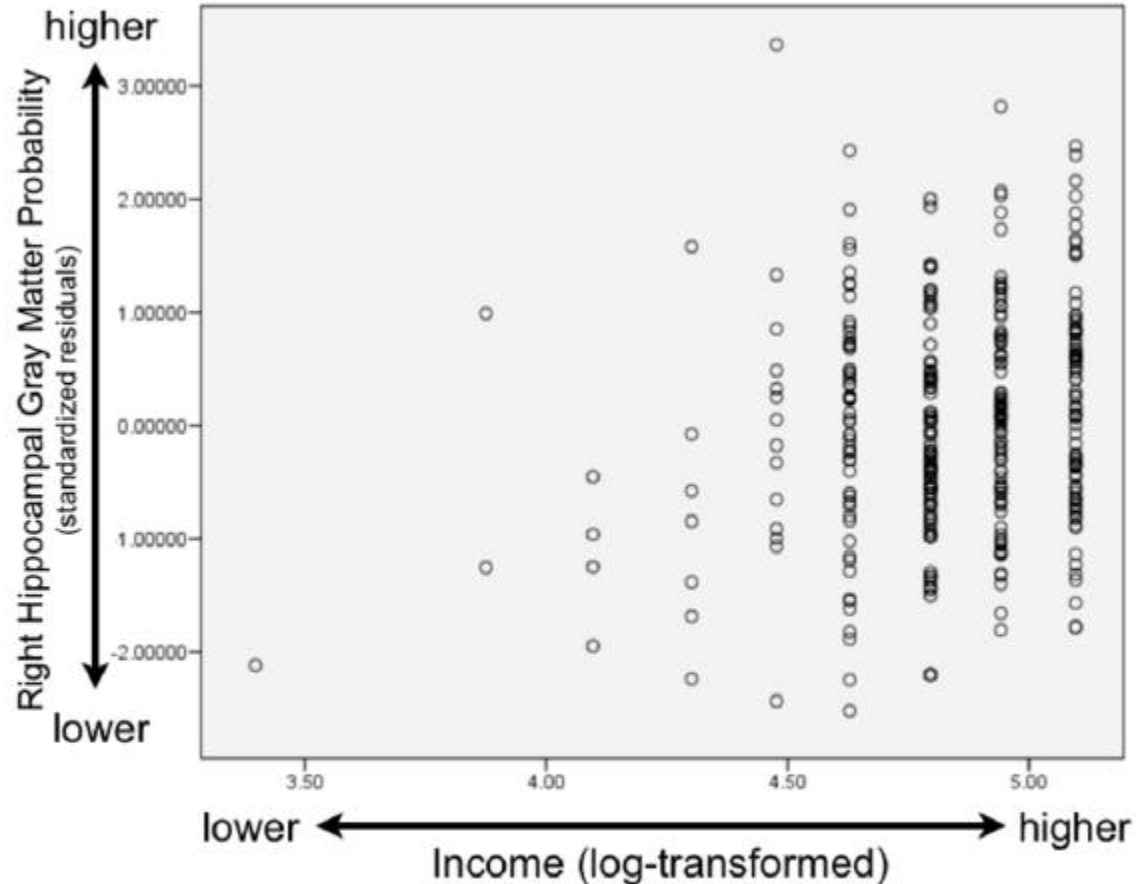


Figure 4. Scatterplot of Right Hippocampal Gray Matter and Income. This scatterplot shows the association between right hippocampal gray matter probability and income. Right hippocampal gray matter shown on the vertical axis is displayed as a standardized residual controlling for child's age (in months), gender (dummy-coded), and whole brain volume, while log-transformed income is displayed on the horizontal axis. Higher income is associated with greater gray matter probability.

doi:10.1371/journal.pone.0018712.g004

HOW GROWING UP IN POVERTY INFLUENCES HEALTH. NEW RESEARCH ON HOW POVERTY IS TIED TO CHRONIC STRESS, DEPRESSION, POOR NUTRITION WHICH THEN CAN LEAD TO CARDIOVASCULAR DISEASE, ASTHMA EXACERBATION, OPPORTUNISTIC INFECTIONS.

Study low and higher income children with Asthma to determine biological process by which low SES influences them and how translates to mental health

Show videos and find low SES children see world as threatening place. (Ambiguous social situation depicted)

Find that increasing **family routines** can reduce feelings of threat, asthma symptoms and other illness.

A second example that health care can reduce the gap

BOTTOM LINE - 2

Have now seen that

- **Those with low incomes also do relatively poorly in terms of health and mortality and the gap begins prior to birth and then increases during childhood.**
- **Without policy interventions that attempt to “undo” the consequences of poverty and inequality for health, the U.S. will continue to live with the gap in health between the poor and the rich.**
- **The 2010 health care reform has gotten attention mainly because of mandates and costs rather than its potential to improve access to health care for the poor and to reduce health and mortality gaps. In the next part of my talk I will try to convince you of this potential.**

PRIMARY ISSUES THAT HEALTH REFORM SEEKS TO ADDRESS

Lack of Insurance coverage

50 million are uninsured; nearly 70% poor or near poor

Inequality in public coverage for low income population

Constrained access to care

Fraction of poor children without any care in year > twice those in higher income households.

Limited Coverage for those with pre-existing conditions

Underserved Areas

Non group Private Insurance Market-limited competition, high costs, incomplete coverage

High and rising Costs of Health Care >16% GDP or >\$8,000 / capita

Regressive Financing and excessive coverage

Exclude employer-borne premia for employee health insurance from employee income; \$250 billion in foregone taxes. 2% to bottom 2 income deciles; 45% to top 2 income deciles.

US HEALTH CARE REFORM 2010

Health care reform in the United States in 2010 was enacted in two bills:

The Patient Protection and Affordable Care Act [ACA] which became law on March 23, 2010 and was shortly thereafter amended by the

Health Care and Education Reconciliation Act of 2010 (H.R. 4872) (which became law on March 30)

PUBLIC COVERAGE IS WIDESPREAD IN THE U.S.

In 2011, over a hundred million low-income, disabled, and elderly beneficiaries will be served by Medicaid and/or Medicare,

48 million Medicare enrollees

69 million Medicaid enrollees

In addition there is the VA system (serves about 8 million), the Indian Health Service, state and local subsidies for hospitals and community health centers (CHC) that serve 23 million.

Yet with this, we still see major gaps in health by income.

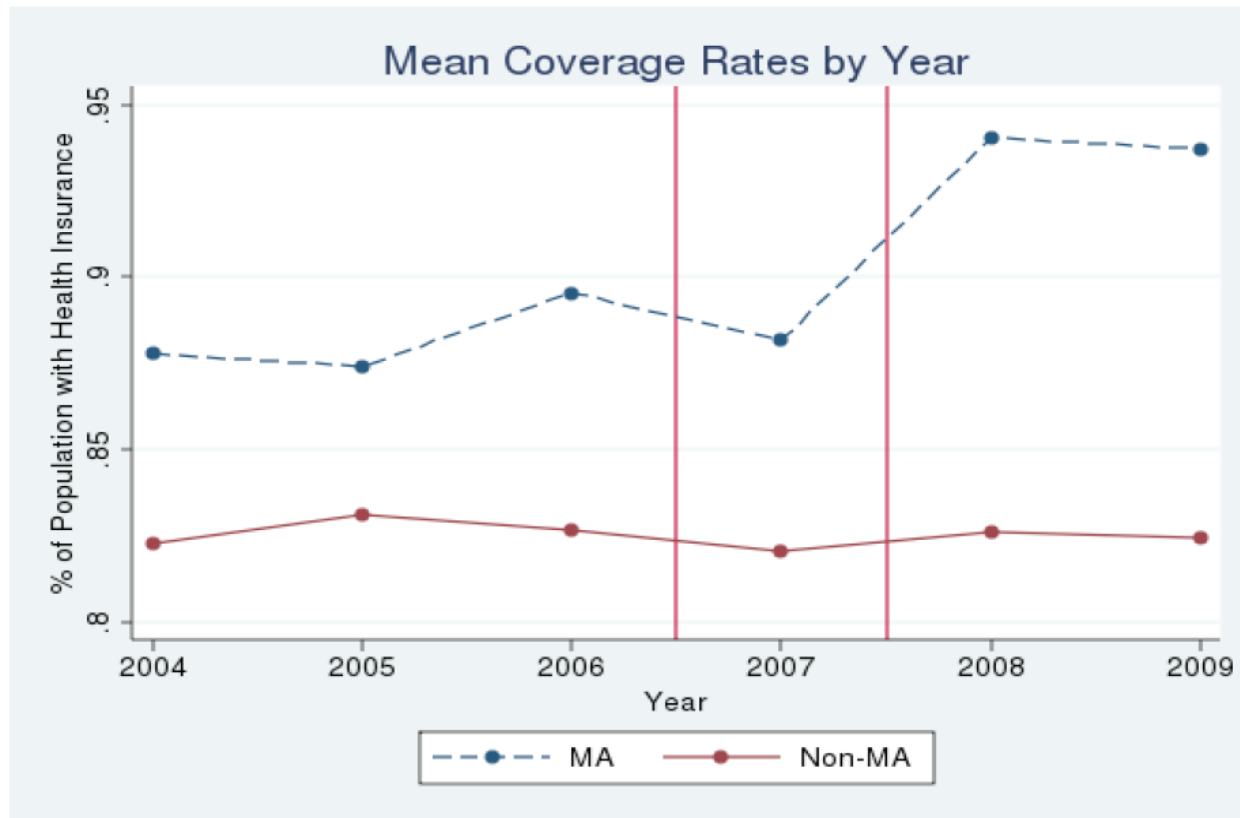
CAN SYSTEM WIDE REFORMS BE SUCCESSFUL? LESSONS LEARNED FROM 3 YEARS OF MASSACHUSETTS REFORM

Thought of as pilot for national reform

Most citizens mandated to have health insurance

- b. Employers with more than 10 full time employees must offer a plan and contribute to premia**
- c. Massachusetts Medicaid Plan expanded to provide coverage up to 300% of the poverty line (includes CHIP)**
- d. Private purchase of health insurance subsidized by the state for lower income families**
- e. Exchanges established to organize and sell alternative health insurance plans;**
- f. Coverage of older children required for 2 years after independence, up to age 25**

Figure 1



Source: CPS March Supplement 2004-2009, authors' calculations.

After Reform Uninsured decrease by 5.7 percentage points – or 48% . Among hospital patients increase was 36%. Reform increased coverage most among young adults and near elderly, those in lowest income zip codes and Blacks and Hispanics. Medicaid coverage increased relative to other states.

RESULTS OF MASSACHUSETTS PLAN

- a. Currently, Massachusetts has the lowest rate of uninsured; since passage of the reform, uninsured rate of poor has gone from 21 percent to 10 percent; nearly all children covered**
- b. Compliance with mandate is high**
- c. The level of uncompensated care borne by hospitals has fallen by more than one-third**
- d. Hospitals have not cut the length of stay, nor accelerated discharges**
- e. Large reductions in emergency admissions**
- f. Higher percent of families have a regular provider**
- g. Reduction in state safety net and uncompensated costs offset nearly one-half of the public sector cost of expansion**

Can US health reform achieve similar outcomes?

In doing so can it narrow the gap between rich and poor in health and life expectancy?

WHAT DOES FEDERAL HEALTH REFORM [ACA] DO?

Increases coverage through expansion of Medicaid, subsidies, mandates and eliminating pre-existing condition clauses

Increases access by decreasing co-pays, eliminating lifetimes maximums, creating provider incentives and increased funding to locate in underserved areas

Improves market for insurance (nongroup in particular)

Creates new quality incentives and pilot programs to improve efficiency

Modifies (caps) regressive tax expenditures

Modifies some financing of Medicare which may reduce use of capitated care, influence availability of providers and improve coverage of pharma

REDUCING THE UNINSURED

- ① ***Expand Medicaid (to minimum of 133% FPL) (2014)***
 - ***Subsidies to those with incomes <400% FPL (2014)***
 - States coordinate applications for Medicaid and private coverage
 - **Children eligible to stay on parents' plan to age 26**

- ② **Tax Credits to assist small firms (<25 employees) with low wage employees**
 - 35% of now; 50% in 2014
 - **Penalties to large firms if do not offer coverage-**
 - up to \$2,000 per FTE as of 2014 ; higher if offer coverage but some subsidized at exchange
 - **Opt-out ESI**
 - **Reinsurance for early retirees (until Exchanges in effect)**

**MEDICAID ELIGIBILITY IN A TYPICAL STATE:
NOW AND 2014—COVERAGE EXPANDED TO ALL
<65 WITH INCOME <133%FPL**

	<i>Now</i>	<i>2014</i>
Parents	64% of poverty (\$14,000 family of 4)	138% of poverty (\$30,000 family of 4)
Adults without Children	Not Eligible	138% of poverty (\$15,000 for one person)

COVERAGE FOR THOSE WITH PREEXISTING CONDITIONS

Children already covered

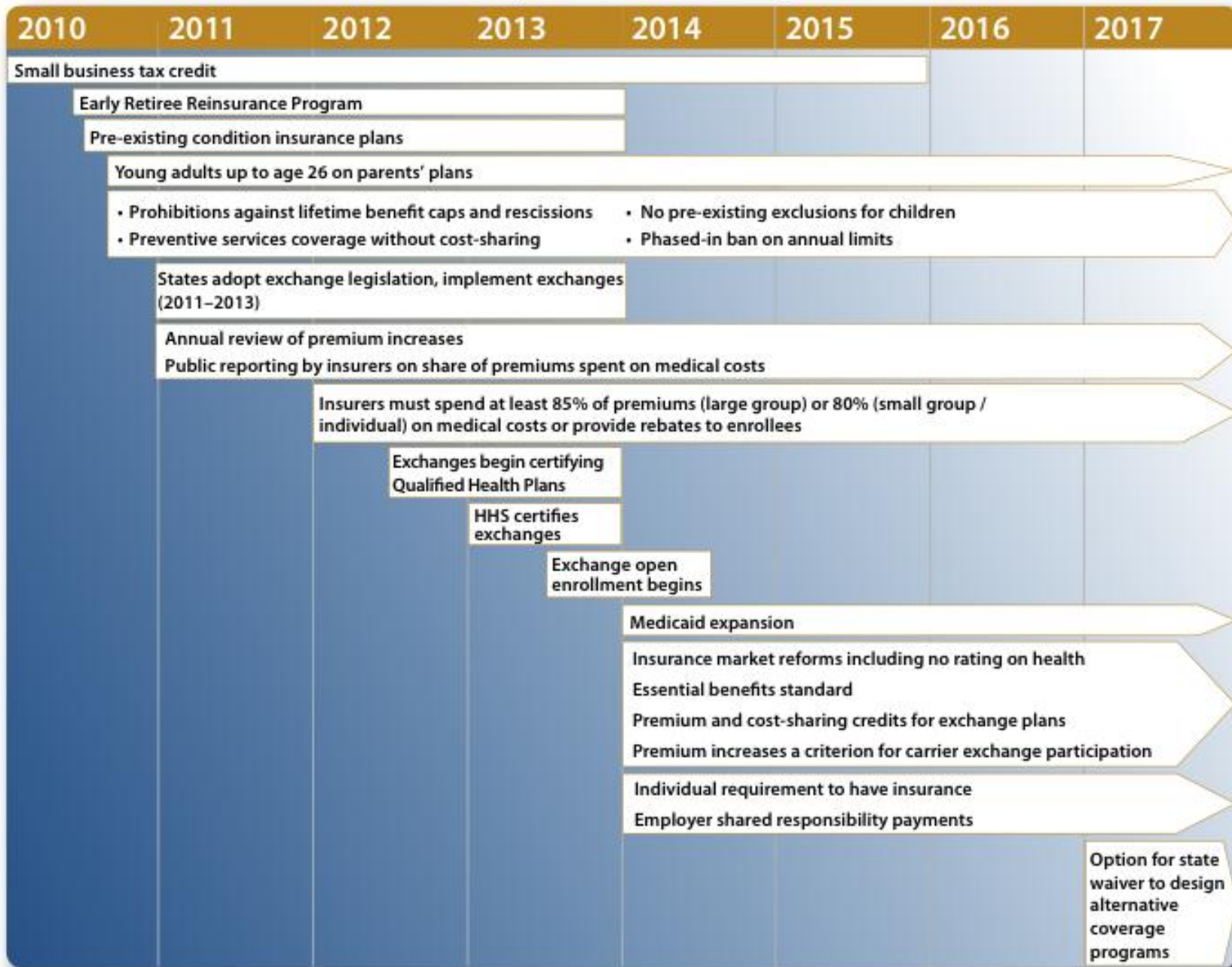
Adults

Temporary risk pools

Fed's subsidize people with medical conditions who are uninsured for 6 months or more – 23 states

2014 insurers must cover; federal government to subsidize added costs of those with chronic conditions

Exhibit 5. Timeline for Health Reform Implementation: Coverage Provisions



INCREASES ACCESS TO CARE

Sets co-pay maximums for those with low to moderate incomes

Eliminates lifetime and annual maxima and cancellation of coverage if sick

Subsidizes Medical Homes for those with Chronic Conditions

Increases primary care provider compensation under Medicaid

- Fully funded by Federal government thru 2014.

Attractive loans to those pledge to go into primary care and to nurses pledge to work in public or non profit organization.

Deductibles and co-pays for preventive care prohibited (includes Medicare); sets pediatric package; includes vision and oral health care

Improves Medicare part D coverage gradually

INCREASES ACCESS IN UNDERSERVED AREAS

- **Increase in CHCs**
 - 8,000 CHC 23 million served –plan calls for serving 40 million
 - increase in funding for CHCs (\$11 billion, 2011-2015); and FQHCs (\$3 billion 2010 to \$8.3 billion by 2015)
- **Financial incentives to providers to locate in underserved areas**
 - 10% Medicare bonus payment for primary care services and 10% to general surgeons if practice in HC shortage area
- **Loan repayment program to primary care and pediatric providers if serve in underserved area**
- **On Indian Reservations loosen requirements, increase flexibility**
- **Funds set aside for experimentation to improve access for those with language or literacy constraints. Transportation, health outreach, urgent care in low income communities.**

INCREASING ACCESS TO ORAL HEALTH

Access to Dental Care more unequal than access to health care.

In part this is an example of increased coverage without increased access.

For the oral care gap

- 1. Eases licensing restrictions to enable preventive care to be provided by trained paraprofessionals**
- 2. Mandates Medicaid oral health coverage for children**
- 3. Provides \$30 million to train additional dentists**

IMPROVING HEALTH VIA ACA – GOING BEYOND COVERAGE AND ACCESS

Greatly expands Maternal Infant and Early Childhood Home Visiting Program

- \$1.5 billion over 5 years.
- States (tribes) to do needs assessment and measure outcomes
 - Improved health of mothers and newborns
 - Fewer child injuries, abuse, reduced ER visits
 - Improvements in school readiness
- Some evidence that improves parenting skills, child development, reduces child abuse (Olds)

CHANGES TO PRIVATE INSURANCE MARKET THAT DIRECTLY INFLUENCE THE NEAR POOR

Establish Exchanges

- **Increase Comparability, Choice, and Information**
 - At least 2 options for each of 4 plans;
 - Minimum 60% coverage of actuarial value of benefits.
 - Subsidy tied to 70% (silver) plans
- Combine individual - non group market and expand coverage in policies
- Limit pricing differentials
 - Age: 3 to 1 maximum and smoking: 1.5 to 1
- Set maximums on out of pocket costs for all plans (\$5,950 single and \$11,900 family) but less for low and moderate income families.
 - (1/3 to 200% FPL, 1/2 to 300% FPL and 2/3 to 400% FPL)
- Exchanges available to individuals without coverage, and employers with <100 employees.
- Offer at least 2 multi-state plans in each exchange

HEALTH CARE COSTS AND QUALITY INCENTIVES CHANGES THAT COULD INFLUENCE POOR

- **Reduce/eliminate payments for in hospital treatment that is due to poor quality care**
- **Establish comparativeness effectiveness research.**
- **Competition including quality information through exchanges**
- **Testing of alternative delivery system models under Medicare and Medicaid.** “Center for Medicare and Medicaid Innovation”
- **Demonstration grants to find effective alternatives to current malpractice system**
- **State Review of health care insurance plan premium increases.**

REDUCE REGRESSIVE AND INEFFICIENT FINANCING

Tax Cadillac Plans – 2018

- Those above \$10,200 individual and 27,500 family (40% excise tax)

Increase in Medicare tax on individuals with Y>\$200,000 and couples making >\$250,000

- Increase of .9% to 2.35%

New tax on unearned income.

- 3.5% for higher income taxpayers

Raise threshold for itemized deductions from 7.5% to 10% AGI

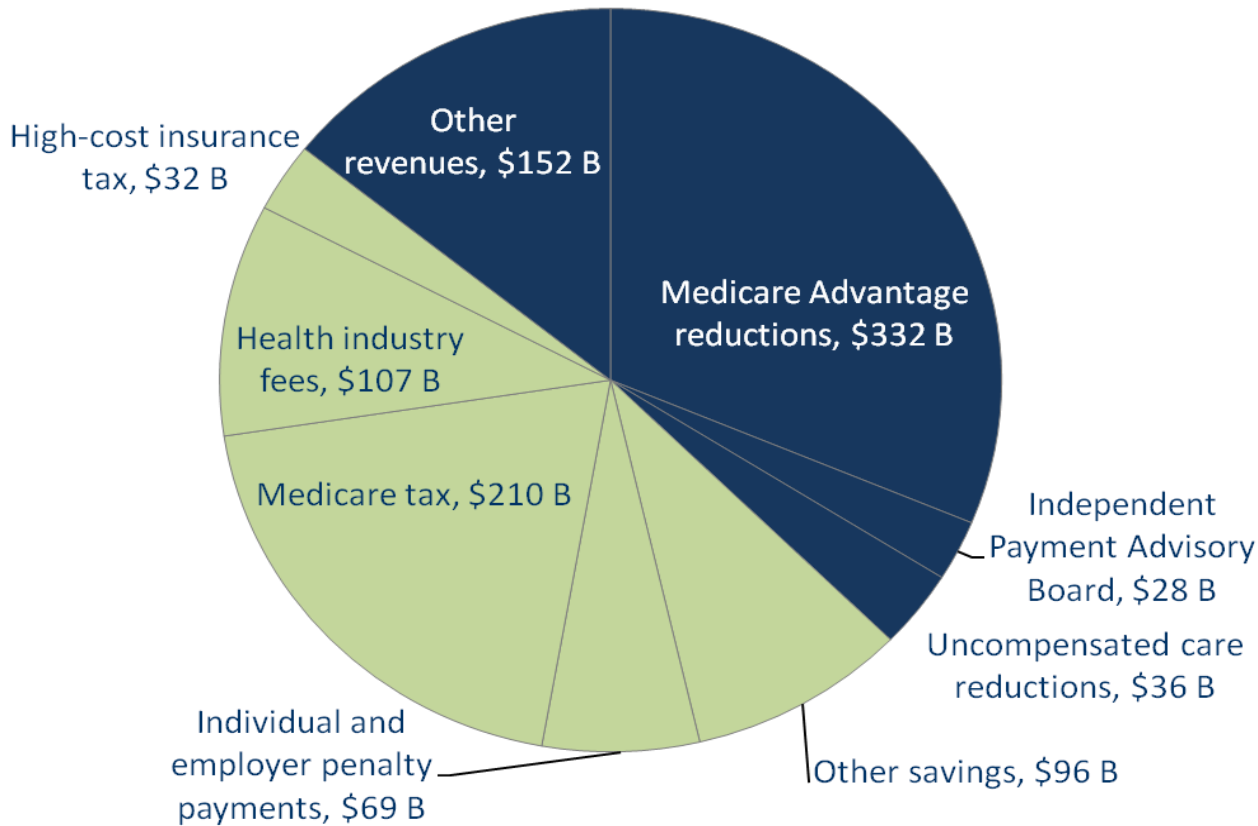
Set maximum for flexible spending account = \$2500

Reduce payments under Medicare Advantage

SAVINGS 2010-2019

TOTAL COST = \$938 BILLION –

PROJECTED SAVINGS=\$124 BILLION.



WILL THESE CHANGES IN U.S. HEALTH CARE DUE TO REFORM REDUCE DISPARITIES?

- ACA should clearly
 - Increase coverage for low and moderate income persons
 - Improve coverage for young adults to age 26
 - Improve access for those in low and moderate income families
 - Improve coverage and access to those with existing conditions
 - Increase access in underserved areas
 - Identify effective (and ineffective) care
 - Provide some services that go beyond medical care in reducing income based disparities
- But will these reduce the rich poor gap in health?

HOW MUCH INCREASE IN COVERAGE AND FOR WHOM?

Estimates suggest the newly eligible will largely be young adults, singles, and those with only a high school degree or less. (based on state Medicaid rules as of 2009 with iPums ACS)

ADULTS

10 million adults below 133% FPL,(7 million adults newly eligible + 2.9 million currently eligible and uninsured eligible for Medicaid.

5.35 million near poor will be eligible for substantial subsidies (incomes between 134 and 200% FPL)

5.9 million (200-300% FPL) uninsured will also receive subsidies as will 3.3 million uninsured with incomes between 300 to 400% FPL

Children

2.3 million poor children most of whom are currently eligible.

3.1 million children in families with incomes between 134 and 400% FPL who are currently uninsured.

Crowd Out?

Will many switch from private coverage to public? Wisconsin experience with BadgerCare suggests < 10% dropped coverage.

CHARACTERISTICS OF UNINSURED ADULTS WHO WILL BE ELIGIBLE FOR MEDICAID OR SUBSIDIES

Young persons – 7.5 million 19-25 plus 7.3 million 25-35.

Single persons – 14 million never married; 5.8 million separated or divorced.

Those with limited education – 18.5 million with high school or less.

Most of these eligible persons have no cognitive or significant physical difficulties.

As of the first quarter 2011, .6 million young adults newly covered by parents' coverage and 46% more small businesses (<10 employees) are offering coverage

1. INSURANCE LINKED TO DELAYS IN GETTING CARE.

But to health? Yes for Acute Myocardial Infarction

1. Adjusted odds ratio of delay in seeking care **1.38** (1.17, 1.63) comparing those without insurance to insured.
(Delay defined as 6+ hours vs. less than 2 hours)
 - Background:
 - a clinical condition where delays in seeking care can have significant, adverse morbidity and mortality consequences on outcomes; affects almost 1 million in the US annually.
 - Study: Prospective, 24 hospitals, chart review
 - Controls:
 - Demographics, education, detailed health history, smoking, clinical factors.
2. Evidence from those get newly insured by Medicare at 65
 - Improve health for those with certain conditions such as diabetes and cardiac conditions.

2. INSURANCE COVERAGE LINKED TO SUBSEQUENT MORTALITY

1. **Nonelderly adults hazard ratio of Death = 1.40** (1.06, 1.84) subsequent 6-12 years comparing uninsured to insured at time of interview (McWilliams et al.)

- Data: NHANES (replication from 1993 study with similar results.)
 - Controls: age, sex, race/ethnicity, income, education, self and physician rated health status, BMI, leisure exercise, smoking, regular alcohol use.

None of these focus on the poor.

HOW MUCH MIGHT INSURING ALL POOR PRIME AGE ADULTS DO TO DECREASE THE MORTALITY GAP?

Use NHIS Linked Mortality Files - omit those on SSI or Medicare. Covers 18-64; 1986 and 1989 NHIS- matched to death certificates through 2008.

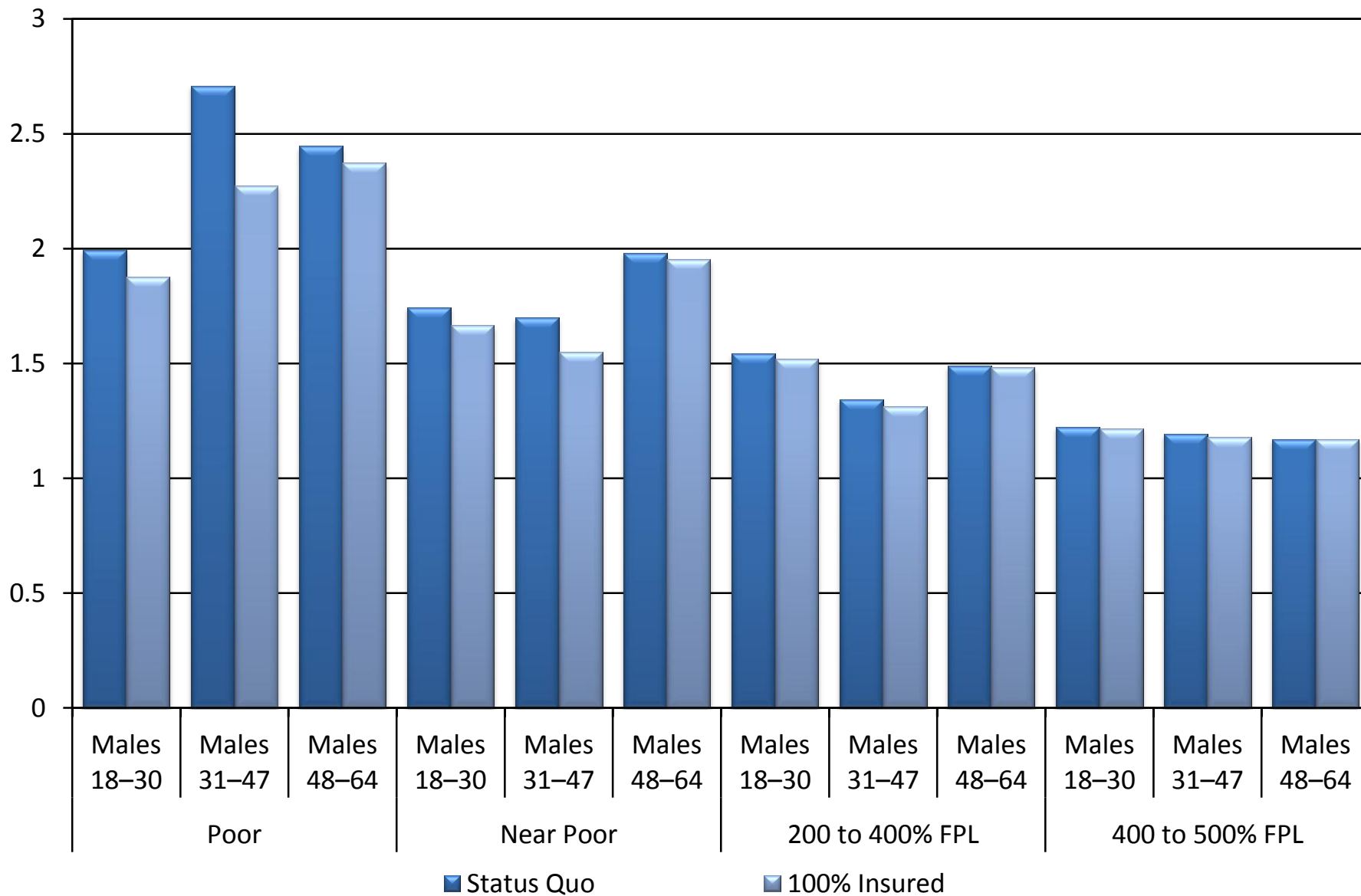
Controls health, age, race/ethnicity, income, schooling, insured or not (1986/89 survey date). Weighted.

Estimate relative risk of death.

Assume no other health differences including health –related behaviors.

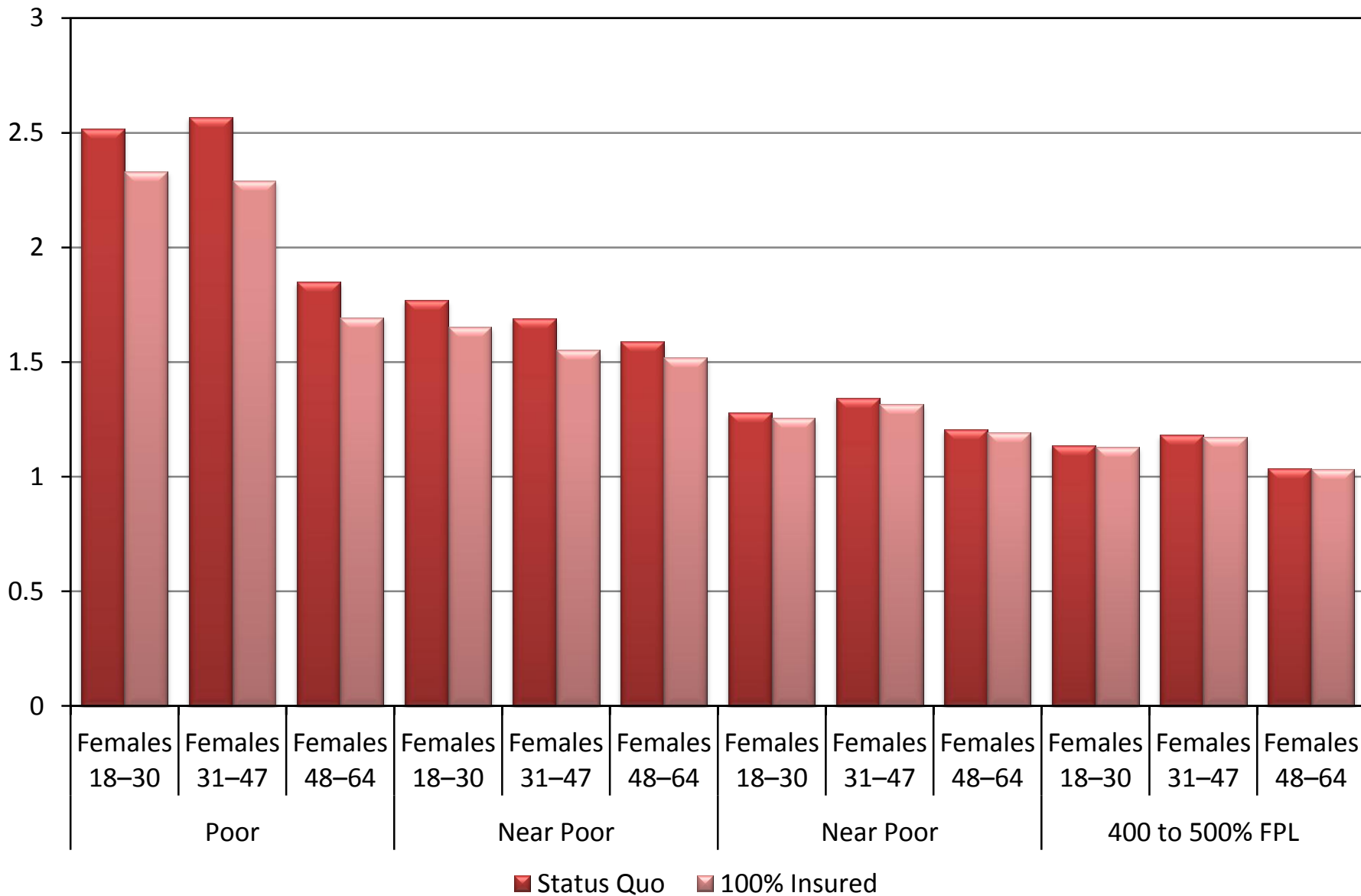
The Potential of Insurance to Reduce the Rich-Poor Mortality Gap among Nonelderly Men

NHIS data matched to the National Death Index (estimates by Nicole Hair) base = 500% +FPL



The Potential of Insurance to Reduce the Poor-Rich Mortality Gap among Nonelderly Women

NHIS data matched to the National Death Index (estimates by Nicole Hair) Base= 500%+ FPL



EVIDENCE THAT EXPANSION OF CHCS WILL REDUCE GAP

Accept more poor and minority patients

Provide more preventive care than other settings (Shi et al)

- Flu vaccines to over 65 population, high rate compliance with immunizations for children.
- Diabetes, hypertension, breast and cervical cancer screenings,
- Prenatal care outcomes better than other providers to this population
 - Lower rates of LBW and VLBW
- Less use of emergency rooms and fewer hospital admissions for conditions viewed as ambulatory care sensitive.
- **Those living in areas served by CHC more likely to have a usual source of care and ambulatory visit within 12 month period. (Hadley et al)**
- **Martha Bailey and Andrew Goodman-Bacon will present a paper that finds “that CHCs substantially reduced age-adjusted mortality rates among those 50 and older, driven largely by reductions in deaths from cardiovascular and cerebrovascular causes. The effects are large enough to imply a 19 percent decline in age-adjusted mortality for households below the poverty line and explain half of the 1965 mortality difference between the poor and non-poor.”**

ARE REFORMS LIKELY TO REDUCE RICH-POOR GAP IN HEALTH OF CHILDREN?

Evidence that coverage improves prenatal care reducing infant mortality and low birth weight. (Currie and Gruber)

Reduces avoidable hospitalizations (Dafny and Gruber) **and increases probability of getting vaccines** (Joyce and Racine)

Treatment of chronic conditions improves *attendance* (Diette et al)

Suggestive evidence that even if crowd-out occurs, expenditures improve health and school outcomes (Gruber and Yelowitz)

Children's greater access to public health insurance at birth improved their performance on standardized tests of reading ability (Levine and Schazzenbach)

CAN WE AFFORD ACA PROGRAMS FOR THE POOR?

1. Plan will decrease uncompensated care.

In Massachusetts reduced by nearly 35 percent.

2. Increased access, prevention, and early detection of disease will reduce some components of medical care spending. Oral health care, treatment for certain cancers, vaccinations, the new nursing home visiting program, and diabetes care are just a few of the health care reform programs that will reduce costs over time.
3. Medical homes for chronically ill poor individuals save unnecessary and duplicative care and reduce avoidable hospital stays Exs. asthma and diabetes.
4. Incentives to improve the quality of care should limit costs and help to reduce medical errors overall and particularly for the poor
5. Longer run gains to the economy
 - Poor pregnant women and new mothers served by visiting nurses smoke less and improve their nutrition so their children will be healthier and do better in the long run.
 - Poor persons with conditions such as hypertension and diabetes will be more productive while poor persons with acute myocardial infarctions will be less likely to die prematurely.

MY BOTTOM LINE IS THAT THE MOST PROMISING ASPECT OF ACA IS THE POTENTIAL TO REDUCE DISPARITIES IN HEALTH AND IN THE LONG RUN REDUCE DISPARITIES IN HEALTH AND EARNINGS POTENTIAL.

I BELIEVE THAT ROBERT LAMPMAN IN ASKING “WHAT DOES IT DO FOR THE POOR? WOULD JOIN ME IN HAILING THE ACA AS AN IMPORTANT NEW PROGRAM IN THE FIGHT AGAINST POVERTY.

THANK SARAH MEIER AND NICOLE HAIR WHO DID ESTIMATES FOR ME FOR THIS TALK, VARIOUS CO-AUTHORS WHOSE WORK I REFERRED TO AND BOB HAVEMAN AND TIM SMEEDING FOR HELPFUL COMMENTS. FINALLY THANK YOU ALL FOR ATTENDING.