

# Evidence About Remediation

# Rationale for Public Investment in Health and Other Forms of Human Capital

- Government is already a leading player in the allocation of social resources.
- Government spending accounts for at least 20% of GDP in almost all industrial nations, and more than 30% in Denmark, Sweden, Norway, Great Britain, the Netherlands and Italy.
- A large share of this spending is on health care.
- Even in the U.S., the government spends over 40% of the money spent on health care under two large public programs, Medicare (health insurance for those > 65) and Medicaid (health insurance for the poor and disabled).

# Equity

- even if markets function perfectly, final allocations of goods are likely to reflect initial endowments (in fact, there are an infinite number of efficient allocations). An allocation that is efficient can still be unfair.
- Arriving at a fairer distribution may involve redistributing initial endowments. Early childhood human capital can be regarded as one of the most important initial endowments.
- Note, some human capital policies can be viewed as attempts to redistribute initial endowments, while others attempt to remediate after the fact.

# Market Failures

There are many failures in markets for human capital

- There is a public goods aspect to some forms of health care spending. E.g. immunizations, public health measures to preserve water supplies, reduce environmental toxins.
- indigent care can also be viewed as a form of public good. Milton Friedman in “Capitalism and Freedom”, 1961 pg. 191 wrote:

“Private charity is insufficient because the benefits from it accrue to people other than those who make the gifts... We might all of us be willing to contribute to the relief of poverty, provided everyone else did. We might not be willing to contribute the same amount without such assurance”.

# Externalities

- A low level of investment in human capital can result in costs to others. E.g. smoking, welfare dependence, not wearing seat belts.
- Parents may invest too little in their children if they do not capture the positive effects.
- Similarly, adults may invest too little in themselves.
- - the Coase theorem implies that given property rights, costless bargaining, and full information, externalities can be resolved through negotiation. But with many agents, even with full information and rights assigned, bargaining is likely to be costly.

# Incomplete Information

- E.g. about quality of education

Moral hazard?

Do people take less care when they are fully insured?

# Increasing returns to scale

- can lead to market failures and natural monopolies.
- Health care providers that do more procedures have better records, other things being equal. Hence, many small communities may not be able to support specialized procedures of high quality.

Numerous market failures suggest a clear theoretical role for intervention

- But how should intervention be evaluated?
- A conflict in the literature turns on whether human capital policies should be evaluated in terms of effects on the equity and efficiency of input use, or in terms of the equity and efficiency of outcomes produced. Equating input use will not necessarily equalize outcomes and may be a very expensive policy.

# Overview of evidence on remediation

- We have talked about cash transfers
- Much aid in the U.S. and elsewhere is transferred in kind.

PUBLIC EXPENDITURES ON FOUR IN-KIND PROGRAMS, SELECTED OECD COUNTRIES

|                | Health<br>%GDP 2002 | Housing<br>%GDP 2001 | Child Care<br>%GDP 2003 | Education<br>%GDP 2003 | Active Labor<br>Market<br>%GDP 2001 |
|----------------|---------------------|----------------------|-------------------------|------------------------|-------------------------------------|
| Australia      | 6.1                 | 0.1                  | 0.4                     | 4.7                    | 0.1                                 |
| Austria        | 7.6                 | 0.1                  | 0.6                     | 5.1                    | 0.1                                 |
| Canada         | 6.7                 | ..                   | 0.2                     | 5                      | 0.4                                 |
| Denmark        | 7.3                 | 0.7                  | 1.6                     | 7.3                    | 0.2                                 |
| France         | 7.9                 | ..                   | 1.2                     | 5.2                    | 0.4                                 |
| Germany        | 8.4                 | ..                   | 0.4                     | 4.2                    | 0.3                                 |
| Greece         | 4.6                 | ..                   | 0.4                     | 3.9                    |                                     |
| Ireland        | 5.4                 | 0.5                  | 0.2                     | 4.3                    | 0.4                                 |
| Japan          | 6.5                 | ..                   | 0.3                     | 3.3                    | 0.1                                 |
| Netherlands    | 5.6                 | 0.4                  | 0.5                     | 4.7                    | 0.4                                 |
| New Zealand    | 6.4                 | 0.6                  | 0.4                     | 6.5                    | 0.1                                 |
| Norway         | 8.2                 | 0.2                  | 1                       | 7.1                    |                                     |
| Portugal       | 6.5                 | ..                   | 0.8                     | 5.3                    | 0.1                                 |
| Spain          | 5.2                 | 0.2                  | 0.6                     | 3.8                    | 0.4                                 |
| Sweden         | 7.7                 | ..                   | 1.2                     | 7                      | 0.2                                 |
| United Kingdom | 6.4                 | 1.5                  | 0.6                     | 5                      |                                     |
| United States  | 6.6                 | ..                   | 0.6                     | 5.3                    | 0.2                                 |

*Notes:* Dots indicate share is less than 0.1 percent of GDP. Child care also includes preprimary education. Education includes primary, secondary, and tertiary. Active labor market policies include, but are not limited to job training and search assistance.

# Why provide support in-kind?

- Economic theory suggests that in-kind transfers are an inefficient way to increase the recipient's utility, relative to cash transfers.

# Leading explanations:

- Paternalism (i.e. rich receive utility from having the poor consume certain goods)
- Self-targeting (but the highest spending is actually on programs such as primary education, health care for the elderly)
- Enhancing labor supply (by supplying complementary goods – again, does not explain large expenditures on elderly)

# Explanations, continued

- Samaritan's dilemma (bailing people out with money may cause them to get into difficulties repeatedly)
- Pecuniary effects – e.g. building public housing might reduce rents
- Political economy – interest groups (e.g. farmers) may push for certain types of in-kind aid

# Near Cash Programs

- Food assistance, housing. Generally provide amounts smaller than households would have spent on these goods in any case.
- Economic theory suggests that in this case, they should be treated like cash.
- Estimates suggest that households do spend more on food (\$1 food aid  $\rightarrow$   $<$  \$.2 increase in food) but that most of the transfer is fungible.

Relatively little work on public housing

- Transfers are larger, residential location may also be affected
- “Moving to Opportunity” a randomized experiment in which some inner city public housing residents were moved to less poor neighborhoods found mixed effects on kids: No effects on test scores, girls improved mental health, boys more crime.

# Early Intervention:

I will focus here on three types of programs with proven results:

- Head Start/Early Intervention Programs
- WIC
- Nurse Home Visiting

# Head Start

- Is a preschool program for poor 3-5 year old children.
- Serves 800,000 children per year at a cost of \$6.2 billion.
- Local grantees must follow detailed performance guidelines.

# Head Start Regulations Cover:

- Education
- Nutrition
- Health Services
- Selection into the program.
- Facilities.
- Training and staffing.
- Family and community partnerships.

## But Inputs are not the same as Outputs: Does Head Start Work?

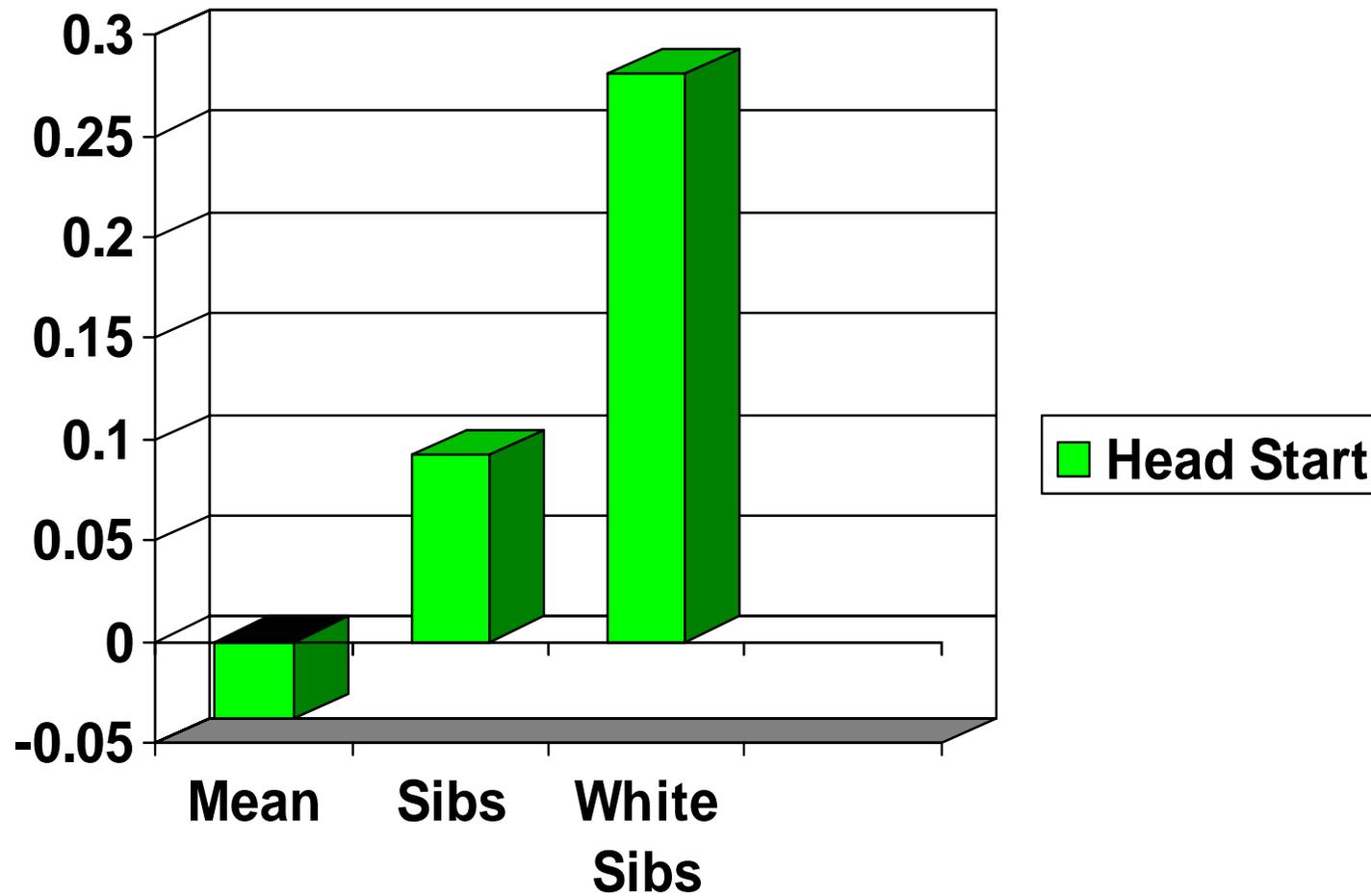
- The Head Start Impact Study, a randomized trial of early Head Start shows improvements in test scores after one year relative to controls.
- But if Head Start is an “investment”, then we need to know the longer-run return.

# Currie and Thomas studies

- Use existing national data sets.
- Compare children who attended Head Start to their own siblings who did not.
- This design controls for the fact that Head Start children are worse off than other children. In fact, Head Start centers are *required* to select the neediest children.

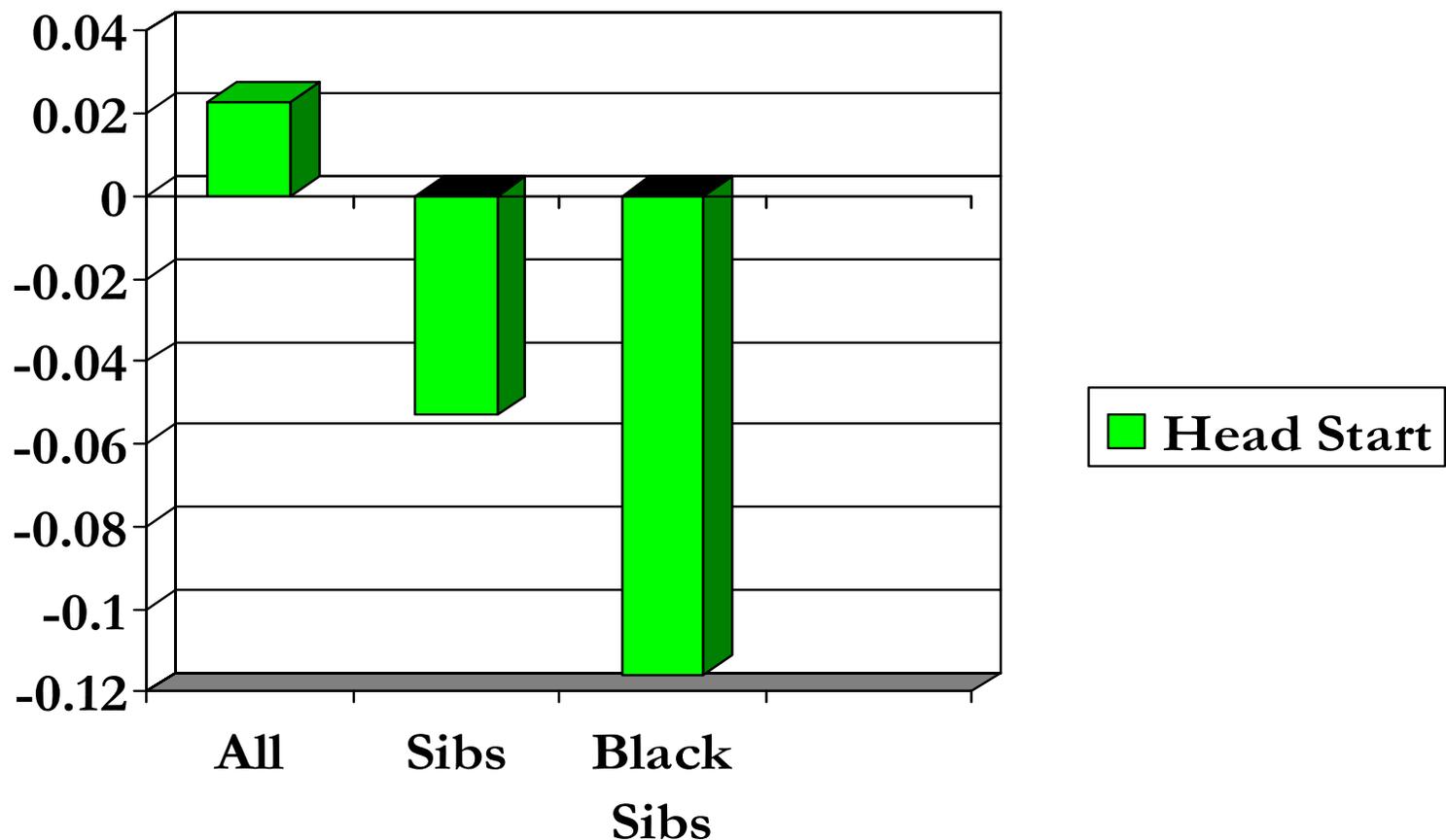
# Effect of Head Start on probability of attending college, adults 18-30:

Source=Garces, Thomas, and Currie using data from the PSID.



# Effect of Head Start on probability of being booked or charged with a crime among 18-30 year old adults.

Source=Garces, Thomas, and Currie using data from the PSID.



# New research supports long-term effects of Head Start

- Deming uses NLSY children and looks at longer-term outcomes. Finds HS closes 1/3 of gap between poor and non-poor children on an index of a range of outcomes. (Effects 80% the size of Perry Preschool).
- Carniero and Ginja use discontinuous eligibility criteria to identify effects in NLSY data. Finds reductions in behavior problems, crime, depression, obesity in adolescents.

# Other evaluations of health benefits to attendees shows:

- Introduction of Head Start was associated with large reductions in the mortality (Ludwig and Miller).
- Attendees more likely to be insured, receive dental care, and are in better overall health (as reported by parents). Benefits larger for children of non-native speakers, children with special needs, and children whose mother's were depressed at baseline (Head Start Impact Study).
- Reduction in overweight among children who were able to move from a part-day to a full-day program due to changes in program availability (Frisvold).

# The cup is either

- **1/2 Empty** – Head Start does not bring attendees up to the level of the average child.
- **1/2 Full** – Head Start has long lasting positive effects on schooling attainment and other outcomes. Benefits exceed costs.

# Is Head Start Cost-Effective?

- A one standard deviation increase in reading or math scores can be expected to increase lifetime earnings 8%.
- Hence, an increase of as little as .1 s.d. is enough to cover the \$7,000 per child cost of the program.
- Head Start impact study suggests impacts of at least this size on treated children.
  - This calculation does not value the additional social benefits of reduced crime, etc.

# Are “universal pre-K” programs better?

- Head Start evaluations, and evaluations of model preschools show that high quality programs benefit needy students. Do not say that programs of average or low quality will benefit average students.
- Are “universal” programs serving the neediest students?
- Do they offer programming of sufficiently high quality to improve the outcomes of disadvantaged students?

Oklahoma's program shows high quality programs can be effective

- run through the public schools and emphasizes high quality.
- Gormley, Gayer, Phillips, and Dawson show that compared children whose birthdays fell just before cutoffs for enrollment to those whose birthdays fell just after found a 52% gain in pre-reading skills, 27% gain in pre-writing skills & a 21% gain in pre-math skills.

# Universal pre-K in Quebec, Canada.

- A \$5 per day program was introduced in 1997 for all 4 year olds, in 1998 for 3 year olds, etc.
- Children eligible for these child care subsidies suffered *negative* outcomes on a range of measures (Baker, Gruber, and Milligan, 2008).
- Much of the new child care provided was of low quality, and the marginal children attracted into the new child care was a middle-class child who would otherwise have been cared for by their parents.

## WIC: Supplemental Feeding Program for Women, Infants, and Children.

- We have seen evidence of the importance of health before birth.
- Provides nutrition supplements, nutrition education, and facilitated access to medical care to infants, children up to 4 and pregnant and lactating women.
- WIC already serves much of the target population of (up to 54% of pregnant women are eligible and 67% of eligibles participate).

# WIC Works! (But Why??)

- Reduces the incidence of low birth weight especially among black mothers.
- Reduced anemia among young children between 1975 and 1985 (Yip et al.).
- Sibling studies show gains in cognitive functioning among children who got WIC in utero (Kowaleski-Jones and Duncan).
- Hoynes et al. (2009) uses roll-out of program to show increases in birth weight of 10%.

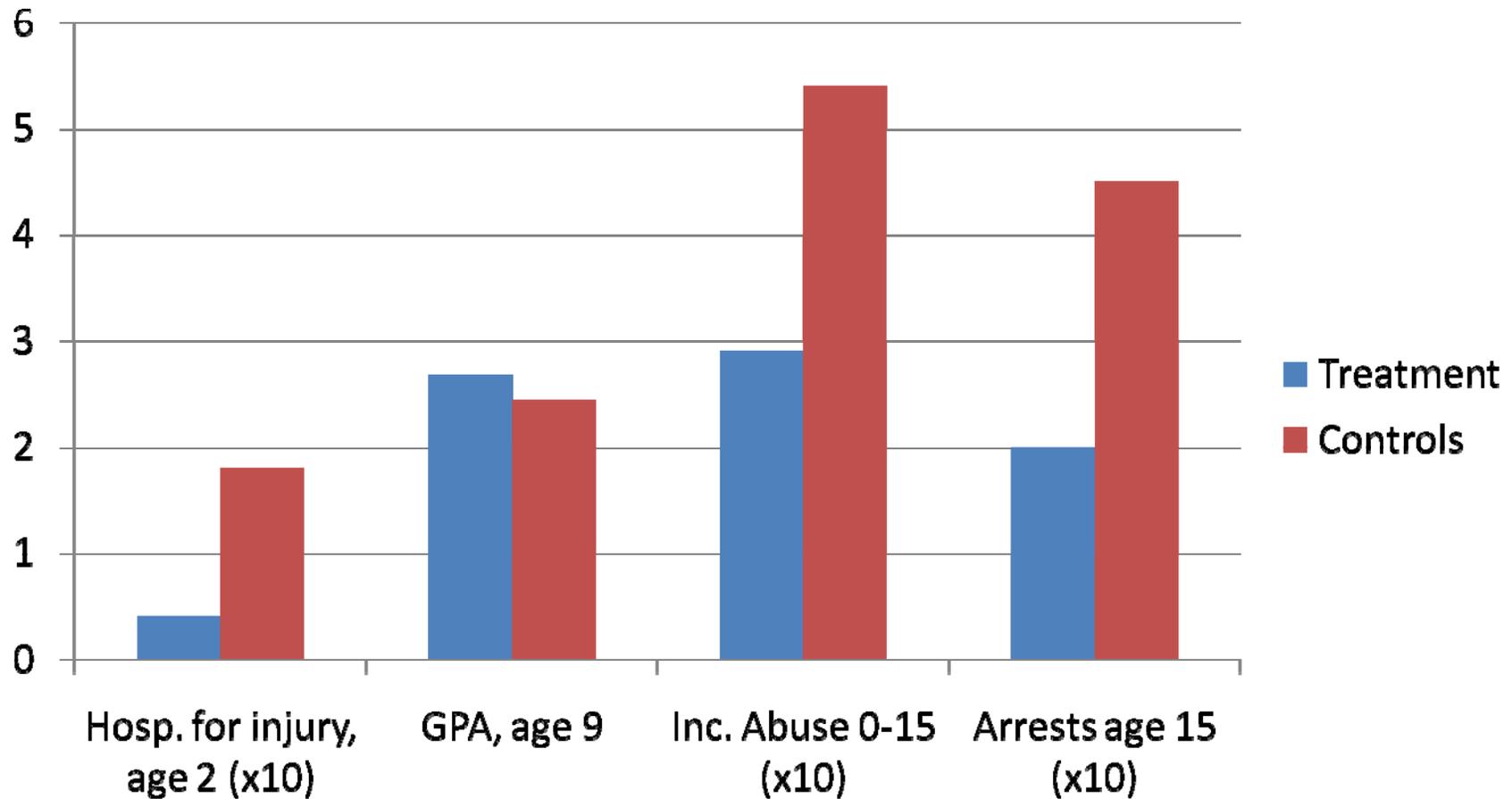
# Nurse-Family Partnership Home Visiting

- This is a specific model of home visiting conceived by David Olds
  - Targets “at risk” mothers of first borns
  - Visits begin in pregnancy and continue at least two years post-natally
  - Visitors are nurses (not para-professionals)

# Currently operates in 20 states with 20,000 mothers

- CO, LA, OK, PA, WA have state-wide programs
- Other states (CA, NJ) have significant participation.
- Has been evaluated using randomized trials in multiple locations.

# Comparison Treatments vs. Controls



Other similar sounding programs are less effective or have no proven impact on *child* outcomes.

- Home visiting with para-professionals vs. professionals.
- Also evaluated using randomized trials.

# Insist on high standards for evidence

- Programs for children are popular.
- Most advocates cite some evidence regarding the effectiveness of programs they favor.
- Programs adopted for other reasons (e.g. supporting maternal labor supply) may be promoted as good for children.
- But money for ineffective programs is money that could have been spent on effective ones.
- We need to insist on rigorous evaluations.

For a better start in life  
**start COLA earlier!**



- Promotes Active Lifestyle!
- Boosts Personality!
- Gives body essential sugar!

### How soon is too soon?

Not soon enough. Laboratory tests over the last few years have proven that babies who start drinking soda during that early formative period have a much higher chance of gaining acceptance and "fitting in" during those awkward pre-teen and teen years. So, do yourself a favor. Do your child a favor. Start them on a strict regimen of sodas and other sugary carbonated beverages right now, for a lifetime of guaranteed happiness.

**The Soda Pop Board of America**  
1515 W. Hart Ave. - Chicago, ILL.

# Many puzzles and problems remain

- Are there critical periods, and for what capabilities?
- How pervasive are gender differences in the effects of negative events, and in the effects of programs to remediate them?
- What are the costs and benefits of universal vs. targeted programs?
- What is the least cost way to intervene to improve the lives of disadvantaged children?

# Overall Conclusions

- Events from -1 to 5 really matter for future outcomes.
- Sadly, many children experience negative shocks that will influence their future lives before they are even born! Suggests prevention needs to target women.
- But people are resilient. Intervention can improve outcomes, and we understand much more about how to do this than even 10 years ago.