

# The Heckman Equation



## Abecedarian & Health:

### Improve adult health outcomes with quality early childhood programs that include health and nutrition.

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*High-quality, birth-to-five preschool has demonstrated positive effects on a variety of life outcomes. A new analysis of the Abecedarian preschool program, one of the oldest and most cited U.S. early childhood intervention programs, shows positive effects on adult health. Using recently collected data in a biomedical sweep, this research finds that children who were in the treatment group have significantly better health in their mid-30s. The estimated treatment effects survive corrections for several statistical challenges faced by small-sample randomized controlled trials. The findings show the potential of early life programs to prevent disease and promote adult health.*

#### **Abecedarian and health: a groundbreaking intervention points to the power of prevention.**

The Abecedarian preschool program in North Carolina was a social experiment that tested whether an intellectually stimulating early childhood environment could prevent developmental delays among disadvantaged children. The study consisted of two stages of treatment: a preschool stage that began soon after birth and continued until five years of age, followed by a school-age stage from six to eight years of age. The Abecedarian study also had nutritional and healthcare components. Children received two meals and an afternoon snack at the center, and were also offered periodic medical check-ups and daily screenings.

#### **A new way to prevent chronic diseases such as hypertension, heart disease, diabetes and obesity.**

Noncommunicable diseases, such as hypertension, heart disease, and diabetes, are responsible for nearly two-thirds of deaths worldwide—and a great deal of spending in health care. Evidence shows that adult illnesses are more prevalent and problematic among those who have experienced adverse conditions early in life—some biological and many socioeconomic. The Abecedarian study suggests that shaping the dynamic process of human development, from birth to age five, should be strongly considered in the prevention of costly chronic diseases.

#### **Quality early childhood development improves adult physical health.**

Positive health effects in Abecedarian were statistically and substantively significant and varied by gender. Treated males were found to have lower systolic and diastolic blood pressure and to be less likely to fall into the stage I hypertension category. Treated females were less likely to fall into the pre-hypertension category. Males had significantly higher levels of “good” HDL cholesterol and none of them manifested metabolic syndrome—hypertension, central obesity and dyslipidemia—while the prevalence in the control group was 25 percent. Treated females were less likely to be affected by abdominal obesity.

#### **Quality early childhood development increases healthy behaviors.**

Lifestyles play an important role in preventing and controlling chronic disease. Evidence suggests that quality early childhood development influences healthier lifestyle behaviors. Treated women were significantly less likely to start drinking before age 17, more likely to engage in physical activity and more likely to eat nutritious food at age 21. Treated males delayed the onset of smoking and marijuana use.

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## Physical development is improved by quality early childhood development.

Positive early childhood experiences result in better physical health from childhood to the adult years—particularly in lower body mass index and prevalence of obesity. Treated males were less likely to be overweight in the preschool years. This echoes the findings of multiple studies on the health effects of Head Start, which show a reduction in the prevalence of obesity among children enrolled. Obesity prevention through quality early childhood development should not be underestimated, as people who experienced high body mass in their mid-30s were already on a trajectory of above-normal body mass in the first five years of their lives.

## Quality early childhood development can prevent gaps in achievement and health.

This study on the health effects of Abecedarian builds upon solid evidence that quality early childhood development programs help prevent the achievement gap and produce better adult economic and social outcomes. We now have evidence that quality programs can be used to prevent costly chronic diseases, increase productivity and potentially reduce health spending. These new findings on health intensify the already high value of quality early childhood development for disadvantaged children—and should be put to use to shape more effective state and national policies.

## Policymakers can act on this new research:

- Recognize that quality, birth-to-five early childhood development programs can and should be used to prevent adult chronic disease.
- Make quality early childhood development an integral part of ongoing healthcare reform, particularly among families receiving Medicaid and CHIP.
- Understand that quality early childhood programs start with effective perinatal care for mothers and begin at birth for children.
- Integrate early health and nutrition into early childhood development programs. Early health is critical for later adult health outcomes.

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