

Earliest Prevention, Minimal Cost: Identifying Early Educational Determinants of Adult Health Status

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Introduction

It is commonly agreed upon that the children of this country are the building blocks for the prosperity and the security of the next generation. The U.S. Department of Education operates with a \$68 billion dollar budget ^[1], and among the many implications and confusing messages on what exactly is best for the children, there has been enormous challenge in creating effective policies that maximize the yield for the children's well-being. Health outcome as an adult is definitely one of the hallmarks of well-being, but what the government can do to yield better health later in life is not clear. The brief will present various findings in literature about the relationship between education at the earliest stages of life and health

outcomes, and recommend policies that are most parsimonious with current findings.

Background

In the past decade, there has been an enormous increase in the knowledge about the human brain, and the interdependence of cognitive, social, and genetic factors that affect development. ^[2] The process of growth is continuous and ongoing, but the capacity of the immature brain to grow and change provide the best time to provide experiences that shape healthy adult brain circuits. ^[2] Public education can play a major role in this process as children, regardless of their socioeconomic, racial, and other backgrounds, can be influenced to learn healthy behaviors and be guided throughout their development.

Literature Review

Current Knowledge Base

Studies have shown that many of the risks of disease of the adult life (such as heart disease, diabetes, etc.) are, in part, shaped by learning, coping, and

decision-making skills that are set in the earliest years of life. [3]

A key requisite for optimal healthy child development is secure attachment to a trusted caregiver, giving consistent caring, support, and affection early in life. Spending one's early years without much social stimulation in an unsupportive environment can affect childhood development in adverse ways, leading to possible cognitive, social, and behavioral delays. [4] The general pathway for this reasoning is as follows: healthy, supportive childhood development leads to school readiness, and appropriate coping and social skills; those skills reduce the likelihood of academic social, and behavioral difficulties; and finally the lessening of those difficulties ultimately lead to reduced risk of criminal behavior, substance abuse, and the increased capacity to avoid stress-induced health conditions.

Past policies and outcomes

Several policies and studies have demonstrated the effect of early childhood education on health

outcomes. The studies presented here provide data about the earliest possible intervention, from an infant stage to preschool.

Early Head Start is a federally funded community-based program for low-income pregnant woman and families up to age 3. Program details vary by region to region, but the initiative overall provides services such as home visiting, parenting education, child care, and family support. [5] Studies have shown that when these infants were tracked when they entered school, they demonstrated more positive and social behaviors and greater achievement test scores, both statistically significant. Both of these factors could be interpreted as partial determinants of later adult health and success.

The Carolina Abecedarian Project was a controlled experiment that operated from 1972 – 1985 to study the potential benefits of early childhood education for poor children to improve school readiness.[6] Selected infants were given a high quality, game-like, intervention, based on the then latest education

theory. Significant improvements were found in cognitive functioning, higher graduation rate, decreased teenage pregnancy, and improved employment rates. More ongoing follow up studies are being performed. Many of these factors are known to be implicated in health outcomes, such as employment and highest degree attained. [7][8]

Both of these studies hint at the importance of creating a stimulating, educational environment for children starting at the earliest age. The increase in attention and quality of the care given to children led to factors later in life that are directly and indirectly related to health outcomes.

Policy Implications

Starting at the earliest age

The literature suggests that while all education efforts are valuable, it has particular value when started as early as possible, starting with low-income mothers and infants. When in combination with increased access to health services, early childhood education and resources provide the

most cost effective long term solution. [5] Various controlled experiments and observational studies show that in a cost effective metric (for example, dollar saved for every dollar spent on program), these pilot programs yield double or triple the initial investment.

Health + Learning Combination

The previously presented recommendation integrates the findings regarding the benefits of the earliest general education, not necessarily directly about health. This is not meant to undermine the importance of more directly applicable health education programs; rather, it provides a good scaffold in which some of these early health education programs can take place. The previously mentioned Early Head Start Program as a sister program, the Head Start program. The Head Start program focuses on a wide range of issues including health education, school readiness, and healthcare access for children around the age of three to five. These programs demonstrate the effectiveness of combining these early education opportunities with more direct

healthcare interventions. A recommendation is to combine these various efforts into a single, easily interpretable and understandable package, since the effect often seem to be greater than the sum of the parts. Adapting some of the current programs housed in the Head Start program into programs geared towards even younger children, such as Early Head Start, would be able to maximize both short-term and long-term health benefits.

More Resources

- Economic Opportunity Institute, <http://www.eoionline.org/issues/early-learning/>
- Harvard Center for the Developing Child, <http://developingchild.harvard.edu/>
- Commission to Build a Healthier America, <http://www.commissiononhealth.org>
- Head Start, <https://eclkc.ohs.acf.hhs.gov/hslc/tta-system/ehsnrc/about-ehs>

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