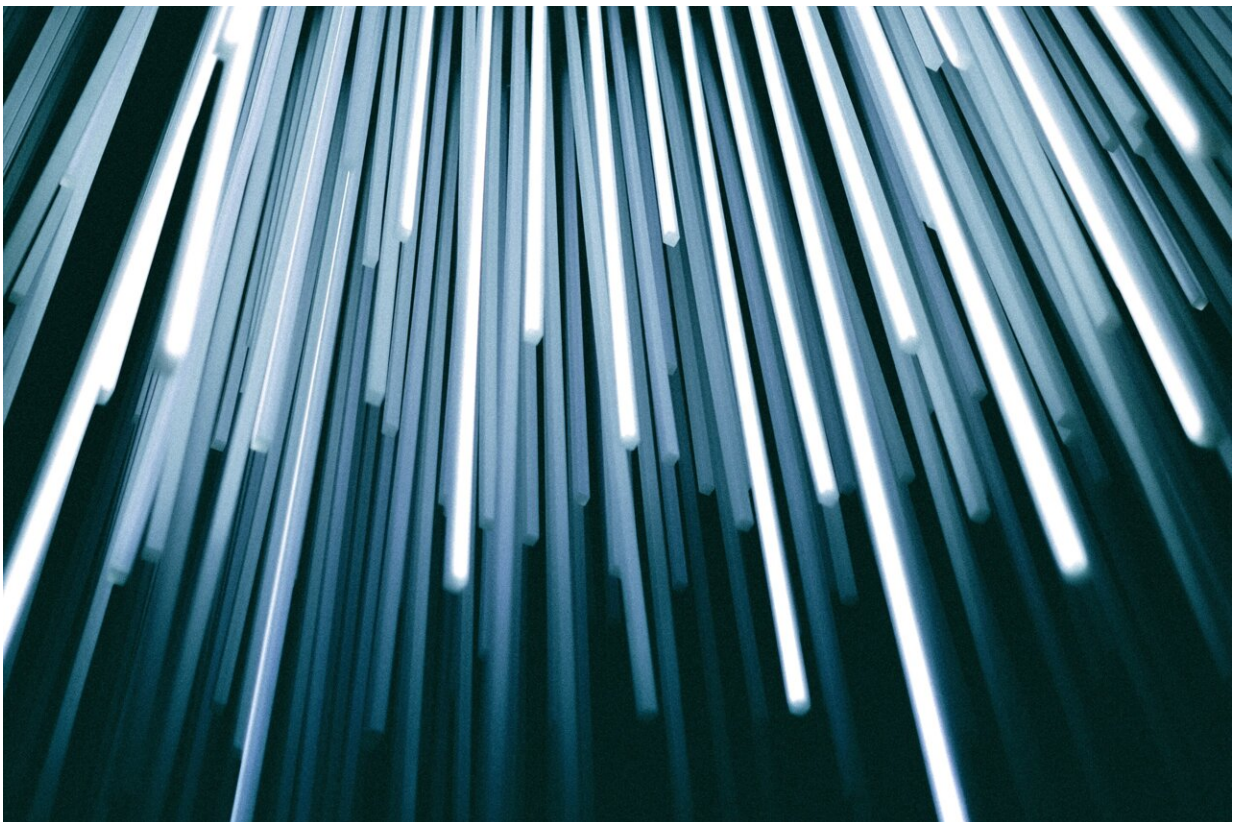


Child nutrition programs can feed inequality: Model from South Africa shows how context shapes lives

December 13 2022, by Chris Desmond and Agnes Erzse



Credit: CC0 Public Domain

Interventions to improve nutrition, especially for children and pregnant women, can be critical for health, physical growth and cognitive

development, enabling better lives and futures. Reams of [policy papers](#) will attest to the fact that if a government or a donor spends substantially on nutrition, the return on their investments—in lives improved or saved—will be high.

Less well known is that the full rewards of nutrition support for the neediest children don't always materialize. Nutrition interventions on their own are not fulfilling their full potential for all who receive them.

This is because context influences an intervention's value—at the time and in the future. The children who need help most tend to experience adversity throughout childhood. That continuing adversity muffles the benefit of improved early nutrition.

In South Africa, malnutrition exacts a [heavy toll](#): 15% of babies are born with low birthweight; 27% of children under five are stunted; 61% of children under five are anemic. Among the poorest one-fifth of children, 36% are stunted; among the richest one-fifth, 12.5%. But at the same time, 68% of women in their child-bearing years (and 13% of children) are overweight or obese. A third (31%) of women are anemic, and 9.1% of [pregnant women](#) have [gestational diabetes](#). These conditions all contribute to higher risks for their infants. There can be birth complications, prematurity, diabetes later in life for the baby, or disrupted physical and [cognitive development](#).

Nutrition support—for all forms of malnutrition—is critical. In South Africa, the [US\\$5.7 billion \(R86.8 billion\) National Food and Nutrition Security Plan 2018-2023](#) allocates 8.1%, or \$461.7 million (about R7.3 billion) to [nutrition interventions](#) for women, children and infants. This does not take into account [private sector](#) or international agency expenditures or programs. The government interventions provide certain vitamins and minerals and extra food for women and children in need.

But despite these efforts, the benefits of early nutritional improvements might wear off for those facing socioeconomic challenges later in life.

[Our research](#), using a [case study](#) in South Africa, helps explain the different impacts of nutrition interventions early in a child's life. For children living in adversity, the potential benefits over their life course are not fully realized. For children who are better off, the benefits magnify over time.

South Africa is one of [the most unequal countries in the world](#), with 10% of the population owning 80% of the country's wealth. It is critical to avoid making that inequality even worse. Yet, without additional interventions, the National Food and Nutrition Security Plan may further contribute to inequality.

To avoid aggravating inequality, researchers, funders, and [policy-makers](#) need to consider the contexts in which children grow and live.

Even over 25 years post-apartheid, South Africa experiences severe inequalities in early nutrition, education, and almost every human-development outcome, such as employment, training opportunities, gender equality and political participation. Health inequities, inadequate coverage of nutrition interventions and adverse later-life circumstances continue to prevent many of South Africa's children from achieving their full cognitive, social and economic potential.

Our case study highlights the importance of context, throughout childhood and into adulthood, on long-term outcomes. It can guide the allocation of resources to get the best returns on investments in nutrition—especially for the poorest children.

The case study

Our case study looks at the interactions between early nutrition, school quality and [job opportunities](#). Nutrition protects a child's development potential. School quality influences whether that child will realize their potential. Job opportunities shape their chances to use their realized potential in ways they value.

To build the model, we used a theoretical cohort of 1.15 million children. That's around the number of children born in South Africa in 2021. We modeled what would happen if nutrition interventions were scaled up to cover 90% of the cohort. We looked at the consequences for nutrition, mortality and years at school, for five socio-economic groups of 230,000 children each.

We then estimated the productivity returns (lifetime earnings) associated with more years of schooling. Here we set out four scenarios:

- a baseline with no additional [intervention](#)
- scaling nutrition interventions to 90%
- adding improved school quality to scaled up nutrition interventions
- adding equitable employment opportunities to better school and nutrition.

The results suggest that scaling up nutrition interventions in the [public sector](#) would yield productivity returns for the whole cohort. The returns would have a value of close to US\$2 billion. And the cost of increasing nutrition coverage to 90% would be only US\$90 million.

In other words, the "return on investment" to support maternal and early

childhood nutrition is high: US\$18 in productivity for every US\$1 invested. Nearly 2,000 lives would be saved. Stunting among two-year-olds would drop by more than three percentage points. And the cohort would enjoy 53,000 more years of schooling.

But looking at the results for the different socio-economic groups revealed something troubling. If only the nutrition interventions were scaled up, the richest children would gain the most (US\$23/\$1 return), while the poorest children stood to gain the least (US\$16). That would actually worsen the underlying dramatic inequalities.

This is because the overall value of the returns is determined by school access, school quality and employment prospects. All of these are worse for the poorest quintile of children.

If [school quality](#) were equal for all children (the third scenario), the highest returns would be seen for the poorest one-fifth of [children](#), rather than for the richest one-fifth.

The impact of inequality

Looking at the different domains of development simultaneously and understanding their dynamic relationship can help identify opportunities to enhance their effects on each other.

The model calls for a shift away from a focus on interventions one at a time—"only" health, or education, or [nutrition](#). Those single-focus interventions might well limit the beneficial effects of other interventions. They could even worsen inequalities.

Seeing what is hindering a child's development across their [life span](#) is the first step to creating holistic interventions that will have the most impact where it's needed.

This article is republished from [The Conversation](#) under a Creative Commons license. Read the [original article](#).

Provided by The Conversation

Citation: Child nutrition programs can feed inequality: Model from South Africa shows how context shapes lives (2022, December 13) retrieved 25 April 2024 from <https://medicalxpress.com/news/2022-12-child-nutrition-inequality-south-africa.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.