



JUNE 2015

PREVENTING STUNTING

OUR BEST OPPORTUNITY TO PROMOTE LIFELONG HEALTH,
NUTRITION, AND ECONOMIC BENEFITS IN BIHAR

Preventing stunting has emerged as the top priority for nutrition programs worldwide.

As an indicator of healthy growth and development, it is the best way to track and promote optimal development of a child's health from the earliest days of life.

Stunting means being too short for one's age, and it is widespread in Bihar—with about 56 percent of children under age 3 currently falling below the minimum height for their age, and many more not meeting their full genetic height potential. This means they will suffer lifelong physical, social, and cognitive limitations due to how they were nourished in their first 1,000 days of life.ⁱⁱ

Investing in stunting reduction is one of the most cost effective global health investments. Recent studies estimate that every Rs. 60 (\$1) invested in child nutrition in India is estimated to generate nearly Rs. 2,340 (\$34) in economic returns.ⁱⁱⁱ To achieve both health and economic gains for individuals and states, it is imperative that policies and programs prioritize stunting as the most comprehensive indicator of a child's nutritional status.



Alive & Thrive is funded by the Bill & Melinda Gates Foundation and the governments of Canada and Ireland and managed by FHI 360.

Stunting is a Key Predictor of Short- and Long-term Health Consequences^{iii,iv}

Stunting is the result of chronic nutrition deficiency at least during the first 1,000 days of life. Once a child is stunted by his or her second birthday, its damage is largely irreversible. But stunting is more than just a failure to gain height—it indicates a critical risk factor for diminished survival, reduced learning capacity, productivity, poor health, and economic performance later in life.

Health, Social, and Economic Risks of Stunting and Undernutrition Across the Life Cycleⁱⁱⁱ

STUNTED INFANTS AND YOUNG CHILDREN

- Increased infant mortality rate (of children born to stunted women)
- Weaker immune system and higher risk of severe infectious diseases
- Delayed and poor cognitive development
- Less schooling, lower school performance

STUNTED ADULTS

- Short adult stature
- Lower economic productivity, reduced earnings
- Lower muscle mass in the body
- Increased risk of non-communicable diseases like diabetes, heart disease, etc.

STUNTED WOMEN AND MOTHERS

- Increased risk of maternal mortality
- More likely to give birth to underweight and stunted children
- More likely to experience difficult labor and short- and long-term disability due to underdeveloped size of pelvis
- More likely to have an infant with birth asphyxia

When multiplied across an entire nation, it is estimated that poor nutrition can reduce a nation's economic productivity by at least 8 percent due to direct productivity losses and losses due to reduced schooling and poorer cognition.^v

Stunting: A Better Measure of Overall Child Health and Nutrition

There are three basic ways of measuring undernutrition:

Stunting, or low height for age, is caused by long-term, insufficient nutrient intake and frequent infections. It generally occurs before age 2, and its effects are largely irreversible.

Wasting, or low weight for height, results from significant food shortage or disease over a shorter period of time. It is a strong predictor of mortality among children under five.

Underweight, or low weight for age, indicates poor nutrition over the short-term, but is not a sufficient indicator of whether a child has suffered long-term impacts from undernutrition.

The differences between all three indicators are important to determine what treatment a child needs.



Stunting is possibly the most useful indicator of child health for numerous reasons:

- Weight varies over time and according to numerous factors, whereas stunting provides a concrete indicator of malnourishment at any point in time.

- The opportunity to re-gain height, once a child is stunted, is seldom possible.
- Stunting is a more accurate predictor of long-term health impacts that contribute to lost productivity and poor economic outcomes for individuals and nations.

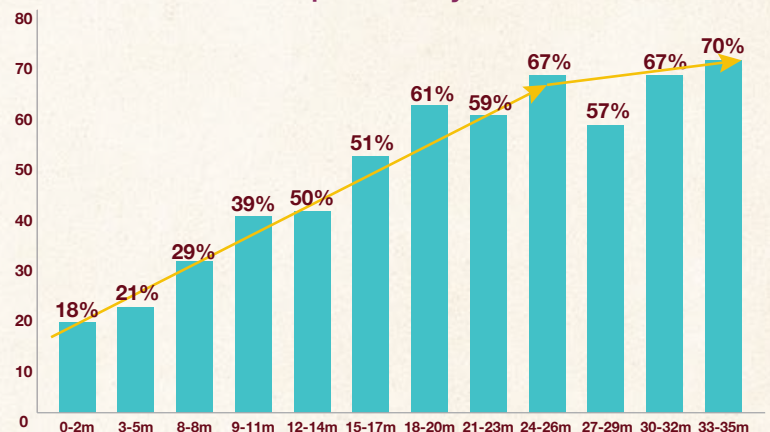
Despite its importance in preventing both short- and long-term health impacts to individuals and nations, stunting often goes unrecognized and unreported. The state of Bihar can maximize health, social, and economic gains by prioritizing stunting in the design and monitoring of programs.

The Critical Window of Opportunity from Conception to Age 2

Typically, growth faltering begins at about 6 months of age, as children transition to foods that are often inadequate in quantity and quality, and increased exposure to the environment increases their likelihood of illness. By the time a child is stunted at 2 years of age, it is largely irreversible. Interventions during the first 24 months of life are much more effective at reducing mortality and improving health, in part because children are most vulnerable to malnutrition and infection during this time.

For example, in Bihar, the prevalence of stunting is 20 percent in infants up to 12 months of age and increases steadily to a very high level of 67 percent among children 24–36 months of age.^{vii}

The proportion of stunted children in Bihar increases with age until a peak at 2 years old.



*Data from the National Family Health Survey (NFHS-3)

We Know What Works: Interventions to Prevent Stunting

The World Health Organization, UNICEF, doctors, and scientists worldwide agree that to reduce stunting, attention is needed to improve women's nutrition, infant and young child feeding, and hygiene and sanitation. These practices are essential to promoting lifelong health and reducing stunting:

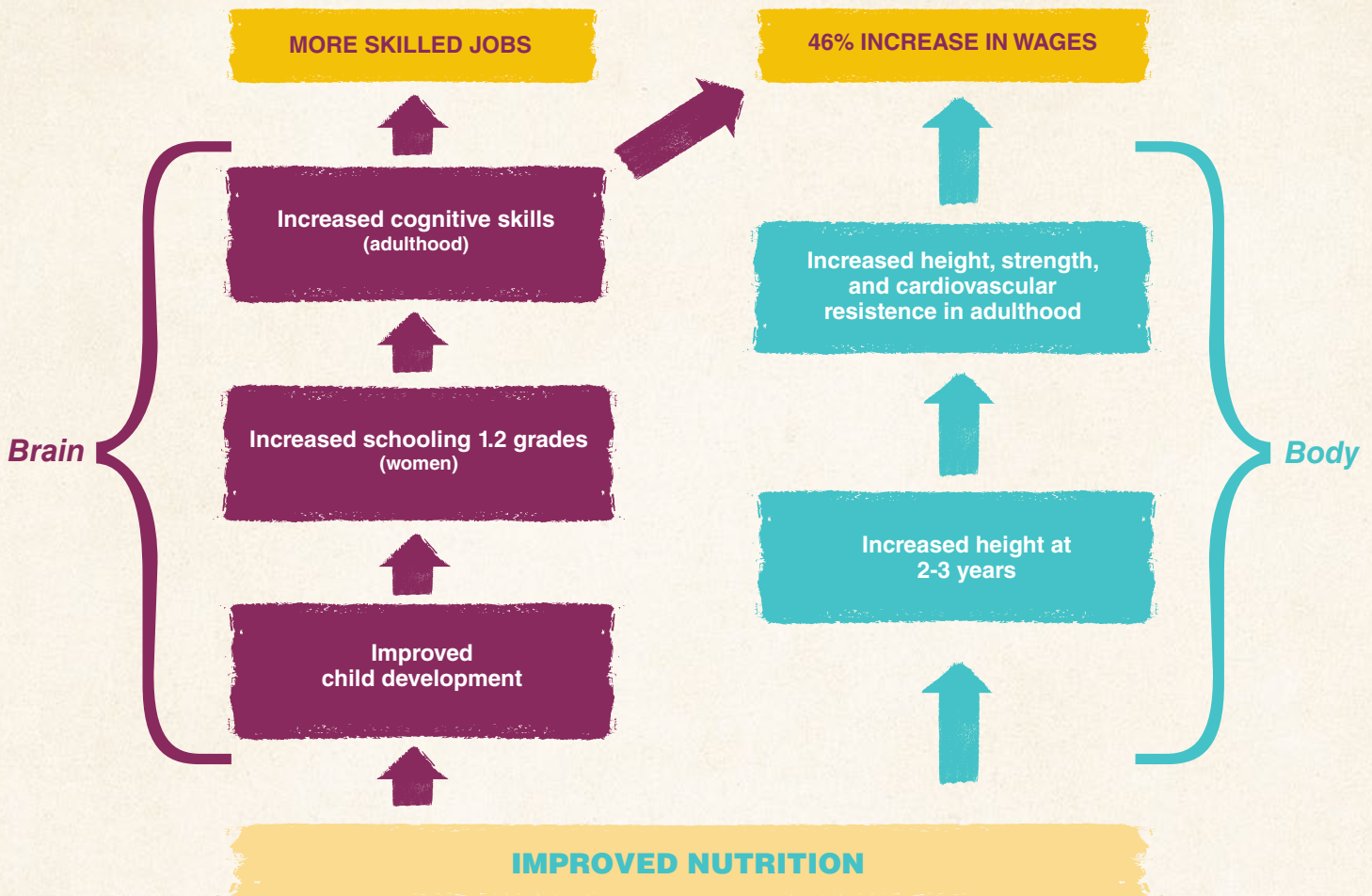
Improving nutrition for girls and women – including improving nutrition of adolescent girls and young women who are likely to give birth to small babies if not well-nourished.

Appropriate complementary feeding – including the *timely* introduction of complementary foods at six months, with continued breastfeeding through two years and beyond. It should be *adequate*, meaning that the complementary foods should be given in the right quantity, frequency, consistency, and using a variety of foods to cover the nutritional needs of the growing child while maintaining breastfeeding.

Safe water and sanitation – including hand washing with soap, especially before preparing food and feeding a child. The lifelong benefits of good nutrition are undermined when children become repeatedly sick from both minor illnesses and serious infections. This is because complementary foods transmit pathogens if not prepared safely. Hand washing with soap is the most cost-effective health intervention against diarrhoeal disease and reduces pneumonia.^{viii,ix}

Breastfeeding – including early initiation of breastfeeding within one hour of birth, exclusive breastfeeding for the first six months of life, and continued breastfeeding through 24 months. It is especially important to breastfeed during and after an illness.^{ix}

Improved Nutrition Results in a Stronger Mind and Body



Four Essential Actions that Health Policymakers and Program Leaders Can Take Now

1. Include stunting (height for age) as a target indicator in national strategies and action plans.
2. Use height—not just weight—in surveillance systems and evaluations.
3. Design programs to prioritize the critical window of opportunity, from pre-pregnancy through the first two years, with a focus on adolescent, maternal, infant, and young child nutrition.
4. Work with other sectors—especially agriculture, education, social protection, and WASH—to ensure they are also prioritizing interventions that support stunting reduction.

^{i.} International Institute for Population Sciences (IIPS) and Macro International, "National Family Health Survey (NFHS-3), India, 2005-06: Bihar," 2008.

^{ii.} Hodinott, J., et al., International Food Policy Research Institute, Washington DC, Discussion Paper 1073, "The consequences of early childhood growth failure over the life course," 2013.

^{iii.} Black, R., et al., The Lancet, Vol. 382, Issue 9890, "Maternal and child undernutrition and overweight in low-income and middle-income countries," 2013.

^{iv.} Martorell, R., Khan, L. K., & Schroeder, D. G., Centre for International Health, "Reversibility of stunting: epidemiological findings in children from developing countries," 1994.

^{v.} Horton, S., & Steckel, R., Cambridge University Press, "Global economic losses attributable to malnutrition 1990-2000 and projections to 2050," 2013.

^{vi.} International Institute for Population Sciences (IIPS) and Macro International, "National Family Health Survey (NFHS-3), 2005-06, India: Key Findings," 2007.

^{vii.} World Health Organization, "Global Handwashing Day: Planner's Guide," 2009.

^{viii.} Luby, S., et al., The American Journal of Tropical Medicine and Hygiene, "Using Child Health Outcomes to Identify Effective Measures of Handwashing," 2011.

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