





# Why Focus on Nutrition Sensitive Programs?

The 2013 Lancet Nutrition Series estimated that scaling up 10 proven effective nutrition specific interventions would reduce stunting globally by 20 percent.

While this would be a major improvement in the health and development of children, it does not go far enough.

Thus, there is also a need for programs that address the core determinants of undernutrition

This is the role of **nutrition sensitive interventions**



## Definition: Nutrition-sensitive Interventions

These are interventions or programs that address the **underlying determinants** of fetal and child nutrition — food security; adequate caregiving resources at the maternal, household and community levels; and access to health services and a safe and hygienic environment—and **incorporate specific nutrition goals and actions**

### Examples



Agriculture and food security	Social safety nets
Early child development	Maternal mental health
Women's empowerment	Child protection
Schooling	Water, sanitation and hygiene
Health and family planning services	



# Why Nutrition Sensitive Programs are important instruments to reduce undernutrition

The potential for nutrition sensitivity in sectors such as agriculture and social protection comes in part from their scale; most governments devote substantial resources to programs in these sectors.

In addition, these programs are generally intrinsically targeted to the poor

They often contain design features that can empower women

These programs can also serve as delivery platforms for **nutrition-specific** interventions, potentially increasing their scale, coverage and effectiveness

Moreover, by improving nutrition they increase overall economic growth





# How Can Social Protection Contribute to Reducing Malnutrition?

Safety Nets provide transfers to 1.9B poor people globally.

These help:

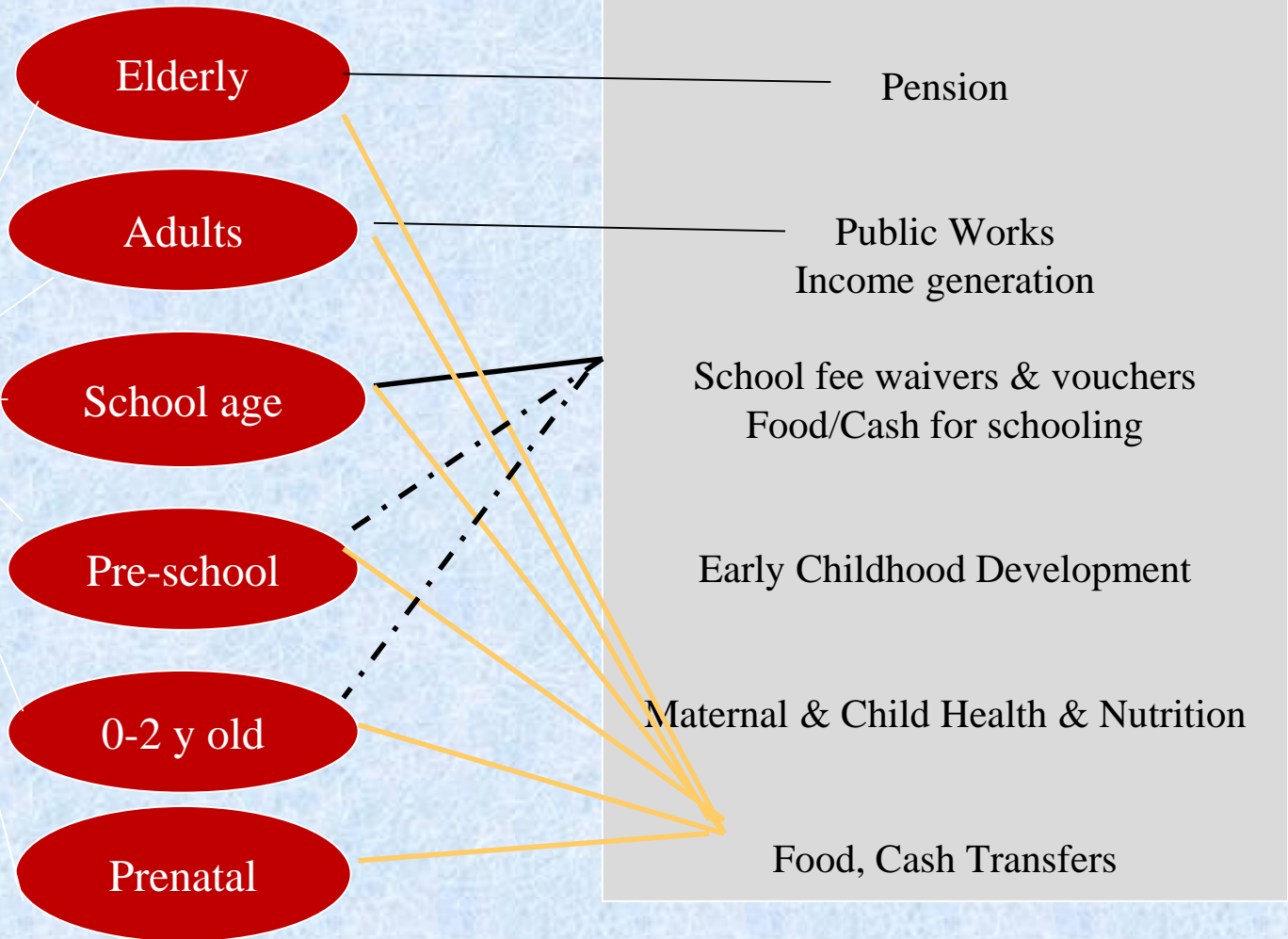
- reduce poverty
- mitigate negative effects of global changes, conflicts and shocks
- enhance women's empowerment when targeted to women
- increase demand for health and education services

By increasing purchasing power they directly address food insecurity



# Social Protection & the Life Cycle

## Social Protection Programs & Policies





# **Two points about the economics of nutrition that should already be well known**

## **Nutrition interventions have high rates of economic returns:**

- This was illustrated with studies of low birth weights as well as comparisons of benefit:cost ratios for the Copenhagen consensus workshops in 2004, 2008, and 2012.
- This has also been shown with longitudinal data from Guatemala over decades.

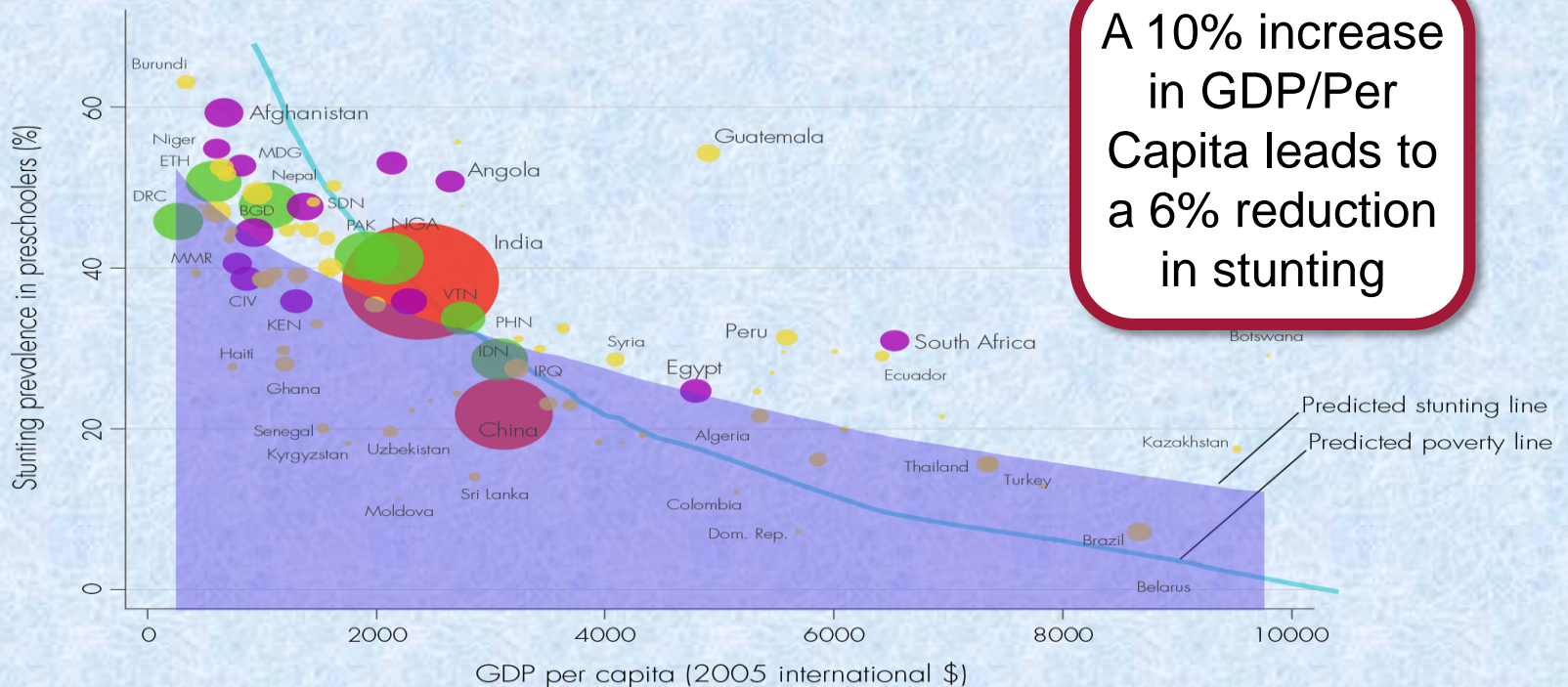
## **Income growth has a significant, yet modest, impact on malnutrition rates:**

- For example, if the poorest 40% of Pakistan were to have the assets of the middle quintile, malnutrition rates would only decline from 41% to 38%



# Nutrition-sensitive Social Protection Programs Can Impact Nutrition Through Increases in Income

Prevalence of stunting in children aged 0-5 years and GDP per person

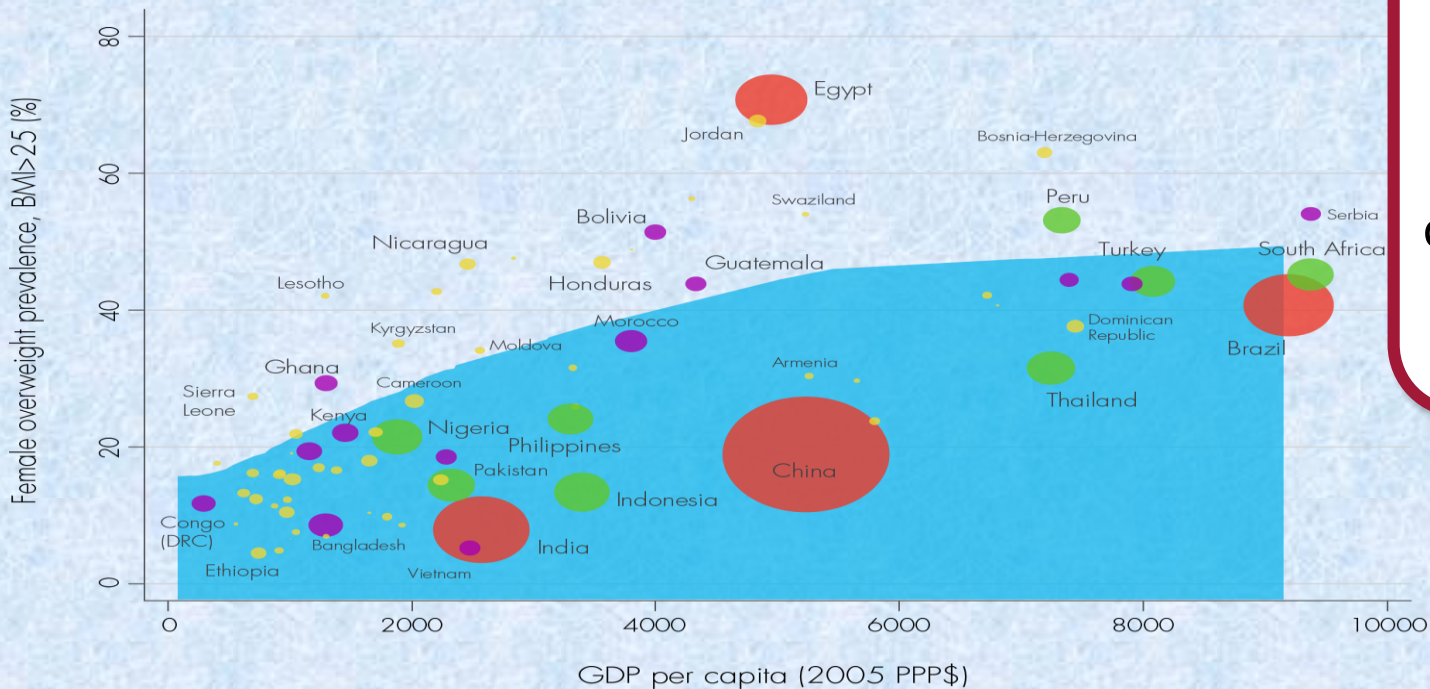






# Income Growth Can Have Unintended Consequences of Increasing Risks of Overweight and Obesity

Prevalence of women overweight or obese (BMI > 25) and GDP per person, for low-income and middle-income countries



A 10% increase in GDP/PC leads to a 7% increase in overweight and obesity in women



# What outcomes are we seeking to influence with nutrition programs?

MDGs target improvements in weight for age for children  $< 5$

Advantage in ease of measurement and, while individual catch up growth may be under appreciated, nutritional status by 60 months is a fair measure of progress in a population

Weight (particularly weight for height) is also a good measure of acute malnutrition and the risk of **infant and child mortality**

But as nutritionists have argued, seeking weight gain on a small frame risks contributing to obesity

Taking that argument one step further: focusing on physical growth deemphasizes what we should really be after - cognitive and socio-economic development



# **Economic returns to nutrition programs are **higher** in dynamic, growing economies**

This is because the investments in nutrition make labor more productive

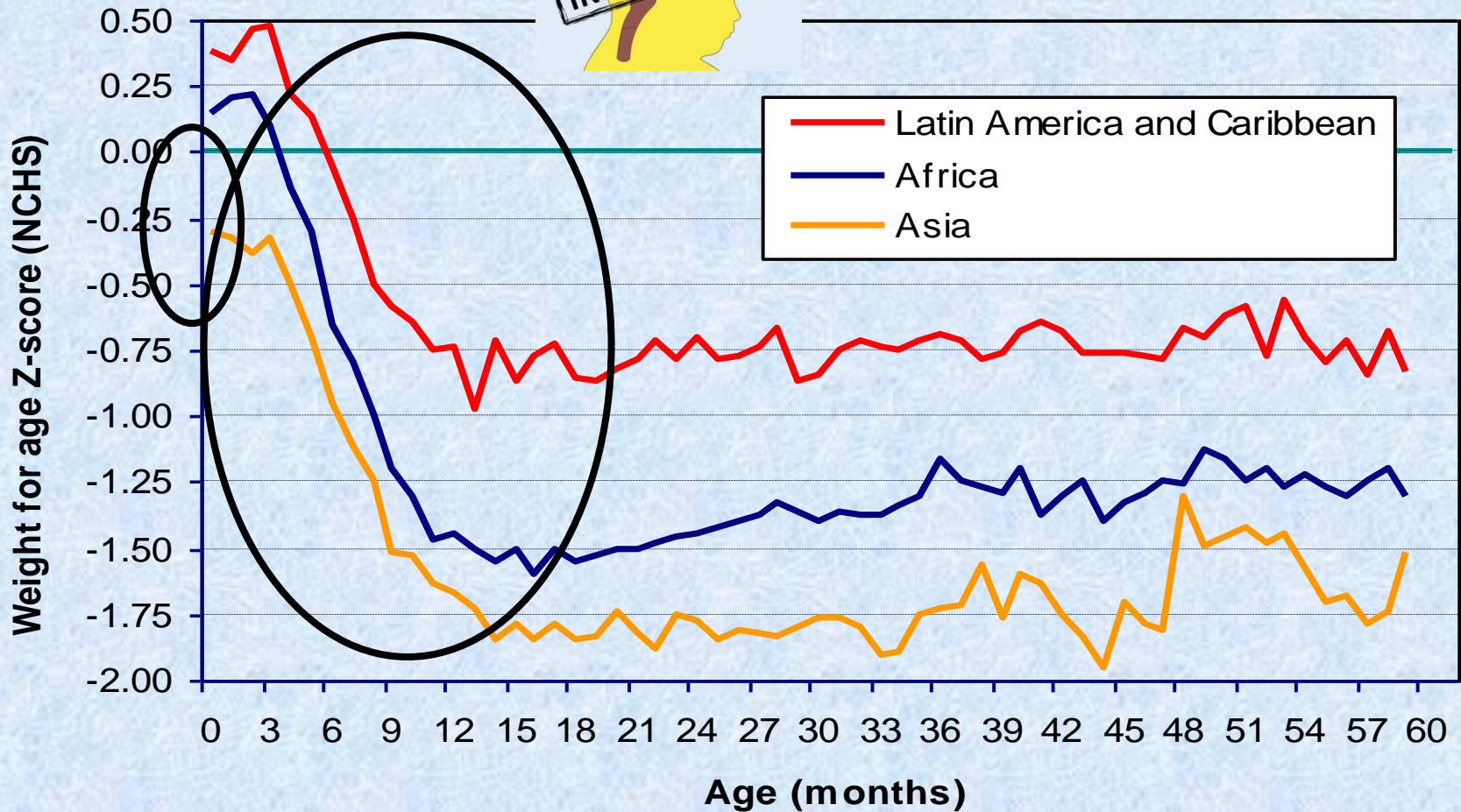
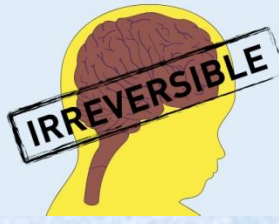
To illustrate, assuming that every child born with low birth weight had a 7.5% reduction in productivity, Jere Behrman and I calculated that for each LBW prevented there would be \$510 of economic benefits in a stagnant economy

If we were to assume that the economy was growing at 2% (and changing no other assumption) these estimated benefits would come to \$783





# The “Window of Opportunity” for Improving Nutrition is very small: pre-pregnancy until 18-24 months of age







# There is Some Debate on Catch-up

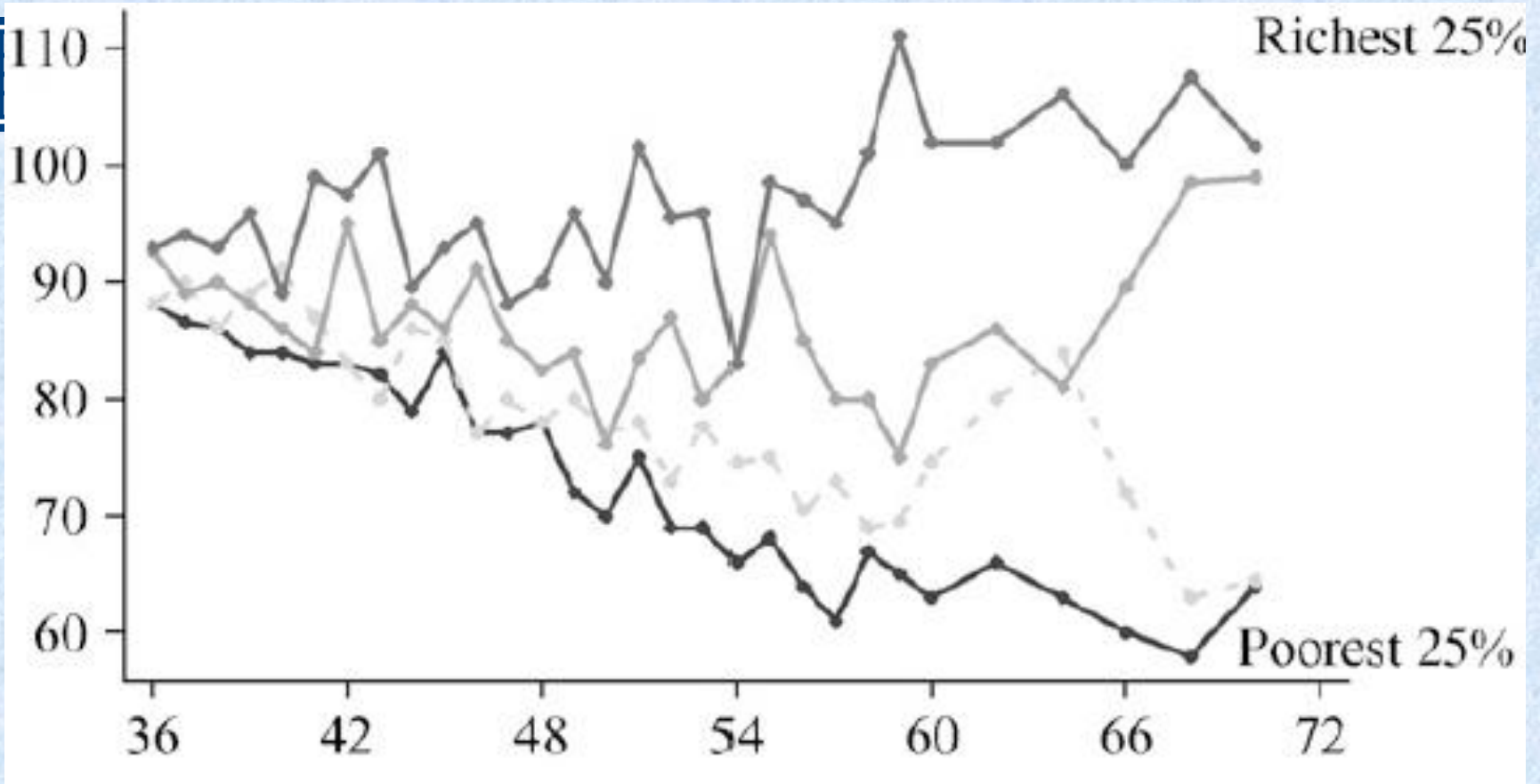
Some longitudinal studies, for example, the Young Lives Project in Ethiopia, India, Peru, and Vietnam as well as a 40 year project in Guatemala have tracked individuals over their lifetimes. These studies have indicated that improvement in nutritional status is possible.

This is particularly the case where socio-economic conditions change as is the case with adoption.

Additionally a few studies of school feeding or public works in India show a role of safety nets in reversing some malnutrition.

Moreover, the consequences of undernutrition on either mortality or early child cognitive development can be addressed without necessarily reversing stunting.

There is growing evidence on the most effective ways to address acute malnutrition (wasting) but the costs of second chance programs to offset cognitive impairment are not well studied, however.



## TVIP Vocabulary Scores of 36-to-72-Month-Old Ecuadorian Children by Wealth Quartiles

**Ability responds to environment in early years**



# Mechanisms by which Safety Nets can Improve Nutrition

Transfers increase the resources controlled by households and thus increase the purchase of necessities

Many transfer programs reduce the price of food. Others increase the incentive to utilize health services.

Moreover, by their very nature they often influence the preference for spending additional funds on food, including through women's empowerment.

Safety net programs can also include design features to communicate additional behavioral change

Finally, safety nets programs can serve as a means to fortify diets with micronutrients





# **Safety Nets affect consumer budgets differently than other income**

Safety nets are generally effectively targeted to poor households who typically spend half or more of their income on food, increasing quality as well as quantity.

There is no evidence that this increased income is offset by reduced labor; this differs, then, from unemployment insurance although critics often miss this distinction.

Beneficiaries of social assistance not only devote the largest share of the additional resources to food, they spend more on food out of transfers than they do from other income sources.

This “nutritional labeling“ may be partially due to targeting assistance to women although it may also reflect social marketing





# The evidence that transfers linked to health influence budget priorities is extensive

The availability of a food oriented transfer—even one that has no conditions but is **perceived** as linked to food security—nudges consumers to increase the share of their additional budget devoted to food.

For example, cash transfers in **Colombia, Ecuador, Mexico, and Nicaragua** led to more expenditures on food and health than was observed with increased in general sources of income.

Similar findings have been noted in studies of the food stamp program in the **United States**.



# The path from increased resources to improved nutrition is less direct than desired

While all studies of transfers show increased food consumption and most show increased participation in health care, **both** conditional & unconditional cash transfers have not delivered improvements in nutrition commensurate with their success in addressing poverty.

Surprisingly, meta-analyses of 17 cash transfers programs (mainly from Latin America) show that on average there is little impact on height

This is in part due to the fact that increased income does not lead to immediate improvements in sanitation, nor does it guarantee quality health care services

Moreover, knowledge about child care is one of the pillars of good nutrition and one that is not intrinsic to programs essentially designed to transfer income

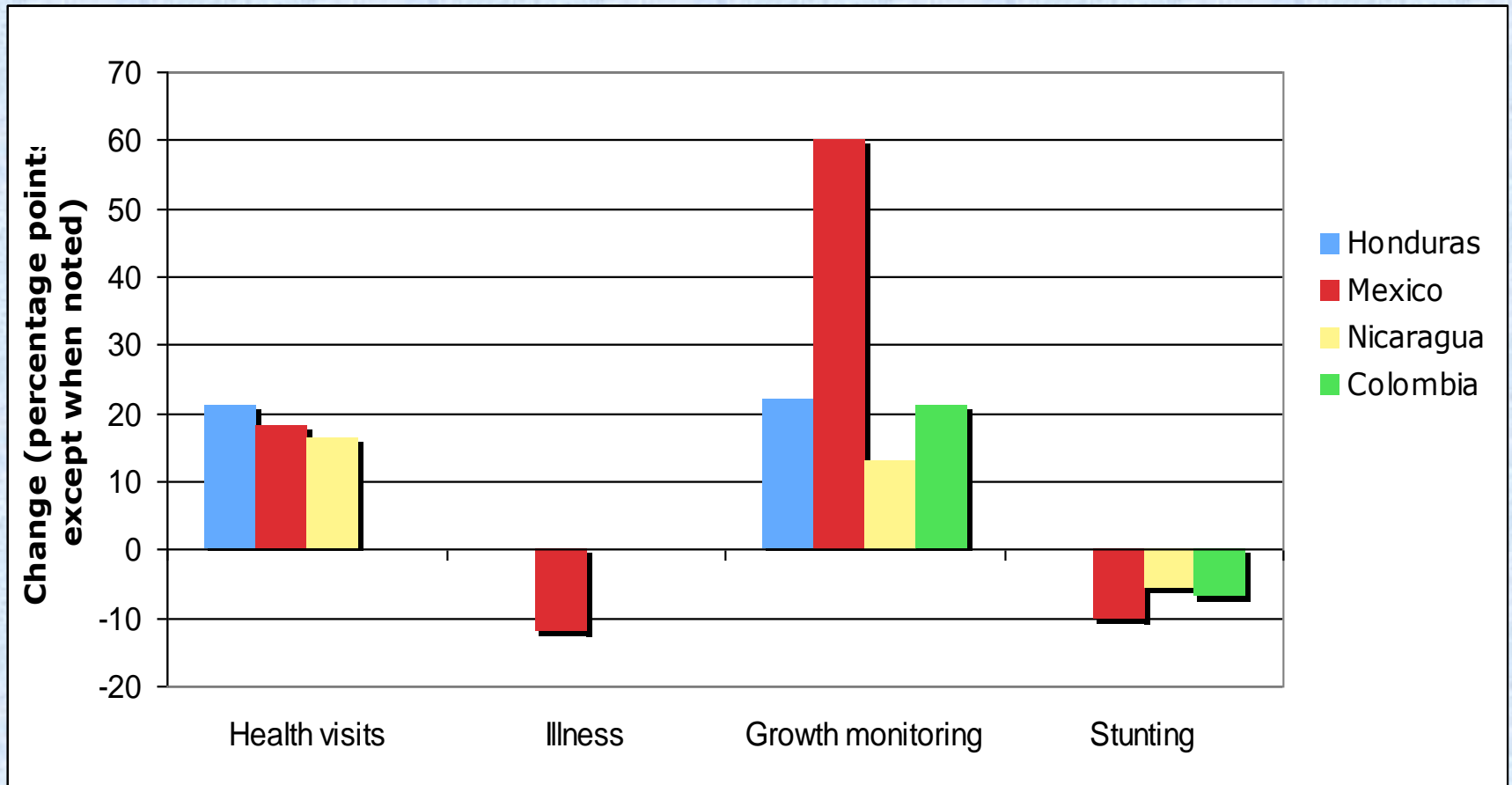


# Conditional transfers may increase the utilization of health services

Global Experience on CCTs for children shows:

- Increased use of clinics for preventative health care of children
- Significant effects on growth monitoring
  - Colombia: 23-33 % points
  - Honduras: 20 % points
- Mixed results on immunization rates
  - No effects in Mexico
  - Turkey: 14 % points
  - Indonesia: 11%

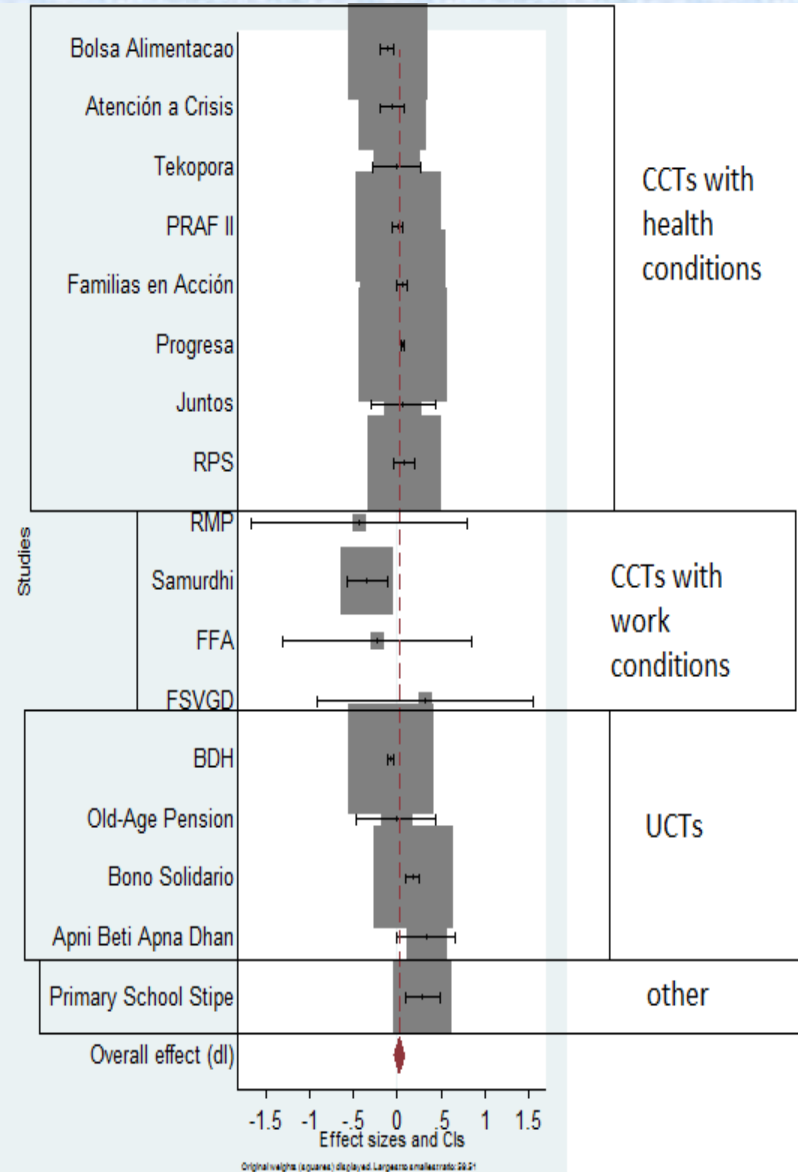
# Impacts on Health and Nutrition







# Impact of Cash Transfers on HAZ by Program Type



Source: Manley, Gitter and Slavchevska (2013)



# **Some reasons why targeted transfers appear to have a small impact on nutrition**

Few transfers have been targeted on the basis of the risk of undernutrition.

Most of the programs that have been studied extensively have not been in regions of high stunting rates and often their nutritional impact has been assessed outside the critical 1000 days from conception through the child's second year of life

Poor quality health services also is likely responsible for the limited nutritional impacts

Finally, some evidence is based on too short a period for full cumulative results



# **There are some lessons from this body of experience that lead to enhanced impact of transfers**

Focusing on younger children has greater impact than broader age targeting. This is the case in most types of nutrition interventions

Growth monitoring is a common benchmark for participation but by itself has little impact; without counseling it becomes a burden on the poor with little benefit.

Using similar evidence on CCT bottlenecks, Peru reformed its Juntos CCT program to stress training and service provision, particularly for children less than 36 months with significant improvements in the heights of boys

Also, linking behavioral change communication with transfers enhances child care

Additionally, including supplements for complementary feeding within transfer programs bridges between nutrition sensitive and nutrition specific interventions, often with notable impacts



# Prioritization of Vulnerable Groups

Targeting transfers to the **elderly** can be an important poverty reduction policy. However, it is difficult to justify these on the grounds of their positive impact on children.

The common argument that they support children, based on a study by Duflo, ignores the fact that she reports that this occurs only if the pension went to a women and only if the child was a girl. Also, only 42% of elderly lived with their grandchildren

Targeting to **HH with children <2** or **pregnant women**, on the other hand, is straightforward

Targeting to **adolescent girls** makes sense from the standpoint of nutrition but there is little evidence to date

Targeting cash to **malnourished children** has possible disincentives and is curative not preventative but providing special supplements to acutely malnourished children is a proven intervention to reduce mortality





## A few conditional transfers have prioritized pregnant women

Global Experience on CCTs for women shows:

- Increased number of prenatal visits in **Indonesia**
- **Mexico**'s CCT program raised birthweights and markedly reduced the share of low weight babies. Use of services did not increase but the quality did, likely due to community awareness of what they could expect.
- Payments for clinic deliveries in **India** helped reduce infant mortality
- Trials in South Asia have addressed **maternal depression** which reduces risk of undernutrition and cognitive impairment of children as well as improves lives of mothers.



# Is in-kind assistance obsolete?

In recent years the technology for providing cash assistance has improved markedly

Cash transfers have even been used in emergency response such as in the aftermath of the 2004 Indian Ocean tsunami

One general difference between administering cash transfers and in-kind support is that the former are less costly to deliver than food; cash transfers saved 13-23% in a set of studies.

This advantage does not include differences in leakage and in the costs of maintaining a national grain reserve

Cash transfers have been shown to promote diet diversity.

Moreover, the fear that cash leads to increase consumption of alcohol and purchase of tobacco has been debunked using a review of purchases from 19 surveys



# Cash or In-Kind?

New evidence has been brought to bear on the perennial question of whether to transfer cash or food

Both forms of transfers increase household food security but their relative roles for improving diet diversity – a key factor in nutritional impact – depends on contexts including structure of local markets and seasonality of purchases

In virtually all contexts it is cheaper to deliver cash. Cash transfers, however, can erode in an inflationary environment

Evidence from Bangladesh as well as the Philippines shows that the nutritional impact of either form of transfer is strongest when accompanied by behavioral change communication





# Recent Trials Comparing Food versus Cash

In remote villages in Mexico, cash led to increased prices for processed foods and a smaller impact than a slightly larger package [in value terms] of food. But in Niger cash did not lead to price increases perhaps due to market integration.

In Ecuador, cash, vouchers, and in-kind were compared in urban areas. There were few substantial differences, but in-kind had a larger impact on calories consumed while vouchers had a greater influence on diet diversity.

In a RCT in Uganda cash had a greater impact on cognitive development as well as anemia, attributed to both increase in diet diversity as well as the use of cash for payments to preschool providers.





## **But context matters: there are some advantages of in-kind transfers**

Differences in how the two modes of assistance affect purchases reflects the functioning of markets. This may explain the difference between Niger and Mexico just illustrated.

In-kind transfers were also preferred in Ethiopia in a period of food price inflation. This advantage, however, can be offset with increases in wages for public works (Ethiopia) or in the monthly CCT (Brazil). Reverting to original transfers when food prices recede, however, is difficult.

A combination of cash assistance for households and specific supplements tailored to a child's needs has proven advantageous in Mexico's CCT as well as in drought response in Africa



# Fortifying food based safety nets - I

In-kind transfers including school meals can be a basis for fortification that gets around regulatory problems with mandatory fortification as well as price disincentives to private marketing.

One example is the experience of the Indian state of Gujarat which fortified the distribution of food in three programs: the public grain distribution, midday meals (school feeding) and food in the ICDS program with multiple micronutrient pre-mix for flour.

The program reduced the share of targeted public distribution beneficiaries with inadequate iron intakes by 94%. Similarly, the proportion of the population with inadequate vitamin A intakes was reduced by 34% and 74% among mid day meal and ICDS beneficiaries, respectively.



# Fortifying food based safety nets - II

Initial resistance to Gujarat's program came from small millers as well as some NGOs (in the name of consumers who might object to discoloration). Courts dismissed the latter complaint and in the event, few consumers even knew the flour was subsidized.

But the program has been suspended as it was not in accord with the current national legislation.

Indeed, according the Global Alliance for Improved Nutrition (GAIN) only one of 10 state programs for fortification at public distribution initiated this century were still in place in 2015.

The obstacles are not, however, technical.





# Making Public Works Nutrition Sensitive

Public works generally are targeted to labor surplus households and often involves heavy manual labor. Female headed households may find it hard to participate.

Adding crèches helps

Going further: Djibouti has designed a nutrition-sensitive public works program in which participation of women in community BCC is a prerequisite for a household member being deemed eligible for participation in public works. Moreover, these activities are designed to be light so that pregnant and lactating women can take up the opportunity for employment. The program also includes regular BCC sessions on nutrition.

Ethiopia has recently added participation in community-based nutrition and BCC for improved infant and young child feeding practices to its long running public works program





# Empowering Women within Nutrition Sensitive Social Protection

Most transfer programs include women as direct recipients of benefits.

Control of cash resources surely helps, but time allocation remains a challenge for many women

Public works programs are occasionally designed to offer flexible hours. Some offer cash in lieu of participation in labor intensive works. Others offer job training as an option

As mentioned, Djibouti implements a public works program in which nutrition is a direct objective and women are the main beneficiaries.

Where poor women are covered in formal labor activities, they may benefit from maternity leave policies as well as work safety regulations



# Enhancing the Nutritional Impact of School Feeding

School feeding programs can be considered a form of in-kind **conditional** support and globally dominate the expenditures on consumer support at a cost of \$75 billion.

They clearly have an impact of school attendance and enrollment but their nutritional impact is less clear.

School meals improve household food security; in some studies this has an indirect impact on the nutritional status of the more vulnerable **younger siblings** of students

But since school feeding programs are not directly targeted to children in these vulnerable ages they occasionally risk contributing to obesity

When programs are fortified with iron or include supplements they reduce anemia but surprisingly not all programs include this design feature.



# Do School Meals Improve Schooling?

Short answer: Often

Similar to CCTs

Timing is an issue; snacks or breakfasts may influence attention span; lunches less likely

Main issue is cost: School meals may cost \$40-50, snacks \$15. The former exceeds entire school budget for many African countries

Meals are hard to target without copayment measures but take home rations may have similar impact



# Do School Meals Improve Nutrition?

Short answer: Seldom

Issue is partly that the most vulnerable period is in utero and before 2 years

Indeed, school feeding may contribute to obesity, a problem even in low income settings. Addressing obesity has become a central objective in school feeding in some Latin American countries

Do we want the meal to 'stick' to the student? Or is it a transfer to the household? Evidence on both. Near 100% 'flypaper' in the Philippines and India.

But what is occasionally mislabeled a 'leakage' of transfer may result in improved nutrition for siblings as in **Burkina Faso**





# What about Micro-nutrients?

School meals (and biscuits) can be a vehicle for folate and iron fortification. Other fortification is also possible (such as Vitamin A) but relative to need of adolescents iron and folate are higher priorities.

In Uganda the school meal program contributed to a 20 percentage point difference in anemia prevalence of girls relative to the control. The take home ration led to less mild anemia of mothers and young children

Home Grown School feeding poses some obstacles to fortification as most fortification is through central processing. But fortification can be added in the preparation, if prioritized.



# Long Term Impacts of Short Term Shocks

Numerous studies have documented undernutrition years after a crisis:

- Drought and civil unrest contributed to increased stunting in Zimbabwe (independently as well as jointly)
- Similarly, drought and conflict contributed to persistent stunting – tested separately but not jointly – in Rwanda
- Evidence from Indonesia shows that a rain shortfall does not have to be substantial to result in reduced linear growth and schooling.
- Nor are these human capital crises confined to conflict and drought affected economies; the incidence of low birth weight increased with the economic contraction in Argentina in 2001-2002



# Social Protection and Nutrition in Emergencies

Although food aid deliveries overall declined from 15 million metric tons in 1999 to 4.1 million t in 2011, emergency deliveries have remained almost constant; they now account for more than 67% of total food aid.

Most programs target households, not children, but there is interest in the provision of lipid-based nutrient supplements [LNS] for children based on similar supplements used to address acute chronic malnutrition.

There is still limited experience but LNS provided in addition to household rations has reduced wasting or stunting in a few studies. This is a preventative role that is distinct from a therapeutic role.