



GFF Country Induction
Workshop, January 28 –
February 1, 2018

GFF and Nutrition



What is **Malnutrition?**

Malnutrition occurs when nutrient and energy intake **do not meet** or **exceed** an individual's requirements to maintain growth, immunity and organ function. It is a general term and covers both undernutrition and overnutrition.

At Risk POPULATIONS

Children Under Age 5

Girls and Women of Reproductive Age

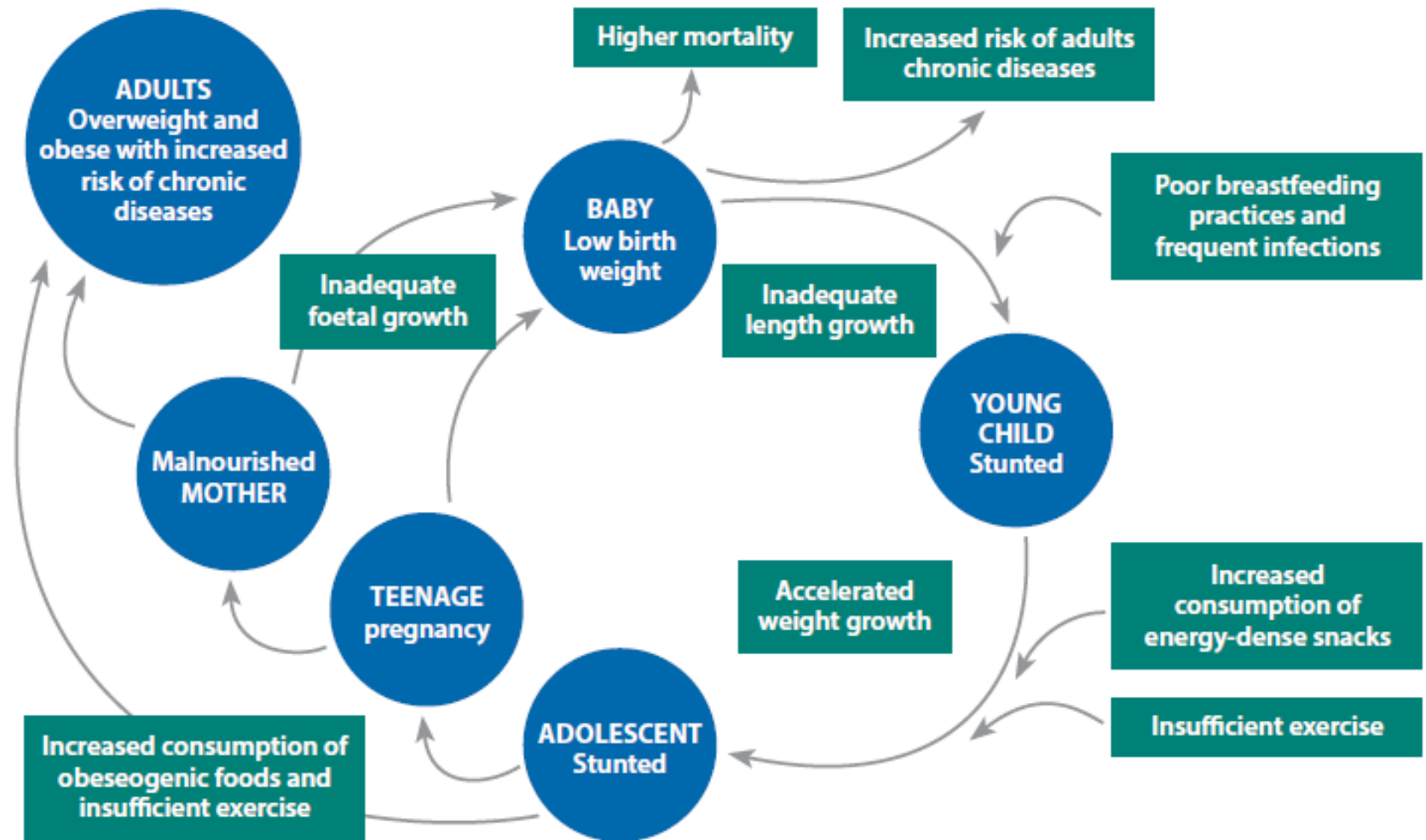
Victims of Violence, Conflict, Displacement

Poor and Marginalized



A lifecycle approach

Causes and consequences of malnutrition across the lifecourse



A close-up photograph of a baby lying down, being fed with a clear plastic bottle. The baby is wearing a light-colored, patterned onesie. A hand is holding the bottle, which has a pink ring around the base of the nipple. The background is dark and out of focus, showing another bottle with a blue cap.

FORMS OF MALNUTRITION

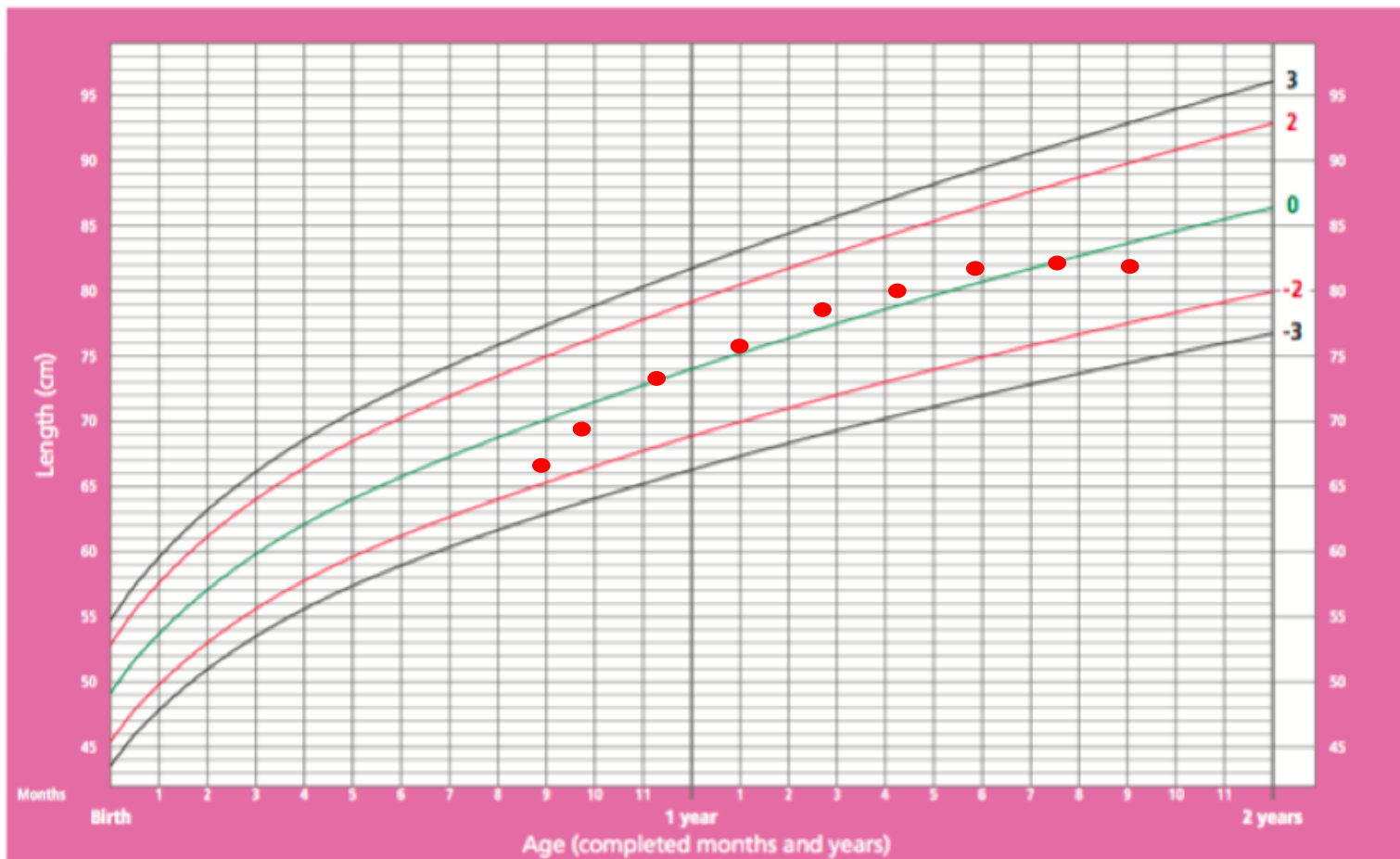
- ▶ STUNTING
- ▶ WASTING
- ▶ UNDERWEIGHT
- ▶ LOW BIRTH WEIGHT
- ▶ MICRONUTRIENT DEFICIENCIES
- ▶ OVERWEIGHT/OBESITY

WHO child growth standards

All children can attain same growth if in healthy environments

Length-for-age GIRLS

Birth to 2 years (z-scores)



Forms of malnutrition

STUNTING

- ▶ Height-for-age below -2 standard deviations from the WHO Child Growth Standards reference median for a child of same sex
- ▶ An indicator of **chronic malnutrition** due to inadequate intake or repeated infections
- ▶ Also called “linear growth faltering”



Forms of malnutrition

WASTING

- ▶ An indicator of **acute malnutrition** due to recent severe food shortage or infections
- ▶ **Moderate Acute Malnutrition**
- ▶ Weight-for-height between -2 and -3 SD below WHO median without edema **OR** $11.5 \leq \text{MUAC} < 12.5$ cm
- ▶ **Severe acute malnutrition**
- ▶ Presence of edema in both feet (bilateral) **OR** severe wasting < -3 SD compared to WHO median without edema **OR** $\text{MUAC} < 11.5$ cm



Underweight

Children

Weight-for-age < -2 standard deviations from the WHO reference median for a child of same sex

Easier to perform in community

Can't distinguish *acute* from *chronic* undernutrition

Adults

Body Mass Index < 18.5

Micronutrient Deficiencies

A critical lack of certain vitamins and minerals that are essential for human survival, health, and well-being

Vitamin A
Iron (anemia)
Folic acid
Iodine
Zinc

Body Mass Index:

Weight (kg)/height (m)²

Overnutrition:

Consumption of excess energy or too much of a given nutrient over time

Children

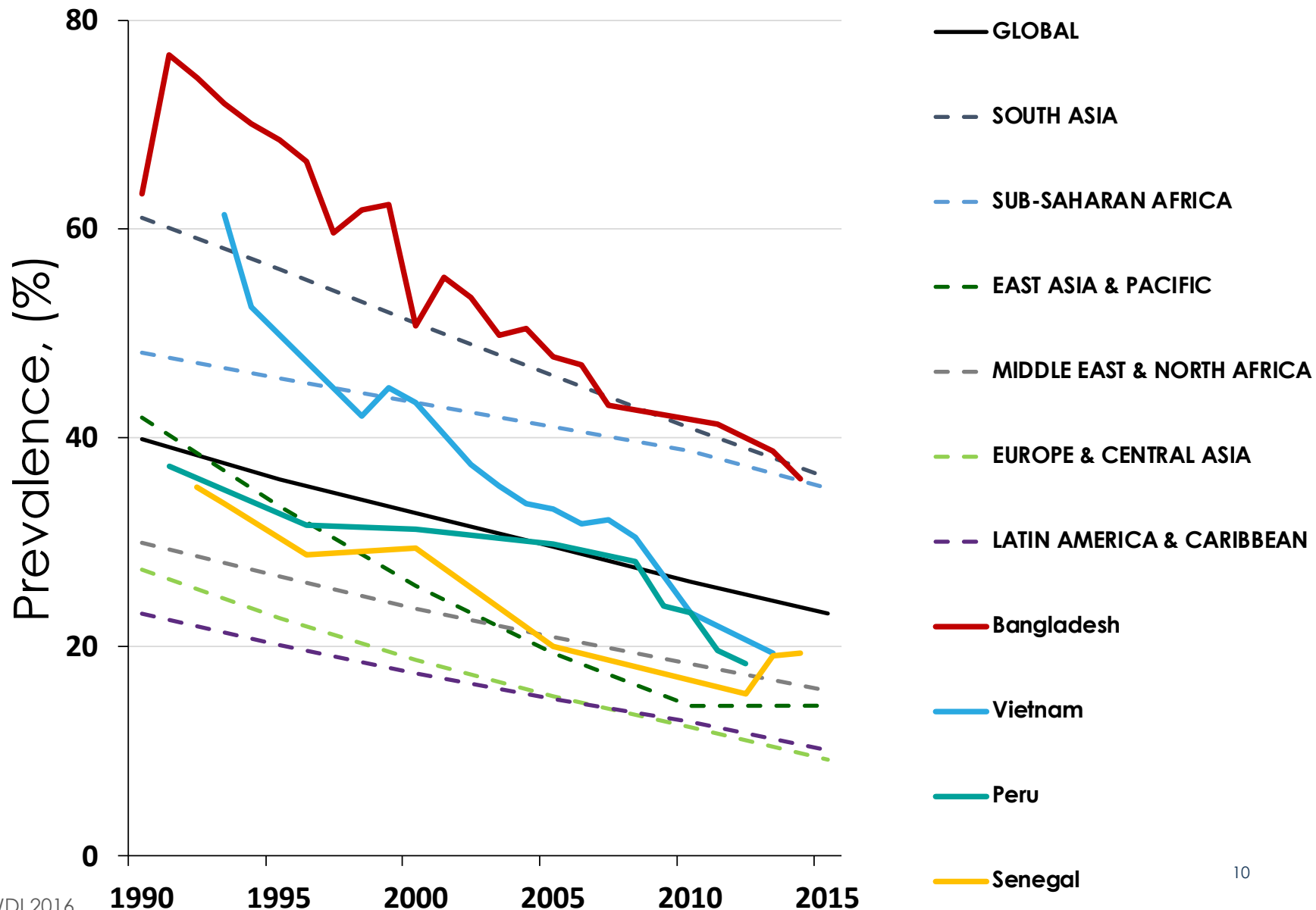
Weight-for-height $> +2$ SD

Adults

Overweight: BMI ≥ 25

Obesity: BMI ≥ 30

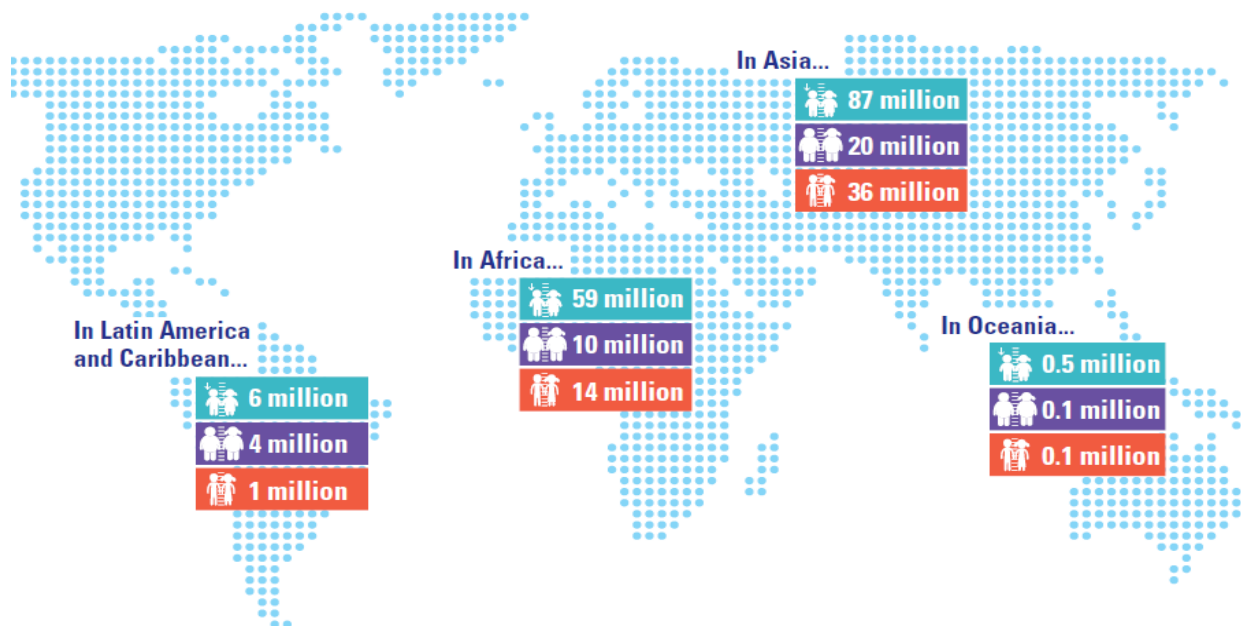
Global, regional, and country trends in stunting



LEVELS AND TRENDS IN CHILD MALNUTRITION

UNICEF / WHO / World Bank Group
Joint Child Malnutrition Estimates

Key findings of the 2017 edition



Worldwide...



155 million
STUNTED

Stunting affected an estimated 22.9 per cent or 154.8 million children under 5 globally in 2016.



41 million
OVERWEIGHT

An estimated 6.0 per cent or 40.6 million children under age 5 around the world were overweight in 2016.



52 million
WASTED

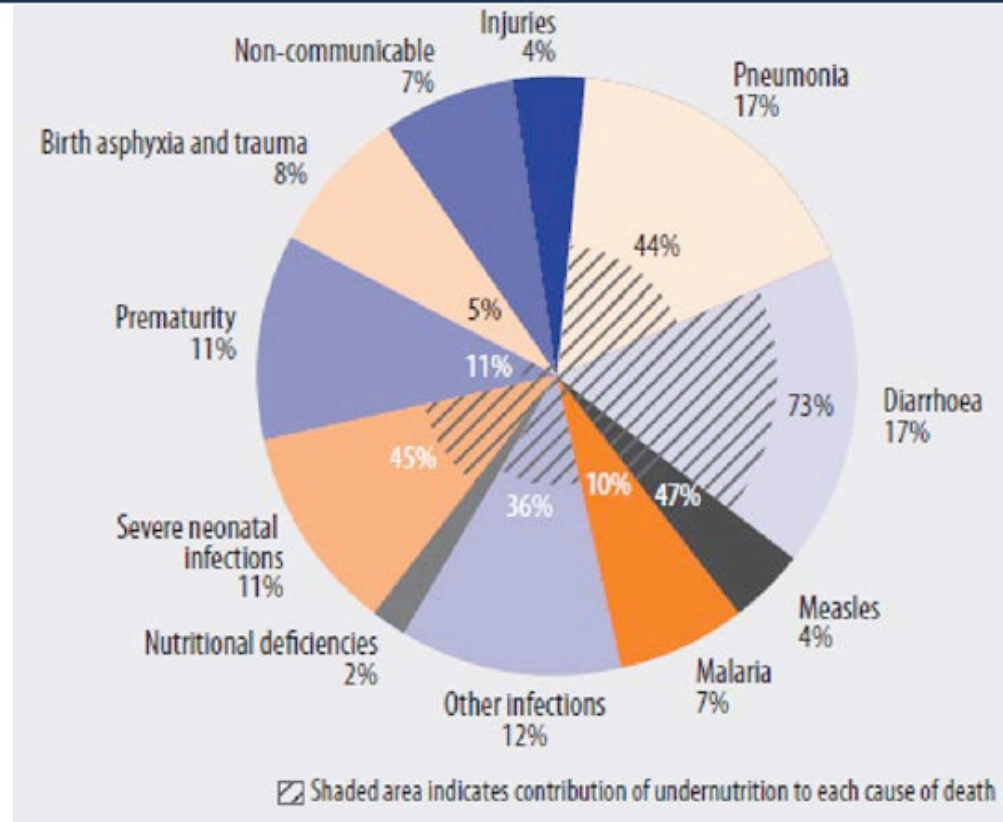
In 2016, wasting continued to threaten the lives of an estimated 7.7 per cent or nearly 52 million children under 5 globally.

These new estimates supersede former analyses and results published by UNICEF, WHO and the World Bank Group.

Why do we care about undernutrition?

- ▶ Undernutrition accounts for 45% of all deaths among children under the age of five.

Lancet
Nutrition Series
(2013)



Major causes of death in children <5 years with disease-specific contributions of undernutrition

Source: World Health Organization. Global health risks: mortality and burden of disease attributable to selected major risks (WHO, 2009).

Why do we care about undernutrition?

Neonatal outcomes & women's morbidity and mortality

- ▶ **Folic acid deficiency:** Neural tube defects; LBW
- ▶ **Iodine deficiency:** Pre-term birth; intellectual disability; neonatal mortality
- ▶ **Short maternal stature:** increased risk of obstructed labor (cephalopelvic disproportion)
- ▶ **Anemia:** increased risk of post partum hemorrhage; LBW; peri- and neonatal mortality; maternal mortality
- ▶ **Calcium deficiency:** gestational hypertension; pre-eclampsia
- ▶ **Breastfeeding:**
 - Duration independently associated with lower incidence of diabetes for women [E. Gunderson, et al. JAMA Intern Med. Published online January 16, 2018]
 - Protective effect against hormone receptor-negative breast cancers

Why do we care about undernutrition?

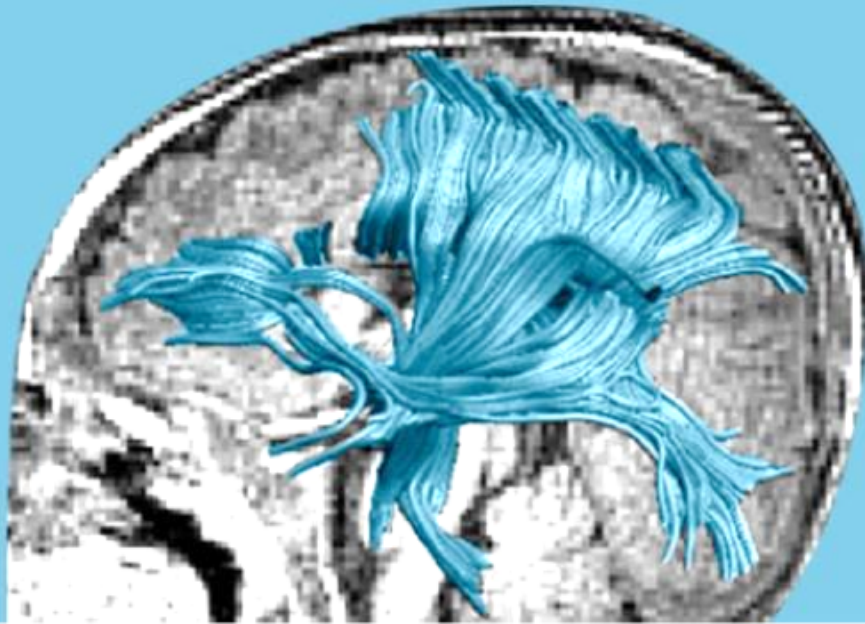
Undernutrition suffered in early life leads to long-term consequences

- ▶ Diminished immune response
- ▶ Reduced intellectual ability
- ▶ Lower economic productivity
- ▶ Early growth restriction (pre/postnatal) increases risk of hypertension, diabetes and both cardiovascular and metabolic disease as adults

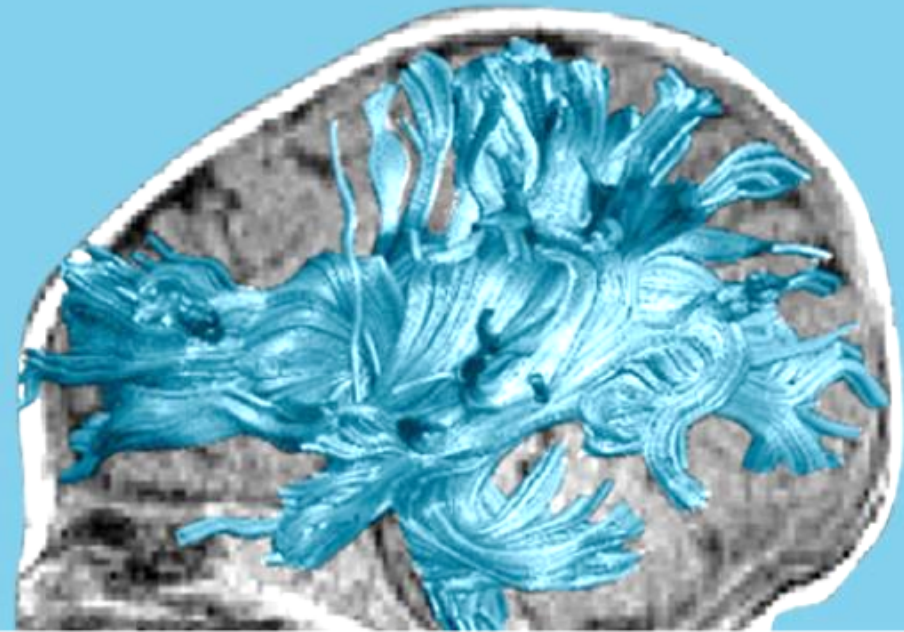


The first 1,000 days lay the foundation for human capital

Stunted Child



Well-Nourished Child

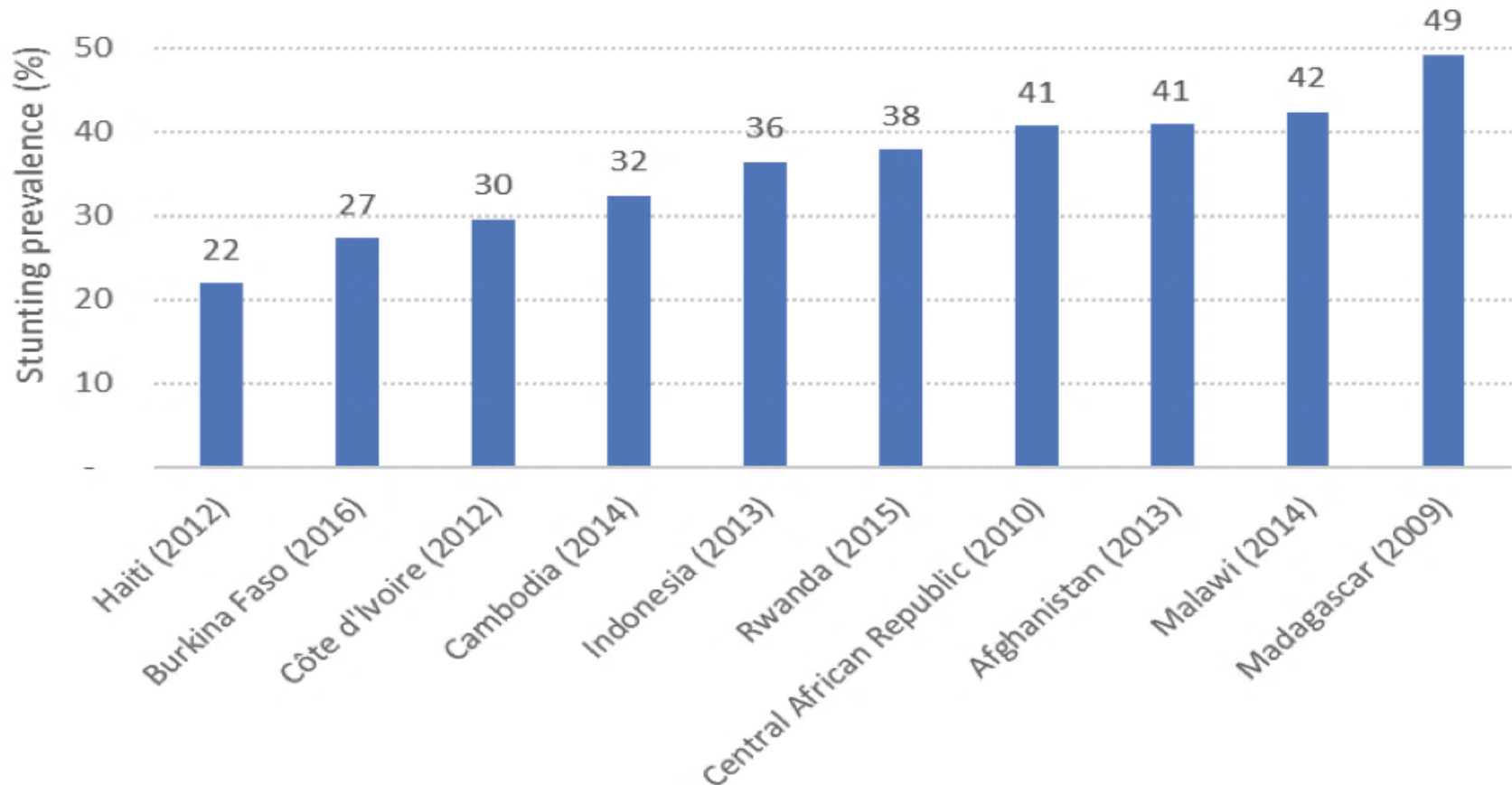


Whole brain tractography of three month old Bangladeshi children, comparing development of white matter fiber tracts based on level of nutrition.
Charles A. Nelson, Harvard Medical School

Nutrition in second wave countries: Major challenges

- ▶ Child stunting continues to be the major challenge

Ranging from 22% (Haiti) to 49% (Madagascar)



Nutrition in second wave countries: Major challenges

- ▶ **Micronutrient deficiencies among children also problematic**
 - Vitamin A deficiency in the African countries
 - Ranging from 38% in Rwanda to 65% in CAR
 - Iron deficiency anemia in children more prevalent in Asian countries but also high in Africa (>40%)
 - 42% in Afghanistan and Cambodia, 64% in Indonesia
 - Consumption of iodized salt <65% in all countries except Rwanda (87%)
- ▶ **Anemia in women aged 15-49 (pregnant and non-pregnant), as per WHO cut-offs**
 - Mild problem (20-40%) in Afghanistan, Haiti, Indonesia, Madagascar, Malawi
 - Moderate problem (40-60%) in Burkina, Cambodia, CAR, Cote d'Ivoire

► **Poor IYCF practices**

- Exclusive breastfeeding (EBF) <6 months is on average <50%
- Minimum acceptable diet (MAD) is <20% in all African countries and Haiti, and <40% in Cambodia and Indonesia.

No data for Afghanistan, CAR, Madagascar

► **Rising threat of overweight**

- Among children, in Indonesia (12%) and Rwanda (8%)
- Among women, greater than 20% in all countries except Cambodia (18%) and Madagascar (15%); highest in Haiti (36%)

Summary of nutrition challenges in new GFF countries

Country	1	2	3	4	5	6	7	8	9
Afghanistan	Red	Red	Red	Red	Yellow	ND	ND	Green	Red
Burkina Faso	Green	Red	Green	Red	Red	Green	Red	ND	Red
Cambodia	Yellow	Green	Red	Red	Red	Green	Yellow	Green	Green
CAR	Red	Red	Green	Red	Red	Yellow	ND	Green	Yellow
Cote d'Ivoire	Yellow	Red	Green	Red	Red	Red	Red	Green	Red
Haiti	Green	Yellow	Yellow	Red	Yellow	Green	Red	Green	Red
Indonesia	Yellow	Yellow	Red	Red	Green	Green	Yellow	Red	Red
Madagascar	Red	Red	Red	Red	Yellow	Green	ND	Yellow	Green
Malawi	Red	Red	Yellow	Red	Green	Green	Red	Green	Yellow
Rwanda	Yellow	Yellow	Red	Green	Green	Green	Red	Yellow	Yellow

Notes on categorization of indicators:

Indicators 1-3 and 4-7

- >40%= high
- 30-40%= medium
- <30%= low

Indicator 4:

- <80%= low
- ≥80%= high

Indicator 8:

- >10%= high
- 6-10%= medium
- ≤5%= low

Indicator 9:

- ≥30%= high
- 20-29%= medium
- <20%= low

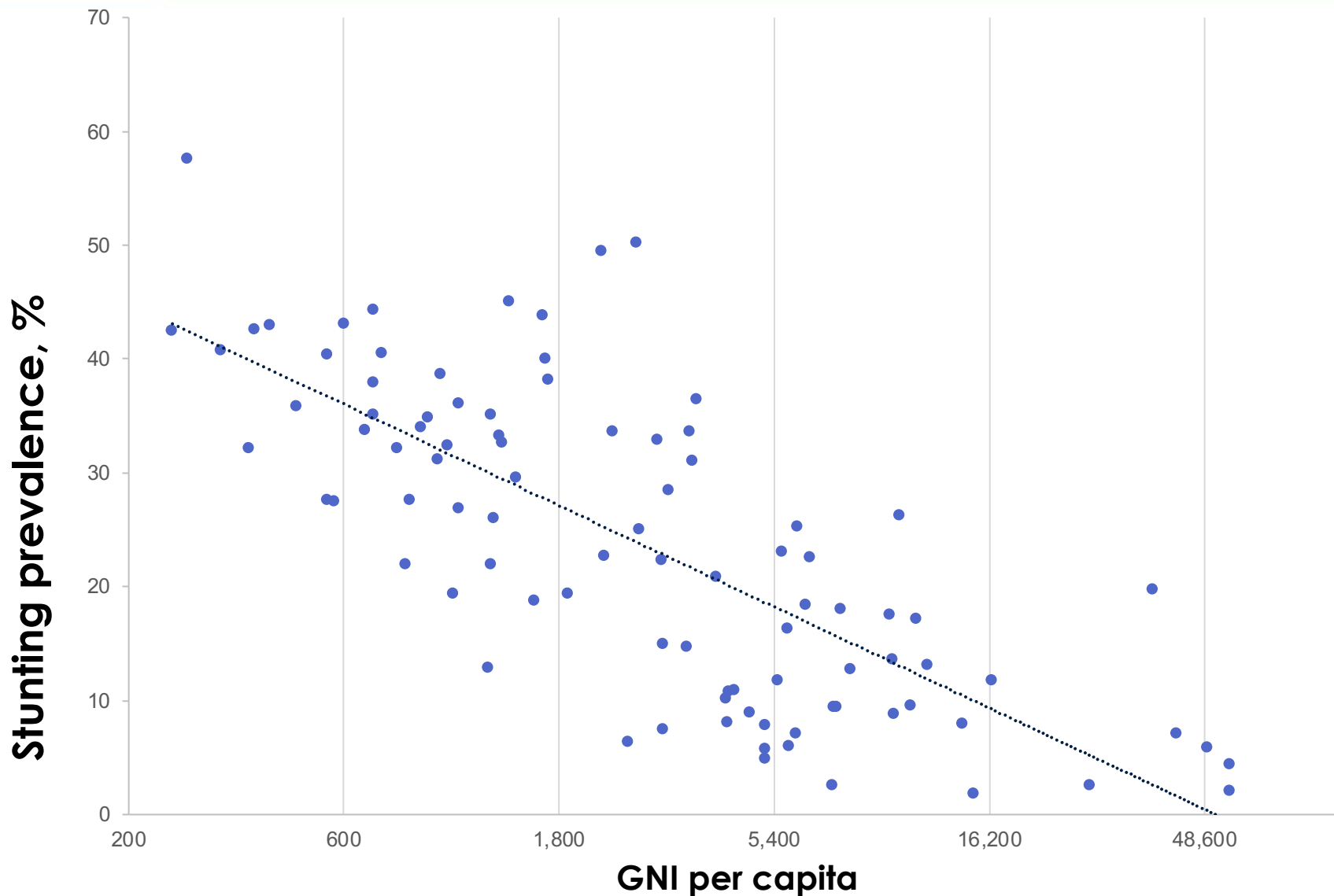
Legend

- | | | |
|---------------------------------------|----------------------------|------------------------|
| 1. Child stunting | 5. Anemia in women 15-49 | 9. Maternal overweight |
| 2. Vitamin A deficiency in children | 6. EBF <6 months | |
| 3. Iron-deficiency anemia in children | 7. Minimum acceptable diet | |
| 4. Consumption of iodized salt | 8. Child overweight | |



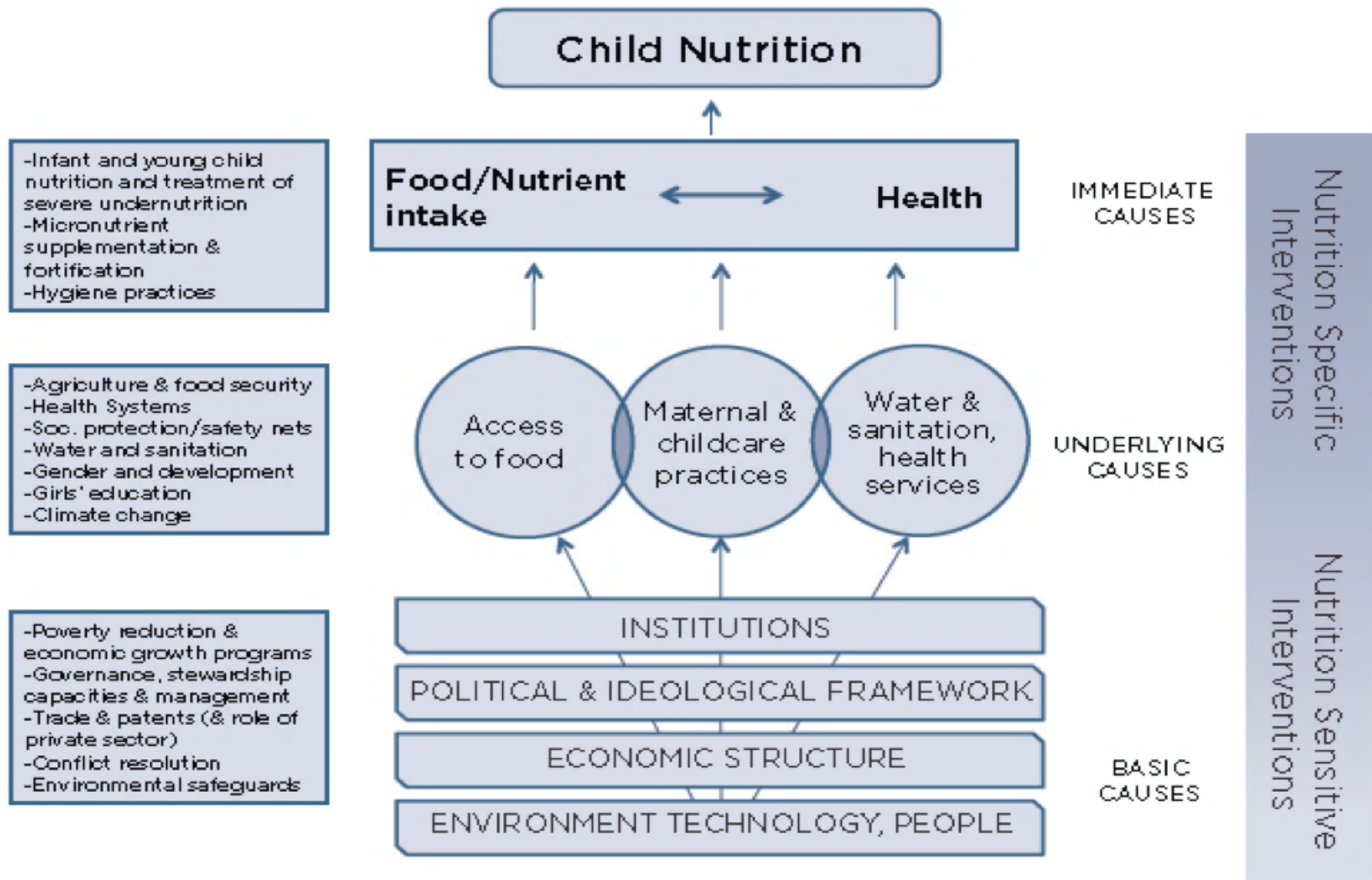
Identifying Causes of Undernutrition

Economic Growth Alone Will Not Reduce Stunting



Source: WDI, 2015. Note: Stunting prevalence most recent for the period 2010-2014, except for Singapore (2000), Malaysia (2006), Brunei (2009). GNI per capita, Atlas method (current US\$) for most recent available for the period 2012-2014. Dotted line at 30% indicates WHO cutoff for "high stunting".

UNICEF Conceptual Framework



How can we reduce
undernutrition?



Three Main Nutrition-Specific Intervention Categories



Social and Behavior
Change
Communication for
Improved Feeding and
Nutrition Care
Practices

Micronutrient
Interventions and
Deworming

Supplementary
and Therapeutic
Feeding

Nutrition Specific



Address key underlying determinants of undernutrition

Can be implemented at large-scale and are effective at reaching vulnerable, nutritionally at-risk populations

Serve as delivery platforms for nutrition specific interventions

WOMEN'S EDUCATION & EMPOWERMENT

Maternal education

Parenting education on early stimulation, growth and development

QUALITY REPRODUCTIVE & HEALTH SERVICES

Prevention of adolescent pregnancy

Birth spacing

Quality RMNCAH care

AGRICULTURE

Improve access to more diversified, nutritious, safe diet

Reduce women's workload

Micronutrients (bio)fortification of staple foods

Food preservation

Nutrition in extension

WATER AND SANITATION

Access to safe water, adequate sanitation

Hygiene/handwashing promotion

Food hygiene

SOCIAL PROTECTION/ SAFETY NETS

Birth registration

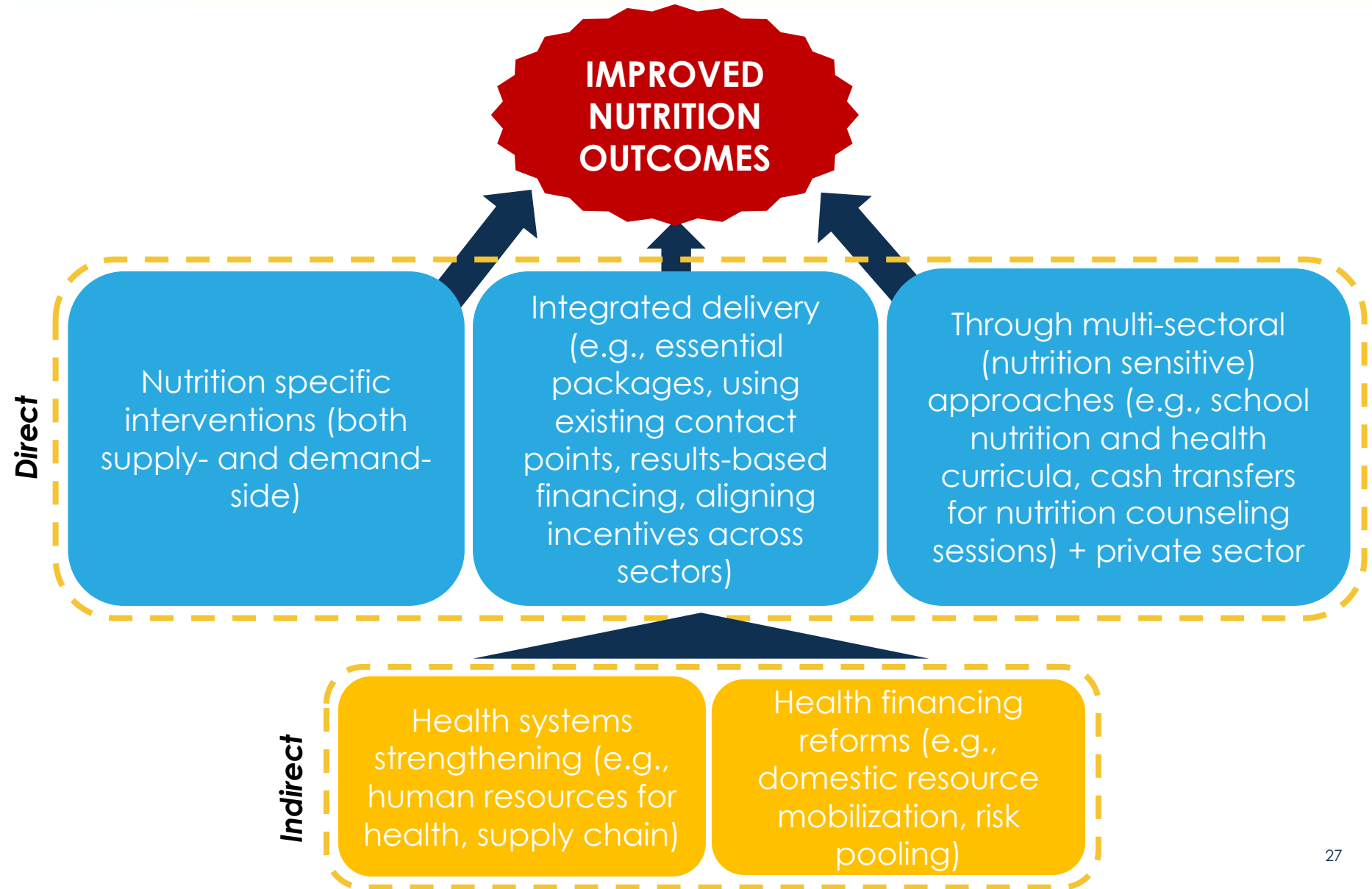
Parental leave and adequate childcare

Child protection services

Social assistance transfer programs

Conditionalities to use nutrition services

Pathways to impact: how the GFF improves nutrition outcomes



GFF investments to support nutrition: prioritized interventions in first 16 countries

Nutrition Interventions

- ▶ SBCC for improved infant, young child, adolescent and maternal nutrition care practices
- ▶ Treatment of moderate and severe acute malnutrition
- ▶ Micronutrient supplementation (through ANC, PNC, VA campaigns, etc.)
- ▶ Increased dietary diversity
- ▶ Kangaroo Mother Care for LBW infants
- ▶ Deworming
- ▶ FP for improved birth spacing
- ▶ Sanitation; hygiene; potable water

Guatemala: Strengthened PHC system for nutrition/health service delivery; CCT program with health co-responsibility

Tanzania: Complementary financing with Power of Nutrition and USAID Trust Fund; addressing bottlenecks related to HR and nutrition/health commodities procurement

Focus on maternal, infant, child, and adolescent nutrition in all Investment Cases

DRC: FP/SRHR to reduce adolescent pregnancy & decrease LBW; maternal nutrition; promotion of diversified diets; WASH

Cameroon: KMC for preterm/LBW infants; scale-up of PBF for community-based nutrition service delivery in conflict-affected areas

Access to health services

- ▶ **Training/capacity building** at community/health facility levels for:
 - Improved counseling/support for infant and young child feeding;
 - Management of MAM and SAM
 - Promotion of women's and adolescents' nutrition
 - Kangaroo Mother Care for LBW infants (Cameroon, DRC, Kenya, Tanzania, Uganda)
- ▶ **Integration of nutrition into full continuum of MCH service provision** such as:
 - Counseling on infant feeding during ANC, delivery, PNC
 - Maternal anemia prevention/treatment during ANC, delivery, PNC
- ▶ **Provision of nutrition commodities** (micronutrient supplements and fortificants; deworming meds; RUTFs; etc.)

- ▶ **CB-delivery for nutrition services** using CHWs and ECD workers/preschools (Kenya), including child growth monitoring and promotion, distribution of micronutrient supplements and deworming featured in all ICs
- ▶ **Community outreach** through mobile clinics in underserved areas and “hit and run” approach in security challenged settings (NE Nigeria)
- ▶ **Baby-Friendly Hospital Initiative** (Ethiopia, Tanzania)



GFF Investments in Nutrition

- ▶ Supply-Side Incentives, such as:
 - Performance-Based Financing (PBF) for CB-distribution of nutrition commodities (Cameroon)
 - Scaling-up PBF for improved quality of nutrition service provision (Uganda)
 - Scaling-up PBF for community health assistants' implementation of CB-nutrition especially in remote areas (Liberia)
 - PBF to motivate mobile teams' delivery of nutrition services (NE Nigeria)
- ▶ Demand-Side Incentives, such as:
 - Conditional cash transfers linked to nutrition and sanitation outcomes for adolescent girls (Cameroon)
 - School-based nutrition/health programs utilizing adolescents as peer-to-peer educators and as managers of program sites (Uganda)
 - Selective implementation of free N/H care for children <5 and PW (Nigeria)



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