Malnutrition in all its forms: a double burden & a double duty for food policy

Prof Corinna Hawkes, Director, Centre for Food Policy
Co-Chair, Global Nutrition Report
2.1 By 2030 end hunger and ensure access by all people, in particular the poor and people in vulnerable situations including infants, to safe, nutritious and sufficient food all year round.

2.2 By 2030 end all forms of malnutrition, including achieving by 2025 the internationally agreed targets on stunting and wasting in children.
Global targets in WHA65/6 Comprehensive implementation plan on maternal, infant & young child nutrition adopted by Member States of WHO (2013)

- **Stunting**
  TARGET: 40% reduction in the number of children under-5 who are stunted

- **Anaemia**
  TARGET: 50% reduction of anaemia in women of reproductive age

- **Low birth weight**
  TARGET: 30% reduction in low birth weight

- **Childhood overweight**
  TARGET: No increase in childhood overweight

- **Breastfeeding**
  TARGET: Increase the rate of exclusive breastfeeding in the first 6 months up to at least 50%

- **Wasting**
  TARGET: Reduce and maintain childhood wasting to less than 5%
3.4 By 2030, reduce by one third premature mortality from non-communicable diseases through prevention and treatment and promote mental health and well-being.
Global targets in Comprehensive global monitoring framework for the prevention & control of NCDs adopted by WHO Member States (2013)

Set of 9 voluntary global NCD targets for 2025

- Harmful use of alcohol: 10% reduction
- Physical inactivity: 10% reduction
- Salt/sodium intake: 30% reduction
- Tobacco use: 30% reduction
- Diabetes/obesity: 0% increase
- Raised blood pressure: 25% reduction
- Drug therapy and counseling: 50% coverage
- Essential NCD medicines and technologies: 80% coverage
- Premature mortality from NCDs: 25% reduction

World Health Organization
Climate change and NCDs have shared causes, and can be addressed through co-benefit interventions such as divesting from fossil fuels, enabling active transport, and promoting sustainable food systems. Rising temperatures and heat wave episodes lead to increasing rates of mortality from heart attacks or stroke.

Changes to food and agriculture policies aimed at promoting more local, seasonal, plant-based diets can improve nutrition, minimise emissions from food transport, and support local farmers and markets.

Sustainable cities can combat physical inactivity, malnutrition, and exposure to air pollution and harmful chemicals by promoting active transport such as walking and cycling; sustainable food and agriculture systems; responsible waste management; and energy-efficient buildings, industrial processes and infrastructure.

Main nutrition in all its forms, overweight & obesity and undernutrition, are risk factors for NCDs such as heart disease, cancer, and type II diabetes.

Education and literacy, particularly for health, are essential for reducing exposure to common risk factors for NCDs, such as malnutrition, physical inactivity, tobacco use, and harmful use of alcohol.

Women and girls are disproportionately affected by NCDs and their risk factors. 51% of NCD deaths are in women, many of whom are in the most productive years of their life.

Source: NCD Alliance
Nutrition feeds into 12 of the 17 SDGs — and dozens of the indicators used to track the SDGs

- Goal 1: Poverty
- Goal 2: Hunger and Nutrition
- Goal 3: Healthy Lives
- Goal 4: Education
- Goal 5: Gender Equality
- Goal 6: WASH
- Goal 10: Reduce Inequality
- Goal 11: Cities
- Goal 12: Sustainable cons & prodn
- Goal 16: Peace and Justice
- Goal 17: Global Partnerships
- Goal 8: Growth & Employment

Number of indicators highly relevant to nutrition
Number of indicators not highly relevant to nutrition

Source: GNR authors
GLOBAL NUTRITION TARGETS FOR 2025

CHILD STUNTING
Cut the number of stunted children by 40%

CHILD WASTING
Reduce and maintain child wasting to less than 5%

CHILD OVERWEIGHT
No increase in childhood overweight

ANEMIA
Cut anemia in women of reproductive age by 50%

EXCLUSIVE BREASTFEEDING
Increase to at least 50%

LOW BIRTH WEIGHT
Cut low birth weight by 30%

HALT THE RISE IN PREVALENCE OF:

ADULT OVERWEIGHT

ADULT DIABETES (high blood sugar)

ADULT OBESITY
### Global Nutrition Targets: where are we now?

<table>
<thead>
<tr>
<th>Category</th>
<th>Missing Data</th>
<th>Off course, little/no progress</th>
<th>Off course, some progress</th>
<th>On course, at risk</th>
<th>On course</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stunting children under 5</td>
<td>79</td>
<td>15</td>
<td>58</td>
<td>41</td>
<td></td>
</tr>
<tr>
<td>Wasting children under 5</td>
<td>63</td>
<td>63</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overweight children under 5</td>
<td>84</td>
<td>24</td>
<td>22</td>
<td>26</td>
<td>37</td>
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<tr>
<td>Exclusive breastfeeding, &lt; 6 months</td>
<td>110</td>
<td>34</td>
<td>13</td>
<td></td>
<td>36</td>
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<tr>
<td>Anemia in women aged 15–49 years</td>
<td>8</td>
<td></td>
<td>182</td>
<td></td>
<td>3</td>
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<tr>
<td>Adult overweight + obesity (BMI ≥ 25)</td>
<td>3</td>
<td></td>
<td>190</td>
<td></td>
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<tr>
<td>Adult obesity (BMI ≥ 30)</td>
<td>3</td>
<td></td>
<td>190</td>
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<tr>
<td>Adult diabetes (raised blood glucose)</td>
<td>3</td>
<td></td>
<td>185</td>
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<td>5</td>
</tr>
</tbody>
</table>
Malnutrition in all its forms is pervasive

- Malnutrition affects all 193 countries
- Malnutrition affects 1 in 3 people - will rise to 1 in 2 people if current trends continue
- 800 million are hungry, 2 billion have micronutrient deficiency, 1.9 billion are overweight or obese
- Overweight/obesity rates are rising in every country
- Undernutrition rates decreasing too slowly
More than 40% of all kids in Tanzania are stunted.

Malnutrition in Nordic countries

Adult overweight, obesity and diabetes, 2014 (%)

All Nordic countries are OFF COURSE for overweight and obesity and only Iceland is ON COURSE for diabetes.
Double burden in high-income countries

Women’s Anemia rates ≥ 20% (2011)
- Japan, Singapore

Adult Overweight (BMI ≥ 25) rates ≥ 35% (2014)
- Antigua and Barbuda, Bahamas, Bahrain, Barbados, Brunei Darussalam, Croatia, Cyprus, Czech Republic, Estonia, Greece, Hungary, Kuwait, Latvia, Lithuania, Oman, Poland, Qatar, Seychelles, Slovakia, Slovenia, United Arab Emirates
- Andorra, Australia, Austria, Belgium, Canada, Chile, Denmark, Finland, France, Germany, Iceland, Ireland, Israel, Italy, Luxembourg, Malta, Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, UK, USA, Uruguay
Multiple burdens globally

Under 5 Stunting
Ethiopia, Rwanda


Honduras, Nicaragua

Albania, Armenia, Botswana, Ecuador, Egypt, Equatorial Guinea, Guatemala, Haiti, Iraq, Lesotho, Libya, Namibia, Papua New Guinea, Solomon Islands, South Africa, Swaziland, Syria, Tajikistan, Vanuatu, Yemen

Adult Overweight

Algeria, Azerbaijan, Barbados, Belarus, Belize, Bolivia, Bosnia and Herzegovina, Brunei Darussalam, Dominican Republic, El Salvador, Gabon, Georgia, Guyana, Iran, Jamaica, Jordan, Kazakhstan, Kuwait, Kyrgyzstan, Malaysia, Mongolia, Montenegro, Morocco, Oman, Panama, Republic of Moldova, Saint Lucia, Saudi Arabia, Serbia, Seychelles, Suriname, Tunisia, Turkey, Uzbekistan, Venezuela

Women’s Anemia
Ghana, Japan, Senegal, Sri Lanka, Thailand

China, Republic of Korea, Vietnam

Argentina, Australia, Brazil, Chile, Colombia, Costa Rica, Germany, Mexico, Paraguay, Peru, FYR Macedonia, Tonga, USA, Uruguay
Double burden: the new normal

57 out of 129 surveyed countries currently experience serious levels of both undernutrition and adult overweight & obesity.
2. Food and diet as a driver of the double burden
Most **global burden of disease** risk factors are linked to **diet**

![Bar chart showing global all-age disability-adjusted life years (in thousands, 2013) for various risk factors](image)

- **Disease risk factors linked to diet**
  - Dietary risks
  - High systolic blood pressure
  - Child and maternal malnutrition
  - Tobacco smoke
  - Air pollution
  - High body mass index
  - Alcohol and drug use
  - High fasting plasma glucose
  - Unsafe water, sanitation and handwashing
  - Unsafe sex
  - High total cholesterol

- **Disease risk factors not linked to diet**

Source: Global Burden of Disease Study 2013 Collaborators (2015), Figure 5

Note: The graph shows global disability-adjusted life years (DALYs) attributed to level 2 risk factors in 2013 for both sexes combined.
A key factor in common between people at risk of undernutrition & obesity: poor diet quality

15%  An average of only 15% of under-2’s consume a minimally acceptable diet.

50%  More than half of all women interviewed in 6 sub-Saharan countries do not consume legumes, nuts, vitamin A-rich fruits and vegetables, dairy or eggs in any given day.

Rising consumption of sugars, fats, ultra-processed foods in most places and among most people, including infants.
Proportion of daily food intake among infants aged 6-23 months, Egypt

Proportion of infants aged 6-23 months consuming sweet/savory snacks, Nepal

3. What approaches have been taken to date to address obesity and undernutrition?
1. Obesity
<table>
<thead>
<tr>
<th>POLICY AREA</th>
<th>NOURISHING FOOD ENVIRONMENT</th>
<th>NOURISHING FOOD SYSTEM</th>
<th>NOURISHING BEHAVIOUR CHANGE</th>
</tr>
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<tbody>
<tr>
<td>N</td>
<td>Nutrition label standards and regulations on the use of claims and implied claims on foods</td>
<td></td>
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<tr>
<td>O</td>
<td>Offer healthy foods and set standards in public institutions and other specific settings</td>
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<td>U</td>
<td>Use economic tools to address food affordability and purchase incentives</td>
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<td>R</td>
<td>Restrict food advertising and other forms of commercial promotion</td>
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<td>I</td>
<td>Improve nutritional quality of the whole food supply</td>
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<td>S</td>
<td>Set incentives and rules to create a healthy retail and food service environment</td>
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<td>H</td>
<td>Harness supply chain and actions across sectors to ensure coherence with health</td>
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<tr>
<td>I</td>
<td>Inform people about food and nutrition through public awareness</td>
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<tr>
<td>N</td>
<td>Nutrition advice and counselling in health care settings</td>
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<tr>
<td>G</td>
<td>Give nutrition education and skills</td>
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*Source: WCRF International*
2. Undernutrition

"The Series identifies a set of ten proven nutrition-specific interventions, which if scaled up from present population coverage to cover 90% of the need, would eliminate about 900 000 deaths of children younger than 5 years in the 34 high nutrition-burden countries — where 90% of the world's stunted children live."

Maternal and Child Nutrition
The right nutrition in the 1,000 days between a woman’s pregnancy and her child’s second birthday builds the foundation for a child’s ability to grow, learn and thrive.

**Pregnancy:** Pre-pregnancy to birth

Babies developing in the womb draw all of their nutrients from their mother. If mom lacks key nutrients, so will her baby, putting the child’s future health and development at risk.

**Infancy:** Birth to 6 months

Breast milk is superfood for babies. Not only is it the best nutrition an infant can get, but it also serves as the first immunization against illness and disease.

**Toddlerhood:** 6 months to 2 years

Nutrients from a variety of healthy foods are an essential complement to breast milk to ensure healthy growth and brain development.

The impact of good nutrition early in life can reach far into the future. Children who get the right nutrition in their first 1,000 days:

- Are 10x more likely to overcome the most life-threatening childhood diseases.
- Complete 4.6 more grades of school.
- Go on to earn 21% more in wages as adults.
- Are more likely as adults to have healthier families.

**SOURCES**

3. Ibid.
4. Ibid.

[www.thousanddays.org](http://www.thousanddays.org)
Direct nutrition interventions

- Folic acid supplementation or fortification
- Universal salt iodization
- Balanced energy-protein supplementation
- Calcium supplementation
- Multiple micronutrient supplementation
- Promotion of breastfeeding (counselling)
- Promotion of complementary feeding (education)
- Feeding for children with moderate acute malnutrition
- Therapeutic feeding for severely wasted children
- Vitamin A supplementation
- Zinc treatment for diarrhea
- Preventive zinc supplementation
Evidence in practice also shows crucial role of addressing the “causes of the causes”

“In short, the causes of the impressive decline in child malnutrition in Brazil appear to lie in the improvements in coverage of essential public services and increases in family income, both particularly favoring the poor” (Monteiro, 2009)

2016 GNR success stories show key elements of success are: political commitment; economic growth/poverty reduction, education; female education; water, sanitation and health; health systems; social protection, supplementation as success factors in the reduction of undernutrition (food and diets not mentioned)
1960s/70s: assumption in agriculture community that food availability was the answer to “hunger”

“It was assumed that the overall increase in the aggregate food supply and higher income through agriculture (the dominant occupation of the poor) were the main routes to better nutrition” (World Bank, 2014)
The “diet disconnect”

The food system

- Food production, storage, distribution, trade, transformation, processing, retailing, provision
- Food environments
- People’s purchasing power
- People’s diets
- People’s nutrient intake

The food system
Example: school food policies

A review of nutritional guidelines and menu compositions for school feeding programs in 12 countries

Ruzky Aliyar¹,²*, Aulo Gelli² and Salha Hadjivanyis Hamdani³

**Country comparisons:** School feeding aims differ between countries of each income group. The implementation, delivery of service, and nutritional content of foods also differ considerably between countries and income groups. In high-income countries, guidelines and standards have been recommended in an attempt to combat rising levels of overweight and obesity, and to model healthier lifestyle habits. In low-income countries, there is a gap in terms of guidance on nutrition standards and menu composition.

**Conclusion:** Provision of evidence-based guidance on nutrition standards to middle and low income countries, who have recently established or are planning to establish school feeding, has the potential to greatly enhance and improve the quality of service and improve the life of millions of children worldwide.
Healthy school meals?

School food programme in Syria (Source: World Food Programme)
4. What can *food* policy do?
A. Unify the food-related causes of malnutrition around policies to improve diet quality

WHO definition of a healthy diet emphasizes the importance of starting healthy eating habits in early life (notably through breastfeeding) and limiting the intake of free sugars and salt. It advises people to eat plenty of fruits and vegetables, wholegrains, bre, nuts and seeds, while limiting free sugars, sugary snacks and beverages, processed meats and salt, and replacing saturated and industrial trans fats with unsaturated fats. (p.17)
B. Shift policy makers mindsets to “doing double duty for the double burden”

“Researchers who work on all forms of malnutrition should come together with the international agencies to identify ‘double-duty actions’ that can address undernutrition as well as overweight, obesity and nutrition-related non-communicable diseases simultaneously.”
C. Introduce evidence-informed policies to encourage “healthy diets for healthy growth”

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<th>Examples of application to infants and young children</th>
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D. Identify opportunities to lever food environments & systems for double dietary benefits
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