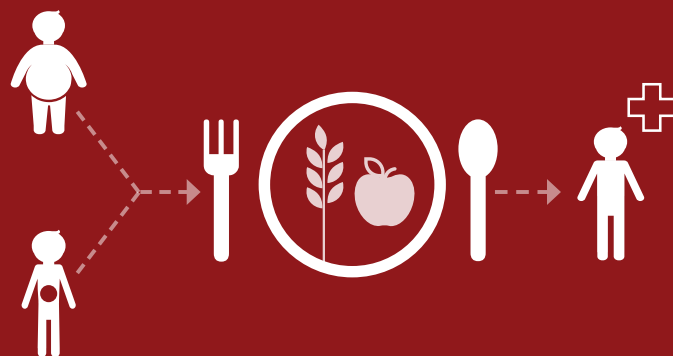


Double-duty actions for nutrition

Policy Brief

Addressing contrasting and confounding forms of malnutrition need not be a zero-sum game

Double-duty actions have the potential to improve nutrition outcomes across the spectrum of malnutrition, through integrated initiatives, policies and programmes



INTEGRATED ACTION ON THE DOUBLE BURDEN OF MALNUTRITION

In the framework of the Sustainable Development Goals (1), the *United Nations Decade of Action on Nutrition* (2) aims to trigger intensified action to end hunger and eradicate all forms of malnutrition worldwide. This effort includes conditions associated with undernutrition, such as wasting, stunting and micronutrient deficiencies, as well as those associated with dietary imbalance and excess, such as overweight, obesity, or diet-related noncommunicable diseases (NCDs). The coexistence of contrasting forms of malnutrition is known as the double burden of malnutrition. A global challenge, this double burden is united by shared drivers and solutions and therefore offers a unique opportunity for integrated nutrition action. This policy brief sets out the potential for double-duty actions to contribute to this intensified effort by addressing both sides of malnutrition through common interventions.

WHAT IS THE DOUBLE BURDEN OF MALNUTRITION?

In 2014, approximately 462 million adults worldwide were underweight, while 1.9 billion were overweight or obese, and 264 million women of reproductive age were affected by iron-deficiency-related anaemia (3, 4). In 2016, an estimated 41 million children under the age of 5 years were overweight or obese, while 155 million suffered from stunting (low height-for-age associated with chronic or recurrent undernutrition) (5). Nutrition-related factors contribute to approximately 45% of deaths in children aged under 5 years, while most low- and middle-income countries are now witnessing a simultaneous rise in childhood overweight and obesity (4, 6).

The global burden of malnutrition

- **462 million** adults worldwide continue to be underweight (4)
- **1.9 billion** are overweight or obese (4)
- **264 million** women of reproductive age around the world are affected by iron-deficiency-related anaemia (3)
- **155 million** children under the age of 5 years around the world are stunted (low height for age) (5)
- **41 million** children under the age of 5 years worldwide are overweight (5)

This coexistence of seemingly contrasting and confounding forms of malnutrition is known as the double burden of malnutrition and represents a serious public health challenge (3). It is characterized by the coexistence of undernutrition (including wasting, stunting and deficiencies in important micronutrients) along with overweight, obesity or diet-related NCDs.

This dual nutrition challenge can occur at the individual, household and population levels, and across all income groups in all regions of the world. Fig. 2 illustrates this.

For more information on the double burden of malnutrition, see the WHO 2017 publication, *The double burden of malnutrition. Policy brief*.

Fig. 1. The double burden of malnutrition

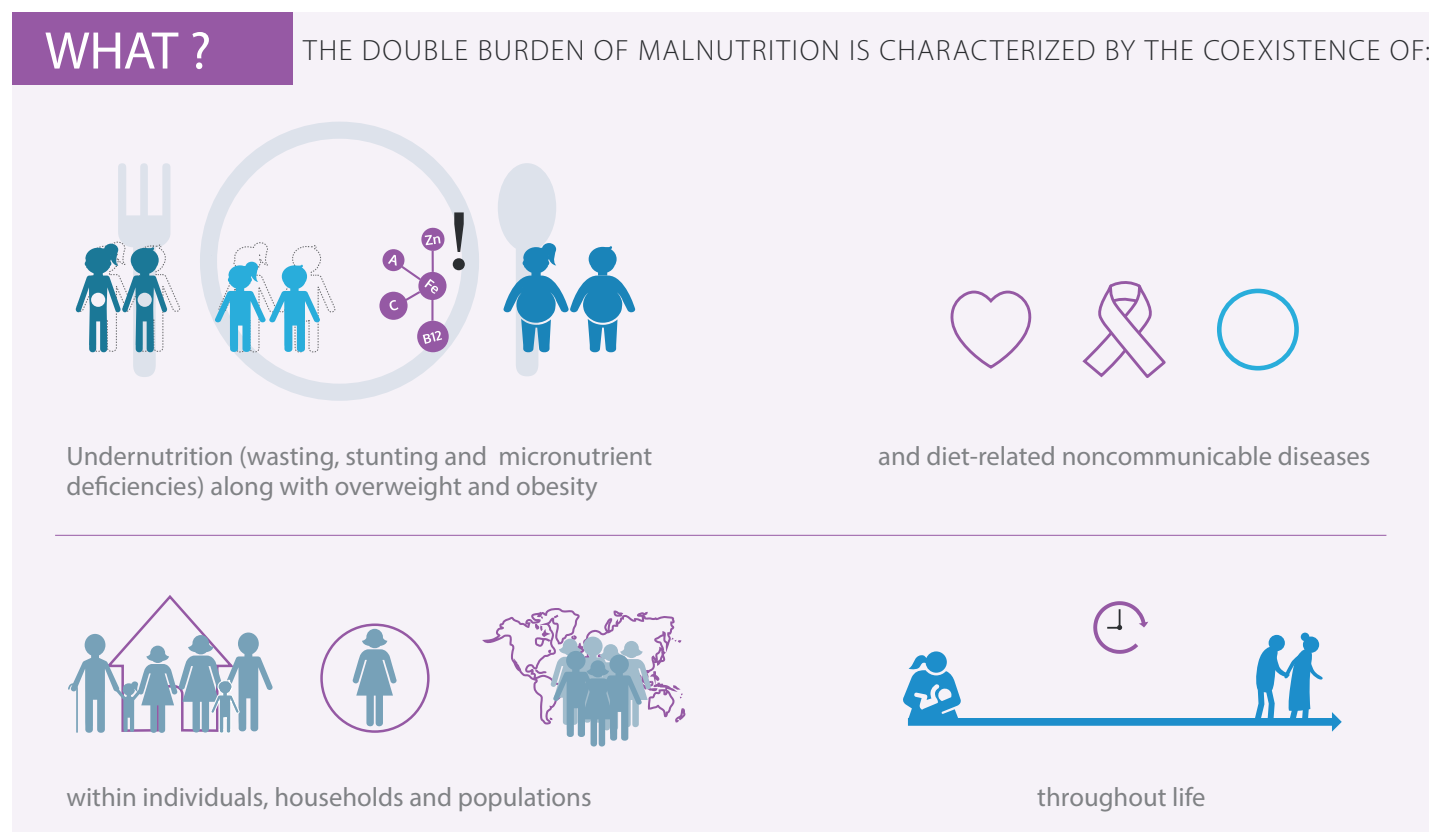
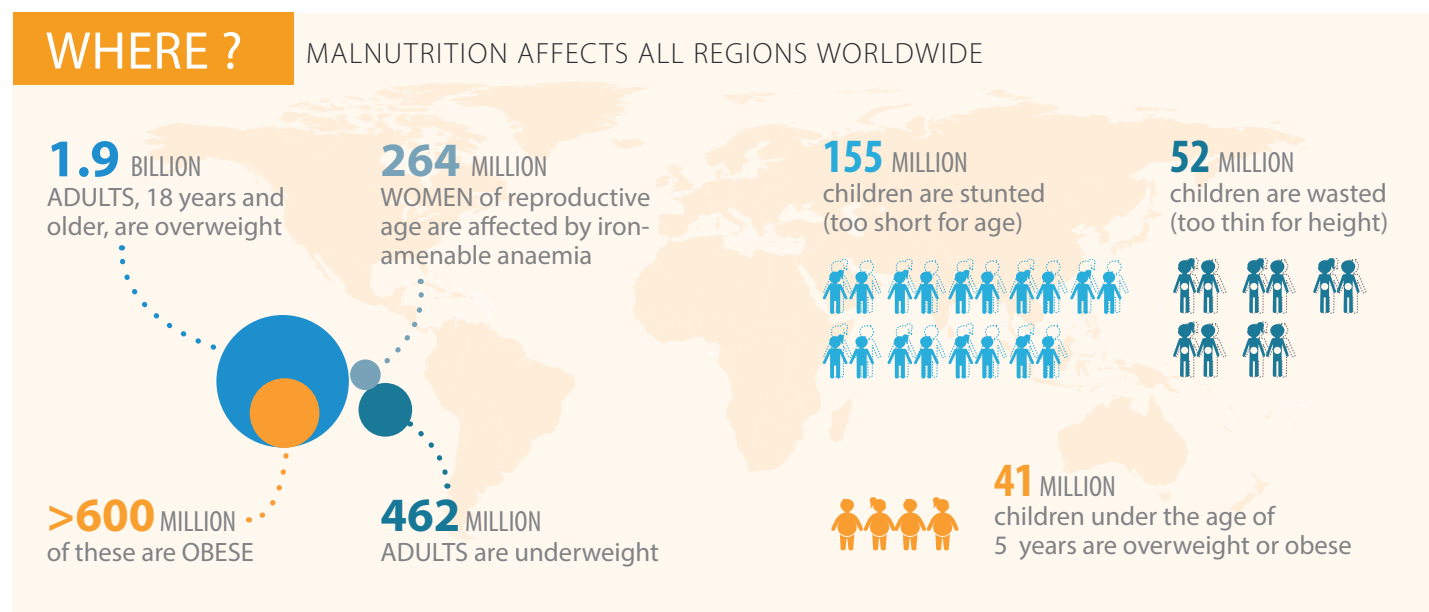


Fig. 2. The global burden of malnutrition



WHAT ARE DOUBLE-DUTY ACTIONS?

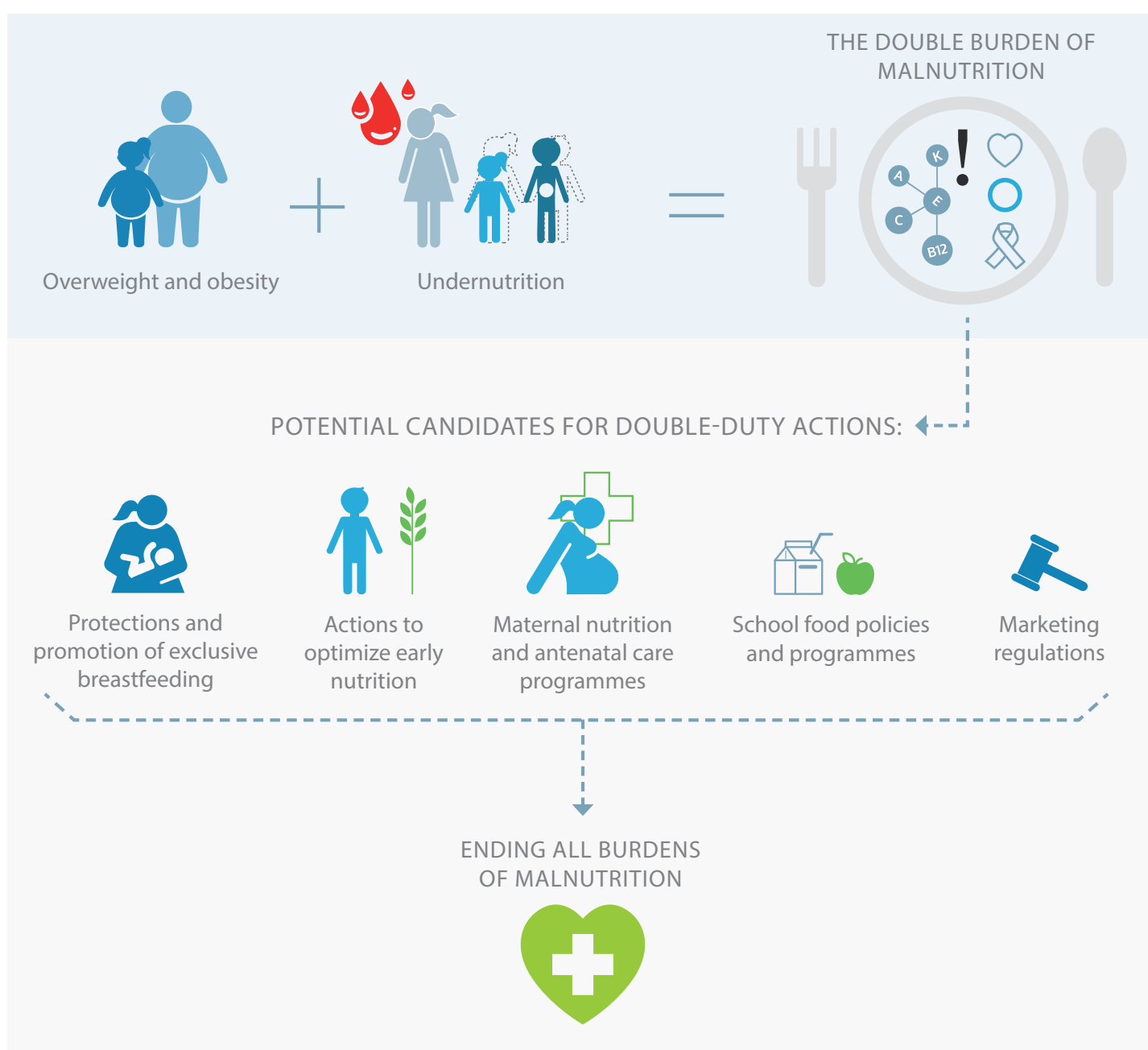
Global attention is transitioning from the predominant focus on hunger of the Millennium Development Goals, to a broader focus on nutrition in the Sustainable Development Goals (1), with targets on ending malnutrition in all its forms (Target 2.2) and reducing NCDs (Target 3.4). Since policy-makers have limited resources (fiscal, human and time), identification of opportunities to achieve multiple goals and targets with single interventions will be key.

This is the potential of **double-duty actions** (7).

Double-duty actions include interventions, programmes and policies that have the potential to simultaneously reduce the risk or burden of **both** undernutrition (including wasting, stunting and micronutrient deficiency or insufficiency) **and** overweight, obesity or diet-related NCDs (including type 2 diabetes, cardiovascular disease and some cancers). Double-duty actions leverage the coexistence of multiple forms of malnutrition and their shared drivers to offer integrated solutions (see Fig. 3).

Double-duty actions are not necessarily new actions. They are often actions that are already used to address single forms of malnutrition but with the potential to address multiple forms simultaneously.

Fig. 3. Double-duty actions



RATIONALE FOR DOUBLE-DUTY ACTIONS

The potential for double-duty actions to impact both sides of the double burden emerges from shared drivers behind different forms of malnutrition, and from shared platforms that can be used to address these various forms of malnutrition (see Fig. 4).

SHARED DRIVERS

While the drivers of undernutrition may appear distinct from those for overweight, obesity or NCDs, evidence is building that indicates there are shared biological, environmental and socioeconomic factors that contribute to the risk or prevalence of both (3). These include the factors listed next.

BIOLOGY

Poor maternal and early child nutrition are important and preventable drivers of both undernutrition and overweight.

- **Poor adolescent and maternal nutrition** prior to, and during, pregnancy can lead to increased risk of maternal anaemia, pre-term birth and low infant birth weight. In turn, low-birth-weight infants are at higher risk of metabolic disease and abdominal adiposity later in life. Women who are overweight or experience excess weight gain during their pregnancy are at a greater risk of gestational diabetes and larger birth weights in their offspring, putting their infants at higher risk from overweight and obesity later in life (8, 9); in addition, accelerated weight gain in early life is associated with higher body mass index and obesity later in life (8–10).
- **In-utero and early-life nutrition environments** during the first 1000 days of life have impacts on multiple forms of malnutrition, in the context of a rapid nutrition transition and abundance of food that is high in fat, sugars and sodium following birth (3). Dietary intake and quality during fetal development and infancy impacts immune functions, cognitive development and the regulation of energy storage and expenditure – including fat stores and metabolism (10). In utero, maternal malnutrition in any form can trigger a set of anatomical, hormonal and physiological changes in the fetus, with serious, long-term health consequences.

ENVIRONMENTS

The environments around people affect their ability to access nutritious foods and adopt healthier nutrition habits and behaviours. These include their food, health, living, working and social environments (7).

- **Food environments:** a lack of nutritious, healthy foods that are available, affordable and accessible to populations and individuals can affect the risks of both an inadequate and a unbalanced diet (11).

- **Health environments:** a lack of access to affordable and high-quality preventive and curative health care, particularly through primary care, has implications for those suffering from undernutrition as well as overweight, obesity or diet-related NCDs (7).
- **Living and working environments:** access to improved water and sanitation services is vital for preventing undernutrition (12). Built spaces that promote healthy diets and physical activity in safe and healthy contexts are an important strategy to prevent overweight, obesity and diet-related NCDs. Living and working environments also affect women's ability to breastfeed (13–16).
- **Social environments:** the social environment affects social norms, which are known to influence practices around diet, breastfeeding, health and hygiene, as well as to influence social support for improved nutrition practices. For example, stigmas around weight may influence perceptions of health and health-seeking behaviours (17).

SOCIOECONOMICS

Globally, and within nations, poverty is a driver of both undernutrition and overweight, obesity and diet-related NCDs.

- **Poverty** is a risk factor for all forms of malnutrition, and malnutrition also raises the risks of poverty (18).
- Evidence to date suggests a strong correlation between **food insecurity, inequality, poverty and obesity**, with a socioeconomic gradient of overweight and obesity in many middle- and high-income countries (19). Globally, obesity is affecting countries across all income groups. While the highest age-standardized prevalence is found in upper-middle-income countries, most low- and lower-middle-income countries have a prevalence of overweight between 10% and 30% (20).
- Low socioeconomic status, including both poverty and a lack of educational attainment, is associated with lower food and health literacies, unhealthier food and urban environments, poorer nutrition during pregnancy and early life, and an individual inability to afford nutrient-rich foods across the life-course (18, 21).

SHARED PLATFORMS

Emerging from common drivers between the various forms of malnutrition are common platforms for delivering double-duty actions. Potential examples of shared platforms include the following:



National dietary guidelines

Clear, evidence-based and implementation-focused dietary guidelines provide a basic framework to address undernutrition, micronutrient deficiencies, overweight and obesity. Food-based dietary guidelines can be used to guide policies and programmes to promote high diet quality and reduce undernutrition, as well as overweight, obesity and NCDs.



National-level policies for overweight, obesity, noncommunicable disease and nutrition

Analysis by the WHO shows that policies that address undernutrition often do not include overweight and obesity; nor do policies on overweight, obesity and NCDs reflect the challenges of undernutrition (22). Ensuring that these policies aim to produce double-duty outcomes would provide a further platform for shared achievement.



Health systems

In the context of a double burden of malnutrition at the individual and household levels, health systems could be more structured and resourced to effectively address both undernutrition and overweight, obesity and NCDs. In particular, strong primary care and a focus on ensuring universal health care can provide prevention and treatment actions for both undernutrition and overweight, obesity and diet-related NCDs; appropriate antenatal and maternal care for mothers and their infants; and long-term and sustained care for complex NCDs.



Humanitarian aid and emergency nutrition programmes

These programmes are currently focused primarily on food quantity and food security – for important reasons. Using such responses and programmes also as a platform to promote quality, nutritious diets could provide double returns on efforts. This would ensure that the food provided does not increase the risk of unhealthy diets in the future, or associated health problems.



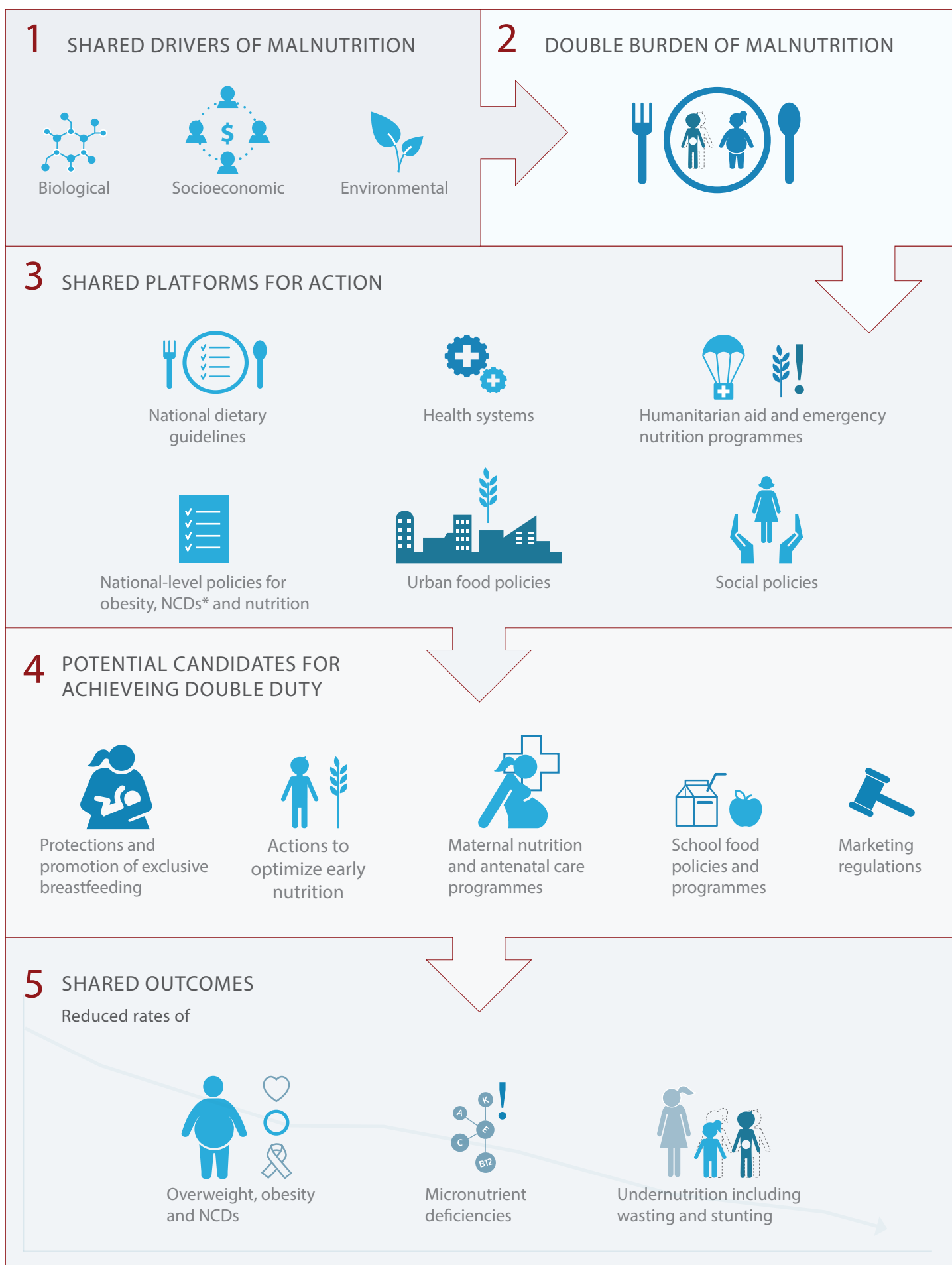
Urban food policies and systems

An increasing number of municipalities around the world are implementing policies to produce multiple nutrition-related outcomes, including enhancing access to healthy foods and diets, such as through urban agriculture and direct farm-consumer marketing. These efforts have the potential to deliver outcomes on both sides of the double burden.



Social policies

Supporting social policies, such as improving female access to education and paid maternity leave, which empower adolescent girls and adult women in their diet quality, has extensive positive nutrition overflows. Women in general are especially vulnerable to undernutrition and micronutrient deficiencies, as a result of poor diets, owing to their unique nutritional requirements as well as their status in some cultures (23–25).

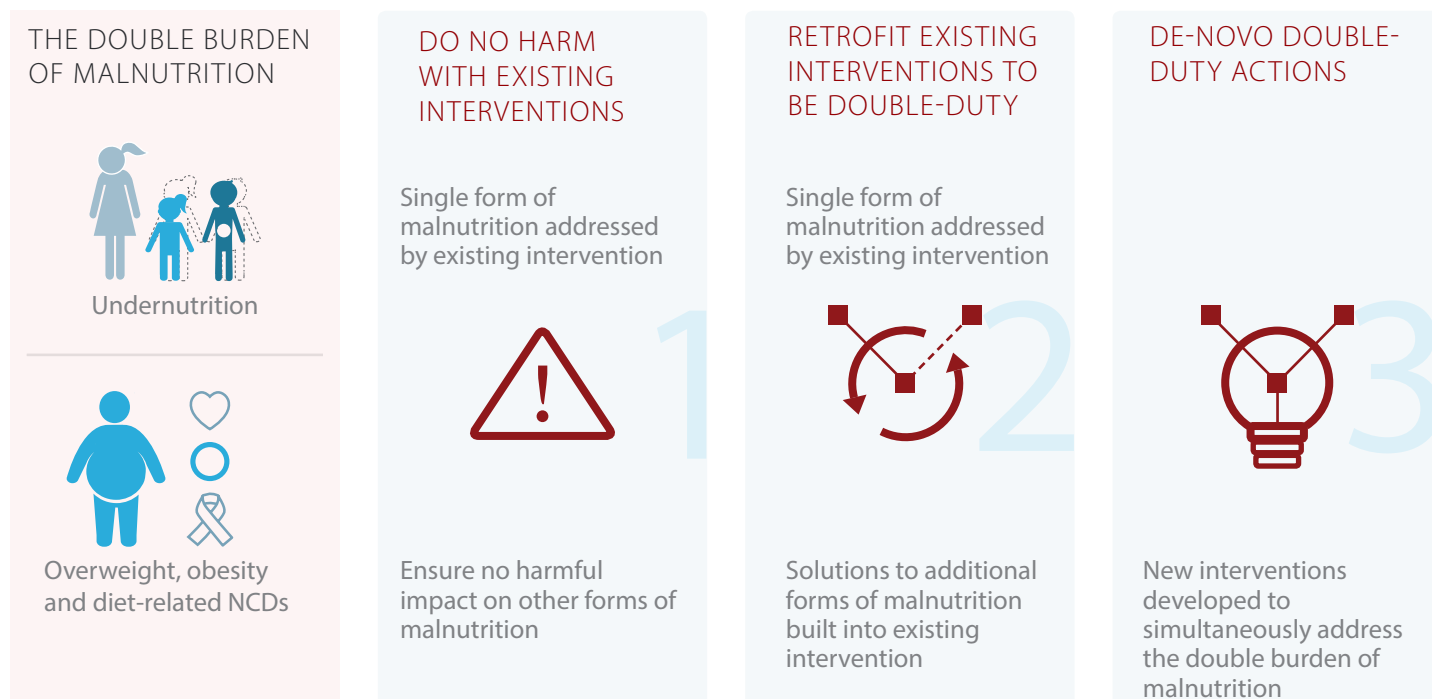
Fig. 4. Shared drivers and platforms for double-duty actions

DOUBLE DUTY IN PRACTICE

Double duty is a what – “what actions can have co-benefits?” – but also a how – “how can the coexistence of undernutrition and overweight, obesity and NCDs be addressed?”.

Doing double duty is a process of starting to consider all forms of malnutrition when implementing and designing programmes and policies. Double-duty actions acknowledge that addressing contrasting and confounding forms of malnutrition need not be a zero-sum game, but that common policy and programmatic opportunities exist to holistically address the double burden of malnutrition. This can be achieved at three levels (see Fig. 5).

Fig. 5. Three levels of doing double-duty



1 DO NO HARM THROUGH EXISTING ACTIONS ON MALNUTRITION

Many important and effective programmes are currently being implemented around the world to address the various forms of malnutrition. The first level of doing double duty is to assess and ensure that current initiatives (policies, programmes etc.) are not inadvertently increasing the risk of other forms of malnutrition or NCDs. For example, it is important to ensure that efforts and initiatives to feed young children affected by acute undernutrition also address their long-term risks of overweight and NCDs.

2 RETROFIT EXISTING NUTRITION ACTIONS

The second level of achieving double duty is to look at what actions are already being implemented and ask “do they or can they have potential to positively and simultaneously influence other forms of malnutrition?” For example, some school food programmes may target undernutrition, while others place more focus on restricting the intake of foods associated with unhealthy diets. Ensuring programmes are tailored to

reduce the risk of the double burden of malnutrition would reap double returns on initiatives that are already functioning (15).

3 DE-NOVO ACTIONS FOR DOING DOUBLE DUTY

The third level is the most proactive. This involves development of new actions designed specifically to do double duty. This is based on assessing which of the actions above are potentially the most powerful candidates to be implemented in a particular setting – reflecting the local epidemiology, policy, cultural, environmental and food contexts. This could include actions focused on existing national priorities, as well as new actions or priority areas.

The type of action, and its effectiveness, will vary between and within countries. Designing for double duty is not an approach of “one size fits all” but a method of crafting nutrition actions that are appropriate to the individual setting.

POTENTIAL CANDIDATES FOR ACHIEVING DOUBLE DUTY

In order to advance the potential of double-duty actions, it will be vital to further examine the evidence of the effects of specific actions on outcomes associated with both sides of the double burden. Initial assessments of the evidence indicate the following are potential areas of action that could be levered for double duty:

Initiatives to promote and protect exclusive breastfeeding in the first 6 months, and beyond



Why the potential for double duty?

- Evidence indicates that providing essential nutrients for growth and development (especially colostrum and breast milk) benefits infant biology and nutritional habits, which reduces the risks for overweight and obesity in later life and protects against stunting and wasting in childhood (26–28).
- Exclusive breastfeeding helps to regulate maternal weight gain in the postpartum period, which in turn provides added nutrition-related health benefits to the mother, protecting against obesity and some NCDs later in life (27).

Promotion of appropriate early and complementary feeding in infants



Why the potential for double duty?

- The combination of continued breastfeeding, with appropriate complementary foods containing a wide range of micronutrients, is protective against stunting (29, 30).
- There are indications that the type and timing of complementary feeding may influence future risk of overweight and obesity (29, 31).

Regulations on marketing



Why the potential for double duty?

- Limiting marketing of breast-milk substitutes, in accordance with the International Code of Marketing of Breast-milk Substitutes (35), aims to mitigate inappropriate use of substitutes and provide an enabling environment for infant and young child feeding practices, with implications for undernutrition and obesity.
- Food marketing influences children's food preferences and diet-related behaviours and outcomes, with implications for obesity and diet-related NCDs (36).

Maternal nutrition and antenatal care programmes



Why the potential for double duty?

- Folic acid and iron supplementation as part of a maternal nutrition care plan has been shown to be effective in preventing micronutrient deficiencies in the mother during pregnancy, and to aid in healthy fetal development (32).
- Antenatal nutritional counselling provides adequate and accurate knowledge of which foods, in what quantities, are required for optimal intake. This has the effect of reducing gestational weight gain and subsequently protects against gestational diabetes for the mother, and overweight and obesity later in life for the child (32, 33).

School food policies and programmes



Why the potential for double duty?

- Integrated school-based nutrition programmes can address the double burden of nutrition-related ill-health and be used to build on and interconnect ongoing nutrition initiatives. They also represent a potential access point for engaging parents and communities (15).
- School food standards have been found to be effective at increasing the availability and purchase of healthy food and decreasing the purchase of unhealthy food with the potential to impact health (34).

CONCLUSIONS

Double-duty actions include interventions, programmes and policies that have the potential to simultaneously reduce the risk or burden of both undernutrition (including wasting, stunting and micronutrient deficiency or insufficiency) and overweight, obesity or diet-related NCDs.

Reflecting the shared drivers and platforms of contrasting forms of malnutrition, double duty can be achieved at three levels: through **doing no harm** with regard to existing actions on malnutrition; by **retrofitting** existing

nutrition actions to address or improve new or other forms of malnutrition; and through the development of **de-novo, integrated actions** aimed at the double burden of malnutrition.

Addressing the double burden of malnutrition through double-duty actions will be of critical importance in achieving the ambitions of both the *United Nations Decade of Action on Nutrition* (2) and the Sustainable Development Goals (1).

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FOR MORE INFORMATION

- World Health Organization. Nutrition. Double burden of malnutrition (<http://www.who.int/nutrition/double-burden-malnutrition/en/>)
- World Health Organization. Global Database on the Implementation of Nutrition Action (GINA) (<http://www.who.int/nutrition/gina/en>)
- World Health Organization. e-Library of Evidence for Nutrition Actions (eLENA) (<http://www.who.int/elena/en/>)
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