

Nutrition and women's, children's and adolescents' health¹

Abstract

Nutrition is key to unlocking the potential of investment in the health of women, children and adolescents. Ensuring the health and nutritional status of women, in their own right, throughout all stages of life is fundamental to ensuring the health and nutrition of children. In many ways adolescent girls are at the heart of this life-course approach – a young adolescent girl is still a child yet all too often she will soon become a mother. Efforts to improve nutrition need to pay special attention, therefore, to the first 1,000 days of life (from the start of pregnancy to two years of age), pregnant and lactating women, women of reproductive age and adolescent girls.

The root causes of and factors leading to malnutrition are complex and multidimensional. Thanks to recent global initiatives it is now clear what needs to be done to improve the nutritional health of women, children and adolescents. At the Second International Conference on Nutrition in Rome in November 2014 world leaders made commitments to eradicate hunger and prevent all forms of malnutrition worldwide through implementation of a Framework for Action. This Framework includes 60 recommended actions for policies, programmes and interventions throughout the life-course and across many different sectors.

The potential human, societal and economic gains from turning these commitments into action are substantial, while the costs of inaction are high. It is time to tackle malnutrition in all its forms and to break the intergenerational cycle of malnutrition. Incorporation of these priorities into the *Global Strategy on Women's, Children's and Adolescent's Health 2016-2030*, and its accountability mechanisms, and the *Every Woman Every Child* movement represents an unprecedented opportunity to improve the health of women, children and adolescents and to help women of all ages realize their fundamental human rights.

1. Background and introduction

The Secretary General's *Global Strategy for Women's and Children's Health* set out clearly why, as well as being the right thing to do, investing in the health of women and children also reduces poverty, stimulates economic productivity and growth and is cost-effective.²

Five years on, further investment in maternal and child health is essential, and nutrition is the key to unlocking the potential of this investment. Not only is nutrition fundamental for the lasting good health of women and their children, it also has enormous consequences for cognitive development, school performance and productivity. Malnutrition contributes to an estimated 200 million children failing to

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² United Nations Secretary-General Ban Ki-moon. *Global Strategy for Women's and Children's Health*. New York, 2010.

attain their full development potential. Economists estimate that stunting can reduce a country's gross domestic product by up to 3%³ and that eliminating anaemia could increase adult productivity by 5% to 17%.⁴ The economic returns are very strong – every \$1 invested in tackling undernutrition is estimated to yield around \$18 in return.⁵

In 2010 the UN Secretary General's strategy repeatedly mentioned the need to address nutrition in young children, calling for community level nutritional interventions (such as exclusive breastfeeding for six months, use of micronutrient supplements and deworming) and for the provision of nutritional supplements (such as vitamin A) and access to appropriate ready-to-eat foods to prevent and treat malnutrition. There is now improved understanding of the magnitude and scope of nutrition challenges, that encompass more and more the risk of noncommunicable diseases; their relevance at different stages of the life course, with greater understanding of the central role of adolescent nutrition; as well of the effective responses, that go very much beyond the health sector.

In November 2014, at the Second International Conference in Nutrition (ICN2) in Rome, world leaders acknowledged that malnutrition in all its forms affects people's health and wellbeing and also poses a high burden on societies around the world through its negative social and economic consequences.

The Rome Declaration⁶, which emerged from the Conference, includes commitments to eradicate hunger and prevent all forms of malnutrition worldwide through implementation of a Framework for Action.⁷ The Declaration places an emphasis on the life-course approach and calls for special attention to be given to the first 1,000 days of life (from the start of pregnancy to two years of age), pregnant and lactating women, women of reproductive age and adolescent girls.

These ICN2 commitments will bolster efforts to meet existing global nutrition targets for improving maternal, infant and young child nutrition⁸ and for noncommunicable disease (NCD) risk factor reduction⁹ to be achieved by 2025. They also reinforce the ongoing implementation of the *Comprehensive Implementation Plan on Maternal, Infant and Young Child Nutrition*.¹⁰

³ Repositioning nutrition as central to development: a strategy for large scale action. Washington DC: The World Bank; 2006 (<http://siteresources.worldbank.org/NUTRITION/Resources/281846-1131636806329/NutritionStrategy.pdf>, accessed 21 October 2014).

⁴ WHO. Comprehensive implementation plan on maternal, infant and young child nutrition. Geneva: WHO; 2014.

⁵ The median benefit:cost ratio from a study modelling the impact of preventing one third of stunting in children up to the age of three in 17 high-burden countries. Source: Hoddinott, J., Alderman, H., Behrman, J.R., Haddad, L., Horton, S. (2013). The economic rationale for investing in stunting reduction. GCC Working Paper Series, GCC 13-08.

⁶ Available from: <http://www.fao.org/3/a-ml542e.pdf>

⁷ Available from: <http://www.fao.org/3/a-mm215e.pdf>

⁸ Namely: (1) 40% reduction of the global number of children under five who are stunted; (2) 50% reduction of anaemia in women of reproductive age; (3) 30% reduction of low birth weight; (4) no increase in childhood overweight; (5) increase exclusive breastfeeding rates in the first six months up to at least 50%; and (6) reduce and maintain childhood wasting to less than 5%.

⁹ Namely: (1) to reduce salt intake by 30%; and (2) to halt the increase in obesity prevalence in adolescents and adults.

¹⁰ The Plan was endorsed by the 65th World Health Assembly in 2012.

2. Problem: Modest and uneven progress

Despite a significant improvement in reducing hunger and malnutrition globally in recent decades, the numbers of women, children and adolescents affected by malnutrition remain unacceptably high.

Undernutrition is the main underlying cause of death in children under the age of five. In 2013, around 161 million children under five suffered from chronic malnutrition (stunting), while 51 million were affected by acute malnutrition (wasting). Over two billion people suffer from micronutrient deficiencies – particularly vitamin A, iodine, iron and zinc – and women and girls are especially vulnerable. At the same time, overweight and obesity in both children and adults have been increasing rapidly in all global regions – with 42 million children under five affected by overweight in 2013 and 500 million adults affected by obesity in 2010. In addition, dietary risk factors, together with inadequate physical activity, account for almost 10% of the global burden of disease and disability.¹¹ This burden of multiple forms of malnutrition affect almost all countries so that addressing malnutrition should be considered a global issue.

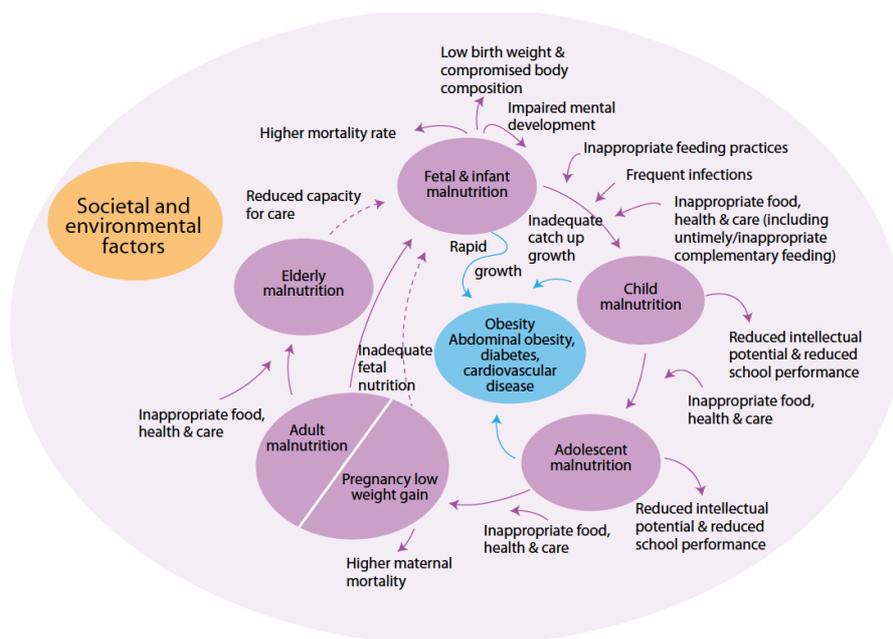
The health and nutritional status of women and children are intimately linked. Improved infant and young child feeding begins with ensuring the health and nutritional status of women, in their own right, throughout all stages of life and continues with women as providers for their children and families.

The root causes of and factors leading to malnutrition are complex and multidimensional. Some of the complex web of factors influencing nutrition across the life-course are shown in Figure 1.

Figure 1 Nutrition through the life-course -- proposed causal links¹²

¹¹ All global prevalence figures taken from the ICN2 Rome Declaration on Nutrition, unless otherwise indicated.

¹² Source: Reproduced from WHO. Global nutrition targets 2025: childhood overweight policy brief (WHO/NMH/NHD/14.6). Geneva: World Health Organization; 2014 based on a figure from Darnton-Hill I, Nishida C, James WPT. A life course approach to diet, nutrition and the prevention of chronic diseases. *Public Health Nutr.* 2004;7(1A):101–21.



In many ways adolescent girls are at the heart of this life-course approach – a young adolescent girl is still a child yet all too often she will soon become a mother. Because she is still growing a pregnant adolescent’s nutrient needs interfere with the nutrients available for her baby. If she herself is malnourished – with a low body mass index or with short stature – she is at increased risk of complications in pregnancy. If she is suffering from anaemia – as half a billion women of reproductive age globally do¹³ – it is more likely that her baby will be born with a reduced birth weight and she is at increased risk of maternal mortality. A child born with low birth weight – as 20 million babies are every year¹⁴ – has a greater risk of morbidity and mortality and is also more likely to develop NCDs later in life. Conversely, if the mother is obese when she starts her pregnancy, she is also at increased risk of complications and her baby is more likely to have a heavier birth weight and a higher risk of child obesity.

3. Response and priority interventions

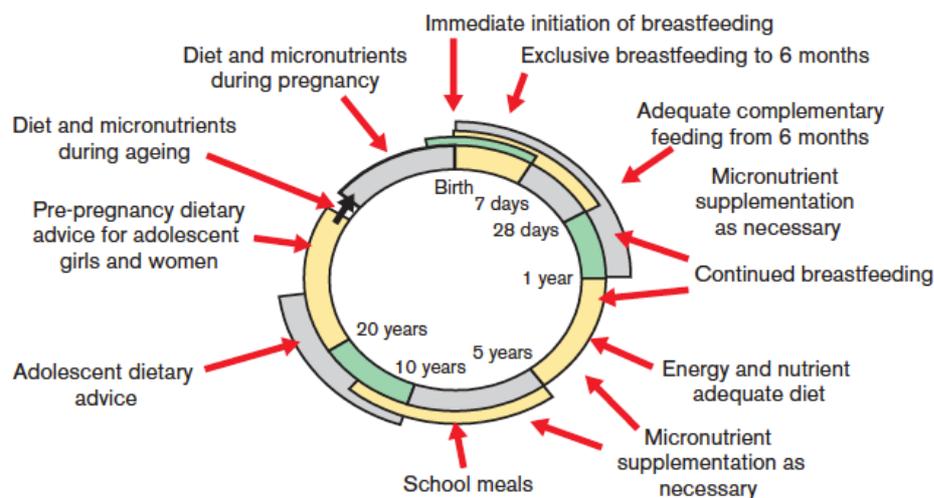
Improving women’s, children’s and adolescents’ nutrition requires a range of diverse policies, programmes and interventions throughout the life-course and across many different sectors (see Figure 2).

Figure 2 Improving nutrition throughout the life-course¹⁵

¹³ WHO. Global nutrition targets 2025: anaemia policy brief (WHO/NMH/NHD/14.4). Geneva: World Health Organization; 2014.

¹⁴ WHO. Global nutrition targets 2025: low birth weight policy brief (WHO/NMH/NHD/14.5). Geneva: World Health Organization; 2014.

¹⁵ WHO. Essential nutrition actions: improving maternal, newborn, infant and young child health and nutrition. Geneva: WHO; 2013.



Specific recommendations¹⁶ for improving the nutrition of children, adolescents and women are shown in Tables 1 to 3.

These specific recommendations should be supported by a raft of nutrition interventions that are applicable right across the life-course.¹⁷ Policies are required, for example, to encourage reduction of saturated fat, sugars and salt/sodium and trans fats in foods and beverages, to establish food or nutrient-based standards for food in public institutions, and to explore introduction of regulatory and voluntary instruments (e.g., on marketing, labelling or economic incentives/ disincentives) to promote healthy diets. In addition, interventions on nutrition education and information are needed, along with action to build frontline workers' nutrition skills and capacity.

Non-nutrition interventions in the health sector (e.g., infectious disease control, reproductive healthcare) are also needed, and should take place within the context of strong and resilient health systems and policies that promote universal health coverage.

Action is also required in a range of other sectors, including food systems, trade and investment, social protection, food safety and antibiotic resistance, water, sanitation and hygiene.

In order to implement these specific interventions, however, it is essential to establish an enabling policy environment, to improve governance mechanisms for food, health and related systems, and to increase responsible and sustainable investment in nutrition.

¹⁶ Drawn from the 60 recommended actions of the ICN2 Framework for Action, other WHO Recommendations or, in some cases, areas where WHO has reviewed evidence but not yet formulated recommendations. The source of each recommended action is clearly indicated.

¹⁷ See the ICN2 Framework for Action for the full range of recommended actions.

All of these policies – nutrition and otherwise – should pay particular attention to women and empower women and girls. Women’s full and equal access to social protection and resources is vital.¹⁸

¹⁸ Including, for example, income, land, water, finance, education, training, science and technology, and health services.

Table 1 Recommended actions to improve child nutrition

Recommended action¹⁹ (Source of recommendation)	Rationale
Infants should be exclusively breast fed for the first six months of life to achieve optimal growth, development and health. (<i>WHO recommendation</i> ²⁰)	Exclusive breastfeeding ²¹ is the cornerstone of child survival and child health and has the single largest potential impact on child mortality of any preventive intervention, offering protection from respiratory infections and diarrhoeal disease, as well as obesity and certain NCDs later in life. Optimal breastfeeding practices also include initiation within one hour of life and continued breastfeeding for up to two years of age or beyond.
Adapt and implement the International Code of Marketing of Breast-milk Substitutes and subsequent relevant World Health Assembly resolutions. (<i>ICN2 Framework for Action</i>)	Countries with strong legislation and enforcement protecting against the inappropriate marketing of breast-milk substitutes have higher rates of exclusive breastfeeding. WHO recommends ²² that Member States should give effect to the Code and subsequent WHA resolutions, with in-country monitoring of implementation and sanctions for companies committing violations. ²³
Implement policies, programmes and actions to ensure that health services promote, protect and support breastfeeding, including the Baby-Friendly Hospital Initiative (BFHI). (<i>ICN2 Framework for Action</i>)	The 10 steps to successful breastfeeding of the BFHI are effective in increasing exclusive breastfeeding rates, ²⁴ and WHO recommends ²⁵ ensuring that every maternity facility practices them. ²⁶ Standards for other health service contacts – such as antenatal care, immunizations and medical consultations – are also important.
Encourage and promote – through advocacy, education and capacity building – an enabling environment where men, particularly fathers, participate actively	There is a role for efforts to facilitate fathers' participation in infant and child care, to feed into two of the key pillars of any strategy to improve women's and children's health and nutrition: female empowerment and optimal infant feeding and care.

¹⁹ Unless otherwise stated these are recommendations for Member State action.

²⁰ Category 1, Guidelines Review Committee approved Guideline.

²¹ Defined as the practice of only giving an infant breastmilk for the first 6 months of life (no other food or water).

²² Category 1, adopted or endorsed by the World Health Assembly.

²³ WHO. Regulation of marketing breast-milk substitutes. e-Library of Evidence for Nutrition Actions (eLENA) http://www.who.int/elena/titles/regulation_breast-milk_substitutes/en/

²⁴ Chung M et.al. *Interventions in primary care to promote breastfeeding: a systematic review*. Rockville Maryland, Agency for Healthcare Research and Quality (United States), 2008.

²⁵ Category 2, systematic reviews have been conducted but no recent guidelines yet available that have been approved by the WHO GRC.

²⁶ http://www.who.int/elena/titles/implementation_bfhi/en/

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and share responsibilities with mothers in caring for their infants and young children, while empowering women and enhancing their health and nutritional status throughout the life course. (<i>ICN2 Framework for Action</i>)	
Establish health policies, programmes and strategies to promote optimal infant and young child feeding, particularly exclusive breastfeeding up to six months, followed by adequate complementary feeding (from six to 24 months). (<i>ICN2 Framework for Action</i>)	Priority actions to promote optimal infant and young child feeding are set out in the <i>Global Strategy for Infant and Young Child Feeding</i> and the <i>Comprehensive Implementation Plan on Maternal, Infant and Young Child Nutrition</i> . ²⁷
Ensure that policies and practices in emergency situations and humanitarian crises promote, protect and support breastfeeding. (<i>ICN2 Framework for Action</i>)	Optimal feeding and care for children in emergencies needs to focus on creating conditions that will facilitate breastfeeding, identifying ways to breastfeed infants and young children who are separated from their mothers, and avoiding general blanket distribution of breast-milk substitutes, milk products, bottles and teats. ²⁸
Adopt policies and actions, and mobilize funding, to improve coverage of treatment for wasting, using the community-based management of acute malnutrition approach and improve the integrated management of childhood illnesses. (<i>ICN2 Framework for Action</i>)	Severe wasting is responsible for up to two million deaths each year and improvements in the proportion (currently less than 15%) of wasted children receiving timely and appropriate life-saving treatment are needed, alongside reductions in the number of children becoming wasted in the first place. ²⁹
Provide iron supplementation for pre-school children to reduce the risk of anaemia. (<i>WHO Guideline</i>)	WHO recommends, ³⁰ in settings where the prevalence of anaemia in preschool or school-age children is 20% or higher, intermittent use of iron supplements to improve iron status and reduce the risk of anaemia, which currently affects 600 million children. ³¹

²⁷ Endorsed by the World Health Assembly in 2012.

²⁸ WHO. Essential nutrition actions: improving maternal, newborn, infant and young child health and nutrition. Geneva: WHO, 2013.

²⁹ WHO/UNICEF. Global nutrition targets 2025: breastfeeding policy brief (WHO/NMH/NHD/14.7). Geneva: World Health Organization; 2014.

³⁰ Category 1, Guidelines Review Committee approved Guideline.

³¹ WHO. Guideline: Intermittent iron supplementation in preschool and school-age children. Geneva: World Health Organization, 2011.

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Improve child nutritional status and growth, particularly by addressing maternal exposure to the availability and marketing of complementary foods, and by improving supplementary feeding programmes for infants and young children. (<i>ICN2 Framework for Action</i>)	The World Health Assembly recognized that promotion of some commercial foods for infants and young children undermines progress in optimal infant and young child feeding. ³² Policies on the inappropriate promotion of complementary foods are needed. WHO suggests that there is a strong rationale for governments, NGOs and agencies to review supplementary feeding programmes that encourage rapid weight gain without linear growth in infants and young children. ³³
Provide zinc supplementation to reduce the duration and severity of diarrhoea, and to prevent subsequent episodes in children. (<i>ICN2 Framework for Action</i>)	Zinc supplementation has been shown to reduce the duration and severity of diarrhoea – which kills more than one million children under five every year – and to prevent subsequent episodes. WHO recommends ³⁴ that mothers and other caregivers should provide children with zinc supplementation. ³⁵
Provide periodic deworming for all school-age children in endemic areas. (<i>ICN2 Framework for Action</i>)	Intestinal worms (schistosome and helminths) can impair nutritional status (through internal bleeding, malabsorption of nutrients, diarrhoea and loss of appetite) and have a significant impact on child growth and development. WHO recommends ³⁶ periodic drug treatment (deworming) of all school-age children living in endemic areas, as well as health and hygiene education and provision of adequate sanitation.
Supplementary foods for the management of moderate acute malnutrition in children (<i>WHO Technical Note, no WHO recommendation</i>)	The dietary management of children with moderate acute malnutrition is based on the optimal use of locally available foods, but in situations of food shortage, or where some nutrients are not sufficiently available through local foods, supplementary foods have been used to treat children with moderate acute malnutrition. Such supplementary foods should conform to the principles and proposed nutrient composition set out in the WHO Technical Note on the dietary management of children with moderate acute malnutrition. ³⁷
Regulate the marketing of food and non-alcoholic beverages to children in accordance with WHO recommendations.	Advertising and other forms of food and beverage marketing to children are extensive and primarily concern products with a high content of fat, sugar or salt. The WHO <i>Set of recommendations on the marketing of foods and</i>

³² WHA Resolution 63.23

³³ WHO. Global nutrition targets 2025: childhood overweight policy brief (WHO/NMH/NHD/14.6). Geneva: World Health Organization; 2014.

³⁴ Category 2, systematic reviews have been conducted but no recent guidelines yet available that have been approved by the WHO GRC.

³⁵ 20 mg per day of zinc supplementation for 10-14 days (10 mg per day for infants under 6 months of age).

³⁶ Category 2, systematic reviews have been conducted but no recent guidelines yet available that have been approved by the WHO GRC.

³⁷ WHO. Technical note: supplementary foods for the management of moderate acute malnutrition in infants and children 6–59 months of age. Geneva: World Health Organization; 2012.

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<i>(ICN2 Framework for Action; WHO Set of Recommendations³⁸)</i>	<i>non-alcoholic beverages to children</i> aim to guide Member States in implementing policies on food marketing to children. ³⁹
Reducing sodium intake to control blood pressure in children (<i>WHO recommendation</i>)	Evidence shows that reducing sodium intake significantly reduces systolic and diastolic blood pressure in children, and WHO recommends ⁴⁰ a reduction in sodium intake to control blood pressure in children. ⁴¹
Create a conducive environment that promotes physical activity to address sedentary lifestyle from the early stages of life. (<i>ICN2 Framework for Action</i>)	WHO recommends that children over five should accumulate at least 60 minutes of moderate-to-vigorous-intensity physical activity daily. ⁴² National and local governments and local communities should implement local policies for childhood activity and promotion of physical activity.

Table 2 Recommended actions to improve adolescents' nutrition

Recommended action	Rationale
Establish policies and strengthen interventions to improve maternal nutrition and health, beginning with adolescent girls and continuing through pregnancy and lactation. (<i>ICN2 Framework for Action</i>)	Adolescent pregnancy is associated with higher risk of maternal mortality and morbidity, stillbirths, neonatal deaths, preterm births and low birth weight. Actions to ensure that pregnant and lactating mothers are adequately nourished are required, along with efforts to prevent adolescent pregnancy and to encourage pregnancy spacing. Access to integral health care services that ensure adequate support for safe pregnancy and delivery is also essential.
Improve intake of micronutrients through consumption of nutrient-dense foods, especially foods rich in iron, where necessary, through fortification and	Adolescent girls are particularly vulnerable to anaemia. A diet containing adequate amounts of bioavailable iron should underpin all efforts for prevention and control of anaemia. In some situations, however, supplementation is advised, ⁴³ and fortification of wheat and maize flours with iron, folic acid and other micronutrients should be

³⁸ Category 1, adopted or endorsed by the World Health Assembly.

³⁹ WHO. Set of recommendations on the marketing of foods and non-alcoholic beverages to children.

http://whqlibdoc.who.int/publications/2010/9789241500210_eng.pdf?ua=1

⁴⁰ Category 1, recently approved by the WHO Guidelines Review Committee.

⁴¹ WHO. Guideline: Sodium intake for adults and children. Geneva, World Health Organization (WHO), 2012. Available from:

http://apps.who.int/iris/bitstream/10665/77985/1/9789241504836_eng.pdf?ua=1&ua=1

⁴² WHO. Global recommendations on physical activity for health. Geneva, World Health Organization, 2010. Available from:

http://whqlibdoc.who.int/publications/2010/9789241599979_eng.pdf?ua=1

⁴³ Category 2, systematic reviews have been conducted but no recent guidelines yet available that have been approved by the WHO GRC.

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supplementation strategies, and promote healthy and diversified diets. (<i>ICN2 Framework for Action</i>)	considered in settings where these foods are major staples. ⁴⁴
Implement policies and programmes to ensure universal access to and use of insecticide-treated nets, and to provide preventive malaria treatment for pregnant women in areas with moderate to high malaria transmission. (<i>ICN2 Framework for Action</i>)	Anaemia is common in severe malaria and is a particularly important complication of malaria in pregnant women. Pregnant adolescents are particularly vulnerable to anaemia and public health measures to prevent, diagnose and treat malaria should form part of public health strategies to prevent and control anaemia.
Regulate the marketing of food and non-alcoholic beverages to children in accordance with WHO recommendations. (<i>ICN2 Framework for Action</i>)	The <i>WHO Set of Recommendations on the Marketing of Foods and Non-Alcoholic Beverages to Children</i> are applicable to adolescents as well as to younger children. (See Table 1)
Create a conducive environment that promotes physical activity to address sedentary lifestyle from the early stages of life. (<i>ICN2 Framework for Action</i>)	WHO recommends at least 60 minutes of moderate-to-vigorous-intensity physical activity daily for adolescents. ⁴⁵ A range of policy options for promoting physical activity are set out in the <i>Global Action Plan for the Prevention and Control of Noncommunicable Diseases</i> . ⁴⁶
Increase fruit and vegetable consumption to reduce the risk of noncommunicable diseases (<i>Evidence available, no WHO recommendation</i>)	WHO recommends ⁴⁷ consuming more than 400 grams of fruits and vegetables per day to improve overall health and reduce the risk of certain NCDs, although this is not specific to adolescents. ⁴⁸

⁴⁴ WHO. Fortification of wheat and maize flours. e-Library of Evidence for Nutrition Actions (eLENA). http://www.who.int/elena/titles/flour_fortification/en/

⁴⁵ WHO. Global recommendations on physical activity for health. Geneva, World Health Organization, 2010. Available from: http://whqlibdoc.who.int/publications/2010/9789241599979_eng.pdf?ua=1

⁴⁶ WHO. *Global Action Plan for the Prevention and Control of Noncommunicable Diseases, 2013-2020*. Geneva: WHO, 2013.

⁴⁷ Category 2, systematic reviews have been conducted but no recent guidelines yet available that have been approved by the WHO GRC.

⁴⁸ WHO. Increasing fruit and vegetable consumption to reduce the risk of noncommunicable diseases. e-Library of Evidence for Nutrition Actions (eLENA). http://www.who.int/elena/titles/fruit_vegetables_ncds/en/

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Reducing consumption of sugar-sweetened beverages to reduce the risk of childhood overweight and obesity <i>(Evidence available, no WHO recommendation)</i>	WHO's Guideline on sugars recommends reducing the intake of free sugars to less than 10% of total energy intake in adults and children. ⁴⁹ Current evidence suggests that increasing consumption of sugar-sweetened beverages is associated with overweight and obesity in children. ⁵⁰
Nutrition counselling of adolescents with HIV/AIDS <i>(Evidence available, no WHO recommendation)</i>	Weight loss and undernutrition are common in people living with HIV/AIDS and are likely to accelerate disease progression, increase morbidity and reduce survival. Nutrition counselling may improve health outcomes in adolescents with HIV. ⁵¹

Table 3 Recommended actions to improve women's nutrition

Recommended action	Evidence
Improve intake of micronutrients through consumption of nutrient-dense foods, especially foods rich in iron, where necessary, through fortification and supplementation strategies, and promote healthy and diversified diets. <i>(ICN2 Framework for Action)</i>	Women of reproductive age – not only adolescents – are particularly vulnerable to iron deficiency anaemia. The rationale provided for this recommended action in Table 2 is also applicable here.
Provide daily iron and folic acid and other micronutrient supplementation to pregnant women as part of antenatal care; and intermittent iron and folic acid supplementation to menstruating women	WHO recommends ⁵² daily oral iron and folic acid supplementation as part of antenatal care to reduce the risk of low birth weight, maternal anaemia and iron deficiency. ⁵³ WHO also recommends ⁵⁴ intermittent iron and folic acid supplementation in menstruating women living in settings where anaemia is highly prevalent, to improve their

⁴⁹ Guideline: Sugars intake for adults and children. Geneva: World Health Organization; 2015.

⁵⁰ WHO. Reducing consumption of sugar-sweetened beverages to reduce the risk of childhood overweight and obesity. e-Library of Evidence for Nutrition Actions (eLENA). http://www.who.int/elena/titles/ssbs_childhood_obesity/en/

⁵¹ WHO. Nutrition counselling for adolescents and adults with HIV/AIDS. e-Library of Evidence for Nutrition Actions (eLENA). http://www.who.int/elena/titles/nutrition_hiv/en/

⁵² Category 1, recently approved by the WHO Guidelines Review Committee.

⁵³ WHO. Daily iron and folic acid supplementation during pregnancy. e-Library of Evidence for Nutrition Actions (eLENA). http://www.who.int/elena/titles/daily_iron_pregnancy/en/

⁵⁴ Category 1, recently approved by the WHO Guidelines Review Committee.

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where the prevalence of anaemia is 20% or higher, and deworming, where appropriate. (<i>ICN2 Framework for Action</i>)	haemoglobin concentrations and iron status and reduce the risk of anaemia. ⁵⁵ Periodic treatment with anthelmintic (deworming) medicines for all women of childbearing age (including pregnant women in the second and third trimesters and breastfeeding women) living in endemic areas is advised. ⁵⁶
Provide dietary counselling to women during pregnancy for healthy weight gain and adequate nutrition. (<i>ICN2 Framework for Action</i>)	Available evidence suggests that nutrition education and counselling may improve gestational weight gain, reduce the risk of anaemia in late pregnancy, increase birth weight and lower the risk of preterm delivery. ⁵⁷ The ICN2 Framework for Action also recommends provision of dietary counselling to pregnant women in the context of encouraging healthy weight gain and preventing overweight and obesity.
Implement policies and programmes to ensure universal access to and use of insecticide-treated nets, and to provide preventive malaria treatment for pregnant women in areas with moderate to high malaria transmission. (<i>ICN2 Framework for Action</i>)	In moderate and high malaria transmission settings, pregnant women are susceptible to severe anaemia. Public health measures to prevent, diagnose and treat malaria – including intermittent preventative treatment and insecticide treated nets – should form part of public health strategies to prevent and control anaemia.
Implement policies and strategies to ensure that women have comprehensive information and access to integral health care services that ensure adequate support for safe pregnancy and delivery. (<i>ICN2 Framework for Action</i>)	Access to integral health care services that ensure adequate support for safe pregnancy and delivery for all women is critical to be able to improve maternal and child health, and to break the intergenerational cycle of malnutrition. Women who have very closely spaced pregnancies are more likely to have maternal anaemia and preterm or low-birth-weight babies. Efforts to encourage pregnancy spacing are needed, including ensuring access to reproductive health services.
Implement policies and practices, including labour reforms, as appropriate,	Longer maternity leave – associated with longer duration of exclusive breastfeeding – and support to sustain breastfeeding when women return to work (e.g., minimum of one paid break daily to feed or express breastmilk) are important to safeguard the health and economic security of women and their children.

⁵⁵ WHO. Intermittent iron and folic acid supplementation in menstruating women. e-Library of Evidence for Nutrition Actions (eLENA).

http://www.who.int/elena/titles/iron_women/en/

⁵⁶ WHO. Global nutrition targets 2025: anaemia policy brief (WHO/NMH/NHD/14.4). Geneva: World Health Organization; 2014.

⁵⁷ Girard, A. W. and Olude, O. (2012), Nutrition Education and Counselling Provided during Pregnancy: Effects on Maternal, Neonatal and Child Health Outcomes. *Paediatric and Perinatal Epidemiology*, 26: 191–204. doi: 10.1111/j.1365-3016.2012.01278.x Available from: <http://onlinelibrary.wiley.com/doi/10.1111/j.1365-3016.2012.01278.x/abstract>

See also http://www.who.int/elena/titles/nutrition_counselling_pregnancy/en/

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to promote protection of working mothers. <i>(ICN2 Framework for Action)</i>	
Balanced energy and protein supplementation during pregnancy <i>(Evidence available, no WHO recommendation)</i>	Providing balanced protein energy supplementation (i.e. in which protein provides less than 25% of the total energy content) to undernourished pregnant women has been shown to promote gestational weight gain and improve pregnancy outcomes. ⁵⁸
Calcium supplementation during pregnancy for the prevention of pre-eclampsia (WHO recommendation)	Hypertensive disorders, such as pre-eclampsia, account for up to 40 000 maternal deaths per year. Calcium supplements may reduce the chance of developing pre-eclampsia and WHO recommends supplementation of pregnant women with 1.5 to 2.0 grams of elemental calcium per day in areas where dietary calcium intake is low and for higher risk women. ⁵⁹

⁵⁸ WHO. Balanced energy and protein supplementation during pregnancy. e-Library of Evidence for Nutrition Actions (eLENA). http://www.who.int/elena/titles/energy_protein_pregnancy/en/.

⁵⁹ Category 1, Guideline Review Committee-approved Guideline

4. Conclusion

A much greater understanding of what needs to be done to improve nutrition of women, children and adolescents now exists, and is backed by clear global commitments to action alongside targets against which progress can be measured.

The next steps need to focus on implementing the ICN2 commitments and the continued implementation of the *Comprehensive Implementation Plan on Maternal, Infant and Young Child Nutrition* with commensurate financing and adequate policies.

It will be important to monitor progress in putting these commitments into practice through the accountability mechanisms described in the Framework for Action.^{hhh} Inclusion of nutrition indicators in the accountability framework for the *Global Strategy on Women's, Children's and Adolescent's Health 2016-2030* is recommended to further strengthen accountability.

The potential human, societal and economic gains from turning these commitments into action are substantial, while the costs of inaction are high. The time is right to tackle malnutrition in all its forms throughout the life-course and to break the intergenerational cycle of malnutrition. Incorporation of these priorities into the new *Global Strategy* and the *Every Woman Every Child* movement represents an unprecedented opportunity to improve the health of women, children and adolescents and to help women of all ages realize their fundamental human rights.

^{hhh} These include reports on implementation of the commitments of the Rome Declaration on Nutrition will be compiled jointly by FAO and WHO, in close collaboration with other United Nations agencies, funds and programmes and other relevant regional and international organizations. The governing bodies of FAO and WHO, and other relevant international organizations are requested to consider the inclusion of reports on the overall follow-up to ICN2 on the agendas of the regular FAO and WHO governing body meetings, including FAO regional conferences and WHO regional committee meetings, possibly on a biennial basis. The Directors- General of FAO and WHO are also requested to transmit such reports to the United Nations General Assembly as appropriate.