Call for authors and review teams
Systematic reviews on
infant and child feeding practices to prevent overweight and obesity\(^1\) and other risk factors for noncommunicable diseases in children and adolescents

Background

Malnutrition, in all its forms presents significant threats to human health. Undernutrition contributes to about one third of all child deaths. Globally, an estimated 43 million children under-five years of age, or 7%, were overweight (i.e., weight-for-height above +2SD) in 2011 — a 54% increase from an estimated 28 million in 1990. Increasing trends in child overweight have been noted in all regions. The prevalence of obesity in children is increasing in all regions of the world, including countries that suffer high levels of maternal and child undernutrition. Overweight and obese children are at higher risk of developing serious health problems including type 2 diabetes, high blood pressure, asthma and other respiratory problems, sleep disorders and liver disease. They may also suffer from psychological effects, such as low self-esteem, depression and social isolation. Childhood obesity also increases the risk of obesity, noncommunicable diseases, premature death and disability in adulthood. In 2012, the World Health Organization (WHO)'s Member States endorsed six global targets for improving maternal, infant and young child nutrition and are committed to monitoring progress. The global targets are vital for identifying priority areas for action and catalysing global change.

The targets for 2025 include: reduction of childhood stunting, reduction of anaemia in women of reproductive age, reduction of low birth weight; no increase in childhood overweight, increasing exclusive breastfeeding rates in the first six months of life, and reduction of wasting in children.

The Departments of Maternal, Newborn, Child and Adolescent Health (MCA), and Nutrition for Health and Development (NHD) in collaboration with the Department of Prevention of Noncommunicable Disease (PND) are in a process of developing various guidance on the prevention and control of childhood obesity. As part of this effort, we are currently revising the recommendations for feeding infants and children to prevent obesity and other risk factors for noncommunicable diseases in children and adolescents. In March 2013 a consultation was convened in Geneva, Switzerland to review available research and epidemiological data on priority questions for recommendations in this topic. As a follow-up, WHO is plans to develop comprehensive guidelines for preventing obesity and other risk factors for noncommunicable diseases in children and adolescents. A first step in this process is to review current WHO recommendations on infant and child feeding. To inform the guideline development process, WHO will commission several systematic reviews to retrieve, synthesise and assess the available evidence. A guideline review meeting is planned for November 2014.

Timelines
- 28 March 2014
  Interested authors or teams submit concept notes and budget
- 18 April 2014
  WHO review of proposals complete and contact authors and review teams
- 2 May 2014
  Contracts agreed (subject to WHO conditions including review of declarations of interest of members of the systematic review teams)
- 19 September 2014
  Draft systematic reviews (for questions 1-6 listed at the end) submitted
- 17 October 2014
  Final systematic reviews with GRADE tables submitted

Qualifications of the author(s) / review team
- Interested author(s)/teams must have experience with conducting complex systematic reviews and should provide references of systematic reviews that they have published in peer-review journals
- Interested author(s)/teams should have members with complementary skills and competencies including knowledge of the technical area, statistical analysis and excellent writing capabilities.

\(^1\) Overweight and obesity in children and adolescents 5 to 19 years of age is defined as BMI-for-age > +1SD, and BMI-for-age > +2SD respectively
**Concept proposal and budget**

Interested author(s)/teams are invited to submit a concept note (2-3 pages) outlining:

- The principal investigator and host institution with overall responsibility for the review
- The questions that the author(s)/review team will address through systematic reviews. Author(s)/teams may undertake one or more reviews. However, they need to demonstrate capacity to conduct the review(s) within the timeline above.
- Questions #1-6 will be addressed in the review process and timelines outlined above. Questions #7-8 will be addressed in a second round of systematic reviews.
- The databases and process for review that the author(s)/teams would undertake and should reflect the scope of work described below.
- The competencies and specific contributions of the author(s)/teams who would undertake the review
- Budget (US $). This should outline the total amount for the review including an approximate breakdown of personnel vs. institutional/other costs.

It is expected that WHO will provide technical input on the final protocols that will govern the systematic reviews. For the purpose of the concept note, it is not necessary to describe every detail of the systematic review.

**Concept notes should be submitted by 28 March 2014 to nutrition@who.int or directly to Dr Nigel Rollins at rollinsn@who.int**

An acknowledgement of receipt of concept notes will be sent within 24 hours. If this is not received please contact Dr Rollins. Please also contact Dr Rollins with any questions before then.
Scope of systematic reviews on ‘infant and child feeding practices to prevent overweight and obesity in children and adolescents and other risk factors for noncommunicable diseases’

Aim To provide an evidence base to inform WHO recommendations on infant and child feeding to prevent overweight and obesity in children and adolescents and other risk factors for noncommunicable diseases (e.g., cardiovascular disease or diabetes mellitus)

Objectives
i. To update current WHO guidance on infant and child feeding (6-59 months of age) - as outlined in the Integrated Management of Childhood Illnesses (IMCI) / Integrated Infant and Young Child Feeding course (IYCF) / Combined course on growth assessment and IYCF counselling / Guiding Principles for Complementary Feeding – in order to prevent obesity in children and adolescents and other risk factors for noncommunicable diseases (e.g., cardiovascular disease or diabetes mellitus);
ii. To inform the development of comprehensive recommendations for feeding infants and children to prevent obesity and other risk factors for noncommunicable diseases (e.g., cardiovascular disease or diabetes mellitus) later in life.
iii. To determine the effects of supplementary foods in undernourished infants and children (weight-for-age or weight-for-height below -2 SD) in order to review supplementary feeding recommendations.

Scope of systematic reviews
• Experimental (randomised trial) and observational evidence
• No date or language restrictions in search strategy
• Geographic areas: Disaggregate studies conducted in low and middle income countries from those in high income countries.
• Age range: 6-23m; 24-59m; 60-120m. Evidence for nutrition interventions and risk factors in adolescents will be addressed in separate reviews.
• Outcome measures to include early risk factors for noncommunicable diseases including cardiovascular disease such as overweight/obesity/body composition/metabolic markers and also late outcomes such as raised blood pressure (adolescents) and hypertension/diabetes mellitus/cardiac events in adults.
• Comparisons: while WHO feeding recommendations are the most important comparison group for the purpose of guideline review, the scope will be broadened to include other comparison groups should there be little published literature based on WHO recommendations as the comparison group.
• The questions that need to be addressed are complex and diverse and could not be resolved in one guideline review process. Two complementary guideline review processes will therefore be coordinated and with guideline meetings convened in Q4, 2014 and Q3, 2015 respectively. Recommendations on antenatal interventions, exercise and other lifestyle issues that may be risk factors for overweight/obesity will also be considered in a later process.

Additional analyses
Some of the questions may be better addressed by re-analysis of child nutrition surveys such as Demographic and Health Surveys (DHS) and Multiple Indicator Cluster Surveys (MICS) datasets as published literature may not have analysed or reported data in a manner that assesses the question. This is particularly relevant for question 1. below.

2 Supplementary foods are specially formulated foods, in ready-to-eat or in milled form, which are modified in their energy density, protein, fat or micronutrient composition to help meet the nutritional requirements of specific populations. Supplementary foods are not intended to be the only source of nutrients and are different from complementary foods, in that the latter are intended for progressive adaptation of infants 6 months of age and older to the food of the family. They are also different from food supplements, which refer to vitamin and mineral supplements in unit dose forms such as capsules, tablets, powders or solutions, where national jurisdictions regulate these products as food. Supplementary foods have been used to rehabilitate moderately malnourished persons or to prevent a deterioration of nutritional status of those most at risk by meeting their additional needs, focusing particularly on children 6-59 months of age, pregnant women and lactating mothers. Examples of supplementary foods include fortified blended foods, which can be used to prepare smooth, ready-to-eat porridges, and lipid-based nutrient supplements.