

September 2023: This scope was amended to add a new review question (2.2b) about healthy lifestyle interventions for gestational diabetes.

## NATIONAL INSTITUTE FOR HEALTH AND CARE EXCELLENCE

### Guideline scope

# Maternal and child nutrition: nutrition and weight management in pregnant women, and nutrition in children up to 5 years

This guideline will update and amalgamate:

- the NICE guideline on maternal and child nutrition (PH11) **and**
- the recommendations on weight management during pregnancy in the NICE guideline on weight management before, during and after pregnancy (PH27). (Note that the recommendations on weight management before and after pregnancy will be covered in a separate guideline.)

The guideline will be developed using the methods and processes outlined in [developing NICE guidelines: the manual](#).

The [NICE quality standard on improving maternal and child nutrition](#) may need to be revised or updated when this guideline is published.

## 1 Why the guideline is needed

A pregnant woman's nutritional status and weight before, during and after pregnancy influences the growth and development of their child, as well as their own short- and long-term health. They need sufficient energy, macronutrients and micronutrients from their diet, as well as from body reserves.

Supporting women to adopt a healthy diet and to achieve and maintain a healthy weight during pregnancy will provide important benefits to their future health. Likewise, ensuring that babies and pre-school children have the best possible nutritional start in life is vital to their growth and development (see the [Scientific Advisory Committee on Child Nutrition \[SACN\] Early Life Nutrition report](#), the [SACN Feeding in the first year of life report](#) and [Public Health England's Giving every child the best start in life](#)). Child nutrition includes providing milk, age-appropriate solid food and necessary supplements at the right times and for the right duration, at home or in early years settings. The [SACN report \(2018\)](#) considered many areas of public health nutrition in the first year of life, including breastfeeding, introduction of solid foods including potentially allergenic foods, diversification of the diet, and oral health, but there are still areas of variation regarding implementation and uptake of advice. In addition, the updated [NICE guideline on postnatal care](#) includes recommendations on baby feeding that cover the antenatal period as well as the first 8 weeks after the birth.

### **Key facts and figures**

Over half of women giving birth in England from 2015 to 2017 were of an unhealthy weight:

- 28.4% had a body mass index (BMI) of 25.0 to 29.9 kg/m<sup>2</sup> (considered overweight)
- 21.3% had a BMI of 30.0 kg/m<sup>2</sup> or over (considered obese)
- 2.8% had a BMI of less than 18.5 kg/m<sup>2</sup> (considered underweight).

The likelihood of an adverse maternal outcome, or serious complications for the baby after birth, increases as BMI increases (as seen in the [National Maternity and Perinatal Audit \[NMPA\]](#)).

There is clear evidence of a social gradient. The NMPA showed that women living in the most deprived areas were more likely to be those living with underweight or obesity.

There is no national, evidence-based guidance on appropriate weight gain during pregnancy. The US Institute of Medicine recommends different levels of gestational weight gain, depending on pre-pregnancy BMI.

It is estimated that up to 45% of pregnancies in the UK may be unplanned, which has an impact on poor preconception health; including low uptake of preconception folic acid supplements (only around 31% of women take folic acid before pregnancy).

Although 81% of women in the UK start breastfeeding their baby, by 6 weeks only 55% of women are still doing so. Increasing the proportion of women who continue to breastfeed or express breast milk beyond 6 months of age would yield additional health benefits. Therefore, more focus is needed on helping women to continue breastfeeding for longer.

### **Current practice and why this update is needed**

There is uncertainty about whether the recommended folic acid dose before and during the first 12 weeks of pregnancy should be higher for women living with overweight or obesity (BMI over 30 kg/m<sup>2</sup>).

For all adults (including pregnant and breastfeeding women), the UK Government recommends a daily 10 microgram vitamin D supplement. Concerns have been raised whether this is sufficient for pregnant women living with overweight or obesity.

Pregnant women have their weight measured at their first antenatal appointment, but there is no agreement on suggested weight gain during pregnancy. There is new evidence from published studies, topic experts and internal surveillance by NICE (see the [NICE surveillance reports for the maternal and child nutrition guideline](#) and the [weight management before, during and after pregnancy guideline](#)), which indicates that nutritional and lifestyle interventions during pregnancy may be beneficial for pregnancy outcomes and beyond.

For babies and children up to 5 years, the UK Government recommends a daily supplement containing vitamins A, C and D however there is currently poor uptake of this advice.

This guideline will focus on recommendations to support best practice between practitioners working in maternal and child nutrition and mothers and families of young children. It will not focus on service organisation and will be informed by existing government advice in this area.

## **2 Who the guideline is for**

This guideline is for:

- healthcare professionals working in the NHS who are responsible for maternal and child nutrition (for children from birth to 5 years), including midwives, obstetricians, health visitors, dietitians, public health nutritionists, primary healthcare professionals, general practitioners, community paediatricians, school and community nurses, dentists and dental professionals and pharmacists
- commissioners of community and secondary antenatal and postnatal care services, weight management and activity or exercise services, and primary care services
- providers of pre-school education and care services and early years settings
- women who may become pregnant and pregnant women, and their partners
- families, carers, partners, people who look after babies and children up to 5 years, and the public.

It may also be relevant for:

- social care practitioners
- local authorities
- other organisations providing advice and support about maternal and child nutrition (for example, voluntary groups or private providers).

NICE guidelines cover health and care in England. Decisions on how they apply in other UK countries are made by ministers in the [Welsh Government](#), [Scottish Government](#), and [Northern Ireland Executive](#).

## Equality considerations

NICE has carried out [an equality impact assessment](#) during scoping. The assessment:

- lists equality issues identified, and how they have been addressed
- explains why any groups are excluded from the scope.

The guideline will look at inequalities relating to:

- age-related service assumptions, particularly around young women and older women
- socio-economic status, particularly around those experiencing food insecurity and economically vulnerable groups
- different ethnic groups
- religious and cultural considerations
- women and parents with disabilities, physical and mental health conditions
- women going through assisted conception
- LGBT+ women and parents
- geographical location, particularly in relation to access to primary care services.

## 3 What the guideline will cover

### 3.1 Who is the focus?

#### Groups that will be covered

- Women during a single or multiple pregnancy (weight management and nutrition),
- Breastfeeding women (uptake of vitamins and maintaining breastfeeding)
- Preconception in relation to folic acid supplements only.
- Babies and children from birth to 5 years and their parents and carers.

Breastfeeding will only be covered from 8 weeks after birth. Feeding up to 8 weeks is covered in the [NICE guideline on postnatal care](#).

We will give specific consideration to women living with underweight, overweight or obesity during pregnancy. Other specific considerations are set out in the [equality considerations](#). These are likely to be identified on a case-by-case basis in relation to specific review questions.

This guideline will use the terms 'woman' or 'mother' throughout. These should be taken to include people who do not identify as women but who are pregnant or have given birth. Similarly, when the term 'parents' is used, this should be taken to include anyone who has main responsibility for caring for a baby or child.

## **3.2 Settings**

### **Settings that will be covered**

All settings where publicly funded maternal and child nutrition assessment, advice and support is provided.

## **3.3 Activities, services or aspects of care**

### **Key areas that will be covered in this update**

We will look at evidence in the areas below when developing the guideline. We will consider making new recommendations or updating existing recommendations in these areas only. It may not be possible to make recommendations in all the areas.

- 1 Vitamin supplementation.
- 2 Weight management and healthy eating during pregnancy.
- 3 Breastfeeding and formula feeding.
- 4 Healthy eating behaviours in children up to 5 years.

This guideline will also link to any relevant recommendations on dietary advice, allergies and oral health in other NICE and government guidance.

Note that guideline recommendations for medicines will normally fall within licensed indications; exceptionally, and only if clearly supported by evidence, use outside a licensed indication may be recommended. The guideline will assume that prescribers will use a medicine's summary of product characteristics as well as appropriate resources for safe medicine use and prescribing for pregnant and breastfeeding women, in line with the [NICE guideline on postnatal care](#), to inform decisions made with individual patients.

### **Areas from previous guidelines that will be updated or removed**

This table sets out how the recommendations in the [NICE guideline on maternal and child nutrition](#) and the [NICE guideline on weight management before, during and after pregnancy](#) will be updated or removed (stood down).

NICE supports the implementation of UK Government advice about nutrition and will reference this in the guideline when relevant.

### Areas from previous guidelines that will be updated or removed

Key area in Maternal and child nutrition guideline (PH11)	Action
Training	Remove. NICE supports the implementation of professional training standards by relevant health and social care professional organisations in this area.
Folic acid	Review the evidence on: <ul style="list-style-type: none"> <li>• the groups of women who should be advised to take high-dose folic acid supplements (in line with government advice) before and during the first 12 weeks of pregnancy</li> <li>• folic acid supplementation before and during the first 12 weeks of pregnancy for women living with overweight or obesity</li> <li>• improving uptake of folic acid for all women before and during the first 12 weeks of pregnancy.</li> </ul>
Healthy Start (and vitamin D)	Review the evidence on: <ul style="list-style-type: none"> <li>• vitamin D supplementation during pregnancy for women living with overweight or obesity</li> <li>• improving uptake of Healthy Start vitamin supplementation for pregnant women, breastfeeding women, babies and children up to 5 years</li> <li>• improving uptake of healthy eating advice in children up to 5 years to promote healthier growth (see also the changes to the recommendations on child health promotion).</li> </ul>
Diet in pregnancy	<ul style="list-style-type: none"> <li>• Review the evidence on improving uptake of healthy eating advice during pregnancy.</li> </ul>
Obesity	This area will be updated in 2 different guidelines. Obesity during pregnancy will be updated in this guideline. We will look for evidence on: <ul style="list-style-type: none"> <li>• what gestational weight gain is healthy and appropriate during pregnancy</li> <li>• what interventions help women manage their weight during pregnancy.</li> </ul> Obesity in all other groups will be updated in the <a href="#">NICE guidelines on weight management</a> .
Breastfeeding	Link to the recommendations on breastfeeding in the <a href="#">NICE guideline on postnatal care</a> , which covers babies up to 8 weeks. Review the evidence on approaches and interventions to support and maintain breastfeeding beyond 8 weeks, including interventions to support continuation of breastfeeding when returning to work or study.



Key area in Maternal and child nutrition guideline (PH11)	Action
Link workers	Remove. This area is covered by the NICE guideline on patient experience in adult NHS services.
Infant formula	<p>Link to recommendations on formula feeding in the <a href="#">NICE guideline on postnatal care</a>, which covers babies up to 8 weeks.</p> <p>Review the evidence on what parents perceive to be the facilitators and barriers to the use of existing guidance on safe and appropriate formula feeding.</p>
Prescribing	<p>It is standard practice that clinicians follow the British National Formulary (BNF) and BNF for children (BNFC) when prescribing. The guideline will assume that prescribers will use appropriate resources for safe medicine use and prescribing for pregnant and breastfeeding women, to inform decisions made with individual patients. In addition, we will consider if we can retain reference to these recommendations.</p>
Child health promotion	<p>Link to recommendations in the <a href="#">NICE guideline on postnatal care</a>, which covers weighing babies up to 8 weeks.</p> <p>Review the evidence on:</p> <ul style="list-style-type: none"> <li>• improving uptake of vitamin supplementation for babies and children up to 5 years</li> <li>• improving uptake of healthy eating advice in children up to 5 years to promote healthier growth</li> <li>• maintaining breastfeeding after 8 weeks, including interventions to support continuation of breastfeeding when returning to work or study.</li> </ul> <p>We will retain recommendations on weighing healthy babies more than 8 weeks after birth.</p>
Allergies	<p>Remove.</p> <p>Link to the <a href="#">NICE guideline on food allergy under 19s: assessment and diagnosis and other UK government advice</a>.</p>
Oral health	<p>Remove.</p> <p>Link to the <a href="#">NICE guideline on oral health promotion for local authorities and partners</a> and the <a href="#">NICE guideline on oral health promotion for general dental practice</a>.</p>
Pre-school settings	<p>Review the evidence on interventions to improve uptake of healthy eating advice in children up to 5 years to promote healthier growth.</p>
Family nutrition	<p>Review the evidence on interventions to improve uptake of healthy eating advice in children up to 5 years to promote healthier growth.</p>
Key area in weight management guideline (PH27)	Action

Key area in Maternal and child nutrition guideline (PH11)	Action
Preparing for pregnancy: women with a BMI of 30 or more	No change as part of this update. This area will be updated by the <a href="#">NICE guidelines on weight management</a> .
Pregnant women	Review the evidence on managing weight during pregnancy and the expected range of gestational weight gain during pregnancy.
Supporting women after childbirth	No change as part of this update. This area will be updated by the <a href="#">NICE guidelines on weight management</a> .
Women with a BMI of 30 or more after childbirth	No change as part of this update. This area will be updated by the <a href="#">NICE guidelines on weight management</a> .
Community-based services	No change as part of this update. This area will be updated by the <a href="#">NICE guidelines on weight management</a> . Recommendations relating to pregnant women may be retained.
Professional skills	No change as part of this update. This area will be updated by the <a href="#">NICE guidelines on weight management</a> . Recommendations related to pregnant women may be retained.

Some recommendations may be retained from existing NICE guidelines. If retained, they may be edited to ensure that they meet current editorial standards and reflect the current policy and practice context. The new guideline will cross-refer when appropriate to other NICE guidance, such as the guidelines on postnatal care and antenatal care, intrapartum care, pregnancy and complex social factors, obesity prevention, weight management, eating disorders, diabetes in pregnancy, fertility problems and faltering growth.

### Areas that will not be covered by this update

- Population-based screening programmes.
- Specialist dietary interventions for women and children following a specific diet for a medical condition.
- National maternal and child nutrition policies that are already covered by the Department of Health and Social Care (advised by SACN) and the Food Standards Agency (advised by the Committee on Toxicity), such as

population-based dietary recommendations, national advice on food safety, the nutritional composition of infant formula and the fortification of foods.

- Interventions, information and support for breastfeeding and formula feeding of babies up to 8 weeks, as this is covered in the [NICE guideline on postnatal care](#).
- Weight management for women before and after pregnancy, as these are covered by the update to the [NICE guidelines on weight management](#).
- Weight management for children. Children aged over 2 years are covered by the update to the [NICE guidelines on weight management](#). Weight management for children under 2 years will not be considered by this guideline or the weight management guideline. It is felt that concerns in this area could be appropriately addressed by regular weight monitoring and by health professionals implementing existing advice on healthy eating behaviours in this population group.
- Care of preterm babies and low-birth-weight babies (defined by the World Health Organization as a birth weight less than 2,500 g).
- Complementary therapy.

## Related NICE guidance

### Published

- [Antenatal care for uncomplicated pregnancies](#) (2021) NICE guideline NG201
- [Postnatal care](#) (2021) NICE guideline NG194
- [Neonatal parenteral nutrition](#) (2020) NICE guideline NG154
- [Twin and triplet pregnancy](#) (2019) NICE guideline NG137
- [Hypertension in pregnancy: diagnosis and management](#) (2019) NICE guideline NG133
- [Intrapartum care for women with existing medical conditions or obstetric complications and their babies](#) (2019) NICE guideline NG121
- [Community pharmacies: promoting health and wellbeing](#) (2018) NICE guideline NG102
- [Faltering growth: recognition and management of faltering growth in children](#) (2017) NICE guideline NG75

- [Eating disorders: recognition and treatment](#) (2017) NICE guideline NG69
- [Oral health promotion: general dental practice](#) (2015) NICE guideline NG30
- [Coeliac disease: recognition, assessment and management](#) (2015) NICE guideline NG20
- [Diabetes in pregnancy: management from preconception to the postnatal period](#) (2015) NICE guideline NG3
- [Gastro-oesophageal reflux disease in children and young people: diagnosis and management](#) (2015) NICE guideline NG1
- [Antenatal and postnatal mental health: clinical management and service guidance](#) (2014) NICE guideline CG192
- [Vitamin D: supplement use in specific population groups](#) (2014) NICE guideline PH56
- [Oral health: local authorities and partners](#) (2014) NICE guideline PH55
- [Weight management: lifestyle services for overweight or obese children and young people](#) (2013) NICE guideline PH47
- [Food allergy in under 19s: assessment and diagnosis](#) (2011) NICE guideline CG116
- [Atopic eczema in under 12s: diagnosis and management](#) (2007) NICE guideline CG57
- [Obesity prevention](#) (2006) NICE guideline CG43
- [Division of ankyloglossia \(tongue-tie\) for breastfeeding](#) (2005) NICE interventional procedures guidance IPG149

### **In development**

- [Weight management: preventing, assessing and managing overweight and obesity](#). NICE guideline. Publication expected June 2023.

### **NICE guidance about the experience of people using NHS services**

NICE has produced the following guidance on the experience of people using the NHS. This guideline will not include additional recommendations on these topics unless there are specific issues related to maternal and child nutrition:

- [Babies, children and young people's experience of healthcare](#) (2021) NICE guideline NG204

- [Medicines optimisation](#) (2015) NICE guideline NG5
- [Patient experience in adult NHS services](#) (2012) NICE guideline CG138
- [Medicines adherence](#) (2009) NICE guideline CG76

### **3.4 Economic aspects**

We will take economic aspects into account when making recommendations. We will develop an economic plan that states for each review question (or key area in the scope) whether economic considerations are relevant, and if so whether this is an area that should be prioritised for economic modelling and analysis. We will review the economic evidence and carry out economic analyses, using an NHS and personal social services (PSS) perspective, as appropriate. We will consider a wider public health perspective when relevant, if appropriate cost data are identified.

### **3.5 Key issues and draft questions**

#### **1 Vitamin supplementation**

1.1 Which groups of women should be advised to take high-dose folic acid supplements before and during the first 12 weeks of pregnancy?

1.2 What dose of folic acid supplementation before and during the first 12 weeks of pregnancy is needed for women living with overweight or obesity?

1.3 What approaches and interventions are effective to increase uptake of folic acid before and during the first 12 weeks of pregnancy.

1.4 What dose of vitamin D is appropriate during pregnancy for women living with overweight or obesity?

1.5 What approaches and interventions are effective to increase uptake of vitamin supplements (including Healthy Start vitamins) in line with government advice for pregnant women, breastfeeding women, babies and children up to 5 years?

- 2 Weight management and healthy eating during pregnancy
  - 2.1 What gestational weight gain is healthy and appropriate during pregnancy?
  - 2.2 What are the most effective and cost-effective interventions for helping women to achieve healthy and appropriate weight gain during pregnancy (for example, dietary interventions, regular weighing, physical activity)?
  - 2.2b What are the most effective and cost-effective healthy lifestyle interventions for women with gestational diabetes?
  - 2.3 What approaches and interventions are effective to increase uptake of healthy eating advice during pregnancy in line with government advice?
- 3 Breastfeeding and formula feeding
  - 3.1 What approaches and interventions are effective in maintaining breastfeeding after 8 weeks?
  - 3.2 What do parents perceive to be the facilitators and barriers for maintaining breastfeeding after 8 weeks?

Rather than conducting new evidence reviews, questions 3.1 and 3.2 will use the evidence reviews conducted for the [NICE guideline on postnatal care](#) (published April 2021), which covers babies up to 8 weeks.
  - 3.3 What do parents perceive to be the facilitators and barriers to following existing guidance on safe and appropriate formula feeding?
  - 3.4 What approaches and interventions help women returning to work and study to continue breastfeeding?
- 4 Healthy eating behaviours in children up to 5 years

4.1 What approaches and interventions are effective to increase uptake of appropriate and timely introduction to solids (complementary feeding)?

4.2 What approaches and interventions are effective to promote healthy eating behaviours in children up to 5 years (in line with government advice)?

The key issues and draft questions will be used to develop more detailed review questions, which guide the systematic review of the literature.

### **3.6 Main outcomes**

The main outcomes that may be considered when searching for and assessing the evidence are:

- starting and continuing breastfeeding
- change in maternal weight (for example, changes in BMI or waist circumference)
- child growth
- dietary intake (for example, energy and nutrient intake, and supplement intake)
- health-related quality of life
- measures of psychological wellbeing (for example, depression and self-esteem)
- perceptions of baby behaviours and preferences (for example appetite and food refusal)
- reaching developmental milestones
- morbidity (for example, gestational diabetes, pre-eclampsia, thromboembolism)
- adverse events.

## 4 NICE quality standards

When this guideline is published, we may revise or update the existing [NICE quality standards on maternal and nutrition, antenatal care and postnatal care](#).

### Further information

This is the final scope, which takes into account comments from registered stakeholders during consultation.

The guideline is expected to be published in November 2023.

You can follow progress of the [guideline](#).

Our website has information about how [NICE guidelines](#) are developed.

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