

**BMA**

# Child nutrition

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## About the author

### Dr Helen Crawley

Helen is a registered public health nutritionist and dietitian with over 30 years' experience in human nutrition, research, policy development and teaching. Helen is currently director of the public health nutrition charity First Steps Nutrition Trust and is honorary research fellow at the Centre for Food Policy, City University. First Steps Nutrition Trust is an independent charity that provides expert, evidence based resources on nutrition from pre-conception to five years and which provides resources for those working in UNICEF Baby Friendly accredited settings. Helen recently sat on a WHO scientific and technical group defining inappropriate marketing of foods for infants and children, lobbies at CODEX and in the EU for better standards for foods for infants and children, and has been on NICE panels on maternal and child nutrition and Healthy Start vitamins in the UK.

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1. According to your experience and observations in this field, has the overall state of infant and young child nutrition in the UK improved/stayed the same/worsened since May 2013? Why do you think this is?

The nutritional status of infants and young children in the UK remains similar to that in May 2013. However several separate aspects of this problem merit dissection and consideration.

### Data on nutritional intake and status of infants and young children

Assessing whether the nutritional health of infants and young children in Britain has changed or improved over the past 3 years is hampered by an increasing loss, or change, in data collection, and delays in publication of surveys and reports. The long awaited review from The Scientific Advisory Committee on Nutrition (SACN) on complementary and young child feeding and the evidence reviews commissioned for this report have still not been published, the UK wide Infant Feeding Survey for 2015 was cancelled and no national nutrition surveys of school meals are now undertaken. The National Diet and Nutrition Survey, while continuing, has a small sample of children aged 1.5-3 years (305 children took part in total in years 1-4) and this sample provides limited data on nutritional status as those providing blood samples is low (9% provided samples in the years reported to date).<sup>1</sup> Data from this survey therefore has to be viewed with some caution. There remains no national data collection on body weight for children in the pre-school years, although an opportunity now exists which is examined later.

### Infant feeding data

Information on infant feeding was collected quinquennially across the UK since 1970, providing a detailed picture of factors related to maternal behaviour and infant feeding across the first year of life. The Infant Feeding Survey 2015 was cancelled by the Government with no explanation, despite a 2014 review by scientific and professional bodies highlighting the importance of this study to demonstrate the impact of investment, policy change or information campaigns around infant feeding.<sup>2</sup> From October 2015 data in England will be collated through the CYPHS (Children and Young People's Health Services Dataset).<sup>3</sup> In England the only core data that will be collected will be NHS voluntarily collated infant feeding data at discharge from hospital and at 6-8 weeks. Data will now be presented in quarterly reports, although there is admitted difficulty in ensuring accuracy of data and number of returns, and these are still considered in development by NHS England. The latest quarterly data (Q1 2015/2016) reported that 73.8% women initiated breastfeeding, a slight drop from the previous 2 years, with variations from 46.3% in NHS Knowsley (Liverpool) to 92.8% in NHS Richmond (London). England however remains a bottle feeding culture, with only 45.2% of babies receiving any breastmilk at 6-8 weeks.

In Northern Ireland infant feeding statistics are collected from the Northern Ireland Maternity System (NIMATS) and from the Child Health System (CHS). Information on infant feeding is recorded by maternity services at birth and discharge, and recorded by health

visitors in the Professional Child Health Record (PCHR) at 10 days, 6 weeks, 3 months, 6 months and 12 months, but currently, this data is not available online. Information on breastfeeding at birth for **Wales** and its Health Boards is published annually using data from the [National Community Child Health Database](#) (NCCHD) and further data collection is planned. Breastfeeding rates in **Scotland** are monitored and published annually by NHS National Services Scotland. The latest breastfeeding statistics annual publication is available [online](#) and Scotland intend to set up their own Infant Feeding Survey to replace the cancelled UK-wide survey.

### **Progress on promoting breastfeeding through the UNICEF UK Baby Friendly scheme**

In 2012 The UNICEF UK Baby Friendly scheme published revised standards for maternity, neonatal, health visiting (or specialist public health nursing) and children's centre (or equivalent early years' community settings) services. These have been introduced over the past 3 years and settings are accredited to these from 2015. Currently 89% of maternity units and 83% of health visiting services are accredited or working towards accreditation. Regionally, 51% babies born in England, 60% in Wales, 84% in Scotland and 92% in Northern Ireland are born in a fully accredited setting. In Universities there are 81% of Midwifery programmes and 28% of Health Visiting programmes working towards the award and the first neonatal service assessments have been completed. This expansion of the scheme and outcomes are being evaluated. Recent data from Australia suggested that hospital practices such as UNICEF Baby friendly are strong predictors of exclusive breastfeeding<sup>4</sup> and a new summary of the evidence base for supporting this scheme was published in 2014.<sup>5</sup> Continued investment is needed for UNICEF Baby Friendly and community support programmes at a local level to ensure that the standards are sustainable in the long term and if we are to see gains in the number of women exclusively breastfeeding after hospital discharge.

### **Increasing evidence on importance of breastmilk for neonates**

There is increasing evidence indicating that substantial benefits in reducing neonatal mortality and morbidity can be achieved with effective promotion of early initiation of breastfeeding and exclusive breastfeeding during the first month of life.<sup>6</sup> There are considerable potential cost savings in encouraging greater skin to skin contact and breastfeeding among neonates.<sup>7</sup>

### **New data on diet and nutritional status of infants and young children 4-18m**

Data was collected on nutritional intakes and status of children 4m- 18m in 2001 for the Dietary and Nutritional Survey of infants and young children (DNSIYC) published in 2013 and this data was not reported in the previous publication. This data based on the diet diaries of about 2,500 children and blood measurements of around 1000, with 18% of the overall sample from black and minority ethnic groups. In general, children in DNSIYC were taller (i.e. longer), heavier and had larger head circumferences and subscapular skinfold thickness than the UK-WHO Growth Standard for their age and sex. This might be partially explained by the predominance of formula feeding in this group at the time of the survey. Only 2 children in this sample were exclusively breastfed at 6 months, with only 29% receiving any breastmilk during the 4-6 month period. Despite an FSA review published in 2010<sup>8</sup> claiming that there was no evidence that advertising of follow on formula might lead to parental confusion and infants under 6 months of age being given unsuitable follow-on formula, in this survey 32% of parents claimed to use this for their infants at 4-6m of age.

Complementary foods were introduced before the age of three months for 10% of children, and before five months for 75% of children. For 22% of children, foods were introduced at six months and 3% at seven months or more, showing an increasing delay in the introduction of solids in line with Government recommendations. Increasing recognition that readiness for solids (ability to sit up, reach out for food and put to mouth and swallow) is rarely seen before about 6 months of age. The need for more baby-led approaches to introducing solids has led to a change in approach to introducing foods alongside breastmilk (or infant formula) in the first year and a practical pictorial guide to explain this has been produced by the independent charity First Steps Nutrition Trust.<sup>9</sup>

In the DNSIYC sample 10-12% of infants and young children had very low intakes of iron (28% of those of South Asian origin had very low intakes as has been reported previously). 13% of children aged 5 -11 months and 15% aged 12 -18 months had haemoglobin concentrations below the lower reference limits. 7% of those aged 5 -11 months and 11% of those aged 12-18 months had low serum ferritin status. These figures are higher than previously reported, but similar to those found in other studies.

### **Childhood obesity**

The latest data from the National Child Measurement Programme (NCMP) in England for 2013-2014 (which was collected for 94% of children) reported that over a fifth (22.5%) of the children measured at reception age (4-5y) were either overweight or obese (22.2% in 2012-2013). The proportion of obese children (9.5%) was higher than in 2012-13 (9.3%). There are calls for better data collection on overweight in pre-school children and the new 2-2½ year review that is being implemented across health and social care in England from 2016 provides an opportunity for this.<sup>10</sup> Obesity is increasingly related to inequalities, with 12% of reception year children attending schools in areas in the most deprived decile now obese compared with 6.6% among those attending schools in areas in the least deprived decile. Similar data has been reported in Scotland for 2013-2014.<sup>11</sup> A recent paper from the Millenium Cohort Study looking at why poorer children are at higher risk of obesity and overweight concluded that both low physical activity and poor diet were significant factors and concluded that early interventions which take account of multiple factors are needed to reduce this gap.<sup>12</sup>

### **Oral health in the early years**

In 2014<sup>13</sup> it was reported that nearly 28% of five year olds in England had experience of tooth decay (in comparison with 31% in 2008) with variations across local authorities of 13% to 53%, with these children having on average 3 teeth affected. On average 12% of 3 year olds (ranging from 2-32%) had tooth decay, and this remained the most common reason for hospital admission in 5-9 year olds. Those living in deprived communities have poorer oral health than people living in richer communities, as do those in vulnerable groups including those with disabilities. This is however not inevitable as some areas have shown, and the Department of Health's public health outcomes framework (2013-16) now includes an indicator reporting 'tooth decay in five year old children' and have produced a toolkit to support this.<sup>14</sup>

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## 2. Are there any new or emerging issues relating to infant and young child nutrition that have come to light since May 2013?

### **New guidance on Vitamin D**

94% of children aged 5 to 11 months and 98% of children 12 months or over, had 25-hydroxyvitamin D (25-OHD) concentrations above the lower threshold for vitamin D adequacy in the national diet survey of infants and young children.<sup>15</sup> This compares to data from the NDNS that suggests that year-round, the proportion of children aged 1.5 to 3 years with a serum 25-OHD concentration below 25nmol/L at the time of venepuncture was 7.5% for children.<sup>16</sup> Vitamin supplement use in infants and young children in this survey was also low (5-10%). SACN published its draft report on Vitamin D and Health<sup>17</sup> in 2015 and the final report was published on 21 July 2016.<sup>18</sup> Recommendations for under-4s are given as safe intake rather than RNI, stating a paucity of data about serum vitamin D concentration in relation to current or long term health effects. The suggested safe intake for infants at 0-11 months is 8.5- 10µg/d for breastfed and non-breastfed infants, compared to the current figures of 8.5µg/day at 0-6m and 7µg/day at 7m-3y. For children 1-4 years 10µg/d is now recommended. Recommendations are also made that exclusively breastfed infants receive supplementation earlier, from birth rather than the existing 6 months of age. If these higher figures are adopted they will have an impact on the formulation of the Healthy Start vitamins that are currently offered free to families on low incomes nationally, but which are now free to all in some areas. A recent NICE expert group considered the cost-effectiveness of universal and targeted free Healthy Start vitamins to women in pregnancy and all children 1-4y<sup>19</sup> and the Chief Medical Officer is reviewing this. More information on Healthy Start is given on page 00.

### **Dietary Carbohydrates (including free sugar and dietary fibre)**

SACN published its report on *Carbohydrates and Health* in 2015<sup>20</sup> which made no quantitative recommendations for children under the age of 2 years but which recommended from about 6 months of age a gradual diversification of the diet to provide increasing amounts of whole grains, pulses, fruits and vegetables. It is recommended that the average intake of free sugars across the UK population should not exceed 5% of total dietary energy intake for age groups from 2 years upwards, and this is in line with current WHO recommendations.<sup>21</sup> This means that on average children aged 4-6 years should have no more than 19g free sugars/day. Increased intakes of dietary fibre are also recommended to 15g/day for children 2-5 years. Much of the reaction to current obesity issues focuses on reducing sugar in the diet, and a wide number of public health bodies are recommending a 'sugar tax' to encourage a reduction in intakes, particularly from sugar sweetened beverages (more information on childhood obesity strategies can be found on page 00).

### **Food poverty**

There is considerable concern that changes to benefits, benefit sanctions, irregular employment and hardship are contributing to an increase in food poverty, and poorer food choices among the poor in Britain, and the causes and consequences have been highlighted in a number of recent reports.<sup>22 23</sup> The Healthy Start scheme in the UK which provides food vouchers to young and low income pregnant women and low income families with infants and children up to the age of 4 years is intended as a nutritional safety net. Despite recommendations in the previous report, and new calls from NICE in 2015, the scheme is in decline and its future remains uncertain. Information about the Healthy Start scheme, practical resources to support families who are eligible to encourage better intake of fruit and vegetables, and information about how to support the scheme, can be found at [www.healthystartalliance.org](http://www.healthystartalliance.org). To access this benefit eligible families require the signature of a health professional, and it is essential that general practitioners who are likely to have contact with families, as well as midwives and health visitors are aware of, and encourage use of the scheme, which can increase the food budget of a low income family with a baby and young child by around 25%.<sup>24</sup> The welfare food scheme also provides all children in child care settings with 1/3 pint of milk free each day.<sup>25</sup>

### Free nursery places for 2 year olds

All 3-4 year olds in the UK are entitled to free nursery places and this was extended to 2 year olds from low income families (as well as those who are looked after, have disabilities or SEN statements) in 2014. The previous report highlighted the importance of Early Years settings as an opportunity to encourage eating well and there has been a large increase in availability of childcare places: 796,500 registered full day care places were available in 2013 which represents a 46% increase since 2006.<sup>26</sup> The *Voluntary Food and Drink guidelines for Early Years Settings in England* are currently being updated to reflect new dietary recommendations and to provide information for infants from 6 months to 1 year. These will be available in autumn 2016. Nutritional guidance and food standards for early years childcare providers in Scotland were updated in 2015.<sup>27</sup>

### Free school meals for key stage 1 children

Since September 2014 all key stage 1 children (reception-year 2) in England have received a free school lunch. In Scotland all children in P1-P3 received free school meals from January 2015. In Wales and Northern Ireland entitlement to free school meals is still means tested only.

### Iodine

There is increasing suggestion that some infants and young children may be vulnerable to low iodine status since the UK does not iodise its salt, and milk consumption in some population groups may be reducing.<sup>28</sup> Mild iodine deficiency impairs cognition in children, and moderate to severe iodine deficiency in a population reduces the intelligence quotient by 10–15 points.<sup>29</sup> Iodine supplementation pre-pregnancy may prevent this adverse effect on the intellectual development of infants and children.<sup>30</sup> The UK is now considered to be insufficient in iodine.<sup>31</sup> Pregnant women and their children who avoid cows' milk and cows' milk based products and do not eat fish, as well as those eating a vegan diet, are at particular risk of low iodine status and an expert group to review recommendations to specific population groups is needed as a matter of urgency.

### Folate

Failure to fortify flour with folic acid in the UK, despite longstanding support and increasing information as to the safety and efficacy of such fortification has again been recently highlighted.<sup>32</sup>

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### 3. Have any major academic studies about child nutrition been published since May 2013? If so, what were their key findings?

#### **EFSA opinion on essential composition of infant formula and follow-on formula**

In 2014 The European Food Safety Authority (EFSA) published its opinion on the essential composition of infant formula and follow-on formula.<sup>33</sup> Significantly this concluded that infant formula and follow-on formula used in the first year of life should be the same composition, with the exception of iron, but current infant formula provides amounts needed for the whole of the first year. WHO clearly stated in 2013 that follow on formula must be viewed as a breastmilk substitute, and that these milks are wholly unnecessary and unsuitable.<sup>34</sup> In addition EFSA clarified that a number of ingredients added by manufacturers to infant formula and follow-on formula to make claims are unnecessary and may be a burden on a young child's metabolism: these are arachidonic acid, eicosapentaenoic acid, non-digestible oligosaccharides (prebiotics), probiotics or synbiotics, chromium, fluoride, taurine and nucleotides, phospholipids as a source of long-chain polyunsaturated fatty acids instead of triacylglycerols, and palmitic acid predominantly esterified in the sn-2 position. For follow-on formulae, the addition of L-carnitine, inositol and choline is also not necessary. During 2016 new delegated acts will pass through the EU parliament to update the regulations on composition, labelling and marketing of infant formula, follow on formula and milks classified as foods for special medical purposes. It is hoped that these will better reflect the WHO Code of Marketing of Breastmilk Substitutes and subsequent WHA resolutions in protecting families from inappropriate marketing. Regularly updated information on the composition of all infant formula, follow-on formula and milks marketed as foods for special medical purposes in the UK can be access from the charity First Steps Nutrition Trust ([www.firststepsnutrition.org](http://www.firststepsnutrition.org)) which partners with UNICEF UK Baby Friendly to ensure health professionals do not need to use any resources or information provided by baby feeding companies.

#### **Healthy weight, healthy nutrition**

A significant number of papers have been published considering factors associated with childhood obesity, of note are those from longitudinal studies. In 2015 a review of early childhood factors impacting on adiposity at 6 years from data collected as part of The Southampton Women's Survey<sup>35</sup> concluded that it is the continued exposure to diets of low quality (characterised by energy dense high fat foods and a lack of fruits and vegetables) across infancy and the early years that is linked to adiposity. This has also been reported in a number of other studies across the developed world, but this study highlights the importance of very early diet, indicating that dietary public health initiatives starting in the first year are needed. Since the last report a new model of health visiting has been introduced which requires each family to have a minimum of 5 statutory visits, including one antenatally, with 6 priority areas of work, one of which is Healthy Weight, Healthy Nutrition and Physical Activity.<sup>36</sup> Resources and training to support health visitors to provide families with better nutrition information and to support behaviour are available from The Institute of Health Visiting ([www.ihv.org.uk](http://www.ihv.org.uk)), a new independent professional organisation for health visitors set up since the previous report.

#### **What works to improve dietary intake of 0-3 year olds?**

A systematic review of the consequences and determinants of poor nutrition in children aged 0-3 years, and the public health interventions that may improve dietary intake has suggested a number of approaches and components of effective interventions.<sup>37</sup> These include repeated tasting of foods, parental modelling, use of rewards, moderate restriction of unhealthy foods alongside an increase in portion sizes of fruits and vegetables, culturally appropriate messages and a culturally acceptable health care provider, sufficient intensity of intervention and an intervention which targets parental self-efficacy and modelling. Interventions which provide home visits, financial incentives and/or mobile phone reminders may increase retention, and recruiting mothers into programmes whilst they are pregnant may improve recruitment and retention rates.

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#### 4. Have any new policies or guidelines been issued about infant and young child nutrition since May 2013? If so, what effect have they had in practice overall?

In summer 2015 NICE produced *Quality Standards* (QS98) to support maternal and child nutrition, with 6 statements of key priorities for action<sup>38</sup>. Four of the statements related to infant and young child health, one referred to better support for breastfeeding, two referred to better support and practical guidance for those eligible for the welfare food scheme 'Healthy Start', and one to better provision of information and support on the introduction of solid foods at about 6 months of age. NICE have also produced quality standards and clinical guidelines about a number of topics relevant to infant and child nutrition since the last report: Postnatal care;<sup>39</sup> Gastro-oesophageal reflux disease in children and young people;<sup>40</sup> Constipation in children and young people;<sup>41</sup> Obesity in children and young children: prevention and lifestyle weight management programmes;<sup>42</sup> Weight management: lifestyle services for overweight or obese in children and young children.<sup>43</sup> A number of guidelines are currently in preparation including Faltering Growth: recognition and management of faltering growth in infants, due for publication in 2017.

In 2014 it was agreed that the 2008 NICE public health guidelines on maternal and child nutrition should be updated once the SACN review on complementary and young child feeding and a number of other relevant studies had been published, delay of these reports means that this review will also now be delayed, impacting on decision making in local authorities who now are responsible for commissioning services in the early years.

In August 2016, *Childhood Obesity: A Plan for Action*<sup>44</sup> was published by the UK Government, a much smaller document than the much anticipated Childhood Obesity Strategy. The plan reiterates the need for a tax on sugary beverages but encourages voluntary change in the food industry and almost all public health advocacy groups have labelled this as feeble. Unlike the WHO Commission on Ending Childhood Obesity, it contains few measures relevant to the early years. The WHO guidelines highlight the need for implementation of regulatory measures such as the *International Code of Marketing of Breastmilk Substitutes* and subsequent WHA resolutions, education to both families and the community at large and regulatory measures such as protected maternity leave and facilities for breastfeeding in the workplace to protect, promote and support breastfeeding. They recommend that clear advice is given to avoid sugar sweetened beverages including sweetened milk and fruit juice and energy-dense nutrition-poor foods, as well as ensuring clear guidance on appropriate complementary and early childhood feeding and portion sizes as well as strengthening provision of food in child care settings. In May 2016 the WHA accepted a resolution<sup>45</sup> to encourage Member States to end the inappropriate promotion of foods to infants and young children in order to further protect infant and young child feeding. These global responses are as relevant in the UK as elsewhere, and most health bodies in the UK including the BMA are calling for urgent actions such as a restriction on marketing and sponsorship related to foods high in fat, salt and sugar and taxation of sugar sweetened beverages.<sup>46</sup>

None of these new policy actions have been in place long enough for any measurable change to be known.



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## Recommendations

The recommendations in the previous report remain valid, but can be strengthened and expanded in the following ways:

1. Pressure needs to be placed on those Government agencies who commission surveys and studies to ensure that we continue to have suitable information to monitor the nutritional health of our infants and children and can monitor the impact of policies and initiatives.
2. Health departments in England, Scotland, Wales and Northern Ireland should bring into regulation those international codes and resolutions they have signed up to as part of their commitments to the Convention on the Rights of the Child, to protect all infants and young children from inappropriate marketing of foods and drinks, in particular infant formula, follow on formula and other infant milks.
3. Continued and expanded support for the UNICEF UK Baby Friendly Initiative in both maternity, community and educational settings is essential to ensure it can be sustainable in the long term.
4. All local authority areas should implement the NICE Quality Standards on maternal and child health as a minimum, and ensure that any resources or programmes they use remain independent of the baby feeding industry. A summary of independent organisations providing information, and those to avoid can be found here [www.firststepsnutrition.org/newpages/Infants/websites\\_and\\_organisation.html](http://www.firststepsnutrition.org/newpages/Infants/websites_and_organisation.html)
5. Practical food and nutrition guidelines for Early Years settings should be supported across the UK and adherence to these guidelines monitored through OFSTED inspection.
6. Health Visitors are now the largest public health workforce in the UK with their services commissioned by Local Authorities, and therefore supporting training to ensure they can fulfil the requirements of the new health visiting model around healthy weight, healthy nutrition and physical activity is essential.
7. Support needs to be given to agencies such as the Academy of Royal Medical Colleges in their specific identification of how well health care professionals are being trained in the measurement, identification and effective treatment of nutritional problems in infants and young children.
8. All health professionals should ensure they know how to support eligible families to access Healthy Start vouchers and to use them effectively to improve their families' diet.

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