

## Project report on child malnutrition in the UK

### (a) Introduction

The Patients Association, sponsored by Abbott Nutrition, began a project in February 2014 to:

- examine whether the issue of malnutrition amongst children is a growing problem,
- determine whether existing methods of detection of malnutrition amongst children are adequate, and
- develop suggestions for a joined up approach to tackling the issue.

This project focuses specifically on the ability of the primary, acute and public health sectors to identify and then combat malnutrition wherever it exists. The project will also consider the issue of education, and raise awareness amongst key stakeholders, including NHS England, Department of Education and others.

To understand the current issues surrounding child malnutrition in the UK, the Patients Association has:

- undertaken a desktop review of current published research in the UK
- held a set of one-to-one qualitative interviews
- convened a roundtable of experts within the field

Following the development of recommendations from these activities, the next step is for the Patients Association to establish an expert advisory panel to determine how best to implement these recommendations. This report outlines the work done so far.

### (b) Overview of malnutrition in UK children

UK media attention on the issue of malnutrition amongst children has traditionally, although not exclusively, focused on malnutrition in the developing world.

However malnutrition in children remains a problem at home. There are clearly broader political and socio-economic factors that impact on the level of child malnutrition in the United Kingdom beyond health education. Recent figures suggest that amongst hospitalised children in the UK, 16% were severely stunted, 14% wasted and 20% at risk of severe

malnutrition<sup>i</sup>. Additionally the National Child Measurement Programme determined that 11,317 children in the United Kingdom are classed as underweight in 2010.<sup>ii</sup>

In 2012 the children's charity 'Kids Company' published a report that detailed a huge demand for their food services from children in London.<sup>iii</sup> There has also been a significant increase in the use of food bank services, with the Trussell Trust reporting that it has issued over 300,000 food packages in the last twelve months.<sup>iv</sup>

A survey conducted in 2012 by YouGov also found that 48% of teachers said that they regularly witnessed pupils in their school who were suffering from malnutrition.<sup>v</sup>

### **Impacts of child malnutrition**

Children who suffer malnutrition in the long term suffer from issues with both growth and cognitive function (*Food for Thought, Save the Children, 2013*)<sup>vi</sup>. Children are more likely to contract infections due to poor nutrition, including gastrointestinal infections. A gastrointestinal infection can then compound the issue, given that nutrients are then less likely to be absorbed properly. As such, malnutrition combined with infection can undermine a child's growth, and in the long term, can undermine brain development, causing delays in motor and cognitive functions.<sup>vii</sup>

### **(c) Current research**

A desktop exercise was carried out to identify the published research in the UK.

There is limited research focused on child malnutrition. Currently the weight and level of micronutrients are used as indicators of malnutrition. The screening and measurement of malnutrition appears to be heavily resting on the weight percentile and BMI. The National Child measurement programme<sup>viii</sup> appears to be the only significant initiative which identifies the prevalence of childhood malnutrition but its focus is heavily on child obesity. This is understandable due to the fact that the current policy drive is to combat the overweight and obesity figures in children in the UK. The study identified just under 1% of children were underweight in reception years and just over 1% in the year 6 cohort. While this initiative aims to capture the issue of malnutrition in schools, and through health visitors, there is a concern that due to the reduction in school nurses and health visitors, there is a significant impact on the identification of malnutrition in children.

We found that the main tools to identify malnutrition are weight measurement and a growth chart. However there is considerable variation in where these measurements take place. Usually when a child presents with a health problem the weight and height measurement is undertaken to rule out any nutrition related problems. Two key tools identified by the Royal College of Nursing are STAMP (Screening Tool for the Assessment of Malnutrition in Paediatrics) and PYMS (Paediatric Yorkhill Malnutrition Score).<sup>ix</sup>

The policy initiative above suggests that for under 5s the health visitors would identify any concerns about nutrition, and for the over 5s the school nurses would be responsible for monitoring the children attending school.

The key tools identified although local are food diaries and questionnaires (Peach Project, Bristol University)<sup>x</sup>, Strong Kids (USA)<sup>xi</sup>, and the Paediatric Yorkhill Malnutrition score (Scotland)<sup>xii</sup>.

## **(d) Expert interviews**

We identified stakeholders who are experts in this area and conducted in depth telephone interviews to identify the key issues in identifying and managing child malnutrition in the community. The experts identified were from policy, practice and academic fields, given our view that the improvements in this area will be achieved only with a joined up approach to avoid gaps in service. This is a theme that has been identified in several of our interviews.

The interviewees were:

- **Prof Atul Singhal**, Professor of Paediatric Nutrition, Institute of Child Health, UCL
- **Jessica Williams**, British Dietetic Association
- **Dr Sue Protheroe**, British Society for Paediatric Gastroenterology, Hepatology and Nutrition
- **Angela Donkin**, Senior Advisor, Institute of Health Equity, UCL
- **Keith Clements**, Policy Officer, National Children's Bureau
- **Dr Sarah O'Callaghan**, Retired GP

The key points from the interviews conducted were:

### **Prevalence and focus**

- Child malnutrition is a problem but the current policy focus is more on obesity
- Concerns about lack of consistent definition
- There are inequalities across geographical areas and economic groups but no robust data
- There are no NICE guidelines for child malnutrition, unlike for adults
- Need to have more robust tools for measuring prevalence

### **Awareness amongst public and professionals**

- Need more emphasis on educating public and professionals on child malnutrition
- Lack of awareness among GPs about nutrition issues
- GPs are slow at picking up cases and 80% are being missed in the community
- There is a role for GPs, practices should have a GP with special interest in children
- Primary care can learn from good practice in secondary care
- Concerns about the number of school nurses and health visitors

### **Screening, measurement and recording**

- When children are admitted to secondary care with conditions they are screened and monitored for malnutrition. There are good practices in hospitals
- Growth charts are not being recorded
- Children under 4 are being monitored through the red book (Personal Child Health Record) but it is variable
- Concerns about monitoring from the age of 4 years onwards
- Concerns about sharing the data
- Need to look at other sources of data such as GP prescribing

## **Wider joint working approach**

- There is a role for Public Health England
- Role for the local authority both for public health campaigns but also for looked after children
- Charities such as Barnardo's, Salvation Army and Centre Point who look after vulnerable children must be included in this work
- Social care organisations working on poverty have a contribution to make
- Issues relating to rural areas where transport is a problem can impact on food habits
- Regulator has a role
- Research can play a part in ensuring proper growth charts, better screening tools and assessing the impact of deficiency in vitamin D and iron. Royal Colleges can take the lead.

## **(e) Roundtable event in June 2014**

Following the expert interviews, it was decided to hold a roundtable to obtain a wider range of perspectives, and consolidate the learnings so far into a set of recommendations for future action. The roundtable event was held on the 25<sup>th</sup> June 2014, arranged by The Patients Association and made possible by an educational grant from Abbott Nutrition.

The aims of the session were:

- To determine the extent to which malnutrition in children is a problem nationally;
- To investigate whether present procedures and detection mechanisms are sufficient;
- To promote joined up thinking amongst the various agencies responsible for tackling this problem.

The notes of the discussion are below, organised into themes.

### **1. Prevalence, Screening and Measurement**

Following introductions the Chair began the session suggesting there was a need to get nutrition seen as a public health issue and not just a concern for dietitians. The group was asked for their views about what was meant by the concept of malnutrition today, from the perspective of the clinicians, what was it that they were seeing in their practice which indicated the presence of malnutrition in children.

Over-nutrition and under-nutrition were both reported. There was a large volume of patients currently being seen with rickets/vitamin D deficiency for example in Liverpool. Small numbers of very obese children were being seen by clinical services and a smaller group were seen with under-nutrition.

The social determinants of nutrition are harder to pick up and there is a greater need in this area in terms of gathering data. Primary malnutrition, where children are not fed properly is easier to identify and to measure compared to secondary malnutrition. It was reported that in the West London area there is not enough attention paid to obesity and it is not seen in hospitals.

However, it was agreed that the focus for our activity should be on child under-nutrition, which has strong social determinants. There is a social gradient; poor children are more

likely to be obese, poor children are malnourished. This is a mark of deteriorating socio-economic conditions.

Malnutrition can also be caused by disease or illness. Children might become malnourished, for instance, when they have an infection, an injury or have had surgery, or because they have reduced their food intake due to pain or difficulties with swallowing.

There is also an issue around measurements used for reporting cases of malnutrition. It was suggested that hospital statistics are not the right measure to give an accurate picture of the spectrum of malnutrition. Hospital Episode Statistics (HES) data measure attendances and are not about specific conditions such as rickets. Obesity for example is much easier to diagnose as it is visible.

The National Child Measurement Programme now has data for 90% of all children. It shows a massive obesity problem and tells us there is a specific need to think slightly differently about under-nutrition. The National Child Measurement Programme has collected data since 2006 and is able to track trends in obesity and diabetes but there has been little change seen in the number of children classified as underweight but the data is difficult to interpret.

The child weight measurements undertaken in schools are now available for reception and Year 6 children; this is the first cohort for which both measurements are now available. However, it was felt that opportunities are missed at the time the child weight measure is made. Supporting children from six months of age presents the best opportunities for working with families. Development checks for 2 year olds are also due to be introduced.

In addition to rickets there were other conditions and markers of under-nutrition which were often highlighted by parental concern including the “abnormalisation” of the skinny child. There are huge anxieties about under-nutrition therefore raising the issue of the importance of early diagnosis.

The UK has a high number of neural tube defects and congenital cardiac disease compared to the rest of Europe due to folic acid deficiency in pregnancy.

There is no whole population screening for malnutrition. It might be the case that paediatric case finding is the method of detecting accurate data. Other proxy measures might include dental decay for dietary quality and also to look at data about what is sold through marketing practices from the food industry. It was suggested that we could be cleverer than using data as the starting point. Changes in diet could be observed and there has been a reduction in the consumption of fruit and vegetables over the last few years.

A round up of this discussion concluded that the group had defined malnutrition but had also brought more information for discussion. Obesity was considered to be the "big driver". It was suggested than one option might be for the provision of vitamin drops for the whole population such as in some areas of Liverpool. It was agreed that it was difficult to separate malnutrition and obesity. The Healthy Start Programme was thought to be a good programme for vitamin supplements but this is not a universal programme. Universal supplementation was considered to be an important point.

## 2. Raising awareness and staff training

Micronutrient deficiency is also seen as well as rickets as a socio-economic problem. Micronutrients were defined as under 100 micrograms per day of folic acid, vitamin D, zinc and vitamin A. An example was given of a case of rickets being missed by a GP which was later diagnosed by a paediatrician leading to the need to access urgent care. Rickets presents randomly and generally GPs do not have good awareness about the symptoms of rickets because they are not expecting to see it and they have not learnt about it at medical school.

A recent letter to the BMJ had highlighted a rise in the number of people using food banks, which is thought to correlate with the rise in hospital admissions due to malnutrition.

Evidence of micronutrient deficiency is being seen across all age ranges across all areas and has doubled since 2006. There is a problem in trying to interpret trends in hospital admissions and it is difficult to determine whether this is a real increase or whether people are becoming more aware of the problem.

Campaigns to change behaviour are needed. Government advice suggests that all children below the age of five are given vitamin D supplements but uptake is very low – just a few per cent because there is no vehicle to support it.

Data from the Trussell Trust has shown an exponential rise in the number of children accessing emergency food aid. Looking at HES data for admissions to hospital shows an increase in admissions to hospital related to child and adult malnutrition.

Some research from Oxford is looking at clinical malnutrition and the extent of discussions about dietary habits with patients.

The Salvation Army deals at the sharp end providing support for people who are homeless. There is concern about poor nutrition amongst this group many of whom are alcohol dependent. Salvation Army food banks are seeing an increasing number of people coming to them for help.

Discussion about identifying the gaps in these measures then took place. There are gaps in the population groups – geographically there are places where we have no data about what is happening.

It was felt that there was no data available that could demonstrate the extent of the problem of child malnutrition, and that there were some tools available but the numbers were small. There is missing data, for example, there is no data for families in the low-income spectrum. Therefore the national programme is not picking up all the cases. The national programme potentially picks up children in school. There is a need to look at family contact which has relevance for children. Some families as they come under pressure may spend more on alcohol and therefore less on food. It was also noted that some children from wealthy families are undernourished.

Some queried whether survey data was what was needed for some problems and it was questioned whether there were any issues with the data that might help experts to

understand it better. It was agreed that READ code data from primary care was not of good quality.

Health Visitors screen children through the 'First 1,000 days' initiative. It was thought that health visitor knowledge of child malnutrition should be good but this is not always the case and it was reported that their advice is not always consistent with government advice. Other professionals also have a dietary aspect to their role and it was suggested that paediatricians should be doing this - and that it could be considered negligence if they did not. For health visitors this work is their core role. Suggestions were made about the involvement of fire and rescue services doing public health work for example in peoples' homes - when they carry out safety checks they could talk about or remind people about flu immunisations and have access to the database of vulnerable adults as part of their extended role. Another suggestion made was that the RSPCA records of animal abuse might correlate to incidences of wife and child abuse.

Dentists and pharmacists also have a key role in nutrition as well as teachers and staff in nurseries. It was agreed that it was necessary to make public health everybody's business. There was a belief that teachers sourced their nutrition advice from women's magazines. Health visitors were not considered to be as experienced and well-trained as public health practitioners. There was also inadequate baseline training for the medical profession.

Messages need to be consistent as currently there is a lot of poor advice. Doctors require further support and training to develop their skills as providers of nutritional information.

The provision of school meals was considered to be a good place to initiate good and healthy eating. This was a possible target area. The eatwell Plate is a good teaching tool. There should be campaigns about eating fruit and vegetables. The army and prisons have good nutrition strategies. Food vouchers (as in the personalisation agenda) were not considered to be very helpful. Giving people control is not the answer because people have lost the skills.

### **3. Wider links and joined up approach**

There should be wider linking and joining up. More work is needed linking school teachers and wider healthcare professionals. Schools and public healthcare professionals need to work together more. The lottery funded "Let's get cooking" programme was successful in teaching families about nutrition. Drivers for change might include immunisation uptake.

A NICE Guideline on nutrition support in children is needed and this should include a method of detecting hard to reach children. There was however a suggestion that a NICE Guideline might not be the answer and the antenatal guideline was cited as a similar issue.

Food bank data is not a good source of data. Food bank staff do not have the training or the knowledge. Food banks are about food insecurity and they do not record instances of malnutrition.

### **Recommendations from the discussion**

- **More research** should be undertaken to answer the crucial question: 'what are the root causes of, or wider socio-economic trends contributing to, child malnutrition in the UK?'

- The Patients Association should approach **NICE about developing guidelines for nutrition support in children** (promoting the quality of NICE guidelines)
- There should be **integration of outcomes for health and social care, and integration of outcomes for children and adults**. A joint approach is key, such as via Health and Wellbeing Boards, and multi-disciplinary professional training is needed to ensure integrated outcomes are met. Specialist commissioning could be used as a driver for the providers.
- The **Patients Association should drive forward commissioning around children identified as malnourished**, as it is currently difficult for parents to access services, and commissioning of tertiary services is poor (partly due to problems with data sharing).
- There needs to be **wider public engagement** with organisations like the Salvation Army.
- **Schools should do more to identify and address malnutrition in children**, using initiatives such “Food first” from the British Dietetic Association. Similarly, with health visitors, the ‘trimmed down’ version of Sure Start (which uses the three key areas of emotional development, language development and nutrition) is another useful tool, as well as the ‘Six High Impact’ changes regarding obesity.

#### **Actions for the future**

- Development of a NICE guideline for nutritional support in children which could include commissioning specifications for Clinical Commissioning Groups
- Development of plans to strengthen the current data around child nutrition/malnutrition
- Increase awareness of the issues around child nutrition/malnutrition taking a multi-professional approach

#### **The Patients Association October 2014**

This work was supported by an educational grant from Abbott Nutrition.

## Appendix A: List of roundtable attendees

Surname	Forename	Organisation
Ashton	Professor John	Faculty of Public Health
Bonner	Adrian	Salvation Army
Bunn	James	Children's Food Trust
Clements	Keith	National Children's Bureau
Eardley	Heather	The Patients Association
Garceau	Fabienne	Abbott Nutrition
Hatton	Sue	Health Education England
Levy	Dr Louis	Public Health England
Loopstra	Dr Rachel	University of Oxford
Michie	Dr Colin	Royal College of Paediatrics and Child Health
Murphy	Katherine	The Patients Association
Norris	Paula	Abbott Laboratories
O'Shaughnessy	Laura	Abbott Nutrition
Protheroe	Dr Sue	British Society for Paediatric Gastroenterology, Hepatology & Nutrition
Pryke	Dr Rachel	Royal College of General Practitioners
Taylor-Robinson	Dr David	University of Liverpool
Williams	Jessica	British Dietetic Association
Worswick	Louise	The Patients Association

## Appendix B: Background

1. The Patients Association published a report in August 2011, 'Malnutrition in the Community and Hospital Setting'. This report detailed the findings and recommendations of what was at the time the largest survey of its kind carried out in the UK on the issue of malnutrition in community and hospital settings. The survey, undertaken in partnership with YouGov, found that there was a lack of awareness amongst patients regarding the issue of malnutrition, whether they were at risk, how they could prevent malnutrition from developing and where to seek help and advice. In response, recognising that patients and carers wanted to be educated about the issues of malnutrition the Patients Association produced a leaflet 'Malnutrition – signs and symptoms, where to go for help and what to expect from treatment'. The Association recommended that the leaflet should be provided by GP surgeries and healthcare professionals to patients, and their carers, who may be vulnerable or at risk of malnutrition.
2. The survey also found that one in five of the respondents was unaware of basic treatments for malnutrition, such as dietary advice and changing meal structures. Even fewer respondents were aware of treatments such as Oral Nutritional Supplements (ONS), and that such supplements could be obtained on prescription from the GP. NICE guidance states that ONS are an appropriate treatment for malnutrition and evidence shows that ONS use is consistently linked to lower mortality rates and complications rates compared to standard care as well as fewer readmissions to hospital and improved rehabilitation in the treatment of malnutrition.<sup>xiii</sup>
3. The 'Managing Adult Malnutrition in the Community' pathway was launched in the UK in 2012 ([www.malnutritionpathway.co.uk](http://www.malnutritionpathway.co.uk)). The website offers a practical guide to support GP and healthcare professionals in the community to identify and manage individuals at risk of disease related malnutrition, including the appropriate use of ONS. The contents of the website were written and agreed by a multi-professional consensus panel with expertise and an interest in malnutrition, representing their respective professional associations. The contents are based on clinical evidence, clinical experience and accepted best practice and cover:
  - Disease related malnutrition
  - How to identify malnutrition and nutritional screening
  - Management according to the degree of malnutrition risk
  - Evidence-based management pathway for using oral nutritional supplements appropriately

More recently a number of leaflets and videos have been developed for healthcare professionals to use with patients and carers.

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- <sup>i</sup> Forfar & Arneil (2003) *Textbook of Paediatrics 6th Edition*, Churchill Livingstone
- <sup>ii</sup> Department of Health (2010) *National Child Measurement Programme report England: 2009/10 school year*, NHS Information Centre, see <http://www.hscic.gov.uk/catalogue/PUB00776/nati-chil-meas-prog-eng-2009-2010-rep.pdf>
- <sup>iii</sup> <http://foodpoverty.files.wordpress.com/2013/07/kids-company-submission-to-london-assembly-re-food-poverty-071112.pdf>
- <sup>iv</sup> <http://www.trusselltrust.org/resources/documents/Press/UK-foodbanks-launch-emergency-appeal-ahead-of-welfare-reforms.pdf>
- <sup>v</sup> [https://www.princes-trust.org.uk/pdf/The Princes Trust and TES executive summary.pdf](https://www.princes-trust.org.uk/pdf/The_Princes_Trust_and_TES_executive_summary.pdf) . Survey carried out in 2012 on behalf of the Prince's Trust and TES.
- <sup>vi</sup> [https://www.savethechildren.org.uk/sites/default/files/images/Food for Thought UK.pdf](https://www.savethechildren.org.uk/sites/default/files/images/Food_for_Thought_UK.pdf)
- <sup>vii</sup> For example, please see Orphan Nutrition, <http://www.orphannutrition.org/understanding-malnutrition/impact-of-malnutrition-on-health-and-development/>
- <sup>viii</sup> <http://www.hscic.gov.uk/ncmp>
- <sup>ix</sup> Royal College of Nursing (2014) *Malnutrition: What nurses working with children and young people need to know and do*, [http://www.rcn.org.uk/\\_data/assets/pdf\\_file/0007/78694/003032\\_new.PDF](http://www.rcn.org.uk/_data/assets/pdf_file/0007/78694/003032_new.PDF)
- <sup>x</sup> See <http://www.bristol.ac.uk/enhs/peach/project/objectives.html>
- <sup>xi</sup> See <http://www.ymcastrongkids.ca/about-ymca-strong-kids>
- <sup>xii</sup> See [http://journals.cambridge.org/download.php?file=%2FBJN%2FBJN104\\_05%2FS0007114510001121a.pdf&code=8cbd65e3d59144dab810d4d41529542f](http://journals.cambridge.org/download.php?file=%2FBJN%2FBJN104_05%2FS0007114510001121a.pdf&code=8cbd65e3d59144dab810d4d41529542f)
- <sup>xiii</sup> National Institute for Health and Care Excellence (2006) *Nutrition Support in Adults: Oral Nutrition Support, Enteral Tube Feeding and Parenteral Nutrition*, Guideline 32, available at <https://www.nice.org.uk/guidance>
- The following factsheet from the British Specialist Nutrition Association (BSNA) might provide some useful background <http://www.bsna.co.uk/documents/About%20Malnutrition.pdf>. More information on their website <http://www.bsna.co.uk/>