# Micronutrient Initiatives for Future Health

A report covering discussions from the expert roundtable held at Chandos House, Royal Society of Medicine, London, UK on 22nd April 2015

Hosted by:

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# Background

On the 22nd April 2015 a roundtable meeting was held at Chandos House on behalf of the Health Food Manufacturers' Association (HFMA). The meeting brought together a group of respected experts in the general area of human nutrition and public health – each with differing backgrounds to offer varied viewpoints and perspectives.

The focus of the roundtable was to explore and discuss the following theme: 'The evolution of UK micronutrient public health recommendations; a review of the past (1965-2015) and a look at future prospects (2015-2065)'. For the purpose of context in the following discussions, a micronutrient is defined as a chemical element or substance such as a vitamin or mineral required in trace amounts for the normal growth and development of living organisms.[i] While this theme acted as the basis for discussions, the format of this roundtable had significant flexibility to allow for a natural flow discussion into ideas the group deemed of interest and worth.

The roundtable was supported and coordinated by the Health Food Manufacturers' Association (HFMA), as part of activities in relation to the HFMA celebrating its 50th anniversary in 2015. The HFMA had no influence, bearing or active role in any of the discussions at the event. The HFMA interest in supporting this activity relates to the Association's key position as the authoritative and responsible voice for the natural products industry.*

Further, a new qualitative survey was conducted by Opinion Health in March 2015 on behalf of the HFMA to provide fresh perspectives on the subject and support the discussions at the roundtable. This survey was designed to gather the opinions and responses from 26 health professionals, and specialist nutrition leads including; 12 Clinical and Professional Leads for Nutrition and Dietetics; one Director of Public Health; four GPs with a particular interest in nutrition; four Leads/Chairs of the CCG; and five Senior Dietitians. It identifies key themes and opinions from this audience around successful interventions, policies and approaches related to micronutrients in the UK. Elements of this survey have been referenced within parts of this report (full results available on the HFMA website - link to be included).

### The key micronutrient priorities according to the Opinion Health Survey:

1. Low vitamin D status in all age groups
2. Folic acid requirements for conception and early pregnancy
3. Calcium for many at risk groups

* The views and comments expressed within this report are not necessarily those of the HFMA, and the HFMA is not responsible for the accuracy of all statements contained herein.

All discussions from the roundtable were recorded and information in this document was collated by the HFMA and the communications consultancy Pegasus to transparently and entirely represent the discussions which took place. The passages following this background cover an introduction for the Chair of the meeting (Prof Peter Aggett), a list of all participants involved, a summary of the most prominent themes discussed as well as a set of six key future priorities the group agreed at the meeting.

# The Expert Group

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From left to right, Dr Sunhea Choi, Dr Alice Lucey, Dr Marilyn Glenville, Sara Stanner, Dr Michele Sadler, Professor Martin Wiseman, Dr Victoria J Burley, Professor Peter Aggett, Dr Ian Johnson and Professor Brian Ratcliffe.

# Introduction

**Professor Peter Aggett**

The following account of a Roundtable on "Micronutrient Initiatives for Future Health" extensively refers to the derivation, application, robustness and understanding of the Dietary Reference Values (DRVs), particularly as they relate to micronutrients, for the United Kingdom. These values were reported in 1991. Previously the committees responsible in the UK for reviewing the Recommended Daily Amounts (RDAs) for nutrients had provided just single values for nutrients.

The RDA was defined as"the average amount of the nutrient which should be provided per head in a group of people if the needs of practically all members of the group are to be met". This definition indicated that the RDAs were targeted at populations rather than being recommended intakes for individuals. Even so RDAs were applied uncritically to assessments of individual dietary intakes of individuals, and there was confusion and misinterpretation of the RDAs when they were used to assess the adequacy of population intakes and nutrient supply. Thus the DRV Panel decided to set a range of intakes which reflected the distribution of estimated requirements for each nutrient within a defined population. This range was set, assuming a normal distribution of requirements, around an Estimated Average Requirement (EAR) with a Reference Nutrient Intake (RNI) and a Lower Reference Nutrient Intake (LNRI) at two standard deviations respectively above and below the EAR. These are the Dietary Reference Values.

*"Assessments of requirements were in the main derived from an estimation of the amount of the nutrient which needs to get into the body to maintain health i.e. the systemic or physiological requirement*

Assessments of requirements were in the main derived from an estimation of the amount of the nutrient which needs to get into the body to maintain health i.e. the systemic or physiological requirement. This value is then used to assess how much of the nutrient needs to be in the diet to meet that need. In some instances there is inadequate information available to allow the derivation of DRVs and instead a Safe Intake (SI) value was set at which it was judged there was very little risk of deficiency or toxicity.

Many countries and agencies have taken a similar approach to expressing nutrient requirements for populations. Each has developed its own terminology, and the many terms and their interpretation have caused confusion, which is exacerbated by the use of values for purposes for which they were not intended. Like the UK DRVs, the values produced by these other committees are based objectively as much as is possible on biological and functional parameters, and all expect the reference values to be used in assessing food supply statistics, dietary surveys, dietary composition and planning, evaluating the impact of novel foods and changes in food composition or formulation, and the overall quality evaluation and risk assessment involved in public health nutrition. Unfortunately many users of these values seem not to appreciate their derivation or intended use as described in the full reports. They appear to base their interpretation and their use of these values on the summary tables alone; although DRVs can be used to assess the adequacy of the intakes of individuals it is only really appropriate to do this when one is informed by the relevant text relating to specific nutrients in the report, rather than by assuming that the RNI is the appropriate yardstick.

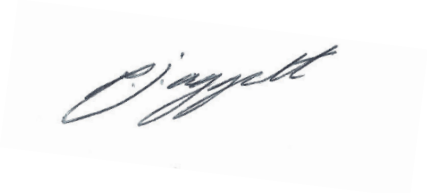
*"The Institute of Medicine has developed the term Dietary Reference Intakes and a joint UNU/WHO/FAO report, intended to provide a platform to enable the international harmonisation of approaches for developing "Nutrient Based Dietary Standards", has provided further nomenclature.*

In 1997 the Committee on Nutrition Of the European Society of Paediatric Gastroenterology and Nutrition produced a commentary on the confusion and multiplicity surrounding reference values entitled "Recommended Dietary Allowances (RDAs), Recommended Dietary Intakes (RDIs), Recommended Nutrient Intakes (RNIs) and Population Reference Intakes (PRIs) are not Recommended Intakes" (Aggett PJ et al, Journal of Paediatric Gastroenterology and Nutrition 1997:25; 236-241). Since then the terminology has expanded even more in that The Institute of Medicine has developed the term Dietary Reference Intakes and a joint UNU/WHO/FAO report, intended to provide a platform to enable the international harmonisation of approaches for developing "Nutrient Based Dietary Standards", has provided further nomenclature.

Irrespective of the terminology used the derivation of values is challenging. The exercise demonstrates the weaknesses of the nutritional database and of nutritional science in that, particularly for micronutrients, the abundance of data on deficient and excess intakes far outweighs those relating to customary intakes at which the bodies of healthy individuals can adapt to ensure that they get from their diets the amounts of nutrients they need. Nonetheless the DRVs are based on more cautious criteria than the simple avoidance of clinical deficiency; for instance allowance is made for the need to support body reserves. Thus the reference values can be considered to be conservative or precautionary and can be considered adequate on a population basis, and it is not appropriate to use DRVs alone to diagnose deficiencies of micronutrients in people.

Increasing DRVs for certain nutrients would not solve current concerns of possible deficiencies, for example of vitamin D, because such problems arise from populations failing to meet DRVs rather than the DRVs being wrong. Resolving these issues would be an important element in public health nutrition. DRVs are under constant review in some part or other of the world and currently those for micronutrients are being re-evaluated by the European Food Safety Authority. Many DRV panels accept that intakes of some micronutrients above their RNI (or equivalent term) could have beneficial effects in healthy individuals, but these benefits have yet to be demonstrated in appropriate experimental studies.

I hope that in the light of this Introduction the following discussions and points raised in the Roundtable will provide some "food for thought" about opportunities not just to advance nutritional science, but also to take further steps to achieve standardisation of nomenclature and use of reference values, appreciate that there is a continuing need to confirm their validity, and to better educate health professionals and others engaged in the promotion of public health about the nature and use of DRVs.



# Executive Summary

The roundtable group set about exploring various efforts which have been made to estimate micronutrient requirements and other measures by UK governments, industry and related associations to assess micronutrient dietary intakes. Within this framework, discussion focussed on how effective various public health efforts have been in ensuring adequate micronutrient intake in the population, the reasons for shortcomings resulting from these initiatives, as well as establishing principles around issues and opportunities for consideration in the future.

An overriding theme throughout the meeting and this report is how dietary reference values (DRVs), which represent a spread of estimated requirements within a population, encompassing Estimated Average Requirement (EAR), Reference Nutrient Intake (RNI) and Lower Reference Nutrient Intake (LRNI) are used to characterise micronutrient requirements for a healthy population.

This group welcomed the idea that continuing efforts are required to ensure that the recommendations are properly applied and understood by healthcare professionals and others in the catering, retail and agri-food industries as well as public health officials, so they can be clear, better understood and useful in the future.

Other foci included the role of healthcare professionals in the provision of nutritional advice for the general public and how these services might be able to give emphasis to 'preventative' health measures including an appreciation of adequate micronutrient intakes.

Attention was given to the range of complexities around 'messaging' for micronutrient recommendations, and what platforms and vehicles generate the most success to engage target audiences with these messages, as well as the quantity of exposure to consistent messaging to ensure this success.

Underpinning these considerations was a consensus that 'healthy environments', physical spaces and 'healthy settings' are conducive to healthy lifestyles.

This group also outlined a set of priorities for the future, and considerations to address the way initiatives and efforts can best operate in the future – which is summarised at the end of this report.

# Improving Use and Interpretation of Micronutrient Dietary Reference Values

In 1991, the Department of Health published the Dietary Reference Values (DRVs) for Food Energy and Nutrients for the United Kingdom. This established DRVs of three types: RNI (Reference Nutrient Intake), EAR (Estimated Average Requirement) and LRNI (Lower Reference Nutrient Intake), and these replaced the former Recommended Daily Amounts (RDAs). Surveys such as the National Diet and Nutrition Survey series compare current intakes of nutrients with the various DRV values to assess where problems exist and to assist in forming government policy.

It was noted by some of this roundtable group that it is important to recognise that there was a relative scarcity of data available for the creation of the DRVs, in particular, studies directly concerned with establishing requirements. Even so existing data have provided a good 'starting point' for creating such values and understanding their limitations. Current DRVs have served a valuable purpose in many ways - particularly around helping to highlight possibly inadequate intakes of calcium, iron and vitamin D.

However, this group agreed that there is a strong need to look at how DRVs are currently being used and to realise there are significant pitfalls in the way that they are being interpreted, and inappropriately applied to individuals

*DRVs are designed for healthy people. They are not designed for those with disease*

*...in the words of John Maynard Keynes, it is better to be roughly right than precisely wrong*

This group agreed that there is a significant unmet consideration and requirement for many HCPs – and particularly health policy makers - to realise the limitations of DRVs when addressing the assessment of individual requirements, and to appreciate that the RNIs are conservative and allow for inter and intra-individual daily consumption patterns. One roundtable participant described the situation in the words of John Maynard Keynes: "It is better to be roughly right than precisely wrong". This represents the credibility of DRVs in that they are at a population level and allow for the variability of the "precise" requirements of the individuals within that population.

The three issues seen as the most worrying micronutrient trends in the UK population by the Opinion Health Survey:

1. Confusion over government micronutrient recommendations
2. Children not getting enough nutrients from their normal diet or following supplementation advice
3. 'Vitamin and mineral intake' being considered the least important part of a healthy diet

# Empowering the educators

Widespread low levels of knowledge and understanding of DRVs for micronutrients among healthcare professionals (HCPs) across the UK was identified as an important issue within the context of the UK population and of strategies to explore and address any possible risk of inadequate micronutrient intakes.

Currently a model curriculum in nutrition has been designed for inclusion in undergraduate medical training, but it is completely up to medical schools, as autonomous entities, to decide whether or not to incorporate nutrition in their programmes, and the number doing so is disappointing. Other HCPs, including nurses, receive some training in nutrition but the quantity and quality of this is variable. One member of the group cited their own professional training (in pharmacy & life sciences) containing a mere 4 hours within their 4 year course dedicated to nutrition studies. This provides an indication of the limited expectations that can be placed on the capacity of health professionals (including pharmacists), to be a reliable source of sound nutrition knowledge for the public. Further, this group saw no easy solution at the moment to improve the situation and ensure the adequate type of education is an integral part of HCP training.

Further, HCPs who have the most knowledge of nutrition – namely Dietitians – are relatively small in numbers (compared with other HCP disciplines) and also are not a source of regular or widespread engagement with the general public.

Adding to the issue, this group also considers that the HCP community simply does not prioritise, reinforce or provide enough focus and consideration to nutrition generally (not just micronutrients) in their consultations with patients and healthy individuals. This group argues that this is also true when engaging with individuals (or patients) who are at risk of micronutrient deficiencies and related health complications. For example, midwives were identified as one HCP discipline which ideally could possess more micronutrient knowledge, for example with Vitamin D, both for bone health in the mother and that of their baby. Other HCPs would need to alert women to the importance of folic acid intake before conception and in the first 12 weeks of pregnancy to reduce the risk of having a baby with a neural tube defect such as spina bifida.

This problem is reinforced by a trend for some HCPs to be unaware of their limitations in providing nutritional advice including that on micronutrients; however they do have the capacity to learn how to identify 'at-risk' groups for micronutrient and other nutritional deficiencies. These points apply also to those HCPs in primary care including General Practitioners (GPs) who despite their roles as gatekeepers for health advice are not receiving or seeking the right nutrition advice to pass on. Overall this situation illustrates the importance of community and public health agencies to communicate messages relating to public health nutrition.

This group discussed this dynamic in relation to initiatives such as the Healthy Start scheme. As part of this Government public health program, all applications for Healthy Start must, by law, be supported by a registered health professional – usually a midwife or health visitor (but it can be any registered nurse or doctor). The scheme has the aim to improve the health of low-income pregnant women and families with young children on benefits and tax credits. This aim is intended to be realised predominantly by health professionals offering encouragement, information and advice on issues such as healthy eating, breastfeeding and vitamins. However, for a range of reasons there is a low uptake of micronutrient supplements recommended under the scheme for pregnant women. Historically, this issue was related to 'mixed messages' received by the target audience and the messages being unclear in terms of what health professionals recommend and to whom, as well as availability of the products. This view is supported by research published in the British Medical Journal (BMJ) which suggests that the current system of providing free vitamin supplements for low-income childbearing women and young children via the Healthy Start programme is not fulfilling its potential to address vitamin deficiencies.[ii] The need to elucidate and eliminate the barriers to effective implementation of the programme is evident.

The roundtable group agrees that there is evidence that there is a general appetite among HCPs to address this issue. One piece of research by the Malnutrition Advisory Group (MAG - a standing committee of the British Association for Parenteral and Enteral Nutrition) showed that doctors would like further training and education in nutrition; 60% of GPs felt they needed further training in detection of undernutrition; and 74% of GPs had had no undergraduate training in nutrition.[iii]

# Complexity around messaging & outreach

The roundtable group debated a wide range of complexities around how to frame advice and messaging for micronutrient recommendations, as well as barriers that hinder the ability to reach out effectively and engage target audiences with these messages."

*Everyone knows about 5-a-day; even the hard to reach groups can cite the messages. But they don't change their behaviour because of this knowledge. What does it take for awareness to result in behaviour change?*

Folic acid was identified as a prime example. The primary target for folic acid supplementation is women of childbearing age. The importance of folic acid is that it needs to be taken before conception, and the advice from health professionals needs to be provided to encourage women to begin supplementation in this period. However around half of pregnancies are unplanned, and in relation to the rest, there have always been issues around how best to implement communication and public health strategies based on this advice, particularly due to uncertainties about perceived potential adverse effects for other members of the population.

Further difficulties centre on both the reality and perception of the safety and possible toxicity of supplementation and fortification. For example, there are longstanding concerns that compulsory folic acid fortification of cereal products might lead to masking of vitamin B12 deficiency in the elderly, and cause overconsumption of folic acid by individuals also eating voluntarily fortified products and taking supplements. Several members of the roundtable group felt that the evidence base relating to these possible adverse effects is weak, and the resulting uncertainties have delayed the implementation of mandatory fortification.

Another key barrier relating to folic acid is that the need to start taking supplements represents an effort and requires a strong sense of motivation, and change of behaviour is simply off the radar for the most vulnerable groups. One roundtable participant raised that in Scotland a large majority of young mothers and women planning conception are not even thinking about their need for nutritional supplements, let alone what kind of nutrients (e.g. folic acid) they may need. This is a particular problem in the context of a high number of unplanned pregnancies. Further, even if food fortification was an option in the near future, which is an appealing public health measure for many nutrients for which there is a wide scale risk of deficiency; this might not eradicate the need for folic acid supplements.

*The well-known issue for public health efforts is that most people don't think about 'acting' until an issue or problem is actually happening... such as when a micronutrient deficiency is present and they are suffering the health consequences*

The roundtable group talked about the ability to use technological advances in communications for engagement and disseminating messages around micronutrient recommendations. There is no doubt that technology – particularly use of the internet – has made health advice easier for people to search for and find. But there are major issues around overcrowding of messages, conflicting messages, and lack of quality assurance of sources of advice in the online sphere, which makes it difficult for the general public to identify and obtain reliable information, and distinguish it from poor quality information.

In the context of wide scale nutrition-based public health efforts and initiatives - such as Change4Life, 5-a-day and the Healthy Start scheme – the roundtable group discussed the problem of inadequate measurement and impact. There is often a lack of funding to properly follow-up such campaigns, which often do not have measurable outcomes stated from inception, to see how well they are working and identify ways to improve them to be more effective. Part of this problem is that there is often no requirement built into many of these campaigns for evaluation and measurement of effectiveness – so it often is done post -hoc or is either not conducted at all, or is done inadequately.

Further discussions around the use of technology also identified difficulties around 'timing' in terms of target audiences receiving the right messages at the right time. This is also true when using social media for public engagement campaigns, whereby the efforts can come unstuck with the messaging often being 'one way' as opposed to a conversation or 'two-way' discussion, which is usually a prerequisite for good social media campaigns to succeed.

One other key challenge for using technology-based public health engagement (like social media) is that currently, often the most at-risk sections of the population are not using these platforms (which is often related to lower incomes and socio-economic status, although this gap is gradually closing). This may also be compounded with issues around health literacy in these sub-populations. The roundtable group expressed the view that this dynamic often results in a trend around many public health initiatives inadvertently widening inequalities as the uptake and success can often come from more privileged pockets of society and the vulnerable (or less well-informed or less-enabled) often remain or stay vulnerable.

### The top three public health initiatives in terms of relative success and impact with promotion of micronutrients according to the Opinion Health Survey :

1. 'Five a Day' (launched 2002)
2. National School Food Standards (launched 2007)
3. Change4life (launched 2009)

In terms of micronutrient guidelines and priorities, the Opinion Health survey[iv] conducted prior to the roundtable found that 'on-demand' digital, and utilising technological approaches generally, was deemed important within the Public Health England (PHE) strategic principles for innovation and delivery.

The roundtable group agreed that technology-based communication channels and efforts need to work in tandem with other forms of engagement, and approaches like social media campaigns need to be implemented as part of a wider strategy including other channels for engagement such as face-to-face HCP engagement. Cross-disciplinary approaches and outreach will work best to get suitable and desirable behaviour change in the micronutrient areas of priority.

The exposure of the general public to consistent and accurate messages is also key. The roundtable group argued that some communication channels – particularly some media outlets (such as UK national newspapers) - can be detrimental by pushing a 'pro' micronutrient message one week, and then a contrary i.e. 'con' message another week on the same micronutrient. It was suggested that such contradictory messages make it difficult for the general public to navigate and find the most credible information and advice.

# Promoting healthy environments and settings

One theme raised and discussed was around the need to deal with the root of these micronutrient-related problems, not just the evident symptoms. To improve micronutrient intakes for the better, the group suggested that a macro-perspective is required as well as analysis of how 'healthy environments', physical spaces and 'healthy settings' correlate and are conducive to sustained behaviour change. In addition it was important to place emphasis on increasing physical activity which, as a key driver of total food intake, was an important determinant of overall micronutrient intake.

*We can't expect people to successfully transition into habits supporting better micronutrient intakes, if the spaces and environments which they operate in on a daily basis are riddled with barriers...*

The ability for an individual to change their dietary habits is dictated significantly by the world they operate and live in. This includes the contribution of employers in creating a healthy employment habitat, healthy schools, healthy homes, healthy public places – as well as the synergy that is required between these environments to allow for an individual to establish concrete behavioural changes.

This is best exemplified by one of the most obvious of health settings – a hospital. The roundtable group advocates the need to look at the ironic and sad situation whereby patients on hospital wards may have access to and are being fed burgers, crisps, chocolates and sugary drinks – which are the very food items dominating the dietary patterns that often contribute to their admission in the first place.

These considerations to 'healthy settings' also include wider issues such as the ability of individuals to access environments enabling physical activity – which is often overlooked or ignored by public health approaches in the context of micronutrients. This is based on the idea that many micronutrient deficiency problems may be minimised simply by consuming sufficient food (as this will usually result in getting enough micronutrients) - but then just eating more food without changing dietary quality can put individuals at risk of obesity, particularly, if poor overall dietary quality is accompanied by a lack of physical activity.

From a commercial perspective, certain members of the roundtable group suggested that there are also significant opportunities for companies to contribute to healthy settings. For example, in health food shops, food retail outlets and supermarkets, recent limitations have emerged around the amount/type of 'health claims' that companies can make on labelling (and promotional materials) due to EU regulation that requires such claims to be supported by evidence. The validation and use of safe and properly regulated health claims can be a big factor for positive behaviour change, marketing and shopping habits and the consumption of more healthy foods amongst certain consumers. For example, one of the roundtable participants mentioned that in 2013, EFSA approved three new health claims for oats (including one around the benefits of lowering cholesterol) and this has resulted in sales (and consumption) of oats dramatically rising across Europe .

The roundtable group also supported the assertion that health food and nutrition companies should be able responsibly to push regulated but positive micronutrient messaging (e.g. "a good source of calcium and vitamin C") via advertising, promotions, labelling (including references on front-of-pack) and other communication channels, subject to safeguards; for instance a strong emphasis must be placed on choosing appropriate food vehicles with favourable nutritional profiles. Not only could this raise awareness of micronutrients, it could also help to stimulate shopping behaviours in retail environments based on the nutritional value of different foods and drinks. This would also allow dietary supplement manufacturers to have a stronger position in HCP environments such as pharmacies and in the context of medical products which provide strong health messages.

Further, the influence of 'fast food' was also identified as an obvious challenge when considering the settings and environments in which people live their lives. There is a notion that much of the UK population has lost its way around what a healthy diet actually looks like. Highly processed food options like "ready meals" which are often not complete meals are frequently being used to achieve a healthy diet as opposed to making an occasional contribution to the diet. Further, it is believed that many people perceive meals in fast food outlets as 'snacks' when on the move as opposed to entire meals in themselves. Not only does this mean that such meals often account for a large proportion of some people's diets from an energy (calorie) perspective – but they may also be missing out on key micronutrients.

# Public Health Nutrition and a history of deficiency

In a recent Public Health England (PHE) report ("From evidence into action: opportunities to protect and improve the nation's health" October 2014), a vision was outlined that a sustainable health and care service will be one that helps people to stay healthy, and not one that only treats illness. In driving this agenda forward, PHE stated that the new public health system can take advantage of a set of future 'game-changers' which, combined, offer a unique opportunity for positive change and much faster progress. Of these "future game changers", respondents to the Opinion Health survey agreed on the following option as an opportunity for positive change and fast progress around micronutrient guidelines & priorities:

*• Evidence-based NHS preventative service programmes, interventions and support for the implementation of proven approaches to prevent disease*

The roundtable group agreed that it is a feasible and appealing ambition to develop a HCP force (particularly GPs) which has a greater focus on preventative measures for general health and promotion of wellbeing, so they become less a reactive, illness treatment service. It was believed that this could be realised via more sophisticated measures for population risk assessment and management; particularly around knowing how and when to identify risk of low micronutrient intakes and groups and individuals at risk of deficiencies. This process would also be helped by encouraging the consultations with the right types of the population for preventative health (e.g. to get more screenings of the elderly and children for prevention of potential illnesses, not just treatment).

However it is important to remember that the main determinants of health are social, and beyond the scope of the healthcare system to deliver, but lies in the broader social environment in which people are born, grow, develop, work, live and age.

The pre-roundtable Opinion Health survey[vi] also explored the idea that there could be an opportunity to consider options like incentivising GPs to find at-risk groups for micronutrient deficiency and use various integrated IT systems to actively search and flag at-risk patients in their local areas. A further idea was suggested around the potential for greater collaboration with community and voluntary sectors, HCPs, dietitians, as well as community food and health workers to educate the more vulnerable in society to ensure that they can obtain a more balanced nutritional intake, and that intakes of key nutrients such as iron, calcium, and vitamin D are being met. However information and education alone are usually insufficient to generate sustained or substantial behaviour change which requires structural environmental changes to shift social norms.

Discussions also touched on the role of micronutrient fortification of foods. The roundtable participants discussed previous successful public health initiatives, including the mandatory fortification of flour (since WW2) with calcium, which the group agreed was successful. However, there are many difficulties around fortification with various micronutrients including differing requirements for some sub-populations and differing levels for adverse effects or toxicity (to be avoided) for other sub-populations.

The roundtable group also supports investment in research to provide more information on the systemic handling of micronutrients. This, in turn, should enable the validation of markers which could be validated to identify deficiency and excess states in people and thus enable such markers to provide an opportunity more confidently to set dietary reference values for micronutrient intakes. Certain members of the group suggested that a key future point is to consider systematically that intakes above the current RNIs could produce further benefits. Others pointed out that such initiatives would need to be established both in the context of a clear measurable definition of what such beneficial outcomes might be, and in the quality of science used; for instance as are needed to justify a health claim. Such initiatives would need to be sensitive also to guidance on Safe Upper Limits for micronutrient intakes, and on the differentiation of Health and Medicinal Claims.

**According to the Opinion Health survey, collaboration on new guidelines** and messaging for consumers around micronutrients was seen as the best approach in terms of **government and industry alignment** of efforts to tackle key micronutrient priorities)

# Future priorities

The roundtable agreed on the following areas as important considerations for initiatives and efforts to improve future UK micronutrient public health recommendations and advice.

1. Resolving the uncertainties and inefficiencies around how current DRVs are communicated to healthcare professionals and consumers.

2. Identify research areas to enhance the quality of data to inform estimates of DRVs for micronutrients for population groups.

3. Changing the amount of knowledge, training and skill building that is supplied in GP and HCP education, and how nutrition/dietary messages are communicated to consumers, could allow for increased knowledge for the general public via these professionals.

4. Explore ways by which nutrigenomics, via combining the studies of nutrition, genetics and epigenetics can be applied to characterise variability in human requirements and perhaps enable further refinements of DRVs.

5. True behaviour change needs to factor in the influence of the broader environment including the physical environment on successful public health policy both in relation to diet and physical activity.

# Key takeaways by the HFMA

These takeaways were developed by the HFMA following the discussions at the roundtable and do not necessarily reflect the views and opinions of the roundtable participants. As a result of this roundtable the Health Food Manufacturers' Association will:

- Develop training for HFMA members about DRVs for micronutrients and current regulatory structures concerning supplements, including those relating to Health Claims and Upper Levels working with knowledgeable experts in this area to ensure all companies delivering nutrition products to consumers are responsibly trained to a high standard of knowledge

- Consider how it can focus attention on improving Micronutrient delivery to at-risk groups, and the consideration of what might be considered as optimum intake in relevant UK and European scientific reviews raising profile amongst key stakeholders/practitioners involved in the delivery of health and nutrition advice and services, and scientific committees

- Progress the opportunity to support the formation of a new All Party Parliamentary Group (APPG) on Micronutrients for health there are currently a number of APPGs in Westminster in the food and health sphere, but none that specifically focus on this vital area.

- Consider how to lobby effectively for future consumer-targeted guidance to reflect optimum nutrient intakes engaging with UK Department of Health and/or the European Food Safety Authority (EFSA) and other stakeholders.

- Assess how it can promote the assessment of simple, low-cost screening tools for identifying individuals' risk of specific marginal micronutrient deficiencies for example via interactive online easy-to-use programmes and/or apps or in the future by accurate new diagnostic tests that can be purchased by consumers.

**References**


i http://www.who.int/nutrition/topics/micronutrients/en/

ii http://bmjopen.bmj.com/content/5/1/e006917.full

iii http://www.nutrition.org.uk/attachments/153_Undernutrition%20in%20the%20UK.pdf

iv A qualitative survey was conducted by Opinion Health in March 2015 on behalf of the HFMA. This survey gathered the opinions and responses from 28 members of nutrition advisory/scientific committees of relevant NHS organisations

v http://www.bakeryandsnacks.com/Markets/Oat-demand-grows-in-Central-Europe-with-EFSA-health-claims-says-Fazerm

hfma 50 YEARS 1965-2015

THE VOICE OF THE NATURAL HEALTH INDUSTRY

# The HFMA

The Health Food Manufacturers' Association (HFMA) is the voice of the UK's natural health industry and represents more than 130 manufacturers and suppliers of natural health products.

Founded in 1965, the HFMA is a not-for-profit organisation which operates long-standing codes of practice to ensure that member companies adhere to high standards and offer good quality, safe products supported by responsible, lawful information.

For further information about the HFMA, visit **www.hfma.co.uk**