



# Older people and functional foods

The importance of diet in supporting older people's health;  
what role for functional foods?

## EXECUTIVE SUMMARY

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## Executive Summary

Diet and nutrition are key factors that impact on the health of older people and a healthy diet and lifestyle can help prevent disease, particularly chronic disease. In general, healthy eating advice for older people is similar to the rest of the population. However, the physiological changes associated with ageing results in older people having some specific nutritional needs that differ from the rest of the population.

This report looks at:

- The role of nutrition in maintaining health and preventing disease.
- The evidence which has led to current food and nutrition recommendations for older people.
- The development of functional foods to support specific health and nutritional needs.
- The role of functional foods in supporting older people to remain well-nourished and healthy.

## Findings

A balanced, nutritious diet is the best way for older people to avoid nutrient deficiencies and maintain health. However, that is not always possible due to physiological changes associated with ageing. In addition, the increase in the risk of chronic disease and/or the emergence of chronic disease in older people can mean that more radical dietary changes are needed in order to prevent or manage chronic conditions.

Based on the evidence examined, there seems to be a case for functional foods playing a useful role in older people's diets. However, it is important to stress that functional foods cannot be seen as a sole or only solution, but should instead be seen as a way to reinforce the health improvement/disease prevention aims of a healthy lifestyle approach.

## Recommendations

This paper has developed a number of recommendations in relation to older people's nutrition and functional foods.

### *Recommendations for action*

- 1. Consider establishing some age specific dietary recommendations for different age groups of older people.**
- 2. Review of calcium and vitamin D strategies for older people.**
- 3. Consider how best to incorporate cholesterol-lowering foods into a healthy lifestyle approach for older people.**
- 4. Consider the development of probiotic treatment protocols for older people at risk of AAD.**

## **Recommendations for further research**

- 1. Further research into older consumers and functional foods.**
- 2. Research into the effectiveness of nutritional advice and messages for older people.**
- 3. Randomised clinical trials on incorporating functional foods into diets.**
- 4. Research examining compliance with functional foods.**
- 5. Examine the case for “normalising” cholesterol-lowering margarine.**
- 6. Research into the opinions of GPs and health professionals on functional foods.**
- 7. Investigating the potential of probiotics in helping to manage malnutrition (undernutrition) in older people.**

## **Functional foods**

Functional foods are defined in this paper as “*conventional food products modified in some way to give a health benefit above and beyond basic nutrition*”. In recent years the scope of functional foods has expanded from correcting nutritional deficiencies, to improving health and playing a role in preventing, delaying or managing chronic diseases. Today, functional foods are concentrated in the areas of bone health, cardiovascular health and gastrointestinal function, all of which are more likely to be health concerns for older people. Functional foods appear therefore to have a role to play in supporting older people's health, but instead of replacing healthy eating, they supplement it.

## **Older people's nutrition**

Due to physiological changes associated with ageing older people can have different nutritional needs to younger people, which can vary according to age. Current dietary recommendations do not distinguish between different age groups of older people, despite the fact that a 55 year old and an 80 year old can have some significantly different nutritional needs and there is very little research into what the oldest old (the over 80s) actually eat. The 55-64 age group has, for the most part, similar nutritional needs than younger adults with the exception of paying extra attention to dietary risk factors for chronic diseases. The 65-74 age group also has similar nutritional needs to younger adults, except for those with higher risk of developing chronic disease or where slowing the progression of chronic disease may be necessary. Differences in nutritional needs become more marked in the over 75 age group, who are at greater risk from malnutrition than obesity. In addition, many people over the age of 60 would benefit from higher vitamin D intake mainly for reasons connected to bone health.

## **Consumer behaviour and functional foods**

When examining consumer behaviour towards functional foods, the impact of socio-economic factors is rather inconsistent. For example, some studies report that consumers with a higher socio-economic status are more likely to consume functional foods, while others report that lower socio-economic status is associated with the

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consumption of functional foods. However, many studies show that a consumer of functional foods is more likely to be older and female.

There is a strong link between interest in health and perceived need for the health benefit of a functional food and the propensity to consume it. Both an interest in health and a perceived need for the health benefit of common functional foods have been found more frequently in older consumers, which may explain the higher propensity to consume. Taste, however, remains more important than health benefit in the decision to buy or consume a functional food. Consumers of all ages only buy a functional food if they like its taste and only then if it is in the form of a product that is already part of their diet. So a person who does not eat margarine will not buy cholesterol lowering margarine. Healthy carrier products, for example, yoghurt, are perceived more positively by consumers if they have a health claim, whereas unhealthy products such as mayonnaise are not.

Consumers also show considerable cultural differences across Europe. For example, technology loving Finns are more receptive to functional foods than natural food oriented Danes, and English consumers see functional foods as a way to help achieve healthy eating, while Swedes consider them to be a substitute for people who do not have healthy diets.

## Case studies

This paper undertook three case studies to consider whether functional foods have a role in supporting older people's health and nutrition. The first case study was probiotic yoghurts and drinks. A search of the scientific literature found evidence for their effect on the body including the gastrointestinal microflora and gut related immunity. The strongest evidence of health benefits were found in preventing and treating antibiotic associated diarrhoea (AAD), a serious health problem often affecting older people, and to a lesser extent for digestive discomfort. There is also some evidence for symptomatic relief of irritable bowel syndrome (IBS) and there is promise in relation to *H.pylori* infection and small intestine bacterial overgrowth.

The second case study looks at plant sterol and stanol containing functional foods, for which there is solid scientific data and approved health claims that 2g per day can lower Low Density Lipid (LDL) ("bad") cholesterol and total cholesterol by on average 10%. This is, as one researcher put it "one of the few areas of nutrition where there is such consensus". Given that older people are at greater risk of cardiovascular disease and high cholesterol is a major risk factor, cholesterol-lowering functional foods present a strong case for being included in older people's diets as part of a healthy lifestyle approach and sometimes instead of low-dosage statins. For those already taking statins, cholesterol-lowering functional foods can be considered as an addition to statin treatment, which has shown to be more effective than increasing the statin dosage. However, it should also be noted that a small number of people do not respond to sterols/stanols, although it is not currently understood why this occurs.

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The third case study took a slightly different approach and looked at nutrients rather than products in examining calcium and vitamin D, which are essential to bone health, a key concern for older people, especially postmenopausal women . There is also growing evidence for the role of vitamin D in immune health. Many older people experience calcium and particularly vitamin D deficiencies, and recent developments in nutritional science have seen an increasing number of recommendations that advise older people to increase their daily intake of both calcium and vitamin D from previously recommended levels. For example, the National Nutrition Council of Finland has increased recommended vitamin D intake for older people and the Institute of Medicine in the USA has increased its calcium recommendations. These newer recommendations indicate a need to review the current UK guidelines for both nutrients. There is as yet no concrete answer as to how best older people should achieve increased intakes of calcium and vitamin D, although functional (fortified) foods could clearly play a role.

## **Recommendations in detail**

The recommendations outlined at the beginning of this document are explained in further detail below.

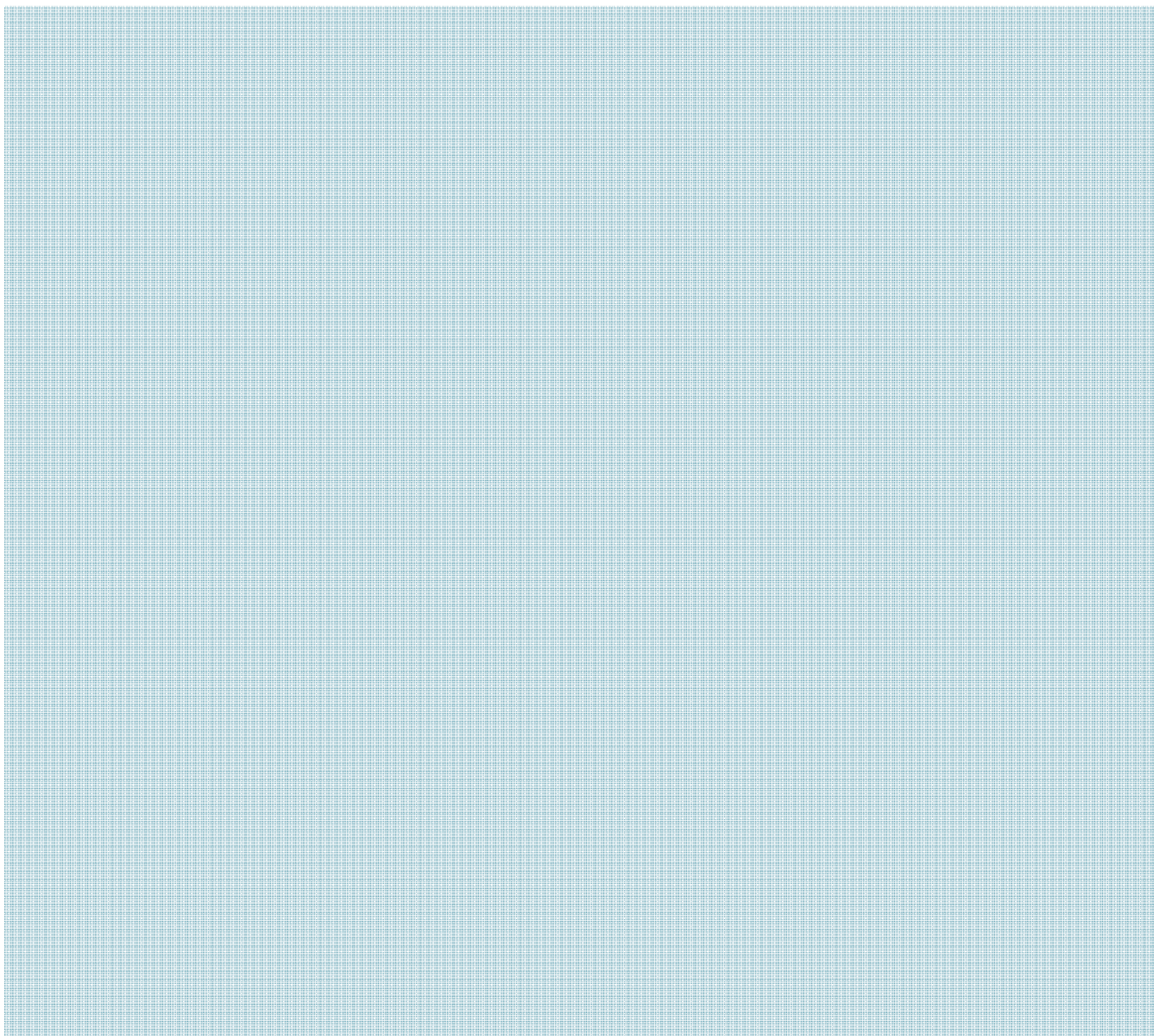
### ***Recommendations for action***

- 1. Consider establishing some age specific dietary recommendations for different age groups of older people**, particularly those over 75, for example in relation to malnutrition presenting a greater health risk than obesity. Age tranche-specific recommendations should be accompanied by appropriately targeted healthy eating messages as and when appropriate. This could form part of the updating of the COMA recommendations on the nutrition of older people, which remain unchanged since 1992.
  
- 2. Review of calcium and vitamin D strategies for older people** which should consider:
  - Establishing routine screening for vitamin D and calcium deficiency in older people at particular risk of osteoporosis/other bone health problems;
  - Revising current recommended intakes of calcium and vitamin D for older people in line with current nutritional science.
  
- 3. Consider how best to incorporate cholesterol-lowering foods into a healthy lifestyle approach for older people.**

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4. **Consider the development of probiotic treatment protocols for older people at risk of AAD.** Development of such protocols would need to consider:
    - Risk assessment of older people for AAD and malnutrition
    - Identification of probiotic strains with the best outcomes in relation to preventing/better managing AAD
    - Personal preferences for probiotic administration, for example, food supplement or probiotic yoghurt
    - Identification of factors that influence compliance and how to assess patients for such factors

### ***Recommendations for further research***

1. **Further research into older consumers and functional foods**
  2. **Research into the effectiveness of nutritional advice and messages for older people**
  3. **Randomised clinical trials on incorporating functional foods into diets.** It would be interesting to see the impact on health and clinical outcomes of including specific functional foods into older people's diets, for example, the impact of lowering cholesterol through cholesterol-lowering margarine on the incidence and outcomes of cardiovascular disease.
  4. **Research examining compliance with functional foods**, which could look at whether people follow the recommended daily intake and what influences their consumption patterns.
  5. **Examine the case for "normalising" cholesterol-lowering margarine.**
  6. **Research into the opinions of GPs and health professionals on functional foods.** There is some research in this area, but very little, despite the fact that many people including older people regularly turn to health professionals for advice on diet and nutrition.
  7. **Investigating the potential of probiotics in helping to manage malnutrition (undernutrition) in older people.**
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