

# **‘Malnutrition & Nutrition Support in the Elderly – who, what when and how?’**

**Dr Mike Stroud MD, FRCP**

**Consultant Gastroenterologist and Senior Lecturer  
in Medicine & Nutrition, Southampton**

**Chair Quality Group/President Elect BAPEN**

**Co Chair Malnutrition Task Force**

# British Association for Parenteral & Enteral Nutrition

A multi-disciplinary charity committed to raising awareness of malnutrition and options for nutritional treatment and the consequent impacts on health outcomes, resource utilization, and health & social care budgets.



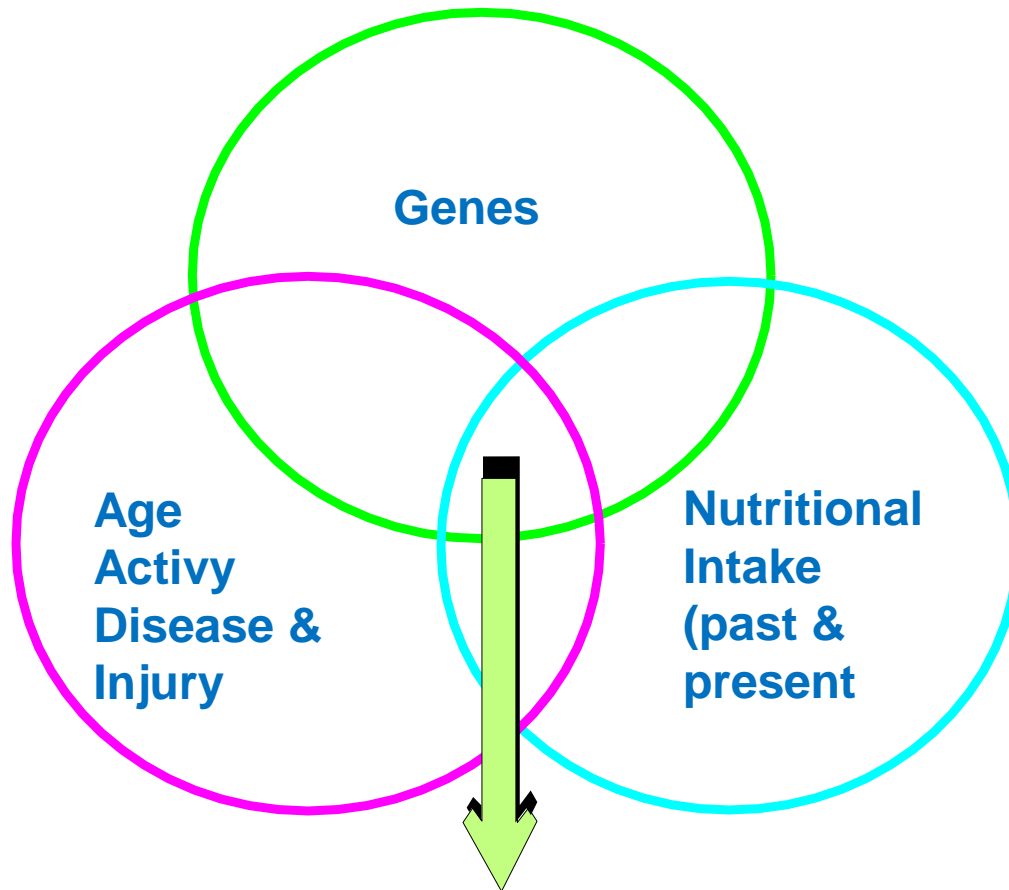
---

**B A P E N**

**Malnutrition Matters**

---

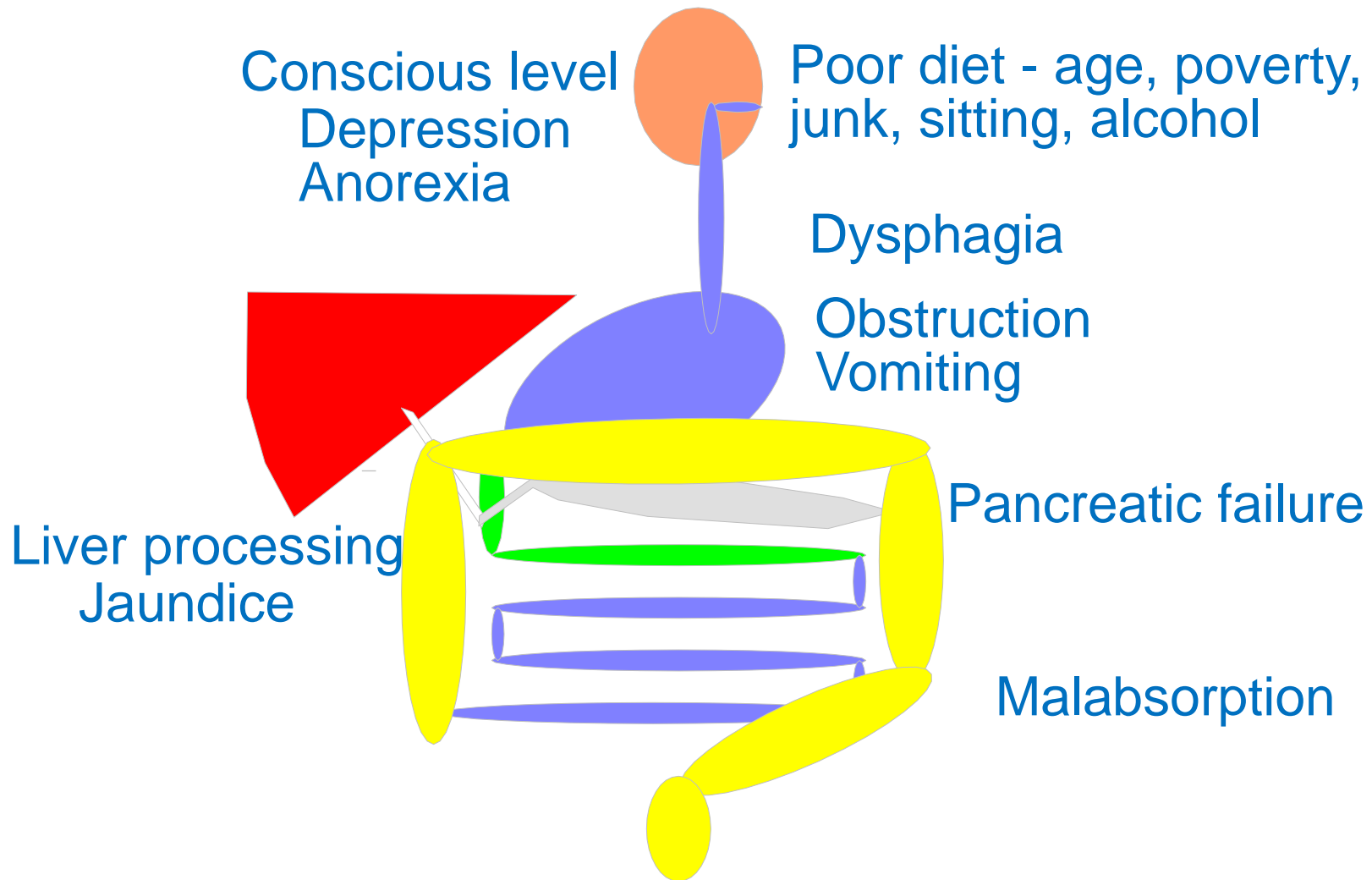
# You are what you eat!



Good nutrition = health and resistance to disease

Poor nutrition = ill health and susceptibility

# Causes of Malnutrition

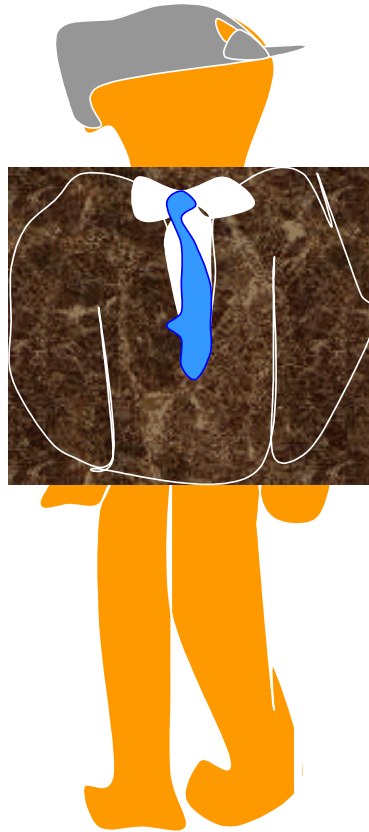


Increased Metabolic demands

# Nutritional Problems in the Elderly

## PHYSICAL

Mobility  
Feeding  
Swallowing  
Low activity  
Decreased  
organ reserve  
Specific  
disease  
Multiple drugs  
(taste)  
Alcohol



## PSYCHOLOGICAL

Depression/bereavement  
Dementia

## SOCIAL

Isolation  
Poverty

# Inadequate food intake is common in hospital patients

- ◉ European Nutrition Day survey\* found that of patients aged >75 years only<sup>1</sup>:
  - 46% ate all of breakfast
  - 34% ate all of lunch
  - 35% ate all of dinner
- ◉ Older inpatients in a hospital elderly care unit in the UK were judged to be eating inadequately at only 67% of assessments<sup>2</sup>

\*748 units in 25 countries, total  $n=16455$ , aged >75 years  $n=4799$ .

1. Schindler KE, Schuetz E, Schlaffer R, Schuh C, Mouhieddine M, Hiesmayr M. NutritionDay in European hospitals: risk factors for malnutrition in patients older than 75 years. Clin Nutr 2007; 26:10.
2. Patel MD, Martin FC. Why don't elderly hospital inpatients eat adequately? J Nutr Health Aging 2008; 12(4):227-231.

# Inadequate food intake is common in community patients

- ◉ NutritionDay survey of Austrian and German nursing homes\* showed 1 in 3 residents ate  $\leq 50\%$  of their lunch on the assessment day<sup>1</sup>
- ◉ Eating difficulties found to be common (56%) in special accommodation residents i.e. nursing home-type care in Sweden<sup>2</sup>

\*n=1922.

1. Valentini L, Schindler K, Schlaffer R, Bucher H, Mouhieddine M, Steininger K et al. The first nutritionDay in nursing homes: participation may improve malnutrition awareness. Clin Nutr 2009; 28(2):109-116.
2. Westergren A, Lindholm C, Axelsson C, Ulander K. Prevalence of eating difficulties and malnutrition among persons within hospital care and special accommodations. J Nutr Health Aging 2008; 12(1):39-43.

# Prevalence of malnutrition



Nutrition Screening Week **NSW**

	Hospitals		Care Homes		Mental Health Units	
	Centres (n=)	Patients (n=)	Centres (n=)	Residents (n=)	Centres (n=)	Patients (n=)
2007 Autumn	175	9336	173	1610	22	332
2008 Summer	130	5089	75	614	17	185
2010 Winter	185	9668	148	857	20	146
2011 Spring	171	7541	78	523	67	543
Prevalence	25-34%		30-42%		18-20%	





# Malnutrition in the Media

guardian.co.uk

Search

News Sport Comment Culture Business Money Life & style

News Society Older people

## Elderly leave hospital malnourished

Figures show more hospital patients malnourished on departure from hospital than on arrival

Owen Bowcott  
guardian.co.uk, Friday 22 January 2010 07:00 GMT  
Article history



Age Concern and Help the Aged claims that six out of every 10 pensioners admitted to hospital are at risk of becoming malnourished on the wards. Photograph: Rui Vieira/PA

The number of patients leaving hospital with malnutrition has rocketed to record levels over the past year, according to figures released by the NHS.

Those affected are primarily the elderly, many of whom are already in a frail condition when admitted for treatment. Failure to ensure that they eat properly while in hospital and to improve the nutritional quality of

MailOnline

Home News Sport TV&Showbiz Femail Health Science&Tech Money Debate

Health Home Health Directory Health Boards

Care for your boiler this winter with British Gas. Sign up now

Hard to stomach: A record 10,000 hospital patients hit by malnutrition

By DANIEL MARTIN  
Last updated at 10:23 AM on 22nd January

Comments (34) Add to My Stories

At least 10,000 patients left hospital last year under NHS care - the highest number on record. Official NHS figures show that in 2008/09 malnutrition or another nutritional difficulty affected 10,000 patients. But 185,446 were suffering the same condition.

Related Articles

- Nearly 250 NHS patients dying of malnutrition every year
- Poor nutrition stunting growth of 200 million children
- Patients more likely to go hungry than prisoners
- Health food junkies causing more 'orthorexic eating disorders cases'
- Old people going hungry in hospital, charity warns
- Hospitals infested with rats, fleas and

EXPRESS.co.uk  
Home of the Daily and Sunday Express

Tuesday 2nd February 2010 Make us your HOME PAGE RSS What is RSS? SEARCH:

Quickly Find... HOME > NEWS / SHOWBIZ > UK NEWS > Scandal of the 10,000 healthy patients left to starve in hospital

Home | Front Page | My EXPRESS

OF THE 10,000 HEALTHY LEFT TO STARVE IN HOSPITAL

Friday January 22, 2010

By Victoria Fletcher

A RECORD number of patients is being starved in hospital, shock figures show.

Almost 10,000 patients who went into hospital healthy last year were

Telegraph.co.uk

Home News Sport Finance Lifestyle Comment Travel Culture Technology

Motoring Health Property Gardening Food and Drink Family Outdoors Active Relations

Health News Health Advice Diet and Fitness Wellbeing Expat Health Swine Flu

HOME > HEALTH > HEALTH NEWS

Thousands of patients leave hospital malnourished

Almost 200,000 NHS patients left hospital malnourished last year, it has emerged, raising questions about food standards on wards.

By Rebecca Smith, Medical Editor  
Published: 7:15AM GMT 22 Jan 2010

New figures uncovered by the Conservatives have found that the number of patients leaving hospital malnourished has risen by record levels in the last year.

There has been an 18 per cent rise in the numbers discharged from wards in a malnourished state in just one year.

The figures showed that more people left hospital malnourished than went in with the problem, which the Conservatives branded a "scandal".

Lack of help with eating has been a major source of complaint in the NHS and has been consistently raised by regulators despite the introduction of schemes such as red trays to highlight which vulnerable patients need assistance with food.

Health officials said the issue was complex and malnourishment could arise as a complication of the underlying illness rather than lack of care, for example cancer patient may lose their appetite while on certain treatments.

They said that patient care does not stop because they were discharged from hospital and many receive

Share | Facebook | Twitter

Digg Submit 2 retweet

Email | Print

Text Size + -

Health News

Elder Health

Rebecca Smith

News

UK News

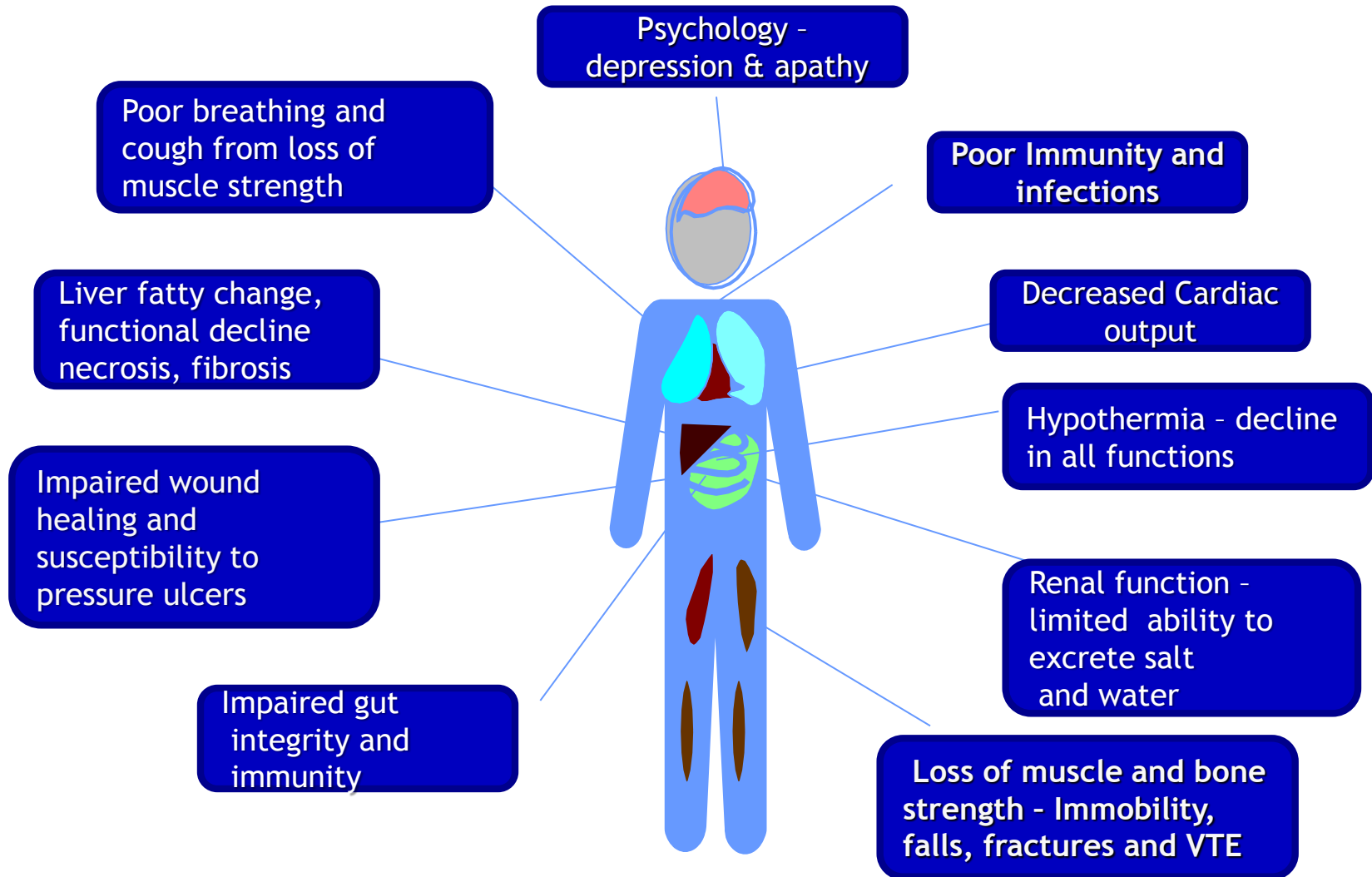
Telegraph Health Insurance

# MALNOURISHMENT IN THE COMMUNITY

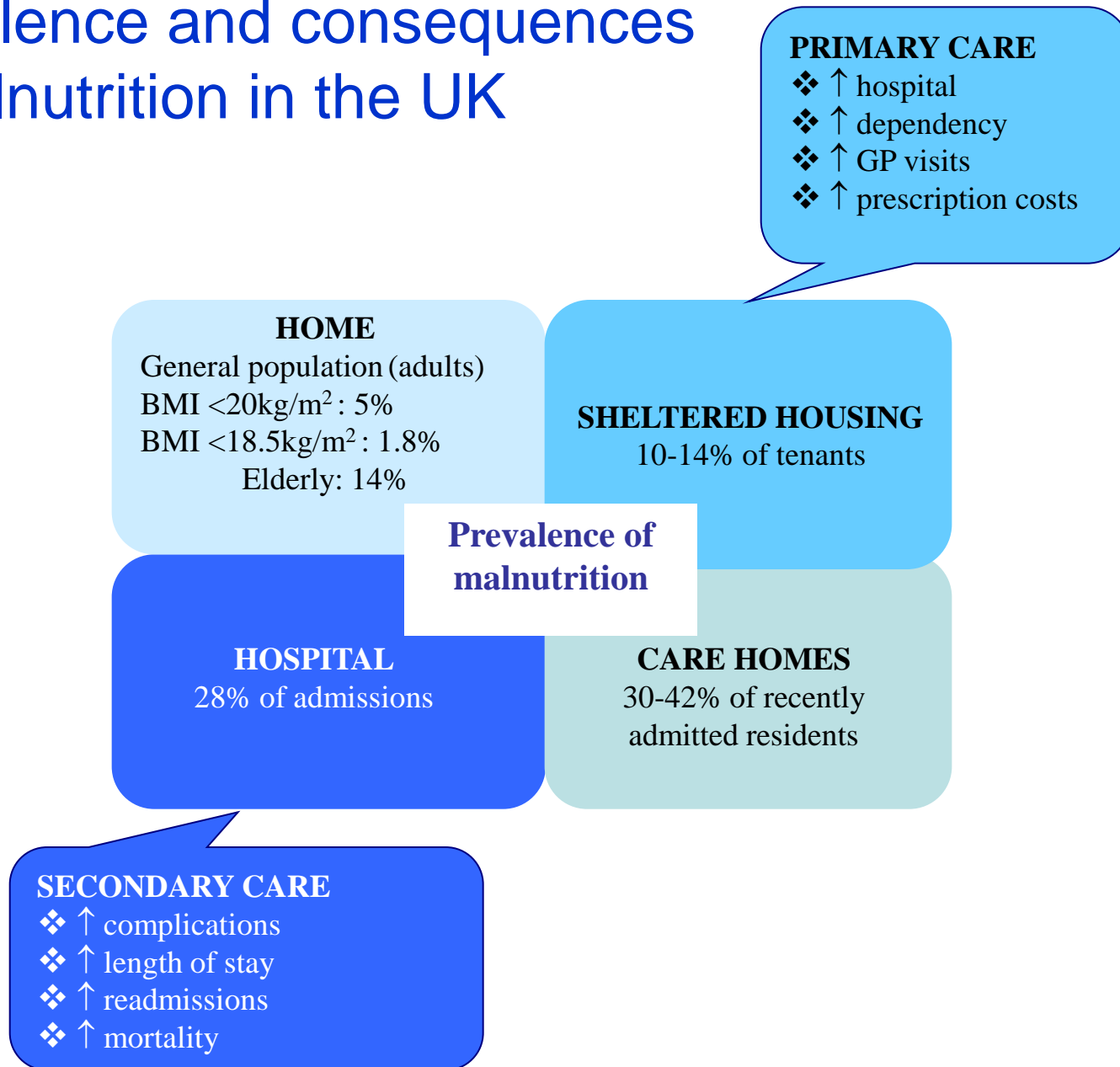
- ◉ Incidence of low body weight ( $\text{BMI} < 20$ )
  - >5% of the 'healthy' UK adult population over 65 yrs
  - >10% of the chronically sick (higher for those suffering from cancer, lung disease, GI problems, neurological and psychiatric illness.

# CONSEQUENCES OF MALNUTRITION (OCCURRING WITHIN DAYS)

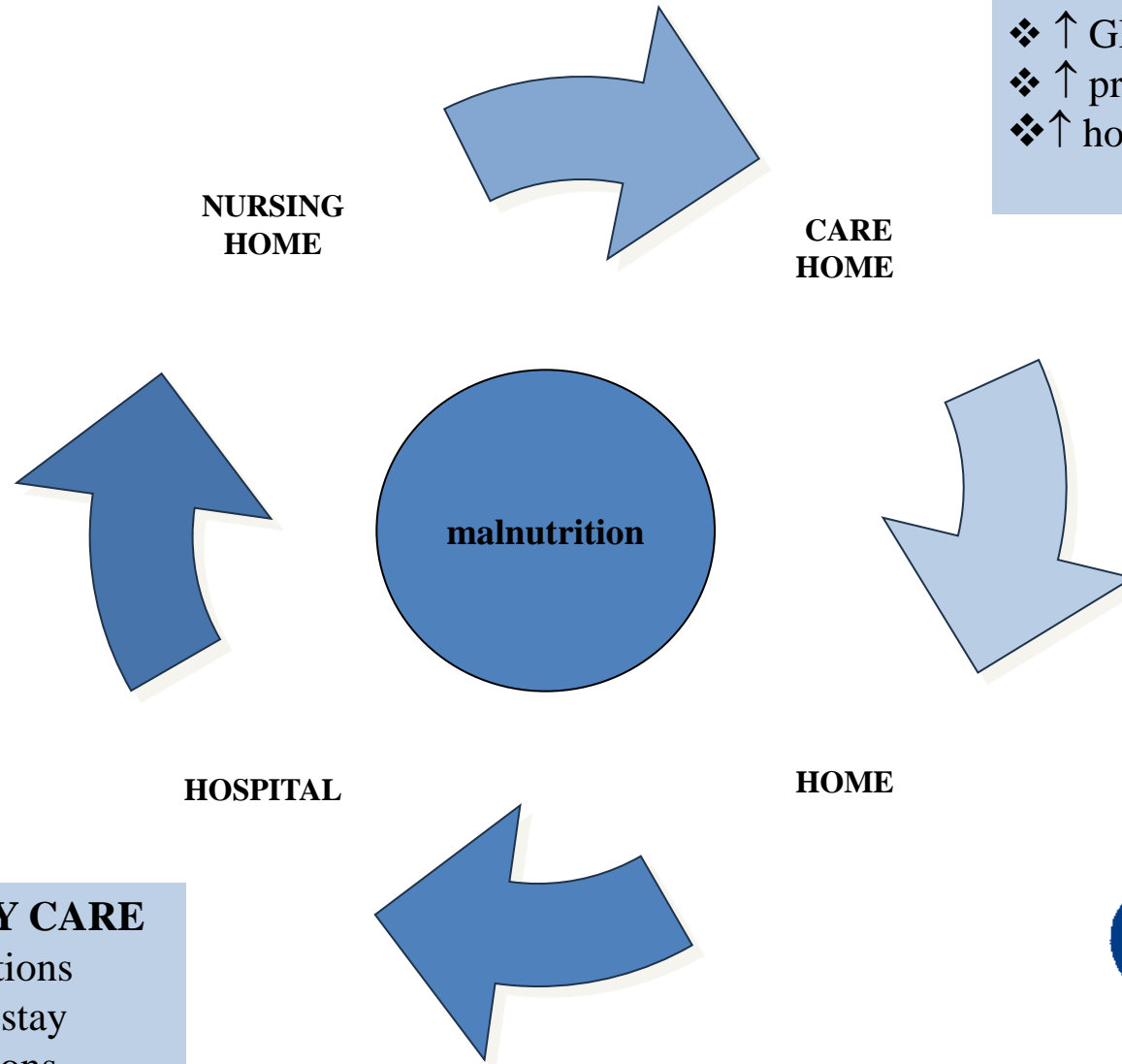
Malnutrition is both a cause and a consequence of disease



# Prevalence and consequences of malnutrition in the UK



# The Malnutrition Carousel



## PRIMARY CARE

- ❖ ↑ dependency
- ❖ ↑ GP visits
- ❖ ↑ prescription costs
- ❖ ↑ hospital admissions

## SECONDARY CARE

- ❖ ↑ complications
- ❖ ↑ length of stay
- ❖ ↑ readmissions
- ❖ ↑ mortality



**BAPEN**  
**Malnutrition Matters**

# THE COST OF MALNUTRITION

2014 - ?? >£15 billion p.a.

2007 - >£13 billion p.a.

Public expenditure  
associated with disease  
related malnutrition  
2003 - >£7.3 billion p.a

Over 3 million individuals malnourished  
or at risk of malnutrition in the UK

NICE Cost Saving Guidance places malnutrition as  
the 3rd potential biggest cost saving to the NHS

# Nutritional Treatment should:

- Improve general status
  - Immunity
  - Wound healing
  - Ventilation
  - Mobility
  - Psychology





Buys time for other  
medical and surgical  
interventions to work

ITU patients would die at  
20 to 30 days

Make stronger for  
discharge



# Nutrition Support in Adults

# The Problems of EBM in Nutrition Support

- Small trials use different
  - Indications for intervention and exclusion
  - Levels of feeding
  - Controls
  - Starting times
  - Routes of support
  - Duration of support
  - Outcome measures

in very heterogenous populations

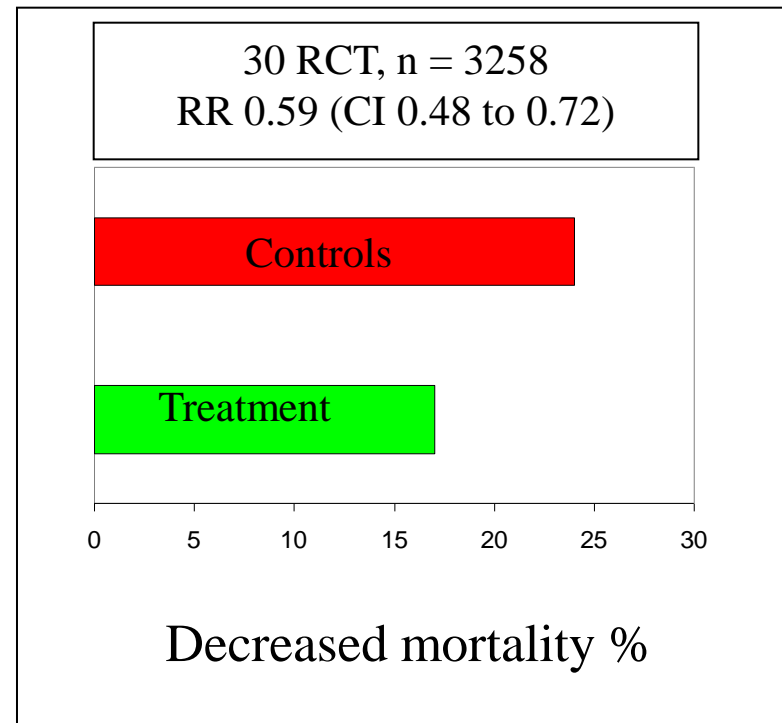
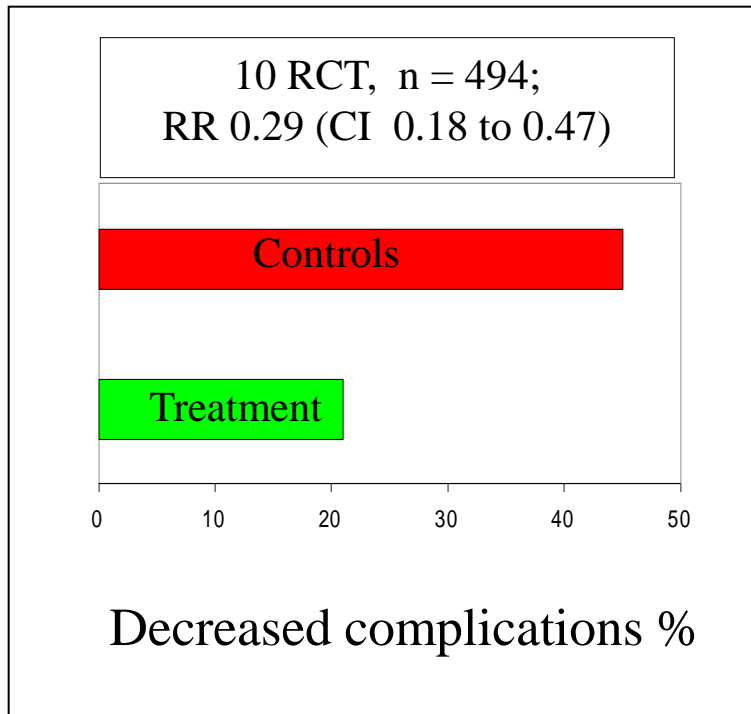


# Wanted – volunteers for RPCT

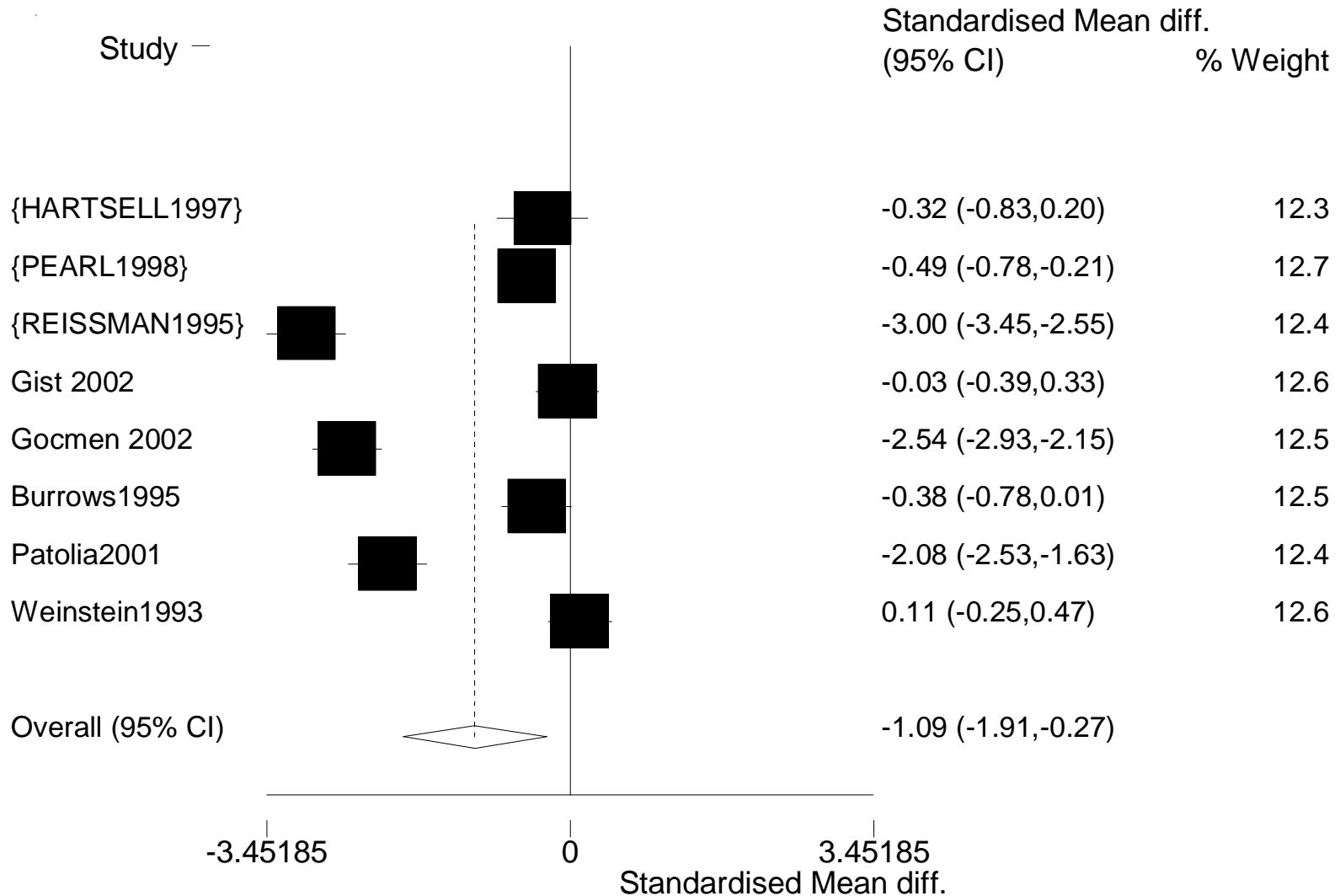
Patients with an undoubted need for nutrition support cannot be randomized

# Treating Malnutrition Works

Southampton meta-analysis of oral and enteral tube studies in malnourished patients



# NICE ONS and length of stay



# Deaths from Malnutrition

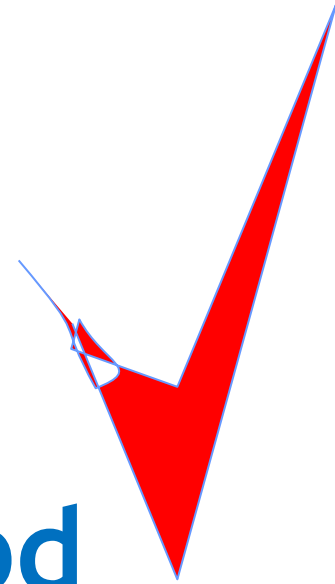
Office of National Statistics data resulting  
from a Parliamentary Question in 2009



# Options for Treatment

- ◉ Food
- ◉ Food Fortification
- ◉ Oral Nutrition supplements
- ◉ Enteral Tube Feeding
- ◉ Parenteral Nutrition

**Nutritional Treatment**  
**Food First:**  
**Yes in Health or**  
**Deprivation with a good**  
**appetite**





# Food as Treatment

Simon Allison – BAPEN

**‘The provision of food suitable for the sick is not just a hotel function, it is treatment’**

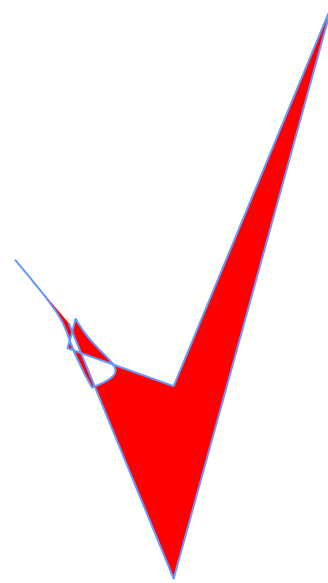
- Ordering – language, disabilities, illiteracy, inefficient systems
- Menu choice
- Appearance, presentation & palatability
- Meal time disruption
- Help to eat
- Staff attribute inadequate importance to food

# Feeding individuals is more challenging than it looks

- ❑ More than 75% of patients depend on food and beverage services for all nutritional needs
- ❑ Expenditure on food and food service is less than 10% of drug bill
- ❑ Catering budgets ( and dietitians) make easy targets
- ❑ All members of the team have an important role  
Small deficits accumulate into big problems
- ❑ “there is plenty of room for improvement and a change of attitude about the importance of hospital nutrition is required in both patients and caregivers.”



**Food First:  
Yes in Health or  
Deprivation  
with a good  
appetite**



But many malnourished and acute/chronic illness or injury (DRM) have appetite loss, depleted micronutrients and high micronutrient demands.

# Why does nutrition support help ?

Jeejeebhoy 1988. 'The benefits of nutritional support are evident when too little nutrition is given for too short a time to have any noticeable influence on lean body mass or circulating proteins

- ? Micronutrients
- ? Metabolic switching

Jeejeebhoy KN. ' Bulk or bounce – the object of nutritional support. JPEN 1988; 12(6): 539 – 546.

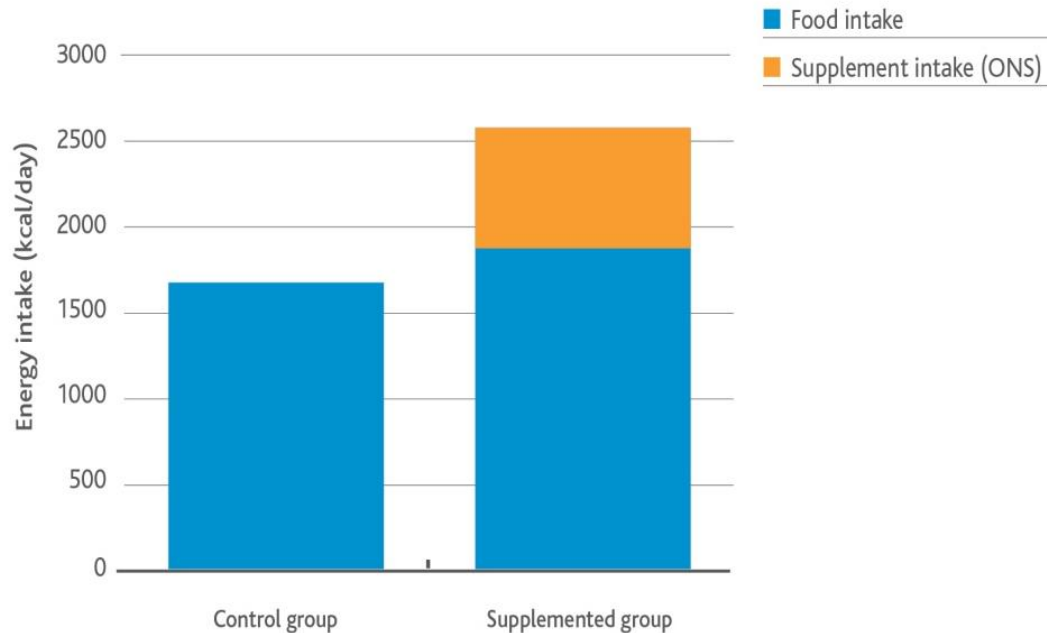
# Food First, Fortification or Fully Balanced Formula



Dr Mike Stroud  
Senior Lecturer in Medicine & Nutrition  
Consultant Gastroenterologist  
Southampton

BAPEN Chair  
(but not any more!!!!)

# ONS Effects on total energy Intake and intake from food

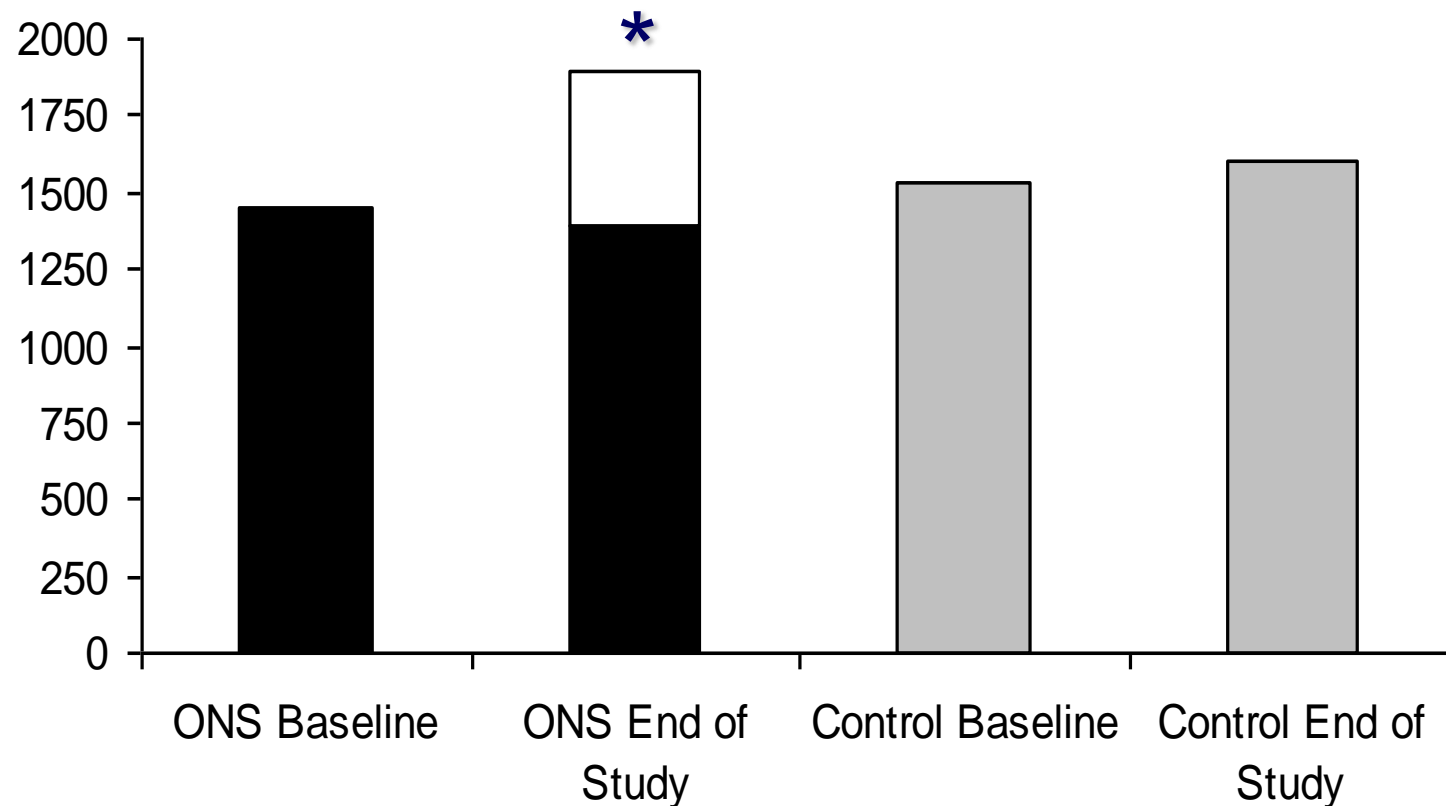


Significant increase in energy intake  $P < 0.0001$ .

Norman K, Kirchner H, Freudenreich M, Ockenga J, Lochs H, Pirlich M. Three month intervention with protein and energy rich supplements improve muscle function and quality of life in mal nourished patients with non-neoplastic gastrointestinal disease-a randomized controlled trial. Clin Nutr 2008; 27(1):48-56.

# Oral nutritional supplements and increased oral intake: results from a systematic review. Hubbard et al. BAPEN 2011

46 studies (32 RCTS): 33 community, 10 hospital, 3 mixed  
ONS compliance 78%



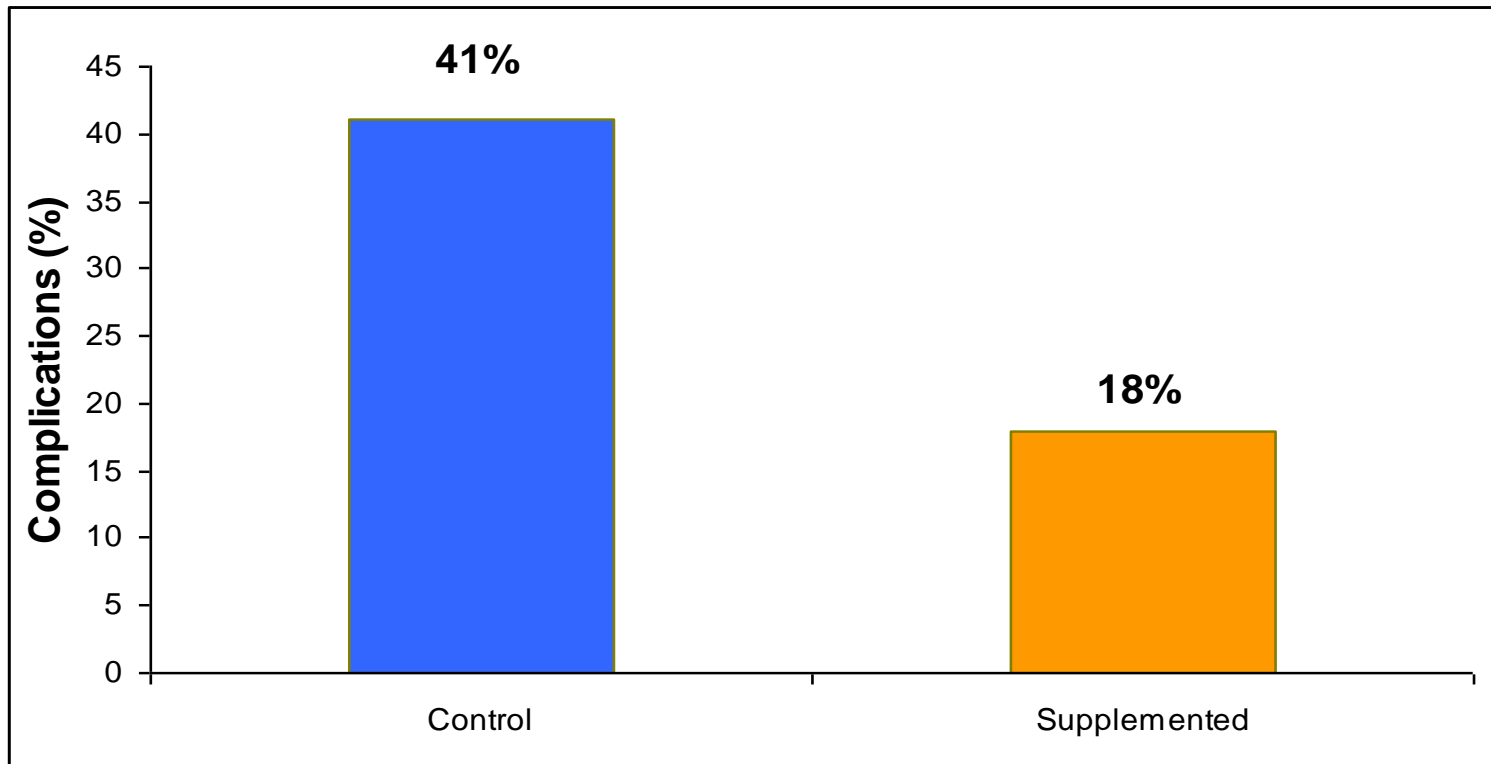
TEI at baseline and end intervention in 10 ONS and 9 control



# IMPACT OF ONS ON COMPLICATIONS

## - HOSPITAL PATIENTS

Significantly lower complication rates in supplemented surgical, orthopaedic, elderly and neurology hospital patients<sup>1</sup>



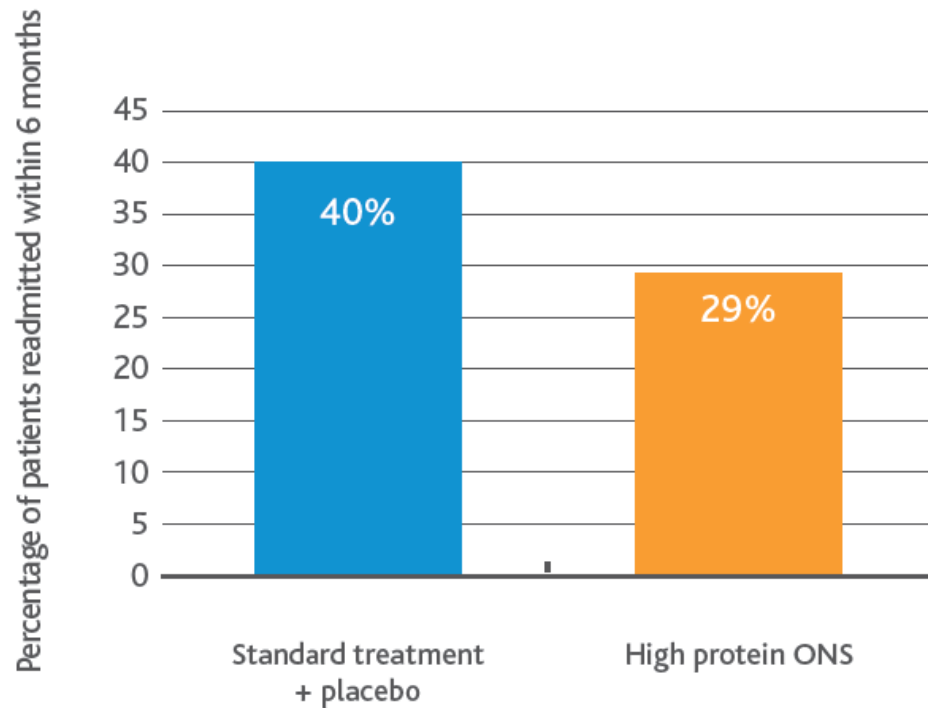
$p < 0.001$ ; odds ratio 0.31 (95% CI, 0.17 to 0.56), meta-analysis of 7 trials,  $n = 384$ ; no significant heterogeneity between studies

1. Stratton RJ, Green CJ, Elia M. Disease-related malnutrition: an evidence based approach to treatment. Wallingford: CABI Publishing; 2003.



# IMPACT OF ONS ON HOSPITAL RE-ADMISSIONS

Significantly lower proportion of acutely ill older people readmitted to hospital at six months when supplemented with high protein ONS compared with placebo<sup>1</sup>



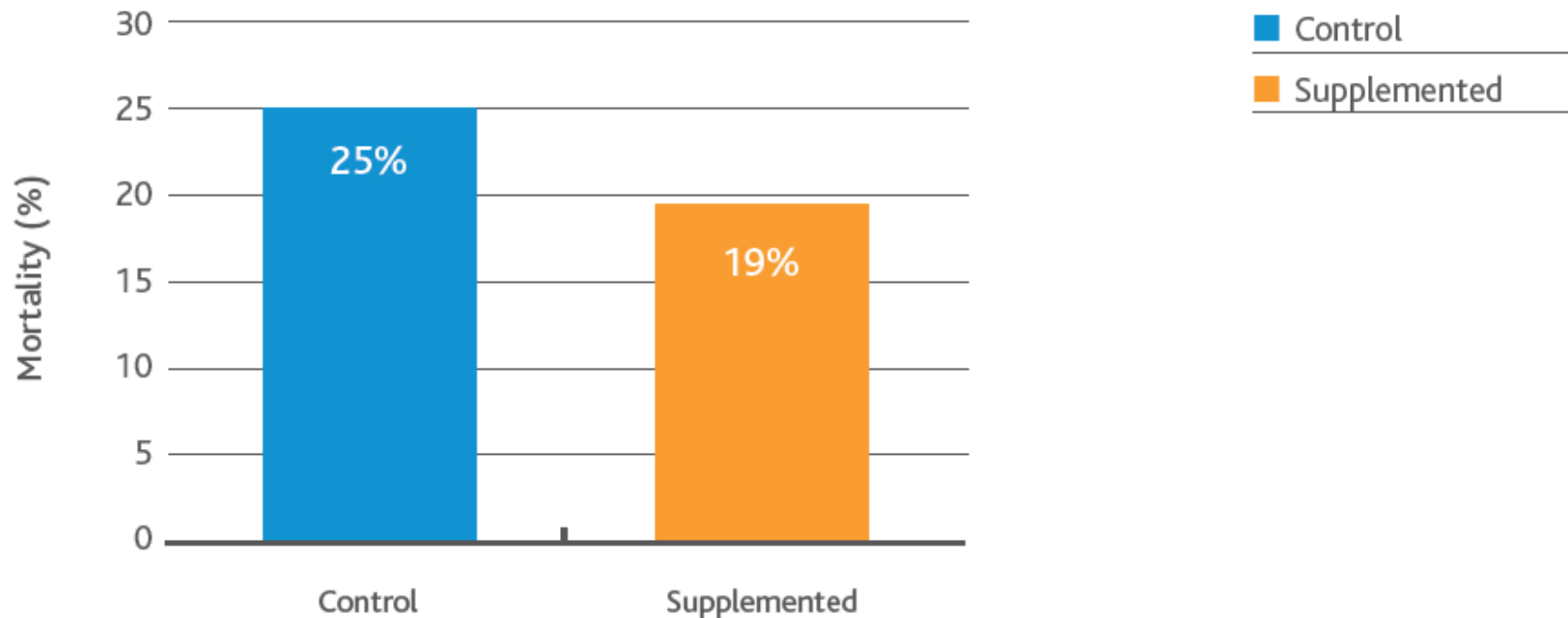
( $p < 0.05$ ) (n = 445, aged between 65 and 92 years)

1. Gariballa S, Forster S, Walters S, Powers H. A randomized, double-blind, placebo-controlled trial of nutritional supplementation during acute illness. *Am J Med* 2006; 119(8):693-699.

# IMPACT OF ONS ON MORTALITY

## - HOSPITAL PATIENTS

Significantly lower mortality rates found in supplemented hospitalised liver disease, orthopaedic, and surgical patients, and hospitalised older people



$p < 0.001$ ; odds ratio 0.61 (95% CI, 0.48 to 0.78), meta-analysis of 11 trials,  $n = 1965$ ;  
no significant heterogeneity between individual studies

1. Stratton RJ, Green CJ, Elia M. Disease-related malnutrition: an evidence based approach to treatment. Wallingford: CABI Publishing; 2003.

# COST SAVINGS IN MALNOURISHED HOSPITAL PATIENTS USING ONS

- ◉ Retrospective cost analysis, 9 trials + / - ONS
- ◉ Mean cost savings of between £352 - £8179 per patient in surgical, orthopaedic, elderly and cerebrovascular accident patients<sup>1</sup>
- ◉ Cost savings also demonstrated in other patient groups:

Patient group	Cost saving per patient
Older patients at risk of developing pressure ulcers (Stage IV) <sup>2</sup>	£460
Pooled results from analysis in surgical, elderly and stroke patients <sup>3</sup>	£849 (bed day costs) £298 (complication costs)
Abdominal surgery patients <sup>4</sup>	£218

1. Stratton RJ, Green CJ, Elia M. Disease-related malnutrition: an evidence based approach to treatment. Wallingford: CABI Publishing; 2003.
2. Elia M, Stratton RJ. A cost-benefit analysis of oral nutritional supplements in preventing pressure ulcers in hospital. Clin Nutr 2005; 24:640-641.
3. Elia M, Stratton RJ, Russell C, Green CJ, Pang F. The cost of disease-related malnutrition in the UK and economic considerations for the use of oral nutritional supplements (ONS) in adults. 2005. Redditch, BAPEN.
4. Nuijten M, Freyer K, Green CJ. Cost-effectiveness of food for special medical purposes relative to standard care in patients undergoing abdominal surgery. Value in Health 2008; 11:A632.

# IMPACT OF ONS ON MEDICAL CARE COSTS IN COMMUNITY PATIENTS

- Evaluation of the economic impact of using ONS among malnourished older people in the community found ONS<sup>1</sup>:
  - Reduced healthcare utilisation
  - Reduced home nursing visits
  - Resulted in less GP and physiotherapist visits
  - Led to fewer hospital admissions
  - Shorter length of hospital stay with admission
- After considering the investment required for ONS, the average reduction in medical care costs was € 195 per patient

1. Arnaud-Battandier F, Malvy D, Jeandel C, Schmitt C, Aussage P, Beaufrere B et al. Use of oral supplements in malnourished elderly patients living in the community: a pharmaco-economic study. Clin Nutr 2004; 23(5):1096-1103.

# No evidence for use of dietary advice

- ◉ Cochrane - A review of 36 studies (n = 2714) found dietary advice plus ONS is more effective than dietary advice alone or no advice on weight gain
- ◉ NICE were unable to demonstrate any evidence of effect of dietary advice<sup>2</sup>
- ◉ many studies failed to report outcomes of interest

1. Baldwin C, Weekes CE. Dietary advice for illness-related malnutrition in adults. Cochrane Database Syst Rev 2008;(1):CD002008.
2. National Institute for Health and Clinical Excellence (NICE). Nutrition support in adults: oral nutrition support, enteral tube feeding and parenteral nutrition (clinical guidelines 32). 2006. London, National Institute for Health and Clinical Excellence (NICE).

# Threats - BMJ 18<sup>th</sup> January 2012

- £210 million increased by 33% in 3 years
- Total calorie intake is the main issue when it comes to malnutrition
- A Mars bar or biscuit a day is as good as ONS



BMJ 2012;344:e451 doi: 10.1136/bmj.e451 (Published 18 January 2012)

Page 1 of 1

## VIEWS & REVIEWS

## FROM THE FRONTLINE

### Bad medicine: medical nutrition

Des Spence *general practitioner, Glasgow*

Nutrition is a key priority in healthcare. The NHS currently spends £210 million on food supplements in the community alone, and has seen a 33% increase in cost over a three year period.<sup>1</sup> Sip feeds (caloric drinks) and various puddings make up the greatest part of these costs. The burden of malnutrition in elderly people and dubious health economics are used to justify the high costs of these medicated foods<sup>2</sup>—but this money could be better spent.

Total calorie intake is the main issue when it comes to malnutrition. Sip feeds are often milkshake-like drinks that are fortified with vitamins. Yet the total energy in sip feeds is about 300 calories. Each drink or pudding costs about £2 to the NHS. The calorie content of a sip feed is the equivalent of a common chocolate bar—like a Mars bar, which has a retail cost of around 50p. As for prescription puddings, tinned rice pudding and custards from the supermarket are up to 80% as dense in calories yet cost just 20% of the price per unit weight. Clearly there are many ready made, palatable, and calorie dense alternatives to prescribed supplements that are available for a fraction of the cost. The best option, however, would be freshly cooked, locally sourced foods with a similar calorie density.

So what of the evidence for medicated food supplements? This comes from short, small, heterogeneous, and poorly designed studies. Importantly, they compared supplements to "standard care," and few were community based. Overall there was no significant reduction in mortality in the supplement medicated food group. There was a significant weight gain of 2%—about 1 kg in a 50 kg person. One kilogram weight is about equivalent to 8000 calories—a weight gain that would require an additional 100 calories a day over a three month period. This is little more than a daily chocolate biscuit. Surely such a modest increase can be achieved by simple changes to what constitutes "standard care?"

Regrettably—but perhaps predictably—the advocacy on nutrition through charities like BAPEN (the British Association for Parenteral and Enteral Nutrition) are loaded with corporate additives. Abbott, Nutricia, and Nestlé are “industry partners.” BAPEN has received more than £100 000 in corporate support.<sup>4</sup>

We are being force fed the medicalisation of food and have been distracted from the real problem—that most fundamental of nursing duties—feeding. The huge costs and the rapid increase in the use of supplements should raise concerns about their appropriateness. Cost savings could pay for additional carers and improve budgets for catering throughout the care community. Tasty whole food is the best medicine.

- 1 <http://www.ic.nhs.uk/statistics-and-data-collections/primary-care/prescriptions/prescription-cohort-analysis-england-2010>
- 2 Nutritional support in Adults NICE 2006 <http://guidance.nice.org.uk/CG52/Guidance/pdf/English>
- 3 <http://summaries.cochrane.org/CD000266/protein-and-energy-supplementation-in-elderly-people-at-risk-from-malnutrition>
- 4 [http://www.bapen.org.uk/pdfs/bapen\\_publicannual\\_report\\_09.pdf](http://www.bapen.org.uk/pdfs/bapen_publicannual_report_09.pdf)

Cite this as: *BMJ* 2012;344:n451

© BMJ Publishing Group Ltd 2012

destwo@yahoo.co.uk

For personal use only: See rights and reprints <http://www.bmj.com/permissions>

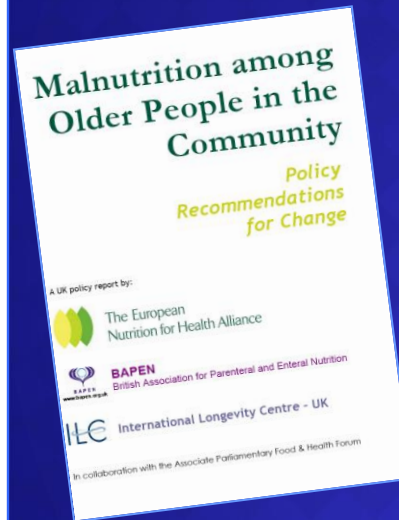
Subscribe: <http://www.bmj.com/subscribe>



# The Challenge:

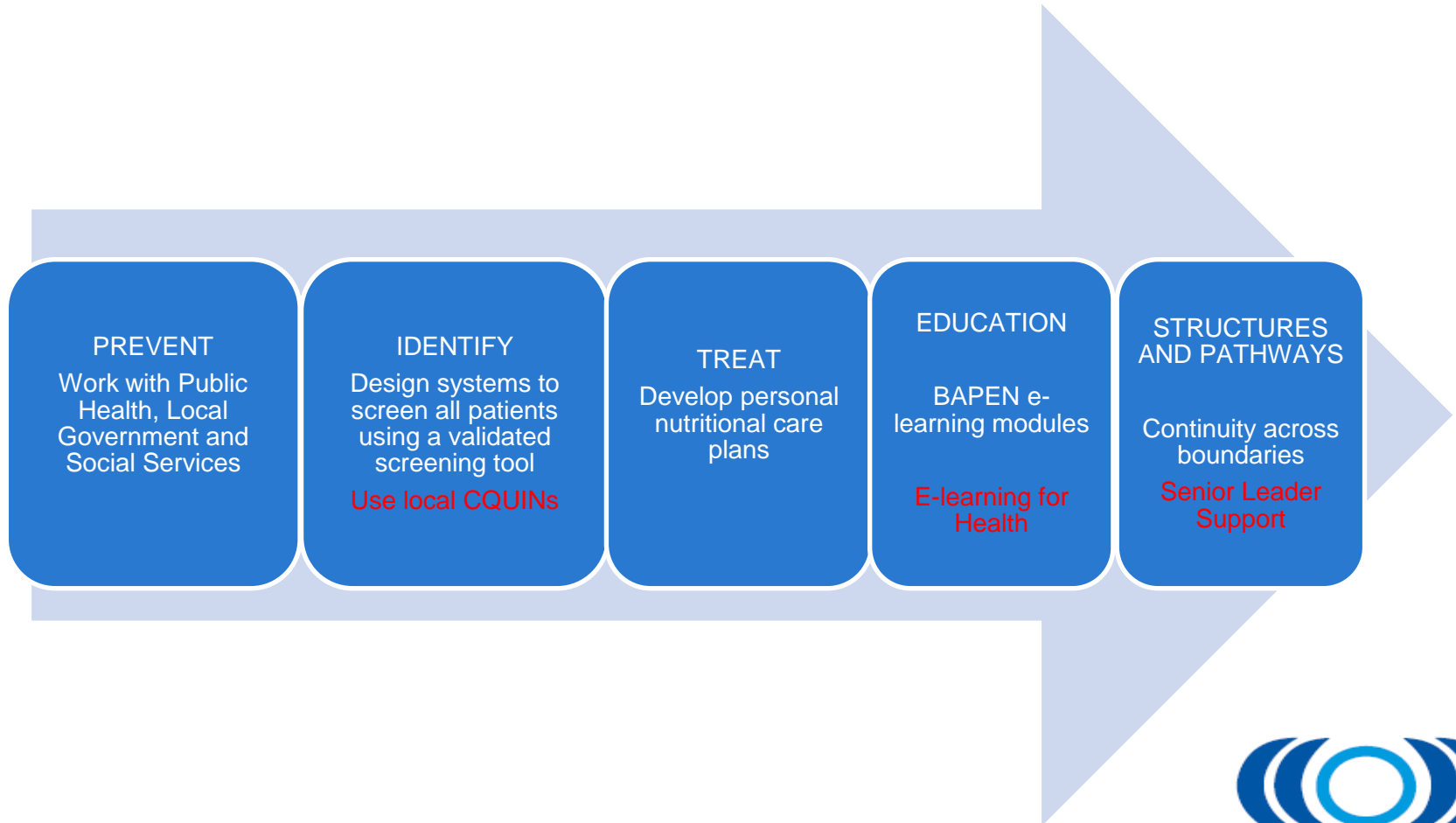
We know what excellent nutritional care looks like

WE NEED HIGHLY RELIABLE SYSTEMS THAT WORK ACROSS ALL HEALTH SETTINGS



# Reliable systems of nutritional care- The 5 tenets

*Aim for good nutritional care for every individual,  
in every setting, on every day*



Putting patients at the centre  
of good nutritional care





# Nutritional Care Quality Improvement Programme

Work with local patient  
and carer organisations:

AGE UK

Carers UK

PINNT

Work with local  
professionals and  
members of BAPEN,  
the BDA and the  
RCN/NNNG



Clinical  
Commissioning  
Groups have a key  
role

Work with local  
providers:

- NHS Trusts – acute, community, mental health
- Care Homes
- Sheltered Housing

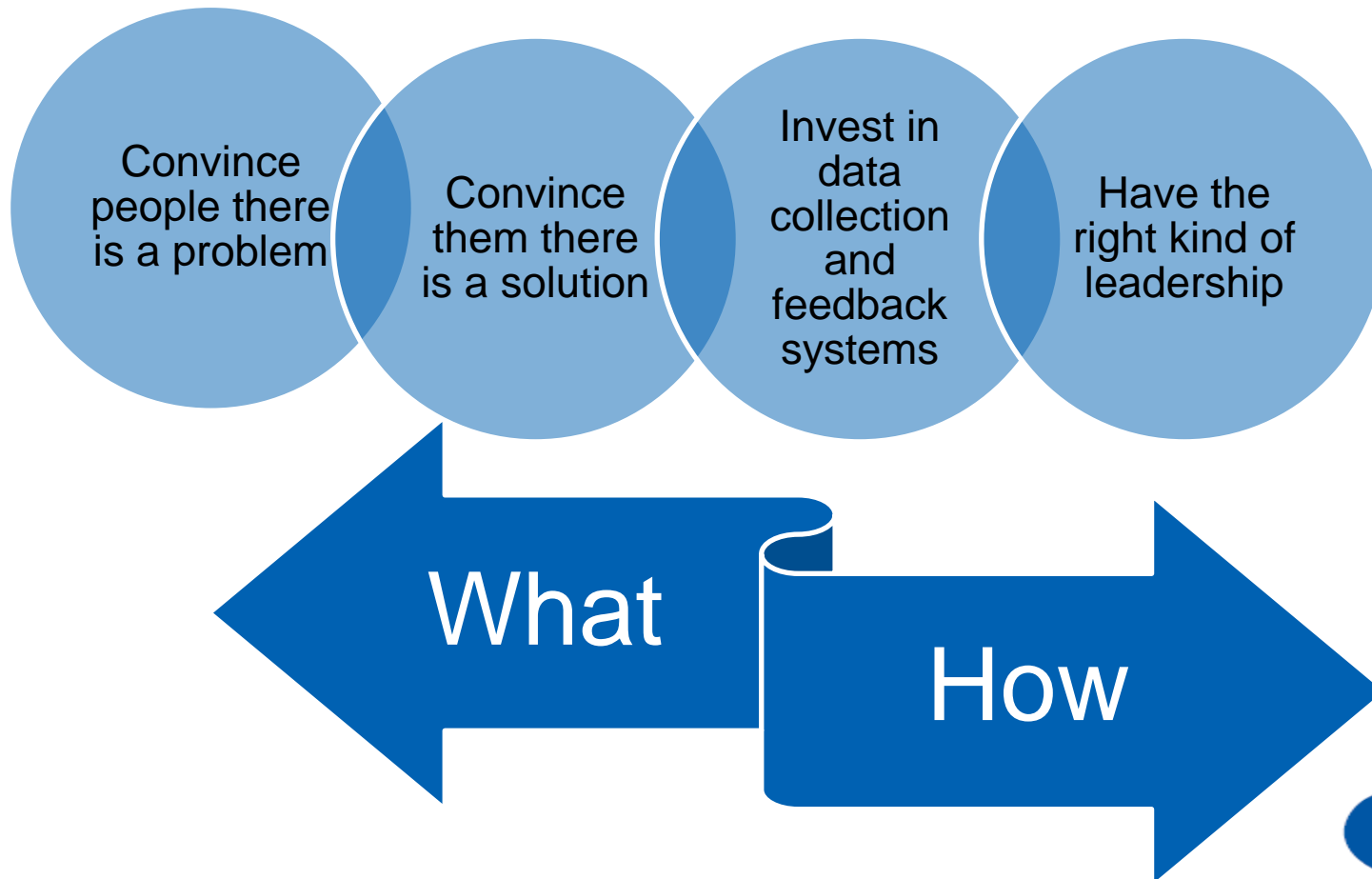
Putting patients at the centre  
of good nutritional care



...but we are still struggling to  
deliver this

How do we make sure that we can deliver  
good nutritional care in a highly reliable  
way across a rapidly changing health and  
social care system?

## Overcome challenges to improving quality





*Preventing malnutrition in later life*

## **Mission**

*To ensure the prevention and treatment of malnutrition is embedded in all care and community support services and awareness is raised amongst older people and their families*

# A National Strategy for Nutrition and Hydration



# Nutrition at the heart of Care

- Safety ✓
- Effectiveness ✓
- Equality ✓
- Patient experience ✓

