

## Overview of Malnutrition

Malnutrition is defined as deficiency of energy, protein and other nutrients that causes adverse effects on the body (shape, size and composition), the way it functions and clinical outcomes<sup>2</sup>. Malnutrition can be disease-related or caused by social factors. **This document specifically focusses on the identification and management of undernutrition related to, or caused by, disease.** Disease-related malnutrition can be challenging to manage due to the effects of the disease and associated treatments and may require multimodal treatment. This is in contrast to social malnutrition arising from economic and environmental factors (e.g. poverty, isolation, poor mobility or self-neglect), where the provision of adequate food and drink can result in the reversal of malnutrition. It should be noted that in some cases of disease-related malnutrition social factors may also play a part. It should also be noted that it is possible for those who are overweight/obese to be malnourished and in such cases attention should be paid to unexplained weight loss.

### Size of the problem

At any point in time more than 3 million people in the UK are malnourished or at risk of malnutrition. Most of these (~93%) live in the community<sup>3</sup>

#### Malnutrition (undernutrition) affects:

- 35% of people recently admitted to care homes<sup>4</sup>
- 29% of adults on admission to hospital<sup>5</sup>
- 30% attending hospital outpatients<sup>6</sup>
- 11% of people at GP practices<sup>7</sup>

### Clinical consequences of malnutrition

- Reduced muscle strength<sup>8</sup> and frailty<sup>9,10</sup>
- Increased risk of falls<sup>11,12</sup>
- Slower recovery from illness and surgery<sup>8</sup>
- Poorer clinical outcomes e.g. higher mortality<sup>8</sup>
- Impaired psycho-social function<sup>8</sup> (e.g. anxiety, depression, altered cognitive function)
- Impaired immune response<sup>8</sup>
- Impaired wound healing<sup>8</sup>

The incidence of malnutrition across a range of healthcare settings presents multiple opportunities for the multi-disciplinary team to identify, manage and review patients at risk of malnutrition.

## Cost Implications of Malnutrition

Malnourished people have<sup>13</sup>:

More hospital admissions/readmissions

Longer length of stay in hospital

Greater healthcare needs in the community  
(more GP visits, care at home, antibiotics)

Malnutrition costs in excess of **£23.5 billion per annum in the UK**, based on malnutrition prevalence figures and the associated costs of both health and social care<sup>1</sup>. It is estimated that the cost of health and social care for a malnourished individual is three times greater than for a non-malnourished individual<sup>13</sup>:

Estimated Annual Cost	Non-malnourished individual	Malnourished individual
Healthcare	£1,715	£5,763
Social care	£440	£1,645
<b>TOTAL</b>	<b>£2,155</b>	<b>£7,408</b>

### Tackling malnutrition will improve nutritional status, clinical outcomes, reduce health care use and associated healthcare costs<sup>13</sup>.

Patient centred consultations and interventions can improve quality of life<sup>14</sup>

- Effectively managing malnutrition can bring about significant cost savings<sup>13,15-17</sup> of at least £123,530 per 100,000 by managing individuals at risk of malnutrition according to the National Institute for Health and Care Excellence (NICE) guidance<sup>1</sup>
- The cost of nutrition support products (including ONS, tube feeds and parenteral nutrition) is low at <2.5% of the total expenditure on malnutrition<sup>1</sup>

## Groups at risk of malnutrition include those needing support because of:

**Chronic diseases:** e.g. COPD, cancer, gastrointestinal disease, renal or liver disease, rheumatoid arthritis, inflammatory bowel disease (IBD)<sup>3,8,18</sup>. Consider acute episodes and exacerbations.

**Progressive neurological disease:**<sup>3</sup> e.g. dementia, Parkinson's disease, stroke, motor neurone disease (MND)

**Acute illness:**<sup>3</sup> where adequate food is not consumed for more than 5 days

**Frailty:**<sup>8</sup> e.g. immobility, old age, recent discharge from hospital and sarcopenia (including sarcopenia in both frail and obese patients)

**Prehabilitation:**<sup>19</sup> to optimise nutritional status prior to surgery

**Rehabilitation:** to provide on-going support in the community after an acute episode of care e.g. after surgery<sup>20</sup>, stroke<sup>3</sup>, injury<sup>8</sup>, cancer treatment<sup>8</sup>, hospital admission<sup>21</sup>, an episode involving intensive care<sup>22</sup>

**Neuro-disability:** e.g. cerebral palsy<sup>23,24</sup>, learning disabilities<sup>25,26</sup>

**End of Life Requirements/Palliative Care Needs:**<sup>27,28</sup> tailor and adjust advice according to phase of illness and maintaining patient comfort and respecting choice particularly towards the end of life. For further information see <https://www.rcplondon.ac.uk/projects/outputs/supporting-people-who-have-eating-and-drinking-difficulties>

**People with impaired swallow (dysphagia)**<sup>29</sup>

NB: Patients with socio-economic issues and environmental issues i.e. with little or no support, who are housebound or who experience difficulty accessing or preparing food, are at increased risk of malnutrition<sup>3</sup>. Malnutrition risk may be further compounded if patients with existing disease related malnutrition also fall into this group.