Malnutrition in Ireland

Can a national screening programme deliver net savings?

Niamh Rice
IrSPEN Conference 2013
Impact of economic crisis on Irish healthcare system

Health spending cuts:
- €721m in 2013
- €3.3bn since 2008 (22%)
- 519 inpatient beds
- reimbursement of nutritional products slashed

Social changes
- ↑ population by 8% (2006 – 2011)
- ↑ in >65’s by 14%
- ↑ chronic disease burden
- ↑ demand for public hospital care
- ↑ medical cards
Healthcare Policy in response to the ‘perfect storm of negative circumstances’?

- **Treatment at lowest level of complexity:** *in primary care settings*
- **Strong focus on prevention**
  (“Prioritising prevention makes…economic sense”)
- **Keeping older patients well and at home** for as long as possible (*reduce need for residential care*)
- **Tackle burden of chronic disease**
Malnutrition a problem in Ireland?

I don’t believe it!
“Doctors, let alone the general public, find it difficult to accept that both obesity and malnutrition can exist side by side”
The facts: Malnutrition in Ireland

143 000 adults

- 75 000 ≥ 65 years
- 68 000 < 65 years

- 66500 living at home
- 6500 nursing home residents
- 2600 hospital inpatients
- 67400 younger adults with serious illness
Costs of disease related malnutrition are substantial

The cost associated with disease-related malnutrition in Ireland

Niamh Rice\textsuperscript{1,}* and Charles Normand\textsuperscript{2}
\textsuperscript{1}NR Consulting, 3 Lumiera, Kilmacanogue, Co. Wicklow, Republic of Ireland; \textsuperscript{2}Department of Health and Management, Trinity College Dublin, College Green, Dublin 2, Republic of Ireland

Submitted 12 April 2010: Accepted 12 December 2011

Abstract

Objective: The present study aimed to establish the annual public expenditure arising from the health and social care of patients with diet-related malnutrition (DRM) in the Republic of Ireland.

Design: Costs were calculated by (i) estimating the prevalence of DRM in health-care settings derived from age-standardised comparisons between available Irish data and large-scale UK surveys and (ii) applying relevant costs from official sources to estimates of health-care utilisation by adults with DRM. No attempt has been made to estimate separately the costs of DRM and any associated disease, since each can be a cause or consequence of the other. The methods used are adapted from an evaluation of the cost of malnutrition in the UK by the British Parenteral and Enteral Nutrition (2009).

Settings: Hospitals, nursing homes, outpatient clinics, primary care, and home care.

Subjects: All adult patients receiving hospital in-patient, out-patient, or community health-care services.

Results: The annual public health and social care cost associated with malnourished patients in Ireland is estimated at over €1.4 billion of the health-care budget. Most of this cost arises in acute hospital settings (i.e. 70%), with nutritional support estimated to account for 11% of this cost. The cost associated with home care is considered to be greater than with acute hospital care.

Conclusions: The cost associated with the care of patients with DRM may rise as the proportion of older people within the population group at increased risk of DRM. Despite growing pressure on health-care systems, the cost of DRM appears to receive less funding than other major health-care priorities.

- Total costs in ROI: €1.42bn
- 11\% of total annual healthcare budget
Estimated cost of DRM in Ireland

- Social care
  - Adult care homes (88%) & home care (12%)
  - Primary care
- Health care
  - Hospital inpatients (92%) & outpatients (8%)
- Other

Nutritional support products, adults: (Tube feeds, ONS, TPN) = €36m

Average cost of one public hospital bed day = €834 (Casemix, 2010)

Average cost of 1 outpatient visit = €139 (Casemix, 2010)
Inpatients with disease-related malnutrition

2,796,838\textsuperscript{1}

1,090,766\textsuperscript{2}

251,714\textsuperscript{3}

Total number of bed days – all patients

No. of bed days used by malnourished patients

Additional bed days used by malnourished patients due to longer LOS

---

2. Calculated from prevalence of patients at medium/high risk of malnutrition using MUST in 2010 and 2011 National Screening Survey Week in Irish hospitals (INDI / BAPEN).
3. Calculated based on 30% longer length of stay, pooled sources, Elia / Stratton.
How do these costs compare with data from other countries?

## Costs of malnutrition

<table>
<thead>
<tr>
<th>Country</th>
<th>Costs of malnutrition</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>UK¹</td>
<td>€15 billion</td>
<td>Public expenditure on malnutrition in 2007</td>
</tr>
<tr>
<td>Germany³</td>
<td>€9 billion</td>
<td>Additional costs due to malnutrition across all care sectors in 2003</td>
</tr>
<tr>
<td>The Netherlands⁴</td>
<td>€1.9 billion</td>
<td>Additional costs due to malnutrition in 2011</td>
</tr>
</tbody>
</table>

1. Elia M & Russell C. Redditch, BAPEN. 2009  
Healthcare costs of malnutrition consistently exceed those of obesity and overweight combined

- €1.42 billion: 100% direct public healthcare costs
- €1.13 billion: 35% (€398m) direct healthcare costs
How much would it be worth spending per patient to prevent / treat malnutrition?

€3497 - €5245

• Any spend BELOW this figure which successfully treats DRM might be anticipated to deliver savings.

• Spend above this average may add value by improving quality of healthcare but would require justification

*Estimated additional cost of MN (€500 to €750m) / number of people at medium/high risk of DRM (143,000)
Could the implementation of screening deliver net savings?
National Institute for Health and Clinical Excellence (NICE) UK 2012:

“Implementation of Nutrition Guidance would deliver 3rd largest potential savings to NHS”

- Routine Screening of ‘relevant’ groups / patients
- Training of healthcare staff
- Nutritional assessment & follow up for high risk patients
- ONS / Nutritional support as needed
- Additional nutrition nurses
Malnutrition Cliff

Ahhh!!

ouch!

somebody help me!
Future focus of interventions and expenditure

Current ad hoc system
NICE model assumptions

- 10% reduction in hospital malnutrition would be achieved by full implementation
- No patients additionally treated with ETF would benefit
- Only 20% of free living and 40% of nursing home patients would derive benefit from treatment with ONS
- Low ‘intervene to screen’ ratio
- Builds in little percentage efficiency gains from improved targeting of nutritional support or shorter duration treatment
IrSPEN costing template adapted according to Irish practice and updated evidence base: Preliminary Findings

Implementation of a National Screening Programme and nutritional care standards in Ireland: COSTING MODEL

March 2013
<table>
<thead>
<tr>
<th>No</th>
<th>Item</th>
<th>Cost ‘€000’</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Screening for malnutrition</td>
<td>2,113</td>
</tr>
<tr>
<td>2</td>
<td>Nutritional Assessment &amp; care planning for patient</td>
<td>1,748</td>
</tr>
<tr>
<td>3</td>
<td>Nutritional support</td>
<td>949* (+9% at new prices)</td>
</tr>
<tr>
<td>4</td>
<td>Total cost for screening, assessment and treatment</td>
<td>4,810</td>
</tr>
<tr>
<td>5</td>
<td>Training, coordination &amp; audit</td>
<td>250</td>
</tr>
<tr>
<td>6</td>
<td><strong>TOTAL ADDITIONAL COSTS</strong> *</td>
<td><strong>5,060</strong>*</td>
</tr>
</tbody>
</table>

* Additional costs of nutritional support available from savings from major price cuts to NS products in November 2013
### Savings resulting from reduction in DRM

<table>
<thead>
<tr>
<th>No</th>
<th>Item</th>
<th>Cost ‘€000’</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Reduced Length of inpatient stay</td>
<td>-19,608</td>
</tr>
<tr>
<td>2</td>
<td>Reduced GP visits</td>
<td>- 191</td>
</tr>
<tr>
<td>3</td>
<td>Reduced OPD visits</td>
<td>- 137</td>
</tr>
<tr>
<td>4</td>
<td>Reduced hospitalisation</td>
<td>- 4,287</td>
</tr>
<tr>
<td>5</td>
<td>TOTAL SAVINGS *</td>
<td>- 24,224*</td>
</tr>
<tr>
<td>6.</td>
<td>NET SAVINGS</td>
<td>- 19,164</td>
</tr>
</tbody>
</table>

* This model does not incorporate savings on prescription costs, treatment costs or reduced need for institutional care following discharge.
Summary Table 2: Full costing using actual 2013 prices (reduced since November 2012)

<table>
<thead>
<tr>
<th>No.</th>
<th>Item</th>
<th>Annual Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Ireland</td>
</tr>
<tr>
<td>1</td>
<td>Screening for malnutrition</td>
<td>€2113</td>
</tr>
<tr>
<td>2</td>
<td>Nutritional assessment of malnourished</td>
<td>€1748</td>
</tr>
<tr>
<td>3</td>
<td>Nutrition interventions</td>
<td>-€6557</td>
</tr>
<tr>
<td>4</td>
<td>Total cost for screening, assessment and</td>
<td>-€2696</td>
</tr>
<tr>
<td>5</td>
<td>Training, coordination &amp; audit</td>
<td>€250</td>
</tr>
<tr>
<td>6</td>
<td>Total annual additional cost of</td>
<td>-€2446</td>
</tr>
<tr>
<td>7</td>
<td>Reduced inpatient length of stay</td>
<td>-€19608</td>
</tr>
<tr>
<td>8</td>
<td>Reduced GP visits</td>
<td>-€191</td>
</tr>
<tr>
<td>9</td>
<td>Reduced outpatient attendances</td>
<td>-€137</td>
</tr>
<tr>
<td>10</td>
<td>Reduced admissions</td>
<td>-€4287</td>
</tr>
<tr>
<td>11</td>
<td>Total potential annual saving</td>
<td>-€24224</td>
</tr>
<tr>
<td>12</td>
<td>Total annual net saving</td>
<td>-€26670</td>
</tr>
</tbody>
</table>

Included in the costing:

- 54,000 to 89,500 man hours for screening (up to 60 WTEs)
- 27 WTE dietitians for assessment/follow up
- 9% increased volume of ONS/ETF
- 2 hours training for HCPs involved in screening

28,652 acute bed days saved (1%)
What about patients?

Everyone deserves the same access to high quality care

All patients have a right to expect good nutritional care

No patient should suffer from avoidable malnutrition

Integration of nutrition into medicine and healthcare is essential
The 2009 Prague Declaration call for action to tackle malnutrition:

- Public awareness and education
- Guideline development and implementation
- Mandatory screening
- Research in malnutrition
- Training in nutritional care for health and social care professionals
- National nutritional care plans endorsed, and their implementation and funding across all care settings secured

- Consideration of malnutrition as a key topic for forthcoming EU Presidencies
Under the Irish presidency: Can we afford not to?

- ‘Malnutrition’ alliance
- Collaboration with patient organisations and professional bodies
- Stakeholder meetings
- May 24th meeting under EU presidency
- Launch of patient booklet & ‘Call to Action’