Economic Implications of Malnutrition

Reducing complications, cutting costs, saving time

Disease-related malnutrition is highly prevalent in hospital patients around the world. According to the British Association for Parenteral and Enteral Nutrition (BAPEN), one in four patients is at risk of disease-related malnutrition.\(^1\)\(^2\)\(^3\)\(^4\)\(^5\)\(^6\)\(^7\)\(^8\)\(^9\)\(^10\) Frequency of disease-related malnutrition is even higher in Latin America with up to 50 percent of hospital patients meeting the criteria for malnutrition.\(^10\)\(^11\)\(^12\)\(^13\)\(^14\)\(^15\)\(^16\) Patients suffering from disease-related malnutrition tend to require longer hospitalizations than well-nourished ones and are readmitted more often. Several studies have reported that disease-related malnutrition prolongs the hospital stay by an average of three days\(^17\) and increases patient costs up to a staggering 308 percent.\(^18\)
Higher Complication Rates Means Higher Costs

Disease-related malnutrition is responsible for significantly higher mortality and complication rates. At-risk patients have a 12 percent mortality rate compared to one percent for those not-at-risk. Nearly 31 percent of at-risk patients have complications versus 11 percent for not-at-risk patients.\textsuperscript{19}

Consequently, disease-related malnutrition is costly. The estimated burden of disease-related malnutrition in Europe is USD 210 billion—(€ 170 billion) per year. The UK alone spends in excess of USD 20 billion—(£13 billion) annually on managing disease-related malnutrition patients, resulting in costs of more than 10 percent of the total spend on health and social care.\textsuperscript{1,20,21,22} In comparison, the economic costs of disease-related malnutrition are double the costs of
The following formula can be used by hospitals to calculate cost saving potential:

\[
\begin{align*}
\text{Estimation of 3 days hospital stay}^{25} & \rightarrow \text{thereof 1/4} \\
\text{(patients/year)} & \\
\text{\quad} & \\
\text{\quad} & \\
\text{\quad} & \\
\text{(malnourished patients)} & \times \quad \text{(Euro)} \\
\text{\quad} & \\
\text{\quad} & \\
\text{\quad} & \\
\text{\quad} & \\
\text{(Euro/year cost saving potential)} & \\
\end{align*}
\]

Clinical Nutrition Reduces Complications, Cuts Costs, Saves Time

Clinical nutrition can improve patient outcomes, while cutting costs and saving time. Use of oral nutritional supplements (ONS) is consistently linked to lower complication and mortality rates for disease-related malnutrition patients when compared to standard care.\textsuperscript{26} ONS use was associated with lower length of stay and episode cost among pediatric inpatients and may provide a cost-effective, evidence-based approach to improving pediatric hospital care.\textsuperscript{27} When early enteral nutrition (EN) is administered to critically ill patients, survival is significantly improved and total costs of care reduced substantially. Studies in Europe have shown that total costs of acute hospital care were reduced by USD 14,462 per patient.\textsuperscript{28}

When ONS and EN are not sufficient to fill clinical nutrition needs, parenteral nutrition (PN) fills an important gap for critically ill patients. PN can significantly reduce complication rates in surgical, orthopedic, elderly care, and neurology hospital patients as compared to those who receive standard care.\textsuperscript{29}
The early use of PN in critically ill patients, where EN was contraindicated, may lower total acute hospital care costs by USD 3,150 per patient.\textsuperscript{30} Treating disease-related malnutrition through EN, PN, or supplemental PN, can have a meaningful impact on reducing the consumption of critical hospital resources and lowering cost of care. Perioperative PN reduced non-infectious complications in severely malnourished patients.\textsuperscript{31}

**Perioperative PN reduced non-infectious complications in severely malnourished patients**

**Education Can Help Improve Clinical Nutrition**

In many countries around the world, educational training in clinical nutrition is lacking. Pre- and post-graduate education for physicians typically involves only a few classes that focus on nutrition-related topics. This is also true for nurses who are on the front lines in identifying at-risk patients. Without proper education and ongoing training, health care professionals may not have the experience to confidently identify malnutrition; set-up nutrition plans; and monitor the effect of the nutritional support. Physicians, dietitians and nurses serve critically important roles in the clinical nutrition ecosystem.

The responsibility for clinical nutrition varies by country and the availability of resources. For instance, in Argentina the physician is the first point of contact with patients, while in Chile it is the triage nurse.

A lack of nutritional support teams (NSTs) and nutritional steering committees (NSCs) also contributes to the disease-related malnutrition problem. Studies have shown that NSTs only exist in 10 to 50 percent of hospitals.\textsuperscript{32}

As disease-related malnutrition becomes more widely understood, some Latin America countries are beginning to take steps to address the problem. For example, the Latin American Federation of Parenteral and Enteral Nutrition created two practical courses focused on the basic teaching of clinical nutrition. The courses are available to members of all Latin American countries, and are regularly offered by the Brazilian Society of Parenteral and Enteral Nutrition (SBNPE) to its members all over Brazil. To date, 4,000 physicians, dietitians, nurses, and pharmacists have taken advantage of these courses.\textsuperscript{33}

**More Studies Needed in Latin America**

Much of the research available on the economic consequences of disease-related malnutrition has focused on North America and Europe. Studies are underway to more accurately identify the economic impact of disease-related malnutrition in Latin America. Due to the existing high prevalence of malnutrition in hospitals across Latin America, a high economic burden can be expected. It seems advisable to intervene early via screening, assessment and appropriate nutritional management to reduce health care costs and improve patients' quality of life.
- Calculated based on an exchange rate of 1.2419 (Source: Bloomberg 11/25/12)
- Calculated based on an exchange rate of 1.5674 (Source: Bloomberg 11/25/12)


Source URL: https://www.unitedforclinicalnutrition.com/en/economic-implications-malnutrition