

United States Hospital Inpatient Admissions with Dehydration and/or Malnutrition in Medicare Beneficiaries Receiving Enteral Nutrition: A Cohort Study

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Introduction

Clinical relevancy:

This cohort study describes the high frequency and cost of acute care hospitalization of Medicare beneficiaries with dehydration and/or malnutrition.

These findings are clinically relevant for clinicians who are responsible for prescribing and caring for patients who receive enteral nutrition.

Impact:

Dehydration is a serious yet preventable condition for patients who receive enteral nutrition (EN).

It is associated with a variety of complications, including altered absorption of medications, delirium, hospitalization, and increased risk of death.¹⁻⁶ Patients who receive EN may also be challenged with malnutrition, which occurs with inadequate caloric/formula intake, increased nutrient requirements, or altered metabolism and absorption.⁷

Malnutrition can lead to poorer patient outcomes,⁸ longer hospital admissions,^{6,7} and increased healthcare costs.⁷

Medicare description:

Medicare is a U.S. federal government program that provides healthcare coverage for patients who are 65 years or older, are disabled, or have end-stage renal disease.⁹

Most beneficiaries qualify based on age. Because EN is used most commonly in older patients, a large proportion of EN supplies in the United States are paid for by Medicare.

Purpose

The purpose of this study was to describe the frequency and cost of acute care hospitalization with dehydration and/or malnutrition of Medicare beneficiaries receiving EN, focusing on those receiving home EN.

Methods

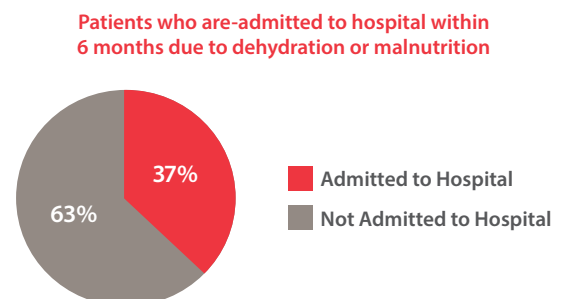
Medicare 5% Standard Analytic Files were used to determine Medicare spending for EN supplies. In addition, these files determined the proportion and cost of beneficiaries receiving EN — specifically home EN — admitted to the hospital with dehydration and/or malnutrition.

Results

In 2013, Medicare paid \$370,549,760 to provide EN supplies for 125,440 beneficiaries — 55% of whom were also eligible for Medicaid.

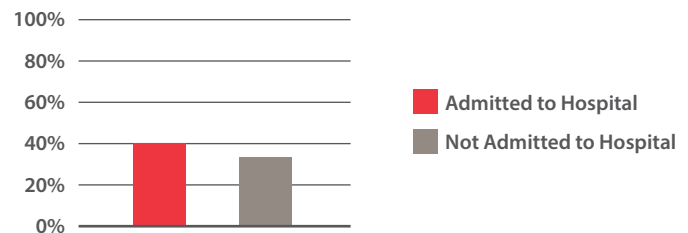
Acute care hospitalization with dehydration and/or malnutrition occurred in 43,180 beneficiaries receiving EN.

In beneficiaries receiving EN at home, more than one-third (37 percent) were admitted with dehydration and/or malnutrition during a mean observation interval of 231 ± 187 days.



Mortality in the year following enterostomy tube placement was significantly higher for admitted patients compared with nonadmitted patients (40 percent versus 33 percent; $p = 0.05$).

Admitted patients were usually hospitalized more than once with dehydration and/or malnutrition (1.73 ± 1.30 admissions). This cost $\$23,579 \pm \$24,966$ per admitted patient, totaling more than $\$129,685,622$ during a mean observation interval of 276 ± 187 days.



Conclusion

This analysis demonstrates that Medicare pays over \$370 million each year to provide EN supplies for more than 125,000 beneficiaries, with more than half belonging to the highly vulnerable population of dual-eligible patients.

In addition, Medicare pays more than \$129 million for the acute care hospitalizations of more than one-third of their patients receiving EN at home within an observation interval of less than one year.

Strategies to reduce dehydration in enteral fed patients — focused on an evaluation of the adequacy of hydration administered through the enteral tube — must be developed and assessed. Consideration should be given for use of an automated flushing pump to provide additional hydration in enteral fed patients, per the 2016 consensus recommendations by the American Society for Parenteral and Enteral Nutrition (ASPEN).¹⁰

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