Malnutrition-Related healthcare costs in hospitalized patients with Inflammatory Bowel Disease: a nationwide real world data analysis

Bini C[1], Scortichini M[1], Lanati EP[2], Pagella V[2,3], Sciattella P[1]
[1] CEIS-EEHTA, University of Rome "Tor Vergata"
[2] LIONHEALTH SB
[3] Department of Pharmaceutical Sciences, University of Milan

LB083

Background

In Italy, approximately **250,000 people are affected by Inflammatory Bowel Disease (IBD)**. Evidence from the literature indicates that the **prevalence of malnutrition** in this population **ranges from 13% (32,500 patients) to 26% (65,000 patients)**. Although malnutrition is associated with **worse clinical outcomes** and **increased healthcare costs**, global data on its **economic impact in IBD** remain limited, and **no such data are currently available for Italy**. Moreover, **nutritional screening** and the use of **oral clinical nutrition are not systematically included** in the patient care pathway in Italy, leading to limited recognition of the value of clinical nutrition as a preventive strategy.

This study **aimed to assess the clinical and economic burden of malnutrition among hospitalized IBD patients in Italy.**

Method

Study design: Retrospective analysis
Source: Italian National Hospital Discharge Database **(SDO)**
Time frame: 2015 – 2019
Study population: Patients with a first hospitalization for **IBD (Crohn's disease or ulcerative colitis)**

Malnutrition was identified through specific **ICD-9-CM codes**. Patients were followed for 1 year to assess **clinical outcomes** (hospital mortality, length of stay, readmissions) and **costs** based on national DRG tariffs. Comparisons between patients with and without malnutrition were performed using 1:1 matching for age, sex, region and Charlson Comorbidity Index. After matching, 3,682 patients were included.

Table 1 – ICD-9-CM Codes Used to Identify the Study Population

Group	ICD-9-CM	Description
Crohn's disease	555.0	Enteritis of the small intestine
	555.1	Enteritis of the large intestine
	555.2	Enteritis of the small and large intestine
	555.9	Enteritis, site unspecified
Ulcerative colitis	556.0	Ulcerative enterocolitis (chronic)
	556.1	Ulcerative ileocolitis (chronic)
	556.2	Ulcerative proctitis (chronic)
	556.3	Ulcerative proctosigmoiditis (chronic)
	556.5	Ulcerative colitis localized to the colon
	556.6	Ulcerative pancolitis
	556.8	Other ulcerative colitis
	556.9	Ulcerative colitis, unspecified

Results

Between 2015 and 2018, **64,307 patients** were hospitalized with an IBD diagnosis, of whom **3.1%** (1,951) **had a diagnosis of malnutrition**.
Patients with malnutrition showed:

Table 2 – Clinical Outcomes Stratified by Malnutrition Status

Outcome	Malnourished patients	Not malnourished patients	Delta
In-hospital mortality rate	6.3%	4.5%	+ 1.8%
Hospital stays (days)	30	16	+ 14
Annual readmissions	1.26	0.71	+ 0.55

Table 3 – Costs Stratified by Malnutrition Status

Type of Hospitalization	Malnourished patients	Not malnourished patients	Delta	
			value	% increase
First hospitalization cost per patient with IBD	€ 5,097	€ 3,847	€ 1,250	+32,5%
Cost of readmissions for patients with IBD (Inpatient)	€ 5,567	€ 2,519	€ 3,048	+121%
Cost of readmissions for patients with IBD (Day Hospital)	€ 193	€ 151	€ 42	+27,8%
Total cost per patient with IBD	**€ 10,857**	**€ 6,517**	**€ 4,340**	**+66,6%**

Conclusions

- This study provides the **first Italian evidence on the economic impact of malnutrition in patients with IBD**, showing its additional **burden** on the National Health Service (NHS).
- These expenditure **should be properly considered into clinical management strategies** for patients with IBD in Italy. European evidence shows that use of oral nutritional supplements (ONS) are cost-effective relative to dietary advice in care home residents (ICER equal to 10,961/QALY, below the threshold range of £20,000-£30,000 used by NICE for cost-effectiveness assessments)[3]. Therefore, implementing **targeted clinical nutrition interventions** within the care pathway of patients with IBD may represent an effective strategy to **optimize healthcare use in Italy**.
- The study also highlights critical **issues related to the diagnosis of malnutrition**: the prevalence of IBD-related malnutrition reported in hospital discharge records is markedly lower than what is documented in the literature (**3.1% of patients vs. 13%–26%**), suggesting **underdiagnosis or undercoding**. This is likely due to the absence of a more complex DRG and higher reimbursement associated with malnutrition. Consequently, **the actual incidence of malnutrition is likely underestimated.**
- Based on these figures, it will be key to **assess impact on the Italian NHS of a new potential investment in medical nutrition** among IBD patients, in order to understand both patients outcomes and potential saving in terms of hospitalization.

References

1. Singh, et al. 2022. "Evaluation of Nutritional Characteristics Reveals Similar Prevalence of Malnutrition in Patients with Ulcerative Colitis and Crohn's Disease".
2.Casanova, et al. 2017. "Prevalence of Malnutrition and Nutritional Characteristics of Patients With Inflammatory Bowel Disease".
3. Elia, et al., 2018. "Cost-effectiveness of oral nutritional supplements in older malnourished care home residents"

Contact information

Paolo Sciattella, paolo.sciattella@uniroma2.it

Valentina Pagella, pagella@lionhealth.tech
www.lionhealth.tech

47th ESPEN Congress
on Clinical Nutrition & Metabolism
Prague, Czech Republic
13-16 September 2025
Prague Congress Center