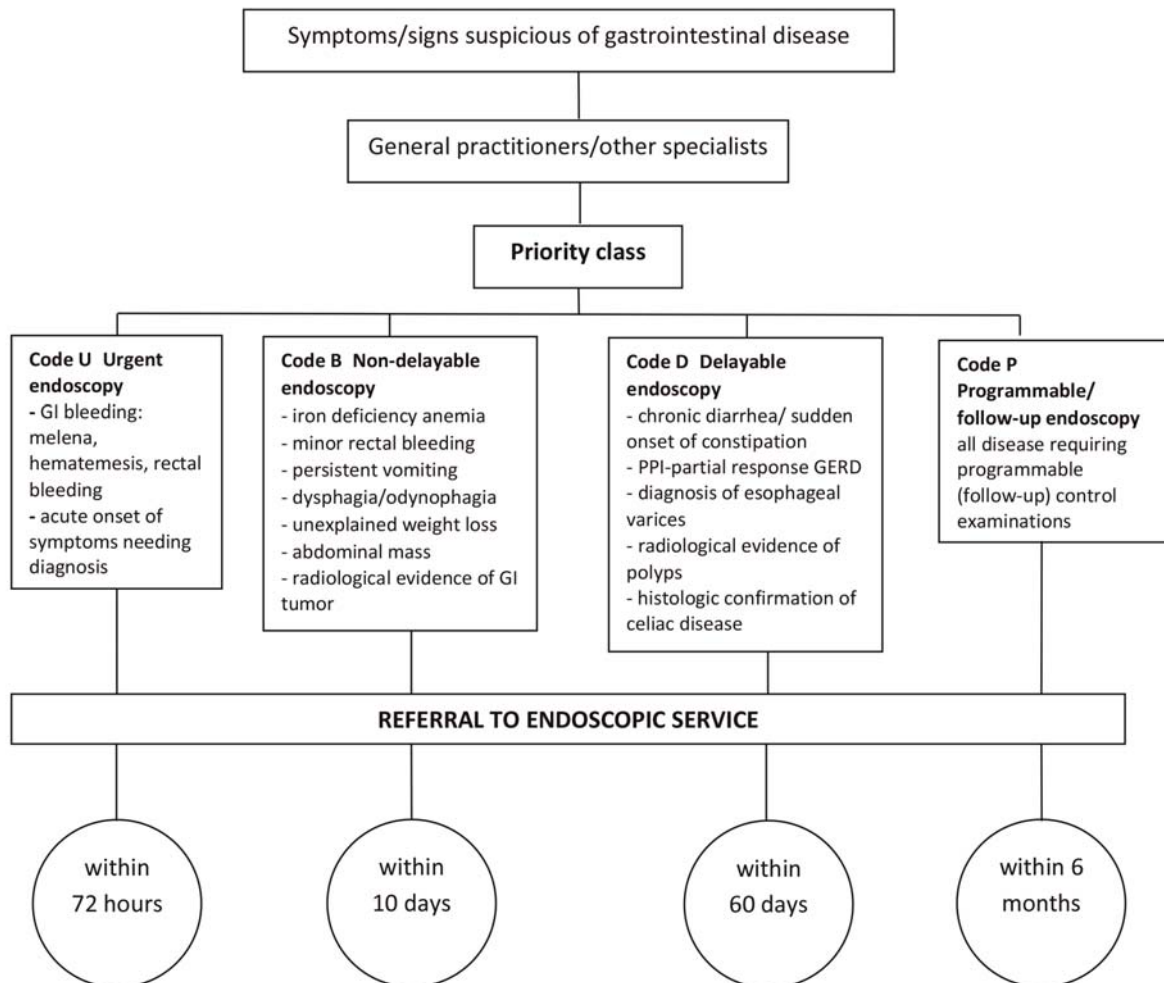


## Supplementary material

**Fig. 1s** The prescribing process of GI endoscopy in Italy. Priority categories and the corresponding indications for endoscopic procedures, as established by the Italian National Health System, are reported.



## Supplementary material

**Table 1s** Indications for diagnostic upper and lower endoscopy according to the ASGE criteria. (modified from ref.8)

<b>General indications for GI endoscopy</b>	<b>Indications for UGIE</b>	<b>Indications for LGIE</b>
If a change in management is probable based on results of endoscopy.	Upper abdominal symptoms that persist despite an appropriate trial of therapy.	Evaluation of an abnormality on barium enema or other imaging study that is likely to be clinically significant.
After an empirical trial of therapy for a suspected benign digestive disorder has been unsuccessful.	Upper abdominal symptoms associated with other symptoms or signs suggesting structural disease or new-onset symptoms in patients older than 50 years of age.	Evaluation of unexplained GI bleeding.
As the initial method of evaluation as an alternative to radiographic studies.	Dysphagia or odynophagia.	Unexplained iron deficiency anemia.
When a primary therapeutic procedure is contemplated.	Esophageal reflux symptoms that persist or recur despite appropriate therapy.	Screening and surveillance for colonic neoplasia.
	Persistent vomiting of unknown cause.	Clinically significant diarrhea of unexplained origin.
	Other diseases in which the presence of upper GI pathology might modify other planned management.	For dysplasia and cancer surveillance in patients with long-standing ulcerative or Crohn's colitis. For evaluation of patients with chronic inflammatory bowel disease of the colon, if more precise diagnosis or determination of

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		the extent of activity of disease will influence management.
	Familial adenomatous polyposis syndromes.	
	For confirmation and specific histologic diagnosis of radiologically demonstrated lesions.	
	GI bleeding.	
	When sampling of tissue or fluid is indicated.	
	Selected patients with suspected portal hypertension to document or treat esophageal varices.	
	To assess acute injury after caustic ingestion.	
	To assess diarrhea in patients suspected of having small-bowel disease.	
	Surveillance for malignancy in patients with premalignant conditions.	

GI: Gastrointestinal; UGI: Upper Gastrointestinal; LGI: Lower Gastrointestinal

## Supplementary material

**Table 2s** Characteristics of the two study groups in terms of demographic and performed endoscopic procedures. Significant data are depicted in bold.

GI: Gastrointestinal

	<b>2019 (n=1481)</b>	<b>2020 (n=688)</b>	<b>Statistics (OR; 95%CI)</b>
<b>Age (mean; SD)</b>	64.1; 15.8	62.6; 15.03	<b>P=0.036</b>
<b>Male, n (%)</b>	723/ (48.8%)	365 (53%)	P=0.06 (0.844; 0.70-1.012)
<b>Number of procedures</b>			
-Upper GI Endoscopy	666 (45%)	287 (41.7%)	P=0.1 (1.4; 0.95-1.37)
-Lower GI Endoscopy	815 (55%)	401 (58.3%)	P=0.1 (0.88; 0.73-1.05)

## Supplementary material

**Table 3s** Indications for upper and lower endoscopy and appropriateness of indication in the two study groups. For each patient only one indication is reported. Significant data are depicted in bold.

High cancer suspicion: imaging or clinical signs arising suspicion for cancer

GI: Gastrointestinal, FOBT: Fecal Occult Blood Test

Indications for	2019 (n=666)	2020 (n=287)	Statistics (OR; 95%CI)
<b>Upper GI Endoscopy</b>			
<b>Anemia</b>	94 (14.1%)	34 (11.8%)	P=0.3 (1.22; 0.80-1.85)
- Appropriate	83/94 (88.3%)	26/34 (76.5%)	P=0.1 (2.32; 0.84-6.38)
<b>Weight loss</b>	34 (5.1%)	17 (5.9%)	P=0.6 (0.85; 0.47-1.56)
- Appropriate	21/34 (61.8%)	11/17 (64.7%)	P=0.8 (0.88; 0.26-2.96)
<b>Dyspepsia/abdominal pain</b>	340 (51%)	126 (43.9%)	<b>P=0.04 (1.33; 1.01-1.76)</b>
- Appropriate	57/340 (16.8%)	38/126 (30.1%)	<b>P=0.001 (0.47; 0.29-0.75)</b>
<b>Bleeding</b>	60 (9%)	28 (9.7%)	P=0.7 (0.92; 0.57-1.47)
- Appropriate	47/60 (78.3%)	20/28 (71%)	P=0.5 (1.45; 0.52-4.02)
<b>High cancer suspicion</b>	31 (4.6%)	30 (10.4%)	P=0.01 (0.42; 0.25-0.70)
- Appropriate	28/31 (90.3%)	28/30 (93.3%)	P=0.7 (0.67; 0.10-4.30)
<b>Dysphagia</b>	44 (6.6%)	18 (6.3%)	P=0.8 (1.06; 0.60-1.86)
- Appropriate	40/44 (90.9%)	18/18 (100%)	P=0.3 (0.24; 0.01-4.76)
<b>Follow up</b>	27 (4%)	20 (7%)	P=0.05 (0.56; 0.31-1.02)
- Appropriate	11/27 (40.7%)	10/20 (50%)	P=0.5 (0.69; 0.21-2.20)
<b>Other</b>	32 (4.8%)	14 (4.9%)	P=0.7 (0.85; 0.42-1.75)
- Appropriate	19/32 (59.4%)	10/14 (71.4%)	P=0.4 (0.58; 0.15-2.27)
<b>Alarm Symptoms</b>	263 (39.5%)	127 (44.2%)	<b>P=0.03 (0.75; 0.57-0.97)</b>
<b>Indications for Lower GI Endoscopy</b>			
<b>FOBT positive</b>	200 (24.5%)	116 (28.9%)	P=0.1 (0.80; 0.61-1.04)
- Appropriate	170/200 (85%)	95/116 (81.9%)	P=0.5 (1.25; 0.68-2.31)
<b>Anemia</b>	93 (11.4%)	38 (9.5%)	P=0.3 (1.23; 0.83-1.83)
- Appropriate	83/93 (89.2%)	38/38 (100%)	P=0.1 (0.1; 0.006-1.81)
<b>Weight loss</b>	18 (2.4%)	3 (0.7%)	P= 0.3 (1.98; 0.56-7.06)
- Appropriate	8/18 (44.4%)	1/3 (33.3%)	P=0.7 (1.60; 0.12-20.0)
<b>Diarrhea</b>	70 (8.6%)	26 (6.5%)	P=0.2 (1.35; 0.85-2.16)

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- Appropriate	30/70 (42.9%)	15/26 (57.7%)	P=0.2 (0.55; 0.22-1.37)
<b>Constipation</b>	29 (3.6%)	12 (3%)	P=0.6 (1.20; 0.60-2.37)
- Appropriate	3/29 (10.3%)	6/12 (50%)	<b>P=0.01 (0.11-0.02-0.60)</b>
<b>Abdominal pain</b>	89 (10.9%)	27 (6.7%)	<b>P=0.02 (1.70; 1.08-2.66)</b>
- Appropriate	18/89 (20.2%)	6/27 (22.2%)	P=0.8 (0.89; 0.31-2.52)
<b>Bleeding</b>	178 (21.8%)	84 (21%)	P=0.7 (1.05; 0.79-1.41)
- Appropriate	159/178 (89.3%)	77/84 (91.7)	P=0.5 (0.76; 0.31-1.89)
<b>High cancer suspicion</b>	48 (5.9%)	41 (10.2%)	<b>P=0.007 (0.55; 0.36-0.85)</b>
- Appropriate	37/48 (77.1%)	40/41 (97.6%)	<b>P=0.02 (0.09; 0.01-0.76)</b>
<b>Follow-up</b>	64 (7.8%)	43 (10.7%)	P=0.09 (0.71; 0.47-1.06)
- Appropriate	21/64 (32.8%)	16/43 (37.2%)	P=0.6 (0.82; 0.37-1.85)
<b>Other</b>	26 (3.2%)	11 (2.7%)	P=0.7 (1.17; 0.57-2.39)
- Appropriate	11/26 (42.3%)	3/11 (27.3%)	P=0.4 (1.96; 0.42-9.10)
<b>Alarm Symptoms</b>	537 (65.9%)	282 (70.3%)	P=0.1 (0.81; 0.63-1.06)