

Introduction:

In line with the European Society of Gastrointestinal Endoscopy (ESGE) and European Society of Gastroenterology and Endoscopy Nurses and Associates (ESGENA) position statement on reducing the environmental footprint of gastrointestinal (GI) endoscopy, reducing the current rate of unnecessary procedures is the most effective action to mitigate greenhouse gas (GHG) emission in GI endoscopy.¹ The study assesses colonoscopies for adherence to BSG guidelines and evaluates associated environmental burdens, considering that a standard colonoscopy produces 6.71 Kg of CO₂.²

Methods:

It is a service evaluation of colonoscopy practice at our Endoscopy unit. The procedure requisitions were retrospectively analyzed for all colonoscopies done between January and June 2022 and their appropriateness was evaluated based on BSG/NICE guidelines. This activity included assessing non-invasive test reports, if any, recommended before colonoscopy. Repeat colonoscopies due to inadequate bowel preparation were included too.

Results:

Out of 938 colonoscopies done in six months, 14.8% (n= 139) were inappropriate as per the clinical indication. Table 1 provides a summary of inappropriate indications for colonoscopy and their corresponding frequencies. Just over 7.9% (n= 75) of colonoscopies could have been avoided by performing less invasive tests like FIT or faecal calprotectin (FCP). About 4.2% (n=40) of the colonoscopies were repeated due to inadequate bowel preparation.

Table 1

Inappropriate indication for colonoscopy	Count	Percentage
Abdominal pain and bloating (no FIT/ FCP)	26	19%
Alternating bowel habits + Normal FCP/FIT	47	34%
Loose stools + Normal FCP/FIT	30	21%
Others	26	19%
Polyp surveillance at inappropriate intervals	3	2%
Unexplained weight loss+ Normal FCP/FIT	7	5%
Total	139	

Conclusions:

Just over 14.8% of colonoscopies were performed inappropriately. In 6 months, our unit contributed to an additional 933kg of CO₂ (estimated annual carbon print 3.74 tons). Every unit should implement robust vetting to reduce carbon costs secondary to inappropriate endoscopy.

References –

- 1) de Santiago ER, Dinis-Ribeiro M, Pohl H, Agrawal D, Arvanitakis M, Baddeley R, Bak E, Bhandari P, Bretthauer M, Burga P, Donnelly L. Reducing the environmental footprint of gastrointestinal endoscopy: European Society of gastrointestinal endoscopy (ESGE) and European Society of gastroenterology and endoscopy nurses and associates (ESGENA) position statement. *Endoscopy*. 2022 Aug;54(08):797-826.
- 2) Elli L, La Mura S, Rimondi A, Scaramella L, Tontini GE, Monica F, Soncini M, Topa M, Bortoluzzi F, Sorge A, Cavallaro F. The carbon cost of inappropriate endoscopy. *Gastrointestinal Endoscopy*. 2023 Sep 9.