We employed two distinct methodologies to identify hospitalizations related to non-variceal upper gastrointestinal bleeding.

1- If the primary diagnosis ICD-10 code is one of the following

- K25.0 Acute gastric ulcer with hemorrhage
- K25.2 Acute gastric ulcer with both hemorrhage and perforation
- K25.4 Chronic or unspecified gastric ulcer with hemorrhage
- K25.6 Chronic or unspecified gastric ulcer with both hemorrhage and perforation

- K26.0 Acute duodenal ulcer with hemorrhage
- K26.2 Acute duodenal ulcer with both hemorrhage and perforation
- K26.4 Chronic or unspecified duodenal ulcer with hemorrhage
- K26.6 Chronic or unspecified duodenal ulcer with both hemorrhage and perforation

- K27.0 Acute peptic ulcer, site unspecified, with hemorrhage
- K27.2 Acute peptic ulcer, site unspecified, with both hemorrhage and perforation
- K27.4 Chronic or unspecified peptic ulcer, site unspecified, with hemorrhage
- K27.6 Chronic or unspecified peptic ulcer, site unspecified, with both hemorrhage and perforation

- K28.0 Acute gastrojejunal ulcer with hemorrhage
- K28.2 Acute gastrojejunal ulcer with both hemorrhage and perforation
- K28.4 Chronic or unspecified gastrojejunal ulcer with hemorrhage
- K28.6 Chronic or unspecified gastrojejunal ulcer with both hemorrhage and perforation

- K29.01 …… Acute gastritis with bleeding
  - K29.21 …… Alcoholic gastritis with bleeding
  - K29.31 …… Chronic superficial gastritis with bleeding
  - K29.41 …… Chronic atrophic gastritis with bleeding
  - K29.51 …… Unspecified chronic gastritis with bleeding
  - K29.61 …… Other gastritis with bleeding
  - K29.71 …… Gastritis, unspecified with bleeding
  - K29.81 …… Duodenitis with bleeding
  - K29.91 …… Gastroduodenitis, unspecified with bleeding

- K31.811 Angiodysplasia
- K31.82 Dilafeoy
- K21.01 GERD esophagitis with bleeding
- K20.91 Unspecified esophagitis with bleeding
- K22.11 esophageal ulcer
- K92.0 Hematemesis
Hospitalizations were included if the primary diagnosis indicated a non-specific source of upper gastrointestinal bleeding (2a) and if there was a secondary diagnosis indicating a potential source of bleeding (2b).

2a- ICD-10 codes suggestive of non-specific source of upper gastrointestinal bleeding

K92.2 GI hemoarrhage  
K92.1 Melena  
D62 acute post hemorrhagic anemia

2b- ICD-10 codes that indicates a potential source of bleeding.

D13.0 Benign neoplasm of esophagus  
D13.1 Benign neoplasm of stomach  
D13.2 Benign neoplasm of duodenum

C15.3 Malignant neoplasm of upper third of esophagus  
C15.4 Malignant neoplasm of middle third of esophagus  
C15.5 Malignant neoplasm of lower third of esophagus  
C15.8 Malignant neoplasm of overlapping sites of esophagus  
C15.9 Malignant neoplasm of esophagus, unspecified

C16.0 Malignant neoplasm of cardia  
C16.1 Malignant neoplasm of fundus of stomach  
C16.2 Malignant neoplasm of body of stomach  
C16.3 Malignant neoplasm of pyloric antrum  
C16.4 Malignant neoplasm of pylorus  
C16.5 Malignant neoplasm of lesser curvature of stomach, unspecified  
C16.6 Malignant neoplasm of greater curvature of stomach, unspecified  
C16.8 Malignant neoplasm of overlapping sites of stomach  
C16.9 Malignant neoplasm of stomach, unspecified

C17.0 Malignant neoplasm of duodenum

K22.10 Ulcer of esophagus without bleeding  
K20.80 Esophagitis without bleeding  
K20.8 Other esophagitis without bleeding  
K20.9 Esophagitis, unspecified without bleeding

K25.3 Acute gastric ulcer without hemorrhage or perforation  
K25.7 Chronic gastric ulcer without hemorrhage or perforation  
K25.9 Gastric ulcer, unspecified as acute or chronic, without hemorrhage or perforation
K31.819 Angiodysplasia of stomach and duodenum without bleeding
K21.00 Gastro-esophageal reflux disease with esophagitis-

This above inclusion criteria are based on previously published studies (1,2).

**Esophagogastroduodenoscopy (EGD)**

1- **Diagnostic:**
- 0DJ68ZZ: Inspection of Stomach, Via Natural or Artificial Opening Endoscopic
- 0DJ08ZZ: Inspection of Upper Intestinal Tract, Via Natural or Artificial Opening Endoscopic

2- **Therapeutic:**
- 0W3P8ZZ: Control Bleeding in Gastrointestinal Tract, Via Natural or Artificial Opening Endoscopic
- 0D518ZZ: Destruction of Upper Esophagus, Via Natural or Artificial Opening Endoscopic
- 0D528ZZ: Destruction of Middle Esophagus, Via Natural or Artificial Opening Endoscopic
- 0D538ZZ: Destruction of Lower Esophagus, Via Natural or Artificial Opening Endoscopic
- 0D548ZZ: Destruction of Esophagogastric Junction, Via Natural or Artificial Opening Endoscopic
- 0D558ZZ: Endoscopic excision or destruction of lesion or tissue of esophagus
- 3E0G8TZ: Introduction of Destructive Agent into Upper GI, Via Natural or Artificial Opening Endoscopic
- 0D568ZZ: Destruction of Stomach, Via Natural or Artificial Opening Endoscopic
- 0D578ZZ: Destruction of Stomach, Pylorus, Via Natural or Artificial Opening Endoscopic
- 0D598ZZ: Destruction of Duodenum, Via Natural or Artificial Opening Endoscopic
- 0DQ68ZZ: Repair Stomach, Via Natural or Artificial Opening Endoscopic
- 0DQ78ZZ: Repair Stomach, Pylorus, Via Natural or Artificial Opening Endoscopic
- 0DQ98ZZ: Repair Duodenum, Via Natural or Artificial Opening Endoscopic

**Other ICD10 codes utilized in our study:**
- Z7982: Long-term use of aspirin
- Z791: Long-term use of NSAIDs
- Z7901: Long-term use of anticoagulants
- 30243N0, 30243N1, 30243P0, 30243P1, 30243H0, 30243H1, 30240N0, 30240N1, 30240P0, 30240P1, 30240H0, 30240H1, 30230N0, 30230H1, 30230N1, 30230P0, 30230P1, 30233N0, 30233N1, 30233P0, 30233P1: Blood transfusion
- J9601, J9600, J95821, J96: Acute respiratory failure
- 0BH17EZ, 0BH18EZ, 5A1935Z, 5A1945Z, 5A1955Z: Mechanical ventilation
- Z515: Palliative consult
The ICD-10 codes used to identify EGD procedures are based on previously published study about NVUGIB (3).

