Gastric Intestinal Metaplasia (GIM): Assessment of *Helicobacter pylori* eradication

Based on American Gastroenterological Association (AGA) Clinical Practice Guidelines on Management of Gastric Intestinal Metaplasia

DESCRIPTION:
Percentage of patients at least 18 years of age with a diagnosis of gastric intestinal metaplasia (GIM) and *Helicobacter pylori (H. pylori)* infection who have confirmed eradication of *H. pylori* at least 4 weeks after completion of treatment.

INSTRUCTIONS:
This measure is to be reported a minimum of once per reporting period for all patients with a diagnosis of GIM and *H. pylori*. This measure is intended to reflect the quality of services provided for patients with GIM and *H. pylori* who complete *H. pylori* treatment and have confirmed eradication. This measure may be reported by clinicians who perform the quality actions described in the measure based on the services provided and the measure-specific denominator coding.

Measure Reporting via Claims and MIPS CQM:
ICD-10-CM diagnosis codes, CPT codes, and patient demographics are used to identify patients who are included in the measure's denominator. The listed numerator options are used to report the numerator of the measure.

The quality-data codes listed do not need to be submitted for registry-based submissions; however, these codes need to be submitted for claims and may be submitted as MIPS CQMs that utilize claims data.

DENOMINATOR:
All patients aged 18 years and older with a diagnosis of GIM and *H. pylori* within the measurement period.

Denominator Criteria (Eligible Cases):
All patients aged 18 years and older
AND
Diagnosis of gastric intestinal metaplasia (ICD-10-CM): K31A0, K31A11, K31A12, K31A13, K31A14, K31A15, K31A19, K31A21, K31A22, K31A29
AND
Patient encounter during the reporting period (CPT): 43239, 99201, 99202, 99203, 99204, 99205, 99212, 99213, 99214, 99215
AND
Diagnosis of *Helicobacter pylori* infection (ICD-10-CM): B96.81
WITH
Helicobacter pylori test (CPT): 43239 (upper endoscopy with biopsy), 78267 (urea breath test), 78268 (urea breath test), 83013 (urea breath test), 83014 (urea breath test), 86677 (*H. pylori* antibody), 87081 (*H. pylori* culture), 87205 (H. pylori culture), 87338 (*H. pylori* stool antigen test)

NUMERATOR:
Patients undergoing *H. pylori* testing at least 4 weeks after completion of *H. pylori treatment* (GXXXX)

Numerator Options:
Performance Met: Documented GIM and *H. pylori* followed by repeat *H. pylori* testing at least 4 weeks after completion of *H. pylori* treatment (GXXXX)

OR

Other Performance Exclusion: Repeat *H. pylori* testing not performed after *H. pylori* treatment for reasons documented by clinician (e.g., patient whose treatment was discontinued or not covered by insurance, patient death, patient declined, or other medical reasons)

OR

Performance Not Met: Post-treatment *H. pylori* testing not documented as performed or post-treatment test performed is *H. pylori* antibody test (GXXXX)

RATIONALE:

Gastric cancer is the third leading cause of worldwide cancer death with over 1 million incident cases diagnosed globally[1]. Chronic *H. pylori* infection is the primary risk factor for non-cardia gastric cancer and induces inflammatory changes that result in progression from normal mucosa to GIM then dysplasia and gastric adenocarcinoma[2]. *H. pylori* eradication (compared with placebo) in individuals with or without GIM has been associated with a 32% pooled relative risk (RR) reduction in incident gastric cancer risk (RR 0.68, 95% confidence interval [CI] 0.48-0.96)[3]. Therefore, *H. pylori* eradication mitigates the risk of progression to gastric cancer.

Prevalence of *H. pylori* antibiotic resistance is increasing[4]. Post-treatment *H. pylori* testing to confirm eradication has been recommended due to a concomitant decline in *H. pylori* eradication rates[5, 6]. However, multiple studies have shown that post-treatment *H. pylori* testing is not routinely performed[7-9]. An interval of 4 weeks after antibiotics, bismuth, or proton pump inhibitor therapy has been suggested to mitigate the risk of false negative *H. pylori* tests[5, 10, 11].

H. pylori antibody testing is not recommended for confirmation of eradication and cannot reliably distinguish between active or previous *H. pylori* infection but may be considered for testing if suspicion for *H. pylori* is high (*i.e.* for patients with conditions strongly associated with *H. pylori*)[5]. Gastric biopsies, urea breath testing, and stool antigen testing are preferred testing modalities to detect active *H pylori* infection.

When using this measure outside of a clinical registry (*i.e.,* via claims data), verifying a positive initial test and confirming a negative follow-up test is challenging. Ensuring that follow-up testing is negative (*i.e*. eradication of *H. pylori*) is expected to improve patient outcomes by reducing gastric cancer risk.

CLINICAL RECOMMENDATION STATEMENTS:

The AGA recommends *H. pylori* testing followed by eradication over no testing and eradication in patients with GIM[12]. With rising *H. pylori* antibiotic resistance and declining eradication rates, confirmation of eradication is necessary to ensure that *H. pylori* treatment is effective. Multiple studies report post-treatment *H. pylori* testing rates < 60%[7-9]. This quality gap in confirmation of *H. pylori* eradication provides an opportunity to improve the care of patients with GIM and *H. pylori* infection.

References

1. Sung H, Ferlay J, Siegel RL, et al. Global Cancer Statistics 2020: GLOBOCAN Estimates of Incidence and Mortality Worldwide for 36 Cancers in 185 Countries. CA Cancer J Clin 2021;71:209-249.
2. Correa P. Gastric cancer: overview. Gastroenterol Clin North Am 2013;42:211-7.
3. Gawron AJ, Shah SC, Altayar O, et al. AGA Technical Review on Gastric Intestinal Metaplasia-Natural History and Clinical Outcomes. Gastroenterology 2020;158:705-731.e5.
4. Savoldi A, Carrara E, Graham DY, et al. Prevalence of Antibiotic Resistance in Helicobacter pylori: A Systematic Review and Meta-analysis in World Health Organization Regions. Gastroenterology 2018;155:1372-1382.e17.
5. Chey WD, Leontiadis GI, Howden CW, et al. ACG Clinical Guideline: Treatment of Helicobacter pylori Infection. Am J Gastroenterol 2017;112:212-239.

6. Thung I, Aramin H, Vavinskaya V, et al. Review article: the global emergence of Helicobacter pylori antibiotic resistance. Aliment Pharmacol Ther 2016;43:514-33.
7. Murakami TT, Scranton RA, Brown HE, et al. Management of Helicobacter Pylori in the United States: Results from a national survey of gastroenterology physicians. Prev Med 2017;100:216-222.
8. Kumar S, Metz DC, Kaplan DE, et al. Low Rates of Retesting for Eradication of Helicobacter pylori Infection After Treatment in the Veterans Health Administration. Clin Gastroenterol Hepatol 2021;19:305-313.e1.
9. Feder R, Posner S, Qin Y, et al. Helicobacter pylori-associated peptic ulcer disease: A retrospective analysis of post-treatment testing practices. Helicobacter 2018;23:e12540.
10. Laine L, Estrada R, Trujillo M, et al. Effect of proton-pump inhibitor therapy on diagnostic testing for Helicobacter pylori. Ann Intern Med 1998;129:547-50.
11. El-Serag HB, Kao JY, Kanwal F, et al. Houston Consensus Conference on Testing for Helicobacter pylori Infection in the United States. Clin Gastroenterol Hepatol 2018;16:992-1002.e6.
12. Gupta S, Li D, El Serag HB, et al. AGA Clinical Practice Guidelines on Management of Gastric Intestinal Metaplasia. Gastroenterology 2020;158:693-702.