

## Optimal Medical Treatments for Non-Metastatic Gastric Cancers

### Background

Gastric cancer is the fifth most common cancer worldwide, and most frequent cause of cancer death in some countries (Sung et al., 2021). In the US, the rate of new cases is 6.9 per 100,000 based on 2016-2020 data (National Cancer Institute). While the incidence has decreased by about 1.5% over the past 10 years (National Cancer Institute), this cancer type remains costly. A 2018 economic impact review of gastric cancer reported the annual cost of gastric cancer in the United States to be over \$3 billion, without authoritative guidance on best practices for treating the disease (Casamayor et al., 2018).

Currently, there is wide practice variation and uncertainty regarding the optimal management of non-metastatic gastric cancer. The American Society of Clinical Oncology's (ASCO) has requested a review on the medical management (i.e., non-surgical management) of non-metastatic gastric cancer to create a treatment guideline, to raise awareness for evidence-based treatment options, and highlight areas of uncertainty for which more evidence and research are needed. This review will exclude surgical management and special gastric cancer types (e.g., Linitis Plastica, gastrointestinal stromal tumors (GIST)).

AHRQ will conduct an evidence-based review to inform a clinical practice guideline that addresses these uncertainties and will aid in reducing practice variation in the treatment of this disease. This will give clinicians, particularly medical oncologists in community practice, evidence-based guidance for the treatment of this disease.

### Draft Key Questions

KQ1: What is the effectiveness and comparative effectiveness and harms of medical systemic therapies (chemotherapies, radiation, other medical treatments) for management of non-metastatic gastric cancer excluding Linitis Plastica, GIST, and other rare forms of gastric cancer?

KQ2: Does treatment effectiveness vary by cancer variables (stage, histology, biomarkers status at diagnosis, etc.)?

KQ3: Does treatment effectiveness vary by subgroup (high risk factors [i.e., environmental and occupational/lifestyle factors], comorbidities [i.e., history of ulcers, Epstein-Barr virus, and other non-cancer gastric conditions], genetic predisposition [including having blood type A] or family history, socioeconomic status, age, gender, race/ethnicity, etc.)?

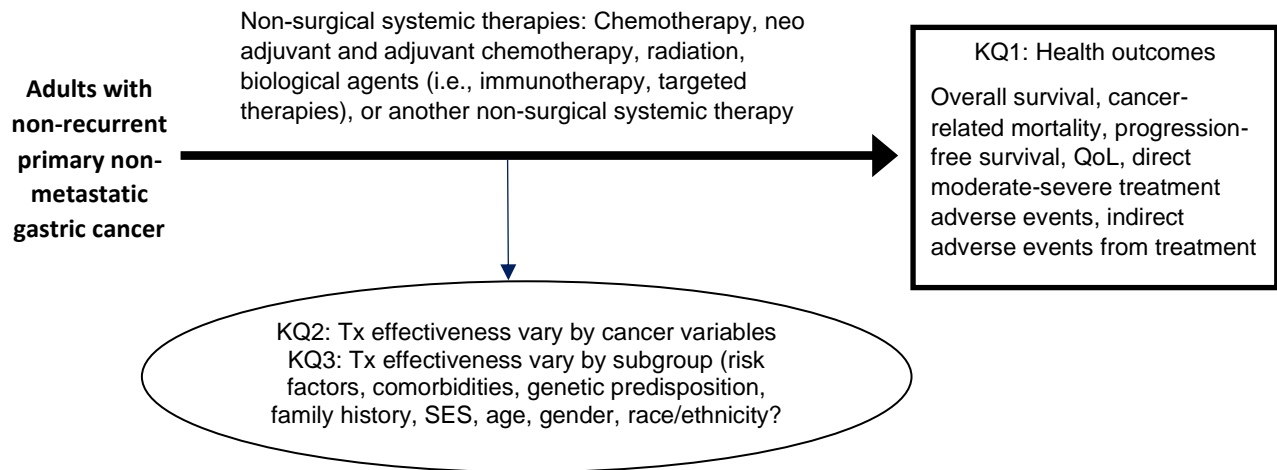
**Table 1. PICOTS for Optimal Medical Treatments for Non-Metastatic Gastric Cancers**

Inclusion Criteria	Exclusion Criteria
<b>Population</b>	

	<b>Inclusion Criteria</b>	<b>Exclusion Criteria</b>
<b>KQ 1 – KQ 3.</b>	Adults with non-recurrent primary non-metastatic gastric cancer	Recurrent cancer, metastatic cancer, those in hospice or receiving palliative care, Stage 4 cancer, GIST, Linitis Plastica, other rare gastric cancers
<b>Interventions</b>		
<b>KQ 1</b>	Chemotherapy, neo adjuvant and adjuvant chemotherapy, radiation, biological agents (i.e., immunotherapy, targeted therapies), other non-surgical systemic therapies	Surgical management
<b>KQ 2</b>	N/A	
<b>KQ 3.</b>	N/A	
<b>Comparators</b>		
<b>KQ 1 – KQ 3.</b>	Comparative medical interventions. For retrospective chart review studies, no treatment as a comparator	
<b>Outcomes</b>		
<b>KQ 1</b>	Overall survival, cancer-related mortality, progression-free survival, quality of life, direct moderate-severe treatment adverse events (grade 3, 4, 5), indirect adverse events from treatment (i.e., long-term opioid use for pain management)	
<b>KQ 2 – KQ 3.</b>	Any	
<b>Timing</b>		
	Any follow-up duration	
<b>Setting</b>		
<b>KQ 1 – KQ 3.</b>	Hospital, cancer treatment center  Studies conducted in countries rated as high on the Human Development Index. <sup>a</sup>	
<b>Study design</b>		
	Randomized controlled trials, non-randomized controlled trials, observational cohort with concurrent comparator	Case reports, case series, commentaries, cross-sectional studies, reviews, qualitative studies

a. United Nations Development Programme. Human Development Index. Retrieved from <https://hdr.undp.org/data-center/human-development-index#/indicies/HDI>.

**Figure 1. Preliminary Analytic Framework**



## References

- Casamayor, M., Morlock, R., Maeda, H., & Ajani, J. (2018). Targeted literature review of the global burden of gastric cancer. *Ecancermedicalscience*, *12*, 883. <https://doi.org/10.3332/ecancer.2018.883>
- National Cancer Institute. *SEER Cancer Stat Facts: Stomach Cancer*. Retrieved October 25 from <https://seer.cancer.gov/statfacts/html/stomach.html>
- Sung, H., Ferlay, J., Siegel, R. L., Laversanne, M., Soerjomataram, I., Jemal, A., & Bray, F. (2021). Global Cancer Statistics 2020: GLOBOCAN Estimates of Incidence and Mortality Worldwide for 36 Cancers in 185 Countries. *CA Cancer J Clin*, *71*(3), 209-249. <https://doi.org/10.3322/caac.21660>