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Review Article

Early Palliative Care in Gastrointestinal Oncology: Evidence, Implementation Models, and Ethical Considerations

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ABSTRACT

Background: Early palliative care is increasingly recognized as an important component of high-quality cancer care; however, the timing and extent of its integration vary across oncologic disciplines, including gastrointestinal (GI) oncology. Patients with GI malignancies frequently experience early symptom burden, complex treatment courses, and prognostic uncertainty, contributing to substantial supportive care needs over the disease trajectory.
Methods: This narrative review synthesizes evidence on early palliative care in gastrointestinal oncology from randomized controlled trials, systematic reviews, GI oncology–specific clinical guidelines, and observational and health services research. The objective was to characterize patterns of evidence, implementation approaches, and ethical considerations relevant to early integration in gastrointestinal oncology.
Results: Across heterogeneous study designs, early palliative care involvement is associated with improvements in quality of life, symptom control, and communication outcomes, without evidence of interference with disease-directed therapies. In GI oncology, particularly pancreatic cancer and hepatocellular carcinoma, unmet supportive care needs are consistently described. Diagnosis-anchored and needs-based referral approaches are discussed as alternatives to time-based models in settings of prognostic uncertainty. Evidence supporting home-based or hybrid palliative care models in GI oncology remains limited and context dependent.
Conclusion: Overall, the literature suggests that earlier integration of palliative care may be appropriate for selected patients with gastrointestinal malignancies. Given variability in symptom burden and clinical trajectories, time-based referral models may be insufficient in some settings, whereas needs-based and diagnosis-anchored approaches may offer flexible frameworks. Ethical considerations should be interpreted in light of patient preferences, feasibility, and health system capacity, rather than framed as universal mandates.

1. Introduction

Palliative care has undergone a substantial shift in contemporary oncology practice over the past two decades. Historically emphasized late in the disease course, palliative care is now increasingly conceptualized as a longitudinal approach that addresses physical symptoms, psychological distress, social complexity, spiritual concerns, and communication needs across the cancer continuum. This shift reflects not only an evolution in clinical philosophy but also evidence from randomized trials and observational studies, reinforced through international clinical guidelines issued by leading medical organizations.

Specifically, the American Society of Clinical Oncology (ASCO) endorses early palliative care for patients with advanced cancer who have significant supportive care needs, emphasizing that palliative care should be integrated alongside active oncologic treatment rather than reserved for later referral [1]. Similarly, the European Society for Medical Oncology (ESMO), the World Health Organization (WHO), and other global organizations have articulated palliative care as a core component of comprehensive cancer care rather than an optional adjunct [2, 3]. Collectively, these organizations have discouraged reliance on prognosis alone as the primary determinant for referral to palliative services.

Despite this broad consensus, gastrointestinal (GI) oncology continues to demonstrate substantial variability in the timing and quality of palliative care integration. Patients with GI malignancies are frequently referred to palliative care late in the disease trajectory, often following repeated emergency department visits, prolonged hospitalizations, or the onset of irreversible functional decline. This pattern persists despite growing recognition that GI cancers are among the more symptomatically burdensome, procedurally complex, and prognostically heterogeneous cancer types.

The purpose of this narrative review is to synthesize existing evidence on early palliative care in gastrointestinal oncology, examine current implementation models, and explore the ethical

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considerations that arise when high symptom burden and prognostic uncertainty coexist. Rather than testing a hypothesis, this review aims to contextualize clinical and ethical arguments within the available evidence base and identify gaps relevant to future research and practice.

2. Methods

2.1. Study Design

The study was a narrative review that examined the literature to provide an overview and a critical evaluation of the evidence base for integrating early palliative care into gastrointestinal oncology. The rationale for using a narrative approach was to enable a comprehensive analysis of heterogeneous evidence sources, including randomized controlled trials (RCTs), systematic reviews, international clinical guidelines, disease-specific studies, and health service research, which together inform clinical practice but cannot be formally pooled quantitatively. Operational definition of "early": Across the literature, "early palliative care" is variably defined. For transparency in this narrative synthesis, early palliative care was considered as palliative care initiated near the diagnosis of advanced/metastatic disease or early during systemic therapy, commonly within the first 8 weeks, as specified in guidelines and trial frameworks.

2.2. Literature Sources and Search Strategy

A structured literature search was conducted in MEDLINE (via PubMed), Embase, and the Cochrane Library to identify peer-reviewed studies evaluating early or integrated palliative care in oncology, with particular attention to gastrointestinal malignancies. The search covered publications from January 2000 through March 2025, reflecting the period during which early palliative care models were increasingly evaluated. The final searches were completed on 15 March 2025.

Search terms included combinations of controlled vocabulary and keywords related to palliative care and gastrointestinal oncology, such as "palliative care," "early palliative care," "supportive care," "gastrointestinal cancer," "pancreatic cancer," "hepatocellular carcinoma," "colorectal cancer," "quality of life," and "health care utilization."

A representative PubMed search strategy was as follows: ("palliative care" OR "early palliative care" OR "supportive care") AND ("gastrointestinal cancer" OR "pancreatic cancer" OR "hepatocellular carcinoma" OR "colorectal cancer").

A second representative strategy used for disease-specific retrieval was: ("palliative care" OR "supportive care") AND ("pancreatic cancer" OR "hepatocellular carcinoma") AND ("quality of life" OR symptom OR "health care utilization").

Equivalent keyword- and controlled-vocabulary – based strategies were adapted for Embase and the Cochrane Library.

Reference lists of key articles and relevant reviews were manually screened to identify additional pertinent studies. In addition, contemporary international clinical guidelines in oncology and gastroenterology published during the study period by organizations such as the American Society of Clinical Oncology, the European Society for Medical Oncology, and the World Health Organization were reviewed to contextualize clinical recommendations.

2.3. Study Selection and Evidence Scope

Abstracts and titles were reviewed from database search results based on their potential relevance to early palliative care for patients with cancer. Those identified by database searches that also reflected a focus on gastrointestinal cancers had priority, as did studies concerning patient-related outcomes (e.g., quality of life; symptoms), studies assessing models of delivery (i.e., early integration into treatment), and studies examining the ethical issues surrounding early palliative care.

Eligible evidence included randomized controlled trials, systematic reviews and meta-analyses, clinical guidelines, and higher-quality observational studies addressing patient-centered outcomes, models of care delivery, or ethical considerations relevant to early palliative care in gastrointestinal oncology. Publications on health services research and ethics were selected because they provided information on referral models, strategies for implementing early palliative care, and implications for healthcare systems.

Studies that consisted solely of case reports, were not peer-reviewed, and focused on hospice care alone, with no evidence of early palliative care, were excluded. Approximately 180 records were screened at the title and abstract level, of which 85 publications were included in the final narrative synthesis.

2.4. Data Synthesis and Analysis

The qualitative synthesis of the evidence assessed the consistency of findings across different study types and clinical settings. The primary focus of the review was to identify common themes concerning timing of referral, symptom burden, decision-making complexity, and models of palliative care integration. Particular attention was devoted to comparing time-based referral paradigms with needs-based and diagnosis-anchored models, given their relevance to gastrointestinal malignancies, which are typically associated with prognostic uncertainty.

2.5. Ethical and Methodological Considerations

The present research was a narrative review of the published literature; therefore, formal ethics committee approval was not required. As the review was qualitative and interpretive, it did not require a formal assessment of the bias in the included studies or a quantitative pooling of data from the reviewed studies.

To enhance transparency, studies were selected based on their relevance to gastrointestinal oncology, methodological rigor, and contribution to clinical or ethical understanding, rather than journal impact or publication prestige. A narrative format was used for this review to synthesize diverse types of evidence (i.e., clinical trials, guidelines, observational studies, and ethics literature) into a meaningful product, since these sources cannot be meaningfully pooled using quantitative methods.

3. Clinical Characteristics of Gastrointestinal Malignancies That Mandate Early Palliative Care

3.1. Early and Persistent Symptom Burden

Gastrointestinal (GI) malignancy symptoms are often present at diagnosis and may be persistent, disabling, and progressive. Abdominal pain, loss of appetite, early satiety, nausea, bowel obstruction, fatigue, and weight loss are common symptoms associated with pancreatic, gastric, and hepatobiliary cancers. These symptoms arise from the direct effects of tumor involvement of the gastrointestinal tract, systemic inflammation, metabolic abnormalities, and adverse effects of anticancer therapies.

Cancer-associated cachexia is common in gastrointestinal malignancies and represents a distinct metabolic syndrome characterized by progressive loss of skeletal muscle with or without fat loss; it is associated with worse functional status, reduced treatment

tolerance, impaired quality of life, and increased mortality [4–6]. Because cachexia reflects complex inflammatory and metabolic mechanisms, nutrition interventions alone are often insufficient to reverse established cachexia, supporting the need for multidisciplinary approaches that address symptom burden, functional decline, and patient-centered goals [4–6]. Multidisciplinary palliative care teams provide expertise in the assessment and management of cancer-related symptoms, including pain, fatigue, anorexia, and other distressing manifestations. However, palliative care referral is frequently reported to occur late in the disease course, after symptoms have become difficult to control, which may adversely affect quality of life and tolerance of oncologic treatments [7, 8].

3.2. Nutritional Decline and Functional Vulnerability

Although nutritional compromise is commonly recognized in gastrointestinal cancer, it represents a major contributor to morbidity for patients with gastrointestinal (GI) malignancies. Symptoms such as dysphagia, malabsorption, biliary obstruction, pancreatic insufficiency, and treatment-related mucositis contribute to ongoing functional deterioration. Furthermore, sarcopenia has been identified as a marker associated with increased chemotherapy toxicity and poorer overall survival across multiple gastrointestinal cancer types [9, 10].

Palliative care can provide early support by facilitating proactive nutritional counseling, symptom management, and realistic goal setting regarding the use of enteral or parenteral feeding. Palliative care involvement also offers a structured setting for discussions regarding the potential role, benefits, and limitations of artificial nutrition. These discussions are often emotionally charged and ethically complex for patients and families and may be challenging to address adequately within routine oncologic encounters [11].

3.3. Procedural Density and Decisional Complexity

Gastrointestinal (GI) oncology is a highly procedural field. Patients frequently undergo biliary stenting, endoscopic dilation, paracentesis, thoracentesis, feeding tube placement, and repeated imaging throughout the disease trajectory. Each intervention involves trade-offs between potential symptomatic benefit, procedural burden, risk of complications, and impact on quality of life.

Evidence suggests that many patients with advanced cancer may overestimate the potential benefits of invasive procedures and systemic therapies, particularly when prognostic information is incompletely communicated [12]. Early palliative care has been associated with improved shared decision making, including clearer elicitation of patient values and priorities, better alignment of interventions with individual goals, and reduced use of nonbeneficial treatments without restricting access to symptom-directed care [13].

3.4. Prognostic Uncertainty as a Structural Challenge

Prognostic uncertainty is a defining feature of many gastrointestinal malignancies. Hepatocellular carcinoma illustrates this challenge, as prognosis depends on both tumor burden and underlying liver function, which can deteriorate unpredictably over time [14, 15]. Patients with advanced colorectal and gastric cancers often undergo sequential lines of therapy with diminishing marginal benefit. In contrast, pancreatic cancer is frequently characterized by rapid and unpredictable clinical decline, even among patients initially deemed fit for intensive treatment.

These heterogeneous clinical and functional trajectories limit the reliability of time-based referral models that depend on estimated survival thresholds. Clinicians have been shown to systematically overestimate survival, which may contribute to delayed palliative care referral and missed opportunities for early symptom management and advance care planning [16, 17]. Alternative approaches include needs-based trigger models and diagnosis-anchored referral strategies for selected high-burden gastrointestinal malignancies [18, 19].

4. Evidence Base for Early Palliative Care

4.1. Randomized Controlled Trials Establishing Benefit

Temel et al. provided the foundational evidence base for early palliative care in their study showing associations between early palliative care integrated into standard oncology and improved quality of life (QoL) and reduced depression in patients with metastatic non-small-cell lung cancer, while also reporting lower intensity of aggressive care at the end of life. Importantly, Temel et al. did not find a reduction in survival time; rather, survival was not adversely affected, with a modest survival difference observed [20]. ENABLE III further evaluated the timing of palliative care referral and reported differences in patient-reported outcomes and survival between early- and delayed-referral groups. However, these findings were derived from a mixed oncology population rather than from gastrointestinal-specific cohorts [21]. Additionally, Zimmerman et al. demonstrated in a cluster-randomized trial that included patients with a variety of cancers associations with improved quality of life, reduced symptom burden, and greater patient satisfaction with care [22]. Collectively, these studies provide evidence countering concerns that early palliative care has a detrimental effect on oncologic treatment or reflects therapeutic nihilism. These findings align with contemporary guideline recommendations supporting early, concurrent palliative care alongside disease-directed therapy [1].

4.2. Systematic Reviews and Meta-Analyses

In addition to quality of life, symptom management, and other palliative care – related outcomes, a Cochrane systematic review reported an association between the use of palliative care in adults with advanced cancer and improved overall symptom burden [23]. In subsequent systematic reviews and meta-analyses, associations have also been identified between palliative care involvement and improvements in pain, psychological distress, communication quality, and care coordination; however, the magnitude of effect and certainty of evidence varied across studies [11, 24]. Importantly, none of the evidence summarized in these analyses demonstrated harm or interference with disease-directed treatments.

The majority of evidence synthesized in these reviews derives from mixed oncology populations rather than gastrointestinal-specific cohorts. Accordingly, applicability to gastrointestinal malignancies should be interpreted as an extrapolation rather than a definitive finding. The rationale for considering potential benefit in gastrointestinal oncology is supported by the high symptom burden and clinical complexity characteristic of many gastrointestinal cancers; however, direct comparative evidence specific to gastrointestinal oncology remains limited, underscoring the need for cautious interpretation. These interpretive limits are consistent with guideline recommendations that support early integration while emphasizing feasibility and local implementation context [1, 2].

5. Gastrointestinal Specific Evidence

Although there are few gastrointestinal (GI)- specific comparative trials, this section will describe GI disease data as well as broader data from the field of oncology, and interpret findings with caution when extrapolation appears necessary. To explain the evidence

Table 1: Gastrointestinal oncology – specific evidence informing early palliative care integration

GI Cancer Type	Study	Design	Population / Sample	Model / Exposure	Key Outcomes Reported	How to Interpret
Advanced GI	Bojesson et al. (ALLAN trial)	RCT	Advanced GI cancers	Early specialised home-based palliative care vs usual care	Patient-centred outcomes under home-based palliative model	GI-specific RCT supporting feasibility of home-based delivery; avoid over-claiming utilisation or cost effects unless explicitly reported
Mixed (incl. GI)	Maltoni et al.	RCT	Oncology population including GI cancers	Systematic early palliative care referral vs on-demand referral	Differences in quality-of-care indicators and end-of-life treatment intensity	Use to support structured early referral effects on care processes, not definitive survival or QoL effects
HCC	Laube et al.	Review	Hepatocellular carcinoma	Early palliative care across disease trajectory	Synthesises symptom burden, prognostic uncertainty, and rationale for palliative integration	Review-level guidance only; not comparative effectiveness evidence
HCC	Woodrell et al.	Review	Hepatocellular carcinoma	Palliative care needs and referral considerations	Describes palliative care needs and integration challenges in HCC	Supports prognostic uncertainty and symptom burden framing
Advanced GI	Janberidze et al.	Observational	Advanced GI cancer populations	Symptom burden and QoL assessment	High prevalence of symptoms and QoL impairment	Supports early unmet supportive care needs; not an intervention study
Metastatic GI	Bubis et al.	Observational	Metastatic GI cancers	Symptom burden characterisation	Substantial symptom burden in metastatic GI disease	Supports rationale for early supportive care involvement
Pancreatic	Tempero et al. (NCCN Insights)	Guideline	Pancreatic adenocarcinoma	Disease-specific supportive care recommendations	Outlines supportive care needs within pancreatic cancer guidelines	Supports diagnosis-anchored referral logic, not comparative outcomes
Pancreatic	Khan, Evans, Philip et al.	Observational	Advanced pancreatic cancer	Supportive care needs assessment	Reports high unmet supportive care needs; late PC access common	Supports early trigger-based supportive care rationale

Abbreviations: GI, gastrointestinal; RCT, randomised controlled trial; QoL, quality of life; HCC, hepatocellular carcinoma; NCCN, National Comprehensive Cancer Network; PC, palliative care.
Legend: This table summarises GI cancer-specific randomised trials, observational studies, and guideline/review-level evidence informing the rationale, feasibility, and limitations of early or integrated palliative care in GI oncology. Where evidence derives from mixed oncology populations or non-comparative designs, findings should be interpreted cautiously and are not intended to imply causal effects.

base for gastrointestinal cancer in terms of specific gastrointestinal diseases and to clearly differentiate between GI disease-specific data and findings that have been extrapolated, **(Table 1)** provides an overview of randomized trials, observational studies, and the level of evidence relevant to the integration of early palliative care in gastrointestinal oncology. The existing GI-specific evidence base includes a small number of randomized trials focusing on aspects of care processes or care delivery models (e.g., home-based palliative care) and also includes observational studies and disease-specific reviews that provide considerable evidence of a significant amount of symptoms, prognostic uncertainty, and unmet supportive care needs in patients with upper gastrointestinal, hepatocellular, and pancreatic malignancies. When evidence comes from mixed oncology populations or from non-comparative designs, we carefully interpret the conclusions and frame them as speculative rather than confirmatory. This synthesis provides a summary of both the rationale for early supportive care in high-burden GI malignancies and the need for additional disease-specific comparative trials to establish causal relationships. **(Table 1)** outlines GI oncology-specific trials, observational studies, and guideline-based evidence relevant to the integration of early palliative care.

5.1. Pancreatic Cancer

Pancreatic cancer is frequently cited in the literature as a gastrointestinal malignancy characterized by a high symptom burden, including pain, cachexia, fatigue, and psychological distress, often present early in the disease trajectory and frequently accompanied by limited overall survival. As a result, patients may undergo intensive oncologic treatments that offer modest survival benefit while carrying substantial treatment-related toxicity. Needs assessments in advanced pancreatic cancer populations consistently demonstrate substantial unmet supportive care needs across physical and psychosocial domains [25].

Within this context, early palliative care has been proposed as a supportive approach to address symptom burden, assist with complex decision-making, and align treatment strategies with patient goals. In a randomized study comparing systematic early palliative care referral with on-demand referral, Maltoni et al. reported differences in quality-of-care indicators and end-of-life treatment intensity between groups, favoring earlier, structured palliative involvement in the studied population [13].

In addition, observational studies in pancreatic cancer populations have reported associations between earlier palliative care involvement and improved symptom management and lower hospitalization rates; however, these findings are derived from non-randomized designs and should be interpreted with caution [26, 27].

5.2. Hepatocellular Carcinoma

While hepatocellular carcinoma (HCC) is a malignancy, its clinical presentation is closely associated with an ongoing trajectory of chronic liver disease; thus, patients are often afflicted with symptoms such as ascites, encephalopathy, pruritus, fatigue, and caregiver burden in addition to cancer-related distress. Prognosis in HCC is highly variable, as it depends on both tumor burden and underlying liver function, which may deteriorate unpredictably over time.

The majority of reviews suggest that palliative care involvement may be beneficial when introduced earlier in the disease course, rather than being restricted to terminal stages [15, 17]. Early palliative care involvement may help patients manage symptoms, navigate decisions about locoregional and systemic treatments, and support caregivers.

5.3. Upper Gastrointestinal and Colorectal Malignancies

Patients with advanced gastric, esophageal, biliary, and colorectal cancers often experience prolonged treatment courses that may lead to cumulative toxicity, malnutrition, and repeated hospitalizations. Symptoms and unmet supportive care needs are commonly reported, even among patients actively receiving disease-directed therapies [7, 8]. Early palliative care involvement may support decision-making regarding treatment intensity, emotional adjustment, and symptom management without adversely affecting oncologic outcomes.

5.4. Integration Models in Gastrointestinal Oncology

Needs-based trigger models have been proposed as an evidence-informed, pragmatic approach to integrating palliative care in gastrointestinal oncology. This approach aligns with guideline principles that recommend integrating palliative care alongside oncology based on patient needs and care complexity rather than prognosis alone [1, 2]. These models initiate referral based on patient-specific indicators such as persistent uncontrolled symptoms, functional decline, repeated unplanned hospitalizations, or the need for complex or high-risk treatment decisions, rather than on estimated prognosis alone [19, 28]. By prioritizing clinical need, needs-based triggers seek to align palliative care involvement with periods of heightened symptom burden and decisional complexity.

Diagnosis-anchored referral models provide a complementary strategy in which early palliative care involvement is initiated for selected high-burden malignancies, such as pancreatic cancer, where supportive care needs are consistently high and prognostic trajectories are particularly uncertain. This approach does not supplant needs-based referral but rather offers a disease-specific framework to facilitate earlier consideration of palliative care involvement in populations at elevated risk of unmet supportive needs.

In addition to referral timing, alternative delivery models have also been explored. Home-based and hybrid palliative care models have been evaluated in selected populations of patients with gastrointestinal oncology and in care settings, with some studies suggesting potential improvements in continuity of care. However, evidence supporting reductions in acute care utilization or cost outcomes remains limited and context-specific, underscoring the need for cautious interpretation and further gastrointestinal-focused evaluation [14].

In practice, these triggers may be identified by the primary oncology team during routine outpatient visits, by inpatient teams during acute admissions, or through structured symptom assessments where available. Responsibility for recognizing triggers typically rests with treating clinicians, while referral pathways depend on local resources and care structures. When a trigger is met, referral to specialist palliative care or integration of primary palliative care principles can occur through established consultation pathways. This approach allows needs-based and diagnosis-anchored referral models to be implemented flexibly while remaining responsive to patient preferences, prognostic uncertainty, and institutional capacity.

Examples of operational triggers include persistent moderate-to-severe symptom scores despite first-line management, repeated unplanned admissions or emergency visits, functional decline limiting treatment tolerance, or imminent high-risk decisions (e.g., initiation of second-line systemic therapy, feeding access, or recurrent drainage procedures). Trigger identification can be owned by the oncology team through routine symptom screening, where available, with referrals executed through predefined outpatient or inpatient consultation pathways adapted to local capacity.

5.5. Ethical, Equity, and Health System Considerations

5.6. Ethical and Equity Considerations

Evidence supporting early palliative care in gastrointestinal oncology raises important ethical and equity considerations, particularly given the large number of patients with substantial supportive care needs who do not receive timely palliative services. Delayed integration of palliative care may raise concerns related to beneficence and nonmaleficence when potentially avoidable suffering or decisional misalignment occurs, especially in high-burden disease contexts [29]. These concerns should, however, be interpreted within the broader clinical and health system context, rather than framed as categorical ethical failures.

Respect for patient autonomy is supported by providing timely opportunities for open discussions regarding prognosis, symptom management, and care priorities. Studies indicate that many patients value transparent prognostic communication and treatment plans that align with their goals and preferences [26, 27, 30, 31]. Earlier integration of palliative care may facilitate such discussions, allowing patients to participate more fully in shared decision-making before significant functional or cognitive decline occurs.

Equity considerations are also central to ethical evaluation. Observational evidence suggests that older adults, individuals with lower socioeconomic status, and patients with multiple comorbid conditions are more likely to experience delayed referral to palliative care despite high symptom burden [32, 33]. Given that gastrointestinal malignancies disproportionately affect older populations, addressing inequities in access to early supportive care represents an important ethical and policy consideration for health systems.

5.7. Health System Context and Feasibility

Clinical guidelines and evidence-based recommendations increasingly support earlier integration of palliative care in gastrointestinal oncology; however, implementation is influenced by multiple system-level factors. Delayed referral often reflects prognostic uncertainty, patient preferences, and variability in palliative care workforce availability rather than deliberate ethical decision-making.

From a health system perspective, studies have reported associations between early palliative care integration and reductions in hospital admissions and intensive care unit utilization, as well as improvements in care coordination, without evidence of adverse effects

on survival [33–37]. The applicability of these findings, however, varies by institutional context, available resources, and care delivery models.

Ethical evaluation of early palliative care integration should therefore balance patient-centered goals with feasibility, equity, and system capacity, rather than categorically characterizing delayed referral as ethically unacceptable.

6. Implementation Barriers in Gastrointestinal Oncology

Despite growing evidence base supporting early palliative care, utilization in gastrointestinal oncology remains variable due to persistent structural and cultural barriers. Symptom burden and unmet supportive care needs are well documented in advanced gastrointestinal cancer populations, underscoring the risk that supportive needs may go unaddressed when palliative care is introduced late [7, 8]. Fragmented care pathways may further reinforce this risk. Patients with gastrointestinal malignancies often receive care from multiple specialists, including oncology, gastroenterology, hepatology, surgery, and interventional radiology. In the absence of standardized referral triggers, responsibility for initiating palliative care referral becomes diffuse, which may contribute to delayed or absent integration of palliative services [38, 39].

Workforce limitations further compound these challenges. The availability of specialist palliative care varies widely across institutions, contributing to implicit rationing of services and reliance on prognostic or time-based criteria rather than needs-based referral approaches [40, 41]. In some settings, shortages in specialist palliative care capacity may reinforce delayed referral practices, even in clinical contexts where early integration is supported by available evidence.

Importantly, these barriers are not insurmountable. Educational interventions that reframe palliative care as concurrent supportive care have been associated with improvements in clinician attitudes and referral timing [42]. Additionally, embedding primary palliative care competencies within gastrointestinal oncology teams may help mitigate workforce constraints and support earlier symptom management, while preserving access to specialist palliative care for complex cases [43, 44].

7. Health System Outcomes and Cost Considerations

Early integration of palliative care has been associated with changes in patterns of health care utilization in several observational studies and selected randomized trials, including reductions in hospital admissions and intensive care use in specific contexts. However, these findings are heterogeneous and dependent on study design, patient population, and care model. Evidence regarding cost reduction is variable and should be interpreted cautiously [34–37]. Available evidence suggests that these changes in health care utilization are not associated with adverse survival outcomes.

Gastrointestinal oncology is an area of medicine in which acute care utilization is high due to the frequency of symptoms requiring immediate intervention and complications arising from therapeutic interventions. In gastrointestinal oncology, early palliative care may be associated with reductions in low-value or non-beneficial interventions in selected patients; however, much of this inference is extrapolated from mixed oncology populations rather than gastrointestinal-specific comparative trials [45]. Accordingly, early palliative care may represent a potentially value-enhancing approach that supports more appropriate resource use while maintaining patient-centered outcomes, although gastrointestinal-specific cost-effectiveness data remain limited.

8. Future Directions in Gastrointestinal Palliative Oncology

Future research should prioritize randomized clinical trials in gastrointestinal oncology that evaluate the timing, intensity, and models of palliative care delivery, including comparisons of home-based, inpatient, and hybrid approaches. In addition, standardized definitions of “early” palliative care are necessary to allow meaningful comparison across studies and to facilitate implementation in clinical practice.

Another important direction for future research is integrating palliative care with geriatric assessments. Geriatric assessments are designed to identify frailty, sarcopenia, and multimorbidity, which are common in gastrointestinal oncology and are associated with treatment-related toxicity and mortality [46, 47]. Integrating early palliative care alongside geriatric oncology assessments may offer a complementary framework for delivering personalized care aligned with individual patient goals. Finally, digital health and tele – palliative care may represent promising strategies for expanding access to palliative care for patients receiving outpatient systemic therapy and those living in rural or resource-limited settings [48].

9. Limitations of the Evidence Base

While the evidence suggests potential benefits of early palliative care, several limitations warrant acknowledgment. Specifically, there are few gastrointestinal-specific randomized trials; therefore, much of the available data derives from heterogeneous oncology populations. Although extrapolation to gastrointestinal malignancies is common, additional disease-specific trials would strengthen causal inference and confidence in GI-focused recommendations.

Heterogeneity among studies arises from variation in palliative care delivery models, referral timing, and outcome measures. In addition, the economic consequences of palliative care have not been evaluated consistently, limiting the ability to perform comprehensive cost-effectiveness analyses. No formal risk-of-bias assessment was undertaken.

Finally, although a structured literature search was conducted, this review is narrative in design and did not follow full systematic review methodology (e.g., duplicate screening, formal PRISMA flow reporting, or quantitative synthesis). Accordingly, there remains potential for selection and interpretive bias, which should be considered when interpreting the findings.

10. Conclusion

Research suggests that early incorporation of palliative care into the treatment plan for gastrointestinal cancer may help support patients who experience high symptom burden, significant malnutrition related to either disease or treatment, and considerable prognostic uncertainty, all of which are common features of gastrointestinal malignancies. Reliance solely on time-based referral paradigms to identify candidates for palliative care may be insufficient to meet the evolving needs of many patients, particularly when symptom burden or decisional complexity arise early in the disease trajectory. This framing is also consistent with contemporary guideline recommendations that support early, concurrent integration while recognizing variability in resources and models of delivery [1].

Studies conducted in heterogeneous oncology populations have documented associations between earlier palliative care integration and better quality of life, symptom control, communication, and alignment of care with patient preferences, without evidence of interference with disease-directed therapy. Although fewer studies

have focused specifically on gastrointestinal cancers, available data suggest that both systematic (e.g., referral-based) and selective (e.g., outpatient or home-based) models of palliative care can be integrated into gastrointestinal oncology care. These findings also underscore the need for further research addressing the unique clinical trajectories and supportive care needs across gastrointestinal cancer subtypes. Priority research questions include (1) comparative effectiveness of needs-based versus diagnosis-anchored referral models within specific GI cancer populations (e.g., pancreatic vs colorectal), and (2) implementation science studies evaluating feasible trigger thresholds, workforce models, and equity impacts in real-world GI oncology settings.

In aggregate, the evidence reviewed supports consideration of early, concurrent palliative care as a complementary component of gastrointestinal oncology. Diagnosis-anchored, needs-based, and flexible referral frameworks may offer advantages over reliance on a single prognostic threshold, particularly in settings characterized by substantial clinical uncertainty. The ethical and practical implications of integrating palliative care should be evaluated in relation to patient preferences, feasibility, and health system capacity, recognizing that effective implementation strategies are likely to vary across healthcare environments.

Conflicts of Interest

The authors declare that they have no conflicts of interest.

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Ethical approval

Not applicable. This study is a narrative review of published literature and did not involve human participants, identifiable personal data, or animal subjects.

Large Language Model

The authors used an artificial intelligence–based language model (ChatGPT, OpenAI) solely for language editing, clarity, and stylistic refinement of the manuscript. The AI tool was not used to generate original scientific content, interpret data, or make analytical decisions. All authors critically reviewed, verified, and approved the final manuscript and take full responsibility for the accuracy, integrity, and originality of the content, including all citations and interpretations.

Author Contributions

AA contributed to conceptualization, literature search and study selection, evidence synthesis and interpretation, and writing the original draft. MA contributed to conceptualization, writing review and editing, and supervision. All authors reviewed and approved the final manuscript and agreed to be accountable for all aspects of the work.

Data Availability

No new data were generated or analyzed in this study. All supporting information is contained within the article and its references.

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