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Palliative Care Co-management Model for Terminally Ill Patients

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Abstract

Palliative care co-management refers to the early palliative medical intervention by palliative care teams during a patient's disease trajectory, jointly providing care with the patient's primary treatment team, reducing unnecessary suffering while treating the disease, thereby preserving the patient's quality of life and dignity. Implementing palliative care co-management in the early stages of a patient's disease course can improve patient survival, enhance physician-patient relationships, and enable more effective utilization of health resources. Within hospital settings, the initiation of palliative care relies predominantly on a consultation model, with insufficient exploration and practice of co-management models, often resulting in missed optimal timing for palliative care intervention and underutilization of existing palliative care resources. This article, through literature review and integration of relevant international experiences, summarizes the palliative care co-management model and the responsibilities of palliative care teams, emphasizing its significant importance.

Full Text

Co-Management Model of Palliative Care for End-Stage Patients

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Abstract

Integrative palliative care refers to the early intervention of palliative medicine during a patient's illness trajectory, where palliative care teams collaborate with primary care teams to provide concurrent care. This approach reduces unnecessary suffering while patients receive disease-directed treatment, thereby preserving quality of life and dignity. Early implementation of palliative care co-management can improve patient survival, enhance doctor-patient relationships, and promote more efficient utilization of healthcare resources. Currently, palliative care initiation in hospitals relies heavily on consultation models, with limited exploration and practice of co-management approaches. This often results in missed opportunities for optimal palliative care intervention and underutilization of existing palliative care resources. Through literature review and analysis of international experiences, this article summarizes co-management models of palliative care and delineates the responsibilities of palliative care teams, emphasizing their critical importance.

Keywords: Palliative Care, Integrative Care, Consultative Model

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1. Palliative Care Participation in Co-Management

According to the World Health Organization, palliative care is "an approach that improves the quality of life of patients and their families facing the problems associated with life-threatening illness" [1]. Through early identification and management of physical, psychological, social, and spiritual suffering, palliative care helps patients enhance their quality of life and maintain dignity until death. Simultaneously, through communication and supportive holistic care, it addresses the psychological and spiritual needs of patients and families. Palliative care emphasizes that all care should be patient-centered "five holistic cares" [2]: whole-person care (addressing physical, psychological, social, and spiritual needs), whole-family care (addressing family's holistic needs), whole-course care (covering the entire disease trajectory including bereavement support after death), whole-team care (all needed members are part of the team), and whole-hearted care (actively seeking beneficial approaches). To timely meet these palliative care needs, patients can receive support through various models including inpatient palliative care units, outpatient clinics, consultations, and co-management, allowing them to access palliative care within their existing care framework [3].

Co-management, also known as integrated or coordinated care, aims to provide timely and appropriate medical care for patients and families through multidisciplinary, multi-center, and multi-department collaboration [4]. The WHO defines it as "the delivery and management of health services to meet patients' long-term, continuous preventive and curative care needs." In hospitals, patients requiring palliative care are distributed across various departments including oncology, obstetrics and gynecology, geriatrics, respiratory and critical

care, emergency, and intensive care units (ICU). Historically, hospital-based palliative care initiation has heavily depended on consultation models, leading to missed optimal intervention timing and underutilization of palliative care resources [5]. As early as 2012, McCormick emphasized that primary care teams should closely collaborate with palliative care teams to provide comprehensive, personalized integrated care for these patients and families [6]. In 2018, WHO published guidelines for integrating palliative care into primary healthcare systems, noting that most suffering from life-threatening diseases can be alleviated with safe and effective medications prescribed by trained palliative care professionals [7]. The goal of co-management is not to abandon curative treatment but to intervene early with palliative care, reducing unnecessary or excessive medical suffering while treating the disease, thereby preserving quality of life and end-of-life dignity.

2. Significance of Co-Management

Collaborative implementation of co-management between primary care teams and palliative medicine departments carries multiple implications for patients, families, healthcare providers, and the healthcare system. For patients, co-management enables early identification of palliative care needs and reduces suffering from excessive medical interventions, thereby improving survival [8]. Research demonstrates that compared to oncology patients receiving palliative care only at the end of life, those with early intervention experience less depression and significantly improved physical and mental well-being—key factors influencing survival [9].

Patients with chronic lung disease experiencing organ failure often suffer from dyspnea and breathlessness, frequently withdrawing from social connections due to fear of symptom exacerbation, while uncontrolled anxiety and depression worsen symptom frequency [10]. These patients can benefit from concurrent palliative care through medication management and breathing exercises to reduce dyspnea episodes, alleviate fear, decrease emergency visits, and lower mortality rates [11]. Additionally, many ICU patients lose communication capacity and cannot make medical decisions upon admission. Early palliative care intervention facilitates advance care planning, ensuring patients receive care aligned with their preferences throughout the disease trajectory. Under co-management, palliative care teams can facilitate timely transfers to hospice units or arrange comfortable discharges, allowing patients to spend their final moments in more comfortable environments.

For families, co-management strengthens early communication [12], fostering trusting doctor-patient relationships and improving cooperation. Research indicates that as patients approach end-of-life, family caregivers experience escalating stress stemming from poor disease understanding, helplessness, and lack of external support [13]. Timely disclosure of disease progression, allowing families time to process information and express emotions, effectively reduces psychological burden and alleviates depression. Early palliative care interven-

tion enhances families' confidence in caring for patients, while comprehensive disease education reduces caregivers' health deterioration risks [14].

For healthcare providers, palliative care team involvement mitigates burnout and moral distress experienced by primary teams when managing end-stage patients and navigating complex family decisions. Huang (2023) found that in China, families' shared decision-making capacity is generally low, with passive participation being predominant [15], meaning most prefer healthcare professionals with expertise to make complex medical decisions. Heavy clinical decision-making burden combined with low family satisfaction often leads to complaints, disputes, and strained doctor-patient relationships, exacerbating provider burnout. Additionally, influenced by traditional cultural values, families sometimes request clinicians to conceal diagnoses, describing serious illnesses as minor conditions, which severely impedes medical decision-making communication, nursing education, medication instruction, and discharge planning [16]. This phenomenon is widespread in China, significantly compromising care quality and creating extreme moral distress among healthcare providers. Palliative care teams can facilitate communication between primary teams and families, 填补 symptom management and psychological support gaps, prevent conflicts, and protect providers' physical safety and mental health while caring for patients.

For healthcare systems, co-management models more efficiently utilize resources and reduce costs compared to establishing separate palliative care departments, while improving patient satisfaction. Research shows palliative care intervention significantly reduces hospital length of stay by expanding care options such as home care, community care, or hospice units [17]. Two studies using economic outcome data found palliative care interventions were cost-effective, primarily through reduced hospitalization and emergency visit rates [17, 18]. Additionally, quality-adjusted life-years (QALYs) were relatively improved with palliative care intervention [17]. QALY is a crucial metric for measuring health outcomes value and can be used to compare cost-effectiveness across treatments.

3. Palliative Medicine's Participation Methods in Co-Management

Han (2023) et al. summarized four models of palliative care intervention for hospitalized cancer patients [19]. Traditional consultation and triggered consultation models represent the most common forms of palliative care delivery in hospitals. The former lacks consultation criteria, relying entirely on primary physicians' discretion. However, multiple factors influence consultation initiation, including clinicians' knowledge and attitudes toward palliative care; many physicians remain skeptical, resulting in suboptimal consultation rates [5]. The latter establishes specific patient screening criteria, requiring primary physicians to initiate palliative care consultations when patients meet these standards [20]. Screening timing is critical: initial screening should occur at admission, with second-round screening during ward rounds. Research found 62% of oncologists believe triggered consultation models significantly enhance care quality

and increase palliative care utilization, while nurses consider screening easily integrated into existing workflows. For patients, consultations improve symptom management, reduce hospital stays, and decrease medical costs and readmission rates.

The fundamental difference between co-management and consultation models lies in who assumes responsibility for orders and medical decisions. In consultation models, primary physicians retain decision-making authority. In co-management, palliative medicine physicians become co-attending physicians, jointly developing treatment and care plans with primary physicians. Co-management includes two sub-models. First, the co-rounding model: patient care teams comprise both primary and palliative care teams, participating simultaneously in ward rounds, medical decision-making, family discussions, and symptom control from early disease stages [21]. In this model, palliative care needs are identified through case review and rounding screening, effectively preventing delayed intervention and ensuring continuity post-discharge. Second, the palliative department-led model: patients assessed as unsuitable for curative treatment with complex, refractory symptoms are directly admitted to palliative care units. The drawback is the requirement for dedicated palliative care departments and beds.

[Figure 1: see original paper] Comparison of Traditional Consultation and Co-Rounding Models, adapted from Yang (2017)

Singaporean researchers Yang (2017) et al. illustrated workflows for oncology-palliative care consultation versus co-rounding models [22]. As shown in Figure 1, consultation models involve minimal direct interaction between teams, with requests submitted via electronic consultation orders and recommendations returned through electronic health record updates. In co-rounding models, a palliative specialist physician and nurse join oncology rounds, with both teams jointly discussing morning rounds, case reviews, patient needs communication, and intervention decisions. Yang et al. found co-rounding models further reduced hospital length of stay compared to consultation models, primarily because more timely palliative team participation more effectively addressed emergent issues such as acute pain and family crises.

4. Implementation Strategies for Co-Management

4.1. Proactive Screening for Patients with Palliative Care Needs

In consultation models, palliative care initiation is passive, occurring only when primary teams are "at a loss" regarding refractory symptoms or complex decision-making [23], by which time many important medical decisions and family discussions have been missed, and patients have endured avoidable suffering.

[Figure 2: see original paper] Relative Intensity of Disease Treatment and Palliative Care in Co-Management Model, adapted from American Thoracic Society

Figure 2 illustrates the relative intensity of curative treatment and palliative care across critical illness stages in co-management models [24]. During end-of-life stages, curative intervention intensity gradually decreases while palliative care intensity increases, with bereavement support for families continuing post-death. Crucially, palliative care must proceed concurrently with curative treatment. How can patients needing palliative care be identified timely? Davila (2023) outlined four screening pathways: first, departments conduct case reviews and proactively request palliative care involvement for patients meeting risk criteria to trigger co-management; second, participate in departmental rounds to identify palliative care needs through direct patient and family communication; third, palliative care consultations; and fourth, referrals from other departments [25]. Palliative care teams must conduct regular screening to promptly identify unmet palliative care needs. Teams should develop disease-specific screening criteria, and validated assessment tools for physical and psychological distress can help clinicians identify patients' subjective suffering and manage symptoms promptly.

4.2. Early Communication with Patients and Families

Each patient's definition of high-quality life and care differs based on cultural background, education, beliefs, and social attitudes. Many patients lack full awareness of their condition, as families often request clinicians to conceal information, complicating subsequent communication and interventions and potentially causing disputes. Honest communication is actually a critical determinant of patient and family satisfaction with end-of-life care, and positive doctor-patient interactions effectively improve care experiences [26].

Communication with patients and families should include: first, adequate and truthful prognostic information [23]. Palliative care teams must employ essential communication skills to ensure patients and families fully understand disease status and prognosis, allowing time to process bad news and negative emotions. When individuals cannot immediately cope, teams should support gradual information digestion and guide realistic expectations about disease progression. Second, disclose benefits and risks of medical interventions to ensure patients understand consequences of different choices, facilitating informed decision-making. Finally, address key decisions and advance care planning, including care location (inpatient, home, or hospice); care goals (aggressive treatment, life prolongation, or comfort care); preferences for life-sustaining invasive interventions; decisions to forgo or withdraw interventions; end-of-life wishes (unfinished business); and funeral arrangements. Palliative care teams must regularly review these decisions, understanding evolving disease status and patient perspectives. Teams should serve as communication bridges, ensuring patient participation in medical decisions and conducting regular multidisciplinary meetings to align all team members on prognosis, care goals, symptom assessment, and family support strategies, reducing internal disagreements.

Additionally, family members caring for deteriorating patients experience

burnout, depression, PTSD, and diminished cognitive and decision-making capacity. Palliative care teams should actively understand family structure, financial status, and caregiving resources to identify potential social and spiritual distress, recognize severe depression (e.g., thoughts or behaviors of abandoning the patient or suicidal ideation), and intervene promptly.

4.3. Post-Discharge and Post-Death Care

When patients decide to discontinue hospitalization or disease-directed treatment, palliative care ensures alternative care options such as home care, day care, or regular outpatient visits, maintaining symptom relief possibilities. During end-of-life stages, patients commonly experience pain, dyspnea, constipation, ascites, diarrhea, edema, malignant wounds, and delirium. Beyond prescribing preventive measures, clinicians must provide disease and caregiving education at discharge, informing families about potential symptoms and ensuring caregivers can manage emergencies and cope psychologically, thereby reducing emergency visits and readmissions.

Palliative care intervention extends beyond patient death through "post-death care" and "bereavement support." Post-death care includes dignified, compassionate, and respectful handling of the deceased's body, maintaining communication with families, funeral personnel, and social workers, ensuring body security, and maximizing opportunities for loved ones to be present when circumstances permit. Bereavement support ensures families and caregivers receive psychological support. During the COVID-19 pandemic, many families faced sudden loss with immense shock and confusion, experiencing guilt and pathological grief, particularly when suspecting inadequate infection control led to family transmission and death. Child loss creates permanent family wounds; parental grief often manifests with psychiatric and physical symptoms [27], including intense sorrow, hopelessness, helplessness, loneliness, abandonment, suicidal ideation, insomnia, appetite loss, confusion, concentration difficulties, and obsessive thoughts. Such complex, pathological grief persists chronically rather than resolving quickly [28], with intensity varying over time. Palliative care teams must identify families at risk for pathological grief, providing bereavement support before and after death, with continued follow-up (2+ months post-death).

5. International Case Studies

5.1. Singapore: Tan Tock Seng Hospital

Tan Tock Seng Hospital (TTSH) is part of Singapore's public healthcare system, affiliated with the National Healthcare Group. As one of Singapore's largest multidisciplinary, multi-center hospitals with over 1,700 beds, TTSH encompasses the National Centre for Infectious Diseases (NCID), Institute of Geriatrics and Active Ageing (IGA), National Healthcare Group Eye Institute (NHGEI), and rehabilitation centers.

In 2015, the Department of Palliative Medicine began consulting across departments. The palliative medicine-oncology-emergency care triangle model screens and identifies metastatic cancer patients with frequent emergency visits, pain, dyspnea, nausea/vomiting, delirium, edema, or potential caregiving difficulties, providing physical, financial, and psychological support [29]. Previously, emergency admissions could not access palliative support before ward transfer, potentially prolonging unnecessary suffering. Under the triangle model, emergency departments identifying eligible patients via screening criteria can immediately contact palliative medicine by phone, enabling direct symptom assessment and management in the emergency setting. Post-discharge, patients can continue receiving care in palliative medicine or affiliated hospice facilities, with those imminently dying transferred to dedicated comfort wards for peaceful end-of-life care with family presence. In 2016, palliative medicine and oncology launched a co-rounding model, achieving earlier identification, review, and discussion of palliative care needs through close collaboration, delivering more comprehensive care and effective symptom management [22].

During the COVID-19 pandemic, the palliative medicine department actively explored its role and responsibilities, seeking interdepartmental collaboration opportunities to optimize resource utilization and patient monitoring, enabling more patients to receive appropriate care faster. The department established a strategic partnership with the COVID-19 ICU [12], upgrading the existing palliative-ICU co-management model to meet infection control standards. Detailed screening criteria were developed for COVID-19 ICU patients, with the three most critical criteria being: (1) post-cardiac arrest, (2) multi-organ failure, and (3) death risk with consideration of mechanical ventilation withdrawal. ICU staff must initiate palliative co-management when patients meet two of three criteria. The co-management team conducted 2-3 multidisciplinary meetings weekly to develop care plans for high-risk patients with treatment failure, persistent multi-organ failure, and complications. Palliative care teams played crucial roles in family communication, mechanical ventilation withdrawal decisions, ICU transfer, post-death care, and bereavement follow-up.

5.2. United States: Massachusetts General Hospital

Massachusetts General Hospital (MGH), Harvard Medical School's first and largest teaching affiliate, provides comprehensive integrated medical services through multidisciplinary consultations. Beyond outpatient, consultation, inpatient, and home care, the palliative medicine department has established co-management models with various departments to help patients and families make treatment decisions or transition care directions. Even when cure is impossible, palliative medicine emphasizes aggressive symptom control to promote comfort, focusing on intensive patient and family support. Palliative medicine physicians guide primary physicians to comprehensively improve quality of life beyond disease management.

MGH's Cancer Center collaborates with palliative medicine to provide full-cycle

palliative services for all patients with life-threatening cancers. Co-management can begin immediately after diagnosis, with palliative interventions provided concurrently with chemotherapy and radiotherapy. Beyond symptom management, palliative care teams help patients and families identify care goals and make treatment choices. All care is delivered collaboratively by every team member within the co-management structure. Palliative care teams themselves comprise experts from various medical fields to help patients and families address emotional, physical, social, psychological, and spiritual impacts of advanced or life-threatening illness.

5.3. Europe: Radboud University Medical Center

Radboud University Medical Center, one of Europe's most academically influential medical institutions, is committed to patient-centered, innovative care, scientific research, and education. In 2022, utilizing a €5.3 million EU Horizon grant, the center partnered with nine European collaborators to research transitioning care from hospitals to home and community settings, enabling symptom control and enhanced quality of life at home. As early as 2016, the center participated in the "Integrated Palliative Care Co-Management Support Program," defining best practices and requirements for integrated palliative care co-management in designated European regions [30]. The program defines co-management as "achieving care continuity for palliative care patients through combined administrative organization and clinical services; through healthcare professional collaboration, achieving higher quality of life and better end-of-life processes for patients and families," ultimately delivering "one-stop" integrated palliative care services.

6. Discussion and Conclusion

Currently, consultation remains the most common model for palliative care delivery in hospitals. Without detailed screening criteria, this model heavily depends on primary physicians' knowledge and attitudes toward palliative care. Unless patients proactively request services—limited by public lack of awareness—many patients' palliative care needs remain unidentified, missing optimal intervention timing and causing avoidable suffering through inadequate family communication.

Co-management models, proceeding concurrently with disease treatment, enable early involvement in care goal setting, preference identification, and advance care planning, effectively and timely managing symptoms to benefit patients, families, providers, and healthcare systems.

However, establishing palliative care co-management models requires certain conditions. First, strengthen palliative care policy development. Major barriers include lack of national strategy, regulatory frameworks, and insufficient funding. New care models necessitate new regulations, subsidies, and practice guidelines to support implementation, such as insurance coverage for essential

symptom management medications, specific palliative care practice guidelines for different settings, quality indicators, and laws ensuring palliative care coverage and accessibility. Second, improve public awareness and establish correct understanding of palliative care. Renaming necessary services, appropriately explaining palliative care practices to the public, and collaborating with hospital departments to educate patients about palliative care necessity can promote societal recognition. Only when the public knows about this discipline and proactively requests intervention from primary physicians can hospital co-management development be effectively advanced. Additionally, healthcare providers require continuing education and regular training to improve palliative care knowledge and attitudes. Palliative care can proceed concurrently with conventional treatment, with earlier intervention being better. It is not treatment abandonment but effectively improves quality of life, enabling better disease coping and control. Providers need basic palliative care knowledge, understanding when to consult palliative specialists and initiate co-management. Finally, hospitals must select appropriate co-management models based on their conditions, equipment, resources, and palliative care development status, gradually deepening palliative care-department collaboration from simple to complex to establish sustainable partnerships that deliver better, more cost-effective care experiences.

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