

Hospice care in MOH, Saudi Arabia: current situation and challenges

Abstract

Introduction: Hospice care plays a vital role in enhancing the quality of life for terminally ill patients by providing pain management, psychological support, and holistic care. In Saudi Arabia, the increasing prevalence of chronic illnesses has emphasized the need for structured hospice services. Despite governmental efforts to integrate palliative care into the healthcare system, several challenges, such as workforce shortages, funding constraints, and cultural barriers, continue to hinder its development and accessibility.

Methodology: This study utilized a survey-based approach targeting all palliative multidisciplinary team (MDT) leaders across the Ministry of Health (MOH) health clusters in Saudi Arabia. Conducted in December 2024, the survey collected data on hospice service availability, MDT composition, the number of hospice centers and beds, opioid accessibility, caregiver training programs, and grief support services. Additionally, respondents provided insights into hospice care's challenges, strengths, and future improvement areas.

Results: Findings indicate that hospice services in Saudi Arabia face multiple challenges, including a shortage of specialized professionals, insufficient training programs, limited funding, and inadequate public awareness. Cultural beliefs and societal reluctance to discuss end-of-life care contribute to the underutilization of hospice services. The lack of dedicated hospice facilities further strains healthcare resources, forcing patients to receive palliative care in general hospitals with limited specialized support. However, strengths such as the presence of experienced healthcare professionals, supportive policies, and international collaborations provide opportunities for improvement.

Conclusion: To enhance hospice care services in Saudi Arabia, key strategies must include expanding hospice infrastructure, integrating palliative care into primary healthcare, increasing public awareness, and strengthening professional training programs. Sustainable funding models and improved coordination between healthcare sectors will ensure better patient outcomes. By addressing these barriers and leveraging available resources, Saudi Arabia can significantly improve access to quality hospice care.

Keywords: hospice care, palliative care, saudi arabia, end-of-life care, healthcare integration, cultural barriers, funding constraints, workforce shortage

Volume 16 Issue 2 - 2025

Sami Ayed Alshammary,¹ Igbal Abdelati Mahgoub,² Ayed Sami Alshammary,³ Majed Alsalem⁴

¹Department of Palliative Care, Comprehensive Cancer Center, King Fahad Medical City, Saudi Arabia

²Department of Oncology, Al Hammadi Hospitals Group, Saudi Arabia

³Medical School, Dar Alulum University, Saudi Arabia

⁴Healthcare Clusters Corporatization Director, Health Holding, Saudi Arabia

Correspondence: Sami Ayed Alshammary, Department of Palliative Care, Comprehensive Cancer Center, King Fahad Medical City, Riyadh and Centre for Postgraduate Studies in Family Medicine, Ministry of Health, Riyadh, Saudi Arabia, Tel 996568037020

Received: May 05, 2025 | **Published:** May 13, 2025

Introduction

Hospice is a specialized type of care designed to provide comfort and support to individuals at the end of life. It focuses on improving the quality of life for patients by managing pain, addressing emotional and spiritual needs, providing family support, and offering grief counseling. Hospice ensures patients live their remaining time with dignity and comfort and receive care in familiar and comfortable settings, avoiding unnecessary hospital visits and interventions.

Saudi Arabia has a population of approximately 32.1 million.¹ Due to demographic changes such as increased life expectancy and decreased fertility rates,² healthcare needs have increased rapidly. These changes have led to a rise in chronic illnesses, notably cancer, which is projected to increase significantly by 2030.³

Hospice care was established in Saudi Arabia in 1992 at the King Faisal Specialist Hospital.

Hospice care in Saudi Arabia has seen significant advancements, particularly following the Ministry of Health's (MOH) initiatives aligned with Vision 2030. In 2016, the MOH launched the Palliative Care/Last Phase Initiative as part of the healthcare transformation efforts. This initiative aimed to integrate palliative care services across various healthcare system levels, including primary, secondary, and

tertiary care. By 2018, the first hospice care service was established in Riyadh's Health Cluster 2, marking a pivotal step in providing end-of-life care within the Kingdom.⁴

Hospice care is mainly provided in hospitals, palliative care units, and home settings in Saudi Arabia. Major hospitals have dedicated palliative care teams, including King Fahad Medical City (KFMC), King Faisal Specialist Hospital & Research Centre (KFSHRC), and other MOH-affiliated centers. Community-based hospice care is expanding, and there are increased training programs for home-based palliative care.

The Kingdom boasts 15 cancer centers equipped with palliative care sections and 21 palliative care units distributed across various health clusters. This infrastructure ensures that palliative services are accessible to patients throughout the country.⁵

Palliative care services have been integrated into all levels of healthcare in the Saudi Arabian healthcare system, including primary, secondary, and tertiary facilities. This integration encompasses inpatient units, consultation services, outpatient clinics, and community palliative care teams, ensuring a holistic approach to patient care.⁴ In Saudi Arabia, hospice and palliative care services are provided by multidisciplinary teams that focus on improving the quality of life for terminally ill patients and their families. The team

includes palliative care physicians – Specialists in pain and symptom management, leading patient care, general practitioners (GPs), providing ongoing primary care for hospice patients, and oncologists, who play a crucial role for cancer patients needing palliative care. Palliative care nurses are trained to provide comfort care, symptom relief, and emotional support. Home healthcare nurses provide in-home hospice care when hospital visits are impossible. Pharmacists, ensure proper medication management, including opioids for pain control. Physiotherapists & Occupational Therapists help maintain mobility and comfort. Dietitians assist with nutritional needs based on a patient’s condition. Social workers provide emotional and financial support and assist families with coping strategies. Psychologists & counselors offer mental health support for patients and caregivers. Religious & spiritual advisors provide religious counseling and support based on Islamic teachings. Hospice volunteers offer companionship and emotional support and assist with non-medical tasks to improve patient comfort.

The Saudi Ministry of Health (MOH) plays a pivotal role in developing and providing hospice and palliative care services across the Kingdom. In alignment with Saudi Vision 2030, the MOH has implemented several initiatives to enhance the quality of life for patients with life-threatening illnesses.

The provision of high-quality palliative care is an essential component of a comprehensive healthcare system, particularly given the aging population and increasing prevalence of chronic diseases.

This study aimed to investigate the current state of hospice services in the Kingdom of Saudi Arabia, examining their availability, distribution, composition, and capacity to meet the population’s needs. Furthermore, it highlights the areas that require further attention and strategic planning, as well as the difficulties and challenges in providing hospice services in Saudi Arabia.

Methods

The survey included all palliative multidisciplinary (MDT) team leaders in MOH health clusters in KSA, conducted throughout December 2024, where repeated reminders were sent. A questionnaire about hospice services in the Kingdom of Saudi Arabia aims to collect data from health clusters. The questionnaire lasts 10 -15 minutes and includes information about hospice service availability. List the names of the MDT covering the expected length of stay in the hospice.

Number of hospice care centers/ services and locations within the health clusters. Number of hospice beds in each cluster. Palliative Medicine fellowship training centers. Name and number of hospice MDT for each cluster, availability of weekly meetings with the MDT, opioid availability, data record system, and caregiver training program provided for hospice residents. Is there a sympathy and grief program for the families of the hospice residents? What are the difficulties, challenges, strengths, weaknesses, and areas for future improvement in providing hospice services within the scientific methodology?

Results

The analysis of palliative care services across different clusters highlights notable disparities in workforce availability, infrastructure, and training opportunities. The average age of palliative care leaders varies from 29 to 65 years, with all clusters except one (Jouf) having a designated leader. The number of fellowship-trained palliative care professionals also differs significantly, with some clusters, such as R2, having as many as 14, while others, including Hail and R3, report none. Hospice services are generally available across the clusters, except for Jouf, and the number of hospice facilities per cluster ranges from one unit to more than three in specific areas like R2 and Qassim.

Hospices are typically integrated within established hospitals, such as Prince Faisal bin Bandar Oncology Center in Qassim and King Fahad General Hospital in Jeddah. Some regions, such as Najran, are expanding their hospice care services, indicating ongoing development efforts. However, the availability of hospice beds is inconsistent, with some clusters having fewer than five beds, while others, such as R2, Asir, and E1, accommodate more than ten. This uneven distribution suggests potential limitations in accessibility and capacity for end-of-life care.

Another key observation is the limited availability of training centers for palliative care professionals. While a few clusters, including R2, Makkah, and E1, have established training facilities, most regions lack structured educational programs, potentially impacting the development of a skilled palliative care workforce. This overall analysis highlights significant disparities in palliative care resources and services, suggesting a need for targeted investments in training programs, workforce expansion, and facility development to improve the accessibility and quality of palliative care across all regions (Table 1& 2).

Table 1 Demographic data

Average age of participants	Palliative care Leader	Cluster name	Number of PC fellowship holders in the cluster	Availability of Hospice Services	No of Hospice	Location of hospice within the cluster	No. of hospice beds	Training center availability
39	yes	Jeddah I	4	yes	1	East Jeddah Hospital	5	No
42	yes	Qassim	4	yes	more than 3	Prince Faisal bin Bandar Oncology Center in Buraidah — Al-Shifa Hospital, King Saud Hospital in Unaizah, Al-Rass General Hospital	10 <	No
30	yes	Northern Borders	1	yes	2	Prince Abdulaziz bin Musaed Hospital Oncology Center and Long-Term Care Hospital	2	No

Table 1 Continued.....

37	yes	Jazan	3	yes	1	In Prince Mohammed bin Nasser Specialized Hospital	2	No
52	yes	R2	14	yes	more than 3	Rehab hospice/PAMA hospice/ Yamaha/ Ramah/ Almajmah	10 <	yes
45	yes	Alhassa	2	yes	1	Al-Omran Hospital	4	No
39	yes	Tabuk	2	yes	1	King Fahd Specialist Hospital	2	No
39	yes	Jeddah 2	5	yes	2	King Fahad General Hospital	2	No
35	yes	Madina	4	yes	1	Rehabilitation Care Hospital	2	No
39	yes	Najran	1	yes	1	Najran General Hospital (a hospice is currently being built at King Khalid Hospital as per proposed standards)	6	No
29	NO	Jouf	1	yes	1	Oncology Center	4	No
42	yes	Albaha	1	yes	1	King Fahd Hospital	5	No
38	yes	Asir	5	yes	2	- Asir Central Hospital 2- King Abdullah Hospital in Bisha	10 <	No
42	yes	Hail	0	yes	1	King Salman Specialist Hospital	4	No
65	yes	R1	2	yes	1	Naqaha Hospital	15	No
39	yes	R3	0	yes	1	Huraimla Hospital	5	No
55	yes	EI	5	yes	2	One at the Maternity and Children's Hospital (run by King Fahad's specialist team), and one within the long-term hospital in the cluster (Dhahran General Hospital)	10 <	yes
33	yes	Hafir Albatin	0	yes	1	Long-Term Care Hospital	4	No
38	yes	Taif	5	yes	1	Inside the palliative unit	3	No
35	yes	Makkah	7	yes	1	King Faisal Hospital	10 <	yes

Table 2 SWOT of hospice services

Challenges in providing hospice services	Strengths: enabling hospice implementation
<ul style="list-style-type: none"> · Lack of specialized hospice professionals · Limited funding and resources · Inadequate public awareness about hospice care, Cultural and societal barriers to end-of-life discussions · Lack of proper infrastructure for hospice services · Difficulty in integrating hospice care with existing healthcare services · Insufficient training for healthcare workers on palliative care 	<ul style="list-style-type: none"> · Presence of experienced healthcare professionals · Availability of supportive policies for hospice care · Strong commitment from healthcare providers · Increasing awareness and acceptance of palliative care · Collaboration with international and local organizations
Weaknesses hindering better service implementation	Future plans for expanding hospice services
<ul style="list-style-type: none"> · Limited access to essential palliative medications · Shortage of specialized hospice facilities · Financial constraints for sustaining hospice programs · Insufficient training programs for caregivers · Gaps in coordination between hospice and mainstream healthcare systems 	<ul style="list-style-type: none"> · Establishing more hospice centers across different regions · Strengthening partnerships with local and international organizations · Increasing public awareness through education and outreach programs · Enhancing training programs for healthcare providers and caregivers · Improving policies to secure sustainable funding for hospice services

Discussion

Challenges in providing hospice services

The availability of palliative care physicians and services varies

significantly across different countries. In Saudi Arabia, the current status of palliative care aligns with many nations worldwide.⁶ Despite the government's efforts to expand and enhance hospice and palliative care services, several challenges remain.⁷

One major issue is the lack of specialized hospice professionals. The shortage of trained healthcare workers, including physicians, nurses, and social workers, makes it challenging to meet the increasing demand for palliative care. Limited palliative care education in medical and nursing schools has contributed to this workforce gap, leading to suboptimal symptom management and increased patient suffering.⁸ Effective hospice care requires a multidisciplinary team (MDT) trained in end-of-life care, yet many healthcare systems lack specialized training programs, further exacerbating the problem.^{9,10}

Another significant challenge is limited funding and resources. Hospice services rely on financial support from governments, non-profits, and private donors. However, funding constraints restrict the expansion of services, limit staff salaries, and hinder the procurement of essential medications. Many healthcare systems prioritize curative treatments over palliative care, resulting in inadequate financial allocations for hospice programs. The World Health Organization (WHO) has identified financial sustainability as a crucial barrier to integrating palliative care into national healthcare policies.^{11,12}

Public awareness regarding hospice care remains inadequate. Many individuals mistakenly believe that hospice services are only for those in the final stages of life, rather than an approach aimed at improving quality of life. This misconception leads to delayed referrals and underutilization of hospice services. Research has shown that early palliative care interventions improve symptom control and patient satisfaction, yet these services remain underused due to widespread misunderstanding.^{13,14}

Cultural and societal barriers also play a role in limiting hospice care acceptance. In Saudi Arabia, many people are unfamiliar with the concept of hospice care and often associate it with abandoning treatment. Cultural and religious beliefs sometimes encourage families to pursue aggressive medical interventions rather than comfort-focused end-of-life care. Additionally, psychological and emotional support services for patients and families are not widely available or integrated into hospice care. The stigma surrounding discussions about death and dying further complicates efforts to provide counseling and bereavement support. Cultural sensitivity training for healthcare providers has been suggested to bridge these gaps and improve hospice service utilization.^{15,16}

Infrastructure limitations pose another challenge. Many countries, including Saudi Arabia, lack dedicated hospice facilities, forcing terminally ill patients to receive care in hospitals or at home without adequate support. Ideally, hospice care should be provided in standalone community facilities that offer specialized palliative interventions such as pain management and psychosocial support. A global survey found that only a small fraction of low- and middle-income countries have fully integrated hospice services into their healthcare systems.^{17,18}

Integrating hospice care with existing healthcare services remains difficult. The future of palliative and hospice care depends on effectively incorporating palliative services into primary healthcare. However, barriers such as insufficient education for general practitioners, resource limitations, and lack of clinical guidelines hinder this integration.^{19,20} In Saudi Arabia, many terminally ill patients are treated by multiple specialists, yet coordination between primary care, oncology, and palliative teams is often inadequate. A poorly structured referral process further delays access to hospice care. Addressing these barriers is essential to ensure that palliative care is effectively integrated at the primary care level.^{21,22}

A key concern is the insufficient training of healthcare workers in palliative care. Many medical professionals receive little or no formal

education in this field, resulting in inadequate symptom management and poor communication skills. Incorporating palliative care training into medical and nursing curricula is crucial for improving service quality. In response, the Saudi Ministry of Health (MOH) introduced a mandatory MDT training course in 2018. So far, 1,780 healthcare professionals have received certification. Despite these efforts, disparities in the distribution of palliative care services persist, particularly in rural areas. While accessibility has improved with the opening of palliative care centers in each cluster, patients from remote regions still face significant challenges in reaching major cities like Riyadh, Jeddah, and Dammam for essential palliative services²³ the burden of travel places emotional and financial strain on patients and their families. Expanding home-based hospice care can help mitigate these difficulties by providing end-of-life services outside hospital settings.

Strengths: enabling hospice implementation

Despite these challenges, Saudi Arabia has made significant progress in enhancing hospice services. One major strength is the presence of experienced healthcare professionals. While the number of palliative care consultants in the MOH was only 15 in 2015, it has now grown to over 100, with an estimated need for 450 by 2030. Additionally, between 2020 and 2023, a palliative care nursing specialist program was established under the Makken project, producing 93 graduates across different health clusters. This initiative represents a critical advancement in the country's palliative care development.²⁴ Multidisciplinary teams, including specialists in oncology, geriatrics, and pain management, further strengthen hospice care implementation.²⁵

Another key strength is the availability of supportive policies for hospice care. The Saudi MOH continues integrating palliative care into national health strategies, facilitating funding, workforce development, and access to essential medications. WHO reports highlight that government support is crucial in expanding hospice services.^{26,27} Additionally, strong commitment from healthcare providers has contributed to better symptom management and holistic patient support. Studies indicate that when medical professionals actively advocate for hospice care, patients receive more effective pain relief and overall care.^{28,29}

Public awareness and acceptance of palliative care are gradually increasing. Educational campaigns and advocacy efforts have helped improve understanding and utilization of hospice services, though more initiatives are needed. Research suggests that such campaigns significantly improve hospice enrollment rates and encourage earlier referrals.^{30,31} Furthermore, collaborations with international and local organizations, such as the WHO and the International Association for Hospice and Palliative Care (IAHPC), have played a vital role in enhancing service quality through funding, technical expertise, and policy guidance.^{32,33}

Weaknesses hindering better service implementation

Several factors continue to hinder optimal hospice care delivery. One major issue is limited access to essential palliative medications. Regulatory restrictions and supply chain challenges limit the availability of opioid analgesics, a critical component of effective pain management. Studies indicate that over 80% of the global population lacks adequate access to these medications.^{34,35} Additionally, there is a shortage of specialized hospice facilities, forcing patients to receive care in hospitals or at home without adequate support. Countries with well-developed hospice networks have demonstrated better patient satisfaction and overall quality of life.^{36,37}

Financial constraints remain a significant obstacle to sustaining hospice programs. Many services rely on donations and grants, making long-term sustainability uncertain. Experts suggest integrating hospice care into universal healthcare plans to ensure consistent funding.^{38,39} Moreover, caregivers, particularly family members, often lack the necessary skills to provide quality hospice care. Implementing structured training programs for caregivers can enhance their confidence, reduce burnout, and improve patient outcomes.^{40,41}

Another challenge is poor coordination between hospice and mainstream healthcare systems—the lack of integration between hospice and primary care results in fragmented care and delayed referrals. Establishing dedicated palliative care centers within each healthcare cluster can help simplify services and improve patients' and families' experiences. Studies suggest that coordinated care models increase efficiency and patient satisfaction.^{42,43}

Future of expanding hospice services

Several strategies are being developed to address these challenges and expand hospice services. Establishing more hospice centers across different regions will improve accessibility and reduce hospital overcrowding. The WHO recommends scaling up hospice infrastructure to meet the rising demand for palliative care.^{44,45} Strengthening partnerships with local and international organizations will enhance service delivery through shared expertise and financial support.^{46,47} Increasing public awareness through educational outreach programs remains a priority, as community-based initiatives can help dispel misconceptions and encourage timely patient referrals.^{48,49} Enhancing training programs for healthcare providers and caregivers will ensure better symptom management and patient-centered care.^{50,51} Finally, improving policies to secure sustainable funding for hospice services is essential. Governments should incorporate hospice care into national healthcare budgets to ensure long-term financial stability and service continuity.^{52,53}

Study limitations

While providing valuable insights into the current state of hospice care across the Ministry of Health (MOH) health clusters in Saudi Arabia, this study is subject to several limitations. First, potential limitations in data collection are sampling bias, targeting only MOH health clusters, which may exclude private sector or non-MOH-affiliated hospice services, limiting the generalizability of findings across the broader healthcare system. Self-report bias, the survey relied on self-reported data from multidisciplinary team (MDT) leaders, which may introduce reporting bias or subjective interpretations, particularly concerning sensitive topics such as opioid accessibility and institutional challenges. Variability in interpretation and understanding of key concepts, such as grief support services or caregiver training, may have led to inconsistent responses. Furthermore, the study did not independently verify the reported number of hospice centers or bed capacities, which could affect the accuracy of infrastructure assessments. The data reflects availability and perceptions at a specific time and may quickly become outdated due to ongoing healthcare reforms or resource changes in Saudi Arabia. Lack of standardized protocols for recording hospice care data across institutions can lead to incomplete or missing records. Non-uniform data complicates analysis and comparisons.

Many limitations lower response rates and potential biases in hospice care data from KSA, and addressing them requires culturally sensitive approaches, better infrastructure, and standardized data collection methods. End-of-life discussions are often considered taboo in Saudi

culture, which is heavily influenced by Islamic beliefs; this may lead to reluctance among patients and families to participate in research or disclose sensitive information. There can be mistrust or discomfort in discussing death and palliative care, reducing participation rates in surveys or interviews. Hospice patients and their families may decline participation due to emotional stress or physical weakness of patients. Obtaining informed consent from terminally ill patients can be ethically complex. Research tools not available in Arabic or poorly translated can reduce comprehension. Low health literacy among some population groups may result in lower-quality responses or misunderstandings of survey questions. Due to the stigma or lack of awareness around palliative care, many eligible patients may not be referred to or recorded in hospice programs, leading to undercounting.

Conclusion

This study highlights the current state of hospice care services in Saudi Arabia, identifying key challenges, strengths, and areas for improvement. The findings indicate that while significant progress has been made in establishing palliative and hospice care services within MOH health clusters, several obstacles remain. The primary challenges include a shortage of specialized hospice professionals, limited funding and resources, inadequate public awareness, cultural barriers, insufficient infrastructure, and difficulties integrating hospice services into the broader healthcare system. Additionally, gaps in coordination and training for healthcare providers further hinder service delivery.

Despite these challenges, the study also identifies several strengths enabling the implementation of hospice care, such as the presence of experienced healthcare professionals, supportive policies, and increasing public awareness efforts. Notable advancements include the establishment of palliative medicine fellowship programs, the expansion of hospice facilities, and efforts to integrate hospice services into primary healthcare. The commitment of healthcare providers and collaborations with international organizations, such as the WHO and IAHP, contribute to improving service quality and accessibility.

The study underscores the need for strategic enhancements, including expanding hospice infrastructure, increasing financial investment, integrating hospice care into national healthcare policies, and strengthening caregiver training programs. Moreover, fostering public education and awareness initiatives can help address cultural misconceptions and encourage earlier hospice referrals.

In conclusion, while Saudi Arabia has made commendable progress in hospice and palliative care services, addressing the identified barriers is essential to ensuring equitable access and high-quality care for needy patients. A multi-faceted approach involving policy improvements, workforce development, enhanced funding, and public engagement is crucial to advancing hospice care services across the Kingdom. Future efforts should focus on sustainable healthcare models that integrate hospice care seamlessly within the national healthcare framework to meet the growing demand for end-of-life care services.

Financial support and sponsorship

None.

Acknowledgements

None.

Conflicts of interest

The authors declare that there are no conflicts of interest.

References

1. Saudi Census. Saudi census 2022: Saudi census portal; 2024.
2. Al-Khraif R, Salam AA, Rashid MA. Family demographic transition in Saudi Arabia: emerging issues and concerns. *Sage Open*. 2020;10(1).
3. Jazieh AR, Da'ar OB, Alkaiyat M, et al. Cancer incidence trends from 1999 to 2015 and contributions of various cancer types to the overall burden: projections to 2030 and extrapolation of economic burden in Saudi Arabia. *Cancer Manag Res*. 2019;11: 9665–9674.
4. Sami A Alshammary. Development of palliative care: the current situation in Saudi Arabia. *Nov Appro in Can Study*. 2021;6(3). NACS.
5. <https://www.moh.gov.sa/en/Ministry/MediaCenter/News/Pages/News-2021-10-09-002.aspx?utm>
6. Clark D, Baur N, Clelland Mapping levels of palliative care development in 198 countries: the situation in 2017. *J Pain Symptom Manage*. 2020;59(4):794–807.
7. Alshammary SA. Development of palliative care: the current situation in Saudi Arabia. Arabia 2021.
8. Lupu D, Quigley L, Mehfood N, et al. Will the supply keep up with the growing demand for hospice and palliative medicine physicians?. *J Pain Symptom Manage*. 2018;55(4):1216–1223.
9. Lynch T, Connor S, Clark D. Mapping levels of palliative care development. *J Pain Symptom Manage*. 2013;45(6):1094–106.
10. Centeno C, Arias CN, et al. Global palliative care training and education. *Palliat Med*. 2017;31(6):562–573.
11. World health organization. palliative care: key facts. Geneva: WHO; 2020.
12. Stjernswärd J, Foley K, Ferris F. The public health strategy for palliative care. *J Pain Symptom Manage*. 2007;33(5):486–493.
13. Zimmermann C, Swami N, Monika K, et al. Early palliative care for patients with advanced cancer. *Lancet*. 2016;388(10046):1725–1735.
14. Connor S, Sepulveda C. Global atlas of palliative care. WHO, 2014.
15. World health organization (WHO). Palliative care: Key facts. Geneva: WHO; 2022.
16. Connor SR, Bermedo MCS. Global atlas of palliative care at the end of life. 2nd ed. London: Worldwide Hospice Palliative Care Alliance; 2020.
17. Hui D, De La Cruz M, Mori M, et al. Concepts and definitions for “supportive care,” “best supportive care,” “palliative care,” and “hospice care” in the published literature, dictionaries, and textbooks. *Support Care Cancer*. 2013;21(3):659–685.
18. Aldridge MD, Schlesinger M, Barry CL, et al. National hospice survey results: For-profit status, community engagement, and service. *JAMA Intern Med*. 2014;174(4):500–506.
19. Justino ET, Kasper M, Santos Kd, et al. Palliative care in primary health care: a scoping review. *Rev Lat Am Enfermagem*. 2020; 28:e3324.
20. Hojjat-Assari S, Rassouli M, Kaveh V, et al. Explaining health care providers' perceptions about the integration of palliative care with primary health care: a qualitative study. *BMC Prim Care*. 2022;23(1):226.
21. Etkind SN, Bone AE, Gomes B, et al. How many people will need palliative care in 2040? Past trends, future projections, and implications for services. *BMC Med*. 2017;15(1):102.
22. Bausewein C, Booth S, Gysels M, et al. Non-pharmacological interventions for breathlessness in advanced stages of malignant and non-malignant diseases. *Cochrane Database Syst Rev*. 2008;(2):CD005623.
23. Sánchez-CMA, Pourghazian N, Garralda E, et al. Palliative care in the eastern mediterranean: comparative analysis using specific indicators. *BMC Palliat Care*. 2022 21(1):168.
24. Alshammary SA. Development of palliative care in Saudi Arabia: three decades of expertise. *J Cancer Prev Curr Res*. 2025;16(1):25–26.
25. Economist Intelligence Unit. The 2015 Quality of Death Index: Ranking palliative care across the world. London: The Economist; 2015.
26. Radbruch L, De Lima L, Knaul F, et al. Redefining palliative care—a new consensus-based definition. *J Pain Symptom Manage*. 2020;60(4):754–764.
27. Gomes B, Calanzani N, Gysels M, et al. Heterogeneity and changes in preferences for dying at home: A systematic review. *BMC Palliat Care*. 2013;12:7.
28. Kaasa S, Loge JH, Aapro M, et al. Integration of oncology and palliative care: a lancet oncology commission. *Lancet Oncol*. 2018;19(11):e588–e653.
29. Taylor DH, Ostermann J, Van Houtven CH, et al. What length of hospice use maximizes reduction in medical expenditures near death in the US Medicare program? *Soc Sci Med*. 2007;65(7):1466–1478.
30. Meier DE, McCormick E, Lagman R. Palliative care: Aligning clinical practice with patient needs and preferences. *BMJ*. 2021;375:n2391.
31. Quill TE, Abernethy AP. Generalist plus specialist palliative care—creating a more sustainable model. *N Engl J Med*. 2013;368(13):1173–1175.
32. Gomes B, Higginson IJ. Factors influencing death at home in terminally ill patients with cancer: Systematic review. *BMJ*. 2006;332(7540):515–521.
33. Kelley AS, Morrison RS. Palliative care for the seriously ill. *N Engl J Med*. 2015;373(8):747–755.
34. Brumley R, Enguidanos S, Jamison P, et al. Increased satisfaction with care and lower costs: Results of a randomized trial of in-home palliative care. *J Am Geriatr Soc*. 2007;55(7):993–1000.
35. Morrison RS, Penrod JD, Cassel JB, et al. Cost savings associated with US hospital palliative care consultation programs. *Arch Intern Med*. 2008;168(16):1783–1790.
36. Higginson IJ, Evans CJ, Harding R. Palliative care: a review of past changes and future trends. *Ann Palliat Med*. 2017;6(Suppl 2):S202–S210.
37. Temel JS, Greer JA, Muzikansky A, et al. Early palliative care for patients with metastatic non-small-cell lung cancer. *N Engl J Med*. 2010;363(8):733–742.
38. May P, Normand C, Morrison RS. Economic impact of hospital inpatient palliative care consultation: Review of current evidence and directions for future research. *J Palliat Med*. 2014;17(9):1054–1063.
39. Bausewein C, Simon ST, Benalia H, et al. Implementing patient-reported outcome measures (PROMs) in palliative care—users' cry for help. *Health Qual Life Outcomes*. 2011;9:27.
40. Henson LA, Higginson IJ, Gao W. What is the optimal structure for home palliative care services? Meta-analysis of randomised controlled trials. *Palliat Med*. 2016;30(5):436–448.
41. Walshe C, Caress AL, Chew-Graham C, et al. Implementing a qualitative study of patient and professional experiences of palliative care in primary care: Methodological challenges and implications. *BMJ Support Palliat Care*. 2012;2(1):42–48.
42. Sallnow L, Smith R, Ahmedzai SH, et al. Report of the lancet commission on the value of death: Bringing death back into life. *Lancet*. 2022;399(10327):837–884.
43. Sleeman KE, De Brito M, Etkind SN, et al. The escalating global burden of serious health-related suffering: Projections to 2060 by world regions, age groups, and health conditions. *Lancet Glob Health*. 2019;7(7):e883–e892.
44. Connor SR, Bermedo MCS, editors. Global atlas of palliative care at the end of life. 2nd ed. London: worldwide hospice palliative care alliance; 2020.

45. World health organization. palliative care: key facts [Internet]. Geneva: WHO; 2022 [cited 2024 Mar 17].
46. Knaul FM, Farmer PE, Krakauer EL, et al. Alleviating the access abyss in palliative care and pain relief—An imperative of universal health coverage: The Lancet Commission report. *Lancet*. 2018;391(10128):1391-1454.
47. Etkind SN, Bone AE, Gomes B, et al. How many people will need palliative care in 2040? Past trends, future projections, and implications for services. *BMC Med*. 2017;15(1):102.
48. Radbruch L, Payne S. White Paper on standards and norms for hospice and palliative care in Europe: Part 1. *Eur J Palliat Care*. 2010;17(1):22-33.
49. Clark D, Wright M, Hunt J, et al. Hospice and palliative care development in Africa: A multimethod review of services and experiences. *J Pain Symptom Manage*. 2007;33(6):698-710.
50. Hanks G, Cherny NI, Christakis NA, et al, editors. *Oxford Textbook of Palliative Medicine*. 5th ed. Oxford: Oxford University Press; 2015.
51. Bruera E, Higginson IJ, von Gunten CF, Morita T, editors. *Textbook of palliative medicine and supportive care*. 3rd ed. Boca Raton: CRC Press; 2021.
52. Sepúlveda C, Marlin A, Yoshida T, et al. Palliative care: The World Health Organization's global perspective. *J Pain Symptom Manage*. 2002;24(2):91-96.
53. Saunders C. The evolution of palliative care. *Patient Educ Couns*. 2000;41(1):7-13.