DOI:10.31557/APJCN.2060.20250910

SHORT COMMUNICATIONS

Reducing Unnecessary Emergency Department Visits among Cancer Patients

Aref Zribi, Omar Ayaad

Medical Oncology Department, Sultan Qaboos Comprehensive Cancer Care and Research Centre, University Medical City, Muscat, Oman.

Abstract

Recent studies showed that cancer patients' visits to emergency departments are rising globally. This can be explained by the growing incidence of cancer and improved survival rates. Cancer patients' visits to the ED can have detrimental effects that impact both the patients and the overall capability of the healthcare system. Cancer patients constantly need complex care, leading to longer ED stays and higher rates of admission in the hospital, which can strain ED resources and personnel. A significant number of ED visits by cancer patients are considered potentially avoidable. Establishing dedicated oncology outpatient clinics and applying early symptom detection and management pathways can reduce ED visits. Elaborating standardized pathways for controlling frequent symptoms (fever, pain, vomiting) and involving interdisciplinary teams can help manage symptoms in an outpatient clinic, reducing the need for ED visits. This brief communication emphasizes the importance of understanding this phenomenon to improve patient care and resource allocation in healthcare systems.

Keywords: Acute care use- cancer patients- proactive symptom management

Asian Pac J Cancer Nursing, 5-8

Submission Date: 07/16/2025 Acceptance Date: 08/29/2025

Introduction

Recent publications showed that visits to emergency departments (EDs) by cancer patients are rising globally. This can be explained by both the growing incidence of cancer and the long-term response to the treatments used. The proportion and absolute number of ED visits by cancer patients have continuously increased over recent years. For example, in the United States, between 2006 and 2012, cancer-related ED visits accounted for 4.2% of all ED visits, with lung cancers, breast, and prostate being the most frequent diagnoses [1]. In Korea, the incidence rate of ED visits by cancer patients rose from 521.8 per 100,000 population in 2015 to 642.2 in 2019, reflecting a clear ascending trend [2]. The number of potentially avoidable ED visits among cancer patients in the US almost doubled from 1.8 million to 3.2 million between 2012 and 2019 [3]. The visits of the ED by cancer patients can have harmful consequences, impacting both the patients and the overall capability of the healthcare system.

Negative Effects on Cancer Patients

Repeated ED visits are often interrelated with unmanaged pain, emotional distress, and complications from cancer or its treatment, all of which can impact quality of life for patients [4-6]. Cancer patients encountering emotional discomfort, such as anxiety or depression, have inferior clinical outcomes, comprising shorter survival and lower treatment response rates. ED visits can increase this distress, further affecting quality of life [4].

Many cancer patients receive opioids for pain control during ED visits. An important proportion (34%) is at high risk for opioid misuse, particularly those with depression or lowest coping skills, increasing concerns about addiction and related damage [5, 7]. EDs may not always be supplied to deliver specific cancer care, leading to poor management of complications and symptoms [5, 6].

Negative Effects on the ED System

Cancer patients constantly need complex care, leading to longer ED stays and higher rates of admission in the hospital, which can strain ED resources and the personnel [5, 6]. A significant part of ED visits by cancer patients are

Corresponding Author:
Dr. Aref Zribi
Medical Oncology Department, Sultan Qaboos Comprehensive Cancer Care and Research Centre, University Medical City, Muscat, Oman.
Email: arefdoc@gmail.com

considered potentially avoidable, most of the time related to pain or treatment side effects that could be managed in outpatient settings. This contributes to unnecessary ED overruns and increased healthcare costs [6]. The regular use of emergency departments by cancer patients, particularly for pain management and complications, increases overall healthcare costs and can shift resources away from other urgent cases [5, 6]. Enhancing the quality of cancer care can be achieved by minimizing avoidable emergency department visits for cancer patients.

Practical Strategies to Reduce Unnecessary ED Visits

Establishing dedicated oncology outpatient clinics and applying early symptom detection and management pathways can reduce ED visits. Multiple studies showed that such clinics and specific follow-up care reduce the proportion of patients visiting the ED, especially when care is harmonized and symptoms are handled proactively. [8-10] instructing patients to contact their oncology staff before visiting the ED, giving contact information, and periodic reminders during clinic visits have been proven to minimize preventable ED visits [10-12].

Coordination, involving anticipated phone calls, helps distinguish and address symptoms early. Elaborating standardized pathways for controlling frequent symptoms (fever, pain, vomiting) and involving interdisciplinary teams (including palliative care) can help manage symptoms in outpatient clinic, reducing the need for ED visits [9, 10, 12].

Predictive models and risk stratification, like machine learning tools, can help distinguish high-risk patients for potentially avoidable ED visits. These patients, frequently those with early-stage cancer, on systemic treatment, or with specific cancer types, may benefit most from proactive approach [13, 14].

Some ED visits are required due to acute or significant complications. However, studies rate that about 30% of ED visits among cancer patients may be likely avoidable with better outpatient care and symptom control [12, 15]. Clinical specialist nurses (CNS) perform an important role in patient education, symptom management, and follow-up, all imperative for reducing unnecessary ED visits [16].

CNS with the triage phone plays a crucial role in managing symptoms, reducing unnecessary ED visits, and improving quality of life [17]. This role is also vital in cancer patient education, proactive symptom management, and follow-up, all of which are essential for reducing unnecessary ED utilization [10, 11, 18-20].

Increased contact with the CNS is linked to fewer ED visits and hospital admissions. Nurses dedicated to home care significantly decrease the probability of unnecessary interventions in the end of life [21, 22].

Impact and Outcomes

Implementation of CNS and triage has led to better patient outcomes. This intervention also improves overall care quality and results in significant healthcare cost savings by preventing avoidable acute care use [10, 11, 16, 18-20, 22, 23].

Transition to patient-centered cancer care models, resulted in a 40% reduction in ED visits, hospital stays and other acute care services [24]. Establishing urgent care units specifically for cancer patients led to important decrease in ED visits. The median charge for an urgent care visit is $2,221 compared to $10,261 for an ED visit, showing significant per-visit cost savings [25]. Delivering supportive health education to cancer patients and health staff lowered urgent care and ED visits, resulting in cost savings varying from $800 to $17,000 per 100 survivors, basing on the type of service prevented [26].

Hospital-at-home care for cancer patients lowered unexpected admissions by 55% and ED visits by 45%, reducing overall healthcare costs by 47% [27]. Low-cost care coordination interventions, such as proactive symptom control and after-hours call systems, led to a 30% decline in ED visits without necessitating further staff or technology, further sustaining cost-effective care [11]. Avoiding aggressive treatments and unnecessary ED visits at the end of life can cleave the cost of care episodes, with patients having fewer ED visits incurring much lower average costs ($21,000 vs. $49,000 per episode) [28].

In conclusion, the rising trend of emergency department visits among cancer patients emphasizes a pressing need for ameliorated outpatient care and proactive symptom management. To improve healthcare resources and patients' quality of life, we need to handle the emotional and physical issues faced by these patients. early intervention and coordinated care can enhance manage symptoms, reduce healthcare costs, and improve patient outcomes.

Declarations

Ethics approval and consent to participate

Not applicable

Consent for publication

Not applicable

Availability of data and materials

Not applicable

Competing interests

The authors declare that they have no competing interests.

Funding

Not applicable

Acknowledgements

Not applicable

References

1. Rivera DR, Gallicchio L, Brown J, Liu B, Kyriacou DN, Shelburne N. Trends in Adult Cancer–Related Emergency Department Utilization: An Analysis of Data From the Nationwide Emergency Department Sample. JAMA Oncology. 2017 Oct 12;3(10):e172450. https://doi.org/10.1001/jamaoncol.2017.2450
2. Lee SY, Ro YS, Shin SD, Moon S. Epidemiologic trends in cancer-related emergency department utilization in Korea from 2015 to 2019. Scientific Reports. 2021 Nov 09;11(1):21981. https://doi.org/10.1038/s41598-021-01571-1
3. Alishahi Tabriz A, Turner K, Hong Y, Gheytasvand S, Powers BD, Elston Lafata J. Trends and Characteristics of Potentially Preventable Emergency Department Visits Among Patients With Cancer in the US. JAMA Network Open. 2023 01 19;6(1):e2250423. https://doi.org/10.1001/jamanetworkopen.2022.50423
4. Zeng Y, Hu C, Li Y, Zhou J, Wang S, Liu M, Qiu Z, et al. Association between pretreatment emotional distress and immune checkpoint inhibitor response in non-small-cell lung cancer. Nature Medicine. 2024 06;30(6):1680-1688. https://doi.org/10.1038/s41591-024-02929-4
5. Nortey J, Lynch A, Lyon L, Ramalingam ND, Liu R. Beyond the pain: Decoding opioid use in advanced cancer ED visits. Journal of Clinical Oncology. 2024 06 01;42(16_suppl):e24034-e24034. https://doi.org/10.1200/JCO.2024.42.16_suppl.e24034
6. Fleshner L, Lagree A, Shiner A, Alera MA, Bielecki M, Grant R, Kiss A, et al. Drivers of Emergency Department Use Among Oncology Patients in the Era of Novel Cancer Therapeutics: A Systematic Review. The Oncologist. 2023 Dec 11;28(12):1020-1033. https://doi.org/10.1093/oncolo/oyad161
7. Reyes-Gibby CC, Anderson KO, Todd KH. Risk for Opioid Misuse Among Emergency Department Cancer Patients. Academic Emergency Medicine: Official Journal of the Society for Academic Emergency Medicine. 2016 02;23(2):151-158. https://doi.org/10.1111/acem.12861
8. Kirkland SW, Garrido-Clua M, Junqueira DR, Campbell S, Rowe BH. Preventing emergency department visits among patients with cancer: a scoping review. Supportive Care in Cancer: Official Journal of the Multinational Association of Supportive Care in Cancer. 2020 09;28(9):4077-4094. https://doi.org/10.1007/s00520-020-05490-1
9. Roy M, Halbert B, Devlin SM, Zerillo JA. Symptom management pathways to reduce ED visits and hospitalizations for patients with cancer. Journal of Clinical Oncology. 2018 Oct 20;36(30_suppl):302-302. https://doi.org/10.1200/JCO.2018.36.30_suppl.302
10. Waugh W, Das DG, Thomas NN, Plotkin E, Salgia R, Spira AI, Socinski MA, et al. Reducing preventable ED visits in patients with advanced NSCLC: Collective insights from three cancer centers. Journal of Clinical Oncology. 2022 Oct 01;40(28_suppl):337-337. https://doi.org/10.1200/JCO.2022.40.28_suppl.337
11. Arrowsmith E, Suits L, Anz BM, Geren G, Vasta L, Lyss AJ. Reducing ED visits by "closing the loop" for symptomatic patients. Journal of Clinical Oncology. 2019 09 20;37(27_suppl):100-100. https://doi.org/10.1200/JCO.2019.37.27_suppl.100
12. Patwari A, Bhatlapenumarthi V, Brann C, Waldrip J, Caruso V, Hatch A, Curtis A, Chodkiewicz C. Analysis of reasons for Emergency Department (ED) visits and subsequent hospital admissions in patients with solid malignancies: A retrospective study from a cancer center in rural Maine. Journal of Clinical Oncology. 2021 Oct 01;39(28_suppl):241-241. https://doi.org/10.1200/JCO.2020.39.28_suppl.241
13. Fleshner L, Gandhi S, Lagree A, Boulard L, Grant RC, Kiss A, Krzyzanowska MK, et al. Identifying Oncology Patients at High Risk for Potentially Preventable Emergency Department Visits Using a Novel Definition. JCO Clinical Cancer Informatics. 2024 Nov;(8):e2400147. https://doi.org/10.1200/CCI-24-00147
14. Gandhi S, Fleshner L, Krzyzanowska MK, Kiss A, Cheng I, Tran W. Defining and evaluating potentially preventable ED visits in oncology patients including using early machine learning models. JCO Oncology Practice. 2023 Nov;19(11_suppl):463-463. https://doi.org/10.1200/OP.2023.19.11_suppl.463
15. Manobianco S, Quinn ZL, Csik VP, Binder AF, Handley N. Evaluating the utility of rule OP-35 to define preventability of ED visits for oncology patients at an academic cancer center. Journal of Clinical Oncology. 2021 Oct 01;39(28_suppl):272-272. https://doi.org/10.1200/JCO.2020.39.28_suppl.272
16. Lash RS, Bell JF, Reed SC, Poghosyan H, Rodgers J, Kim KK, Bold RJ, Joseph JG. A Systematic Review of Emergency Department Use Among Cancer Patients. Cancer Nursing. 2017;40(2):135-144. https://doi.org/10.1097/NCC.0000000000000360
17. Hong AS, Chang H, Courtney DM, Fullington H, Lee SJC, Sweetenham JW, Halm EA. Patterns and Results of Triage Advice Before Emergency Department Visits Made by Patients With Cancer. JCO oncology practice. 2021 04;17(4):e564-e574. https://doi.org/10.1200/OP.20.00617
18. Onime M, Okpara C, Affoon K, Korenke A, Betts D, Payan I, Buschardt V, et al. Data-driven insights to increase utilization of an oncology acute care clinic.. JCO Oncology Practice. 2024 Oct;20(10_suppl):342-342. https://doi.org/10.1200/OP.2024.20.10_suppl.342
19. Rodgers GT, Brusio M, Lindberg J, Savage C, Hooley J, Young R. Expansion of an oncology care coordination nurse model to reduce hospitalizations and emergency department utilization. Journal of Clinical Oncology. 2019 09 20;37(27_suppl):82-82. https://doi.org/10.1200/JCO.2019.37.27_suppl.82
20. Jensen TL, Mikan SQ, Books H, Escudier S, Pearson L. Decreases in emergency department and hospitalization visits over 5 years of the Oncology Care Model. J Clin Oncol. 2022;40(28_suppl):64–64.
21. Leniz J, Henson LA, Potter J, Gao W, Newsom-Davis T, Ul-Haq Z, Lucas A, Higginson IJ, Sleeman KE. Association of primary and community care services with emergency visits and hospital admissions at the end of life in people with cancer: a retrospective cohort study. BMJ open. 2022 02 23;12(2):e054281. https://doi.org/10.1136/bmjopen-2021-054281
22. Seow H, Barbera L, Pataky R, Lawson B, O'Leary E, Fassbender K, McGrail K, Burge F, Brouwers M, Sutradhar R. Does Increasing Home Care Nursing Reduce Emergency Department Visits at the End of Life? A Population-Based Cohort Study of Cancer Decedents. Journal of Pain and Symptom Management. 2016 02;51(2):204-212. https://doi.org/10.1016/j.jpainsymman.2015.10.008
23. Gajra A, Jeune-Smith Y, Balanean A, Miller KA, Bergman D, Showalter J, Page R. Reducing Avoidable Emergency Visits and Hospitalizations With Patient Risk-Based Prescriptive Analytics: A Quality Improvement Project at an Oncology Care Model Practice. JCO oncology practice. 2023 05;19(5):e725-e731. https://doi.org/10.1200/OP.22.00307
24. Patel KB, Clinton N. Patient-centered cancer care (PCCC)

as a roadmap to success in Alternate Payment Model (APM): A case study-based learning. J Clin Oncol. 2018 Oct 20;36(30_suppl):318.
25. D'Avella C, Whooley P, Milano E, Egleston B, Helstrom J, Patrick K, Edelman M, Bauman J. The impact of an oncology urgent care center on health-care utilization. JNCI cancer spectrum. 2024 02 29;8(2):pkae009. https://doi.org/10.1093/jncics/pkae009
26. Badger TA, Sikorskii A, Segrin C, Given CW. Supportive health education reduces health care utilization and costs in Latinas with breast cancer and their caregivers. Supportive Care in Cancer: Official Journal of the Multinational Association of Supportive Care in Cancer. 2021 03;29(3):1225-1233. https://doi.org/10.1007/s00520-020-05593-9
27. Hospital-at-home oncology care may to save costs and resources in the USA. PharmacoEconomics Outcomes News. 2021;879(1):16–16.
28. Adelson KB, Velji S, Patel K, Chaudhry B, Grizzle S, Lyons CA, Lilenbaum R. Understanding total cost of cancer care to determine strategic interventions to improve value. Journal of Clinical Oncology. 2016 03;34(7_suppl):4-4. https://doi.org/10.1200/jco.2016.34.7_suppl.4