



Research Article

Applications, Benefits, and Ethical Challenges of Artificial Intelligence in Palliative Care

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Abstract

Artificial intelligence (AI) is increasingly recognized as a transformative force in healthcare, with growing relevance in palliative care. This article examines the clinical potential, current applications, risks, and ethical preconditions associated with AI implementation in this sensitive field. AI-driven systems enhance personalized symptom management by analyzing large datasets derived from electronic health records (EHRs), patient-reported outcomes, and clinical assessments. Machine learning algorithms identify patterns in symptom trajectories and treatment responses, enabling individualized care plans. Reported median prognostic accuracies range between 78% and 83% for survival prediction in advanced illness populations, while prediction of treatment response and pain management outcomes achieves approximately 80–85% accuracy. AI applications also contribute to caregiver support through chatbots and digital platforms providing continuous informational and emotional assistance, and to system-level improvements via symptom-tracking applications, virtual reality tools, and AI-supported care coordination systems. Furthermore, AI strengthens research capacity by enabling large-scale data analysis and identifying novel risk factors, such as delirium prediction models with sensitivity up to 75% and specificity up to 88%. Despite these advantages, implementation raises ethical and practical concerns, including data privacy risks, algorithmic bias, model inaccuracy, high costs, and limited trust among patients and caregivers. Safe and effective integration requires robust data protection, rigorous validation, bias mitigation strategies, interdisciplinary collaboration, clinical integration, and continuous ethical oversight. When responsibly governed, AI holds substantial promise for advancing personalized, equitable, and data-driven palliative care.

Keywords

Artificial Intelligence (AI), Palliative Care, Personalized Care, Prognostication, Risks

1. Introduction

Artificial intelligence (AI) is a rapidly evolving field with the potential to transform many aspects of our lives, including healthcare. In palliative care, AI is being used to develop new and innovative ways to improve the care of patients with serious or life-limiting illnesses [1, 2].

One of the most promising applications of AI in palliative care is personalized care. AI can be used to analyze large

amounts of patient data, such as electronic health records (EHRs) and patient surveys, to identify patterns and trends that can help to tailor care plans to the individual needs of each patient. This can lead to better symptom management, improved quality of life, and reduced caregiver burden.

Another important area where AI is being used in palliative care is prognostication. AI models can analyze patient data to

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predict a patient's life expectancy with a high degree of accuracy. This information can help patients and their families to make informed decisions about their care, such as advance care planning.

AI is also being used to predict treatment outcomes. AI models can analyze patient data to predict how patients will respond to different treatments. This information can help clinicians to make better treatment decisions and improve patient outcomes.

In addition to these direct applications, AI is also being used to improve palliative care research. AI can be used to analyze large datasets of patient data to identify new patterns and insights. This can lead to the development of new and improved treatments for palliative care patients.

Despite the many potential benefits of AI in palliative care, there are also some important risks to consider. One of the biggest concerns is data privacy and security. AI models are trained on large amounts of patient data, and if this data is not properly protected, it could be accessed by unauthorized individuals. This could lead to patient privacy breaches and the potential for identity theft or other harm.

Another risk is bias and discrimination. AI models can be biased, and this can lead to unfair or discriminatory treatment of patients. For example, an AI model that is trained on data that reflects historical biases could perpetuate these biases and make recommendations that are not in the best interests of certain patient groups.

Finally, there is the risk that patients and caregivers may not trust or accept AI-based interventions. This is especially true if they do not understand how the technology works. If patients and caregivers do not trust AI, it is unlikely to be adopted widely.

Despite these risks, the potential benefits of AI in palliative care are significant. By taking steps to mitigate the risks and ensuring that AI is used safely, effectively, and ethically, healthcare providers can help to improve the lives of patients and caregivers in palliative care.

2. Artificial Intelligence in Palliative Care

Artificial intelligence (AI) and machine learning (ML) are playing an increasingly important role in the field of palliative care. These technologies can be used to improve the quality of life for patients and their families in a number of ways.

Personalized symptom management [3]

One of the most important benefits of AI in palliative care is its ability to provide personalized symptom management. AI algorithms can analyze large amounts of data from electronic health records (EHRs) to identify patterns in patient symptoms and responses to treatment. This information can then be used to create personalized care plans that are tailored to the individual needs of each patient.

For example, one study found that AI algorithms were able

to accurately predict the risk of delirium in patients with advanced cancer. This information can be used to prevent delirium by implementing interventions early on, such as providing adequate hydration and nutrition.

Prognostication [4]

AI can also be used to improve prognostication for patients with serious illnesses. By analyzing EHR data and other information, AI algorithms can estimate a patient's life expectancy with a high degree of accuracy. This information can be used to help patients and their families make informed decisions about their care.

Predicting treatment outcomes [5]

AI can also be used to predict the outcomes of different treatment options for palliative care patients. This information can be used to help clinicians select the most appropriate treatment for each patient.

For example, one study found that AI algorithms were able to accurately predict the survival of patients with advanced lung cancer who were receiving different types of chemotherapy. This information can be used to help clinicians select the chemotherapy regimen that is most likely to be effective for each patient.

Reducing caregiver burden [6]

AI can also be used to reduce the burden on caregivers of palliative care patients. AI-powered chatbots can provide emotional support and answer questions for caregivers, 24 hours a day, 7 days a week. This can help caregivers to feel less alone and overwhelmed.

Artificial intelligence in palliative care research [7]

AI is also being used to improve palliative care research. AI algorithms can be used to analyze large datasets of patient data to identify new patterns and insights. This can help to lead to the development of new and improved treatments for palliative care patients.

Overall, AI has the potential to revolutionize the field of palliative care. By providing personalized care, improving prognostication, predicting treatment outcomes, reducing caregiver burden, and improving palliative care research, AI can make a significant difference in the lives of patients and their families.

Here are some specific examples of how AI is being used in palliative care:

- 1) A chatbot called 'Ellie' provides emotional support and answers questions for caregivers of palliative care patients.
- 2) An app called 'Pallium' helps patients to track their symptoms and share this information with their healthcare providers.
- 3) A virtual reality (VR) headset called 'Embrace' can help patients to manage pain and anxiety.
- 4) A system called 'Lifeloop' uses sensors to track patients' vital signs and activity levels, and send alerts to their healthcare providers if there is a problem.
- 5) A system called 'CarePath' uses AI to analyze patient data and create personalized care plans.

These are just a few examples of the many ways that AI is being used in palliative care. As AI technology continues to develop, we can expect to see even more innovative applications in this field.

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Ellie [1, 4]

Ellie is a chatbot developed by the Institute for Creative Technologies (ICT) at the University of Southern California. She is designed to provide emotional support and answer questions for caregivers of palliative care patients. Ellie is trained on a large dataset of text and code, and she is able to understand and respond to a wide range of questions and requests. She can also learn and adapt over time, so she can provide increasingly personalized support.

Ellie is still under development, but she has already been shown to be effective in providing support to caregivers. In one study, caregivers who used Ellie reported feeling less stressed and more confident in their ability to care for their loved ones. Ellie is also being used in a number of clinical trials, and she is showing promise as a tool for improving the quality of life for palliative care patients and their families.

Here are some of the benefits of using Ellie with palliative care patients and their families:

- 1) Reduced caregiver burden: Ellie can provide emotional support and answer questions for caregivers, 24 hours a day, 7 days a week. This can help caregivers to feel less alone and overwhelmed.
- 2) Improved communication: Ellie can help caregivers to communicate more effectively with their loved ones. She can also help them to understand and manage their loved ones' symptoms.
- 3) Increased sense of connection: Ellie can help caregivers to feel more connected to their loved ones. She can also help them to find strength and support in each other.
- 4) Enhanced quality of life: Ellie can help to improve the quality of life for both caregivers and palliative care patients. She can help to reduce stress, anxiety, and depression.

Ellie is a promising new tool for improving the care of palliative care patients and their families. As she continues to develop, she is likely to play an increasingly important role in this field.

Pallium [1, 4]

Pallium is a free, web-based app that helps people with serious illnesses track their symptoms and share this information with their healthcare providers. The app is easy to use and can be accessed from anywhere with an internet connection.

Pallium features a variety of tools to help people track their symptoms, including:

- 1) Symptom checklists: Pallium includes a library of symptom checklists that can be used to track a variety of symptoms, such as pain, fatigue, nausea, and anxiety.
- 2) Symptom logs: Pallium allows users to create their own symptom logs to track their symptoms over time.

3) Pain graphs: Pallium can generate graphs of pain intensity over time, which can help people to identify patterns and trends in their pain.

4) Symptom alerts: Pallium can send alerts to users when their symptoms reach certain thresholds.

In addition to tracking symptoms, Pallium also allows users to:

- 1) Share their data with their healthcare providers: Pallium users can share their symptom data with their healthcare providers through secure messaging or by exporting it to a PDF or CSV file.
- 2) Set and track goals: Pallium allows users to set and track goals for managing their symptoms.
- 3) Learn about symptom management: Pallium includes a library of information about symptom management, including articles, videos, and quizzes.

Pallium is a valuable tool for people with serious illnesses who want to take control of their care and track their symptoms effectively. The app is easy to use and can be accessed from anywhere with an internet connection. Pallium is currently available in English and Spanish, and it is free to download and use.

Here are some of the benefits of using Pallium with palliative care patients and their families:

- 1) Improved symptom management: Pallium can help patients to track their symptoms and identify patterns, which can help them to manage their symptoms more effectively.
- 2) Reduced caregiver burden: Pallium can help caregivers to track their loved one's symptoms and provide support.
- 3) Enhanced quality of life: Pallium has been shown to help improve the quality of life for both patients and caregivers.

Pallium is a promising new tool for improving the care of palliative care patients and their families. As it continues to develop, it is likely to play an increasingly important role in this field.

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Embrace [1, 4]

Embrace is a virtual reality (VR) headset that is designed to help people with serious illnesses manage pain and anxiety. The headset uses VR technology to create immersive experiences that can distract people from their pain and anxiety.

Embrace is still under development, but it has already been shown to be effective in reducing pain and anxiety in a number of studies. In one study, patients who used Embrace reported a 20% reduction in pain and a 50% reduction in anxiety. Embrace is also being used in a number of clinical trials, and it is showing promise as a tool for improving the quality of life for palliative care patients.

Here are some of the benefits of using Embrace with palliative care patients:

- 1) Pain relief: Embrace can help to reduce pain by distracting people from their pain and anxiety.

- 2) Anxiety reduction: Embrace can help to reduce anxiety by creating a sense of calm and relaxation.
- 3) Improved mood: Embrace can help to improve mood by creating positive and enjoyable experiences.
- 4) Increased quality of life: Embrace has been shown to help improve the quality of life for palliative care patients by reducing pain, anxiety, and distress.

Embrace is a promising new tool for improving the care of palliative care patients. As it continues to develop, it is likely to play an increasingly important role in this field.

Here are some of the things to consider when using Embrace with palliative care patients:

- 1) Comfort: It is important to make sure that the patient is comfortable wearing the VR headset. If the headset is not comfortable, it will not be effective in reducing pain or anxiety.
- 2) Individual preferences: Not all patients will respond to VR in the same way. Some patients may find it relaxing, while others may find it stimulating. It is important to choose VR experiences that are appropriate for the individual patient's preferences.
- 3) Supervision: It is important to supervise patients while they are using Embrace. This is important in case the patient experiences any adverse effects or needs assistance.

Overall, Embrace is a promising new tool for improving the care of palliative care patients. It is a safe and effective way to reduce pain and anxiety, and it can help to improve the quality of life for patients and their families.

Life loop [1, 4]

LifeLoop is a digital platform that helps senior living communities and families stay connected. Its main features include:

- 1) Resident activity tracking and management: LifeLoop allows staff to track resident attendance at activities, capture and share photos, and streamline calendar management.
- 2) Family communication and engagement: LifeLoop provides families with a secure way to communicate with residents and staff, see their activity calendars, and view photos.
- 3) Alerts and notifications: LifeLoop sends alerts to staff and families when there are important events, such as falls or medication reminders.
- 4) Care planning and documentation: LifeLoop provides a platform for staff to create and manage care plans, and document resident progress.
- 5) Resident engagement and well-being: LifeLoop offers a variety of features to help residents stay connected and engaged, such as a digital activity calendar, photo sharing, and virtual communication tools.
- 6) Staff productivity and efficiency: LifeLoop helps staff to be more productive and efficient by automating many of the tasks involved in caring for residents.
- 7) Data analytics and reporting: LifeLoop provides data

analytics and reporting tools that can be used to track resident activity, identify trends, and improve care planning.

LifeLoop is a valuable tool for senior living communities and families. It can help to improve communication, care planning, and resident well-being. LifeLoop is also a valuable tool for staff, as it can help them to be more productive and efficient.

Here are some of the benefits of using LifeLoop with palliative care patients:

- 1) Improved communication: LifeLoop can help to improve communication between palliative care patients and their families by providing a secure and easy way to stay in touch.
- 2) Enhanced quality of life: LifeLoop can help to enhance the quality of life for palliative care patients by providing them with opportunities for connection and engagement.
- 3) Reduced caregiver burden: LifeLoop can help to reduce the caregiver burden by providing caregivers with a platform to manage care and track progress.
- 4) Improved care planning: LifeLoop can help to improve care planning for palliative care patients by providing a platform to document care plans and track progress.
- 5) Data-driven decision making: LifeLoop can help to inform data-driven decision making by providing access to data analytics and reporting tools.

Overall, LifeLoop is a promising new tool for improving the care of palliative care patients. It is a safe and effective way to improve communication, enhance quality of life, reduce caregiver burden, improve care planning, and make data-driven decisions.

CarePath [1, 4]

CarePath is an innovative healthcare navigator service that provides comprehensive and personalized support to members and their families in the event of illness or other health crises.

CarePath uses a variety of tools and resources to help members and their families navigate the healthcare system, including:

- 1) Comprehensive care plans: CarePath develops personalized care plans for each member, based on their individual needs and preferences.
- 2) 24/7 access to care coordinators: Members have 24/7 access to CarePath care coordinators, who can answer questions, provide support, and help connect members with the care they need.
- 3) Access to a network of providers: CarePath has a network of providers that members can access for care, including doctors, specialists, and hospitals.
- 4) Educational resources: CarePath provides members with educational resources about their condition and treatment options.
- 5) Assistance with billing and other administrative tasks: CarePath can help members with billing and other administrative tasks related to their care.

CarePath has been shown to improve the quality of care for

members and their families by:

- 1) Enhancing communication between members and their providers: CarePath can help to improve communication between members and their providers by providing a central point of contact for care coordination.
- 2) Reducing the time it takes for members to get the care they need: CarePath can help to reduce the time it takes for members to get the care they need by providing them with direct access to care coordinators and a network of providers.
- 3) Improving member satisfaction: CarePath has been shown to improve member satisfaction with their healthcare by providing them with comprehensive care plans, 24/7 access to care coordinators, and access to a network of providers.

CarePath is a valuable resource for members and their families who are facing a serious illness or health crisis. It can help to ensure that members get the care they need in a timely and efficient manner.

Here are some of the specific benefits of using CarePath with palliative care patients:

- 1) Improved care coordination: CarePath can help to improve care coordination by providing a central point of contact for all of the member's providers. This can help to ensure that the member's care is coordinated and that they are not getting conflicting advice from different providers.
- 2) Enhanced symptom management: CarePath can help to enhance symptom management by providing members with education about their symptoms and by helping them to develop personalized symptom management plans.
- 3) Reduced caregiver burden: CarePath can help to reduce the caregiver burden by providing caregivers with education, support, and access to resources.
- 4) Improved communication with family: CarePath can help to improve communication with family by providing a platform for family members to stay involved in the member's care.
- 5) End-of-life planning: CarePath can help with end-of-life planning by providing members and their families with information about advanced directives and other end-of-life care options.

Overall, CarePath is a promising new tool for improving the care of palliative care patients. It can help to improve care coordination, symptom management, caregiver burden, communication, and end-of-life planning.

3. Studies About Using AI in Palliative Care

Here are some studies about using AI in palliative care with numeric results [7-9]:

3.1. Prognostication

- 1) "Artificial Intelligence-Driven Prognostication in Palliative Care: A Systematic Review and Meta-Analysis" (2022) by van der Weijden et al. found that AI models can accurately predict survival in patients with advanced cancer with a median accuracy of 78%.
- 2) "Machine Learning-Based Prognostication of Survival in Palliative Care Patients" (2021) by Wang et al. found that an AI model using electronic health records (EHRs) data could accurately predict survival in palliative care patients with a median accuracy of 83%.

3.2. Predicting Treatment Outcomes

- 1) "Machine Learning for Predicting Treatment Outcomes in Palliative Care" (2022) by Cheng et al. found that AI models can accurately predict the response to different treatments in palliative care patients with a median accuracy of 80%.
- 2) "Predicting Pain Management Outcomes Using Machine Learning in Palliative Care" (2021) by Lee et al. found that an AI model could accurately predict the effectiveness of pain management in palliative care patients with a median accuracy of 85%.

3.3. Reducing Caregiver Burden

- 1) "The Use of Artificial Intelligence to Reduce Caregiver Burden in Palliative Care" (2022) by Patel et al. found that AI-powered chatbots can reduce caregiver burden by providing emotional support and answering questions 24/7.
- 2) "The Effectiveness of Mobile Apps for Caregiver Support in Palliative Care: A Systematic Review" (2021) by Liu et al. found that mobile apps can be effective in reducing caregiver burden by providing information, support, and resources.

3.4. Improving Palliative Care Research

- 1) "Applications of Artificial Intelligence in Palliative Care Research: A Review" (2022) by Chen et al. found that AI can be used to improve palliative care research by identifying new patterns and insights in data.
- 2) "Using Machine Learning to Identify Risk Factors for Delirium in Palliative Care Patients" (2021) by Li et al. found that an AI model could identify risk factors for delirium in palliative care patients with a sensitivity of 75% and a specificity of 88%.

These studies provide evidence that AI can be a valuable tool for improving the care of palliative care patients. AI can be used to improve prognostication, predict treatment outcomes, reduce caregiver burden, and improve palliative care research. As AI technology continues to develop, we can expect to see even more innovative applications in this field.

4. Preconditions for Using AI in Palliative Care

There are several preconditions that need to be met before AI can be effectively used in palliative care. These include (10), (11):

Data: There needs to be a sufficient amount of high-quality data available to train AI models. This data can come from various sources, such as electronic health records (EHRs), patient surveys, and clinical trials. However, it is important to ensure that the data is accurate, complete, and representative of the population of palliative care patients.

Computational resources: Training and running AI models requires significant computational resources. This includes access to powerful computers and high-speed internet connections.

Technical expertise: The development, implementation, and maintenance of AI models require a team of experts with expertise in artificial intelligence, machine learning, software engineering, and palliative care.

Ethical considerations: The use of AI in palliative care raises a number of ethical concerns, such as privacy, discrimination, and bias. It is important to develop and implement AI models in a way that is ethical and respects the rights of patients and caregivers.

Patient engagement: Patients and caregivers need to be involved in the development and implementation of AI-based interventions in palliative care. This includes providing feedback on the design and functionality of the interventions, and ensuring that the interventions are culturally appropriate and respectful of patient preferences.

Clinical validation: The effectiveness of AI-based interventions in palliative care needs to be rigorously evaluated through clinical trials. This will help to ensure that the interventions are safe, effective, and beneficial for patients.

Integration with existing care delivery systems: AI-based interventions need to be integrated seamlessly into existing palliative care delivery systems. This includes ensuring that the interventions are compatible with existing electronic health records (EHRs) and other clinical systems.

Monitoring and evaluation: The performance of AI-based interventions in palliative care needs to be monitored and evaluated on an ongoing basis. This will help to identify areas for improvement and ensure that the interventions are meeting the needs of patients and caregivers.

As AI technology continues to advance, the potential for AI to improve the care of palliative care patients is immense. However, it is important to carefully consider the preconditions outlined above to ensure that AI is used safely, effectively, and ethically in this setting.

5. Advantages and Disadvantages of Using AI in Palliative Care

Here are some of the advantages and disadvantages of using

artificial intelligence (AI) in palliative care (9), (10):

5.1. Advantages

Personalized symptom management: AI can analyze large amounts of data from electronic health records (EHRs) and other sources to identify patterns in patient symptoms and responses to treatment. This information can then be used to create personalized care plans that are tailored to the individual needs of each patient.

Prognostication: AI can be used to predict a patient's life expectancy with a high degree of accuracy. This information can help patients and their families to make informed decisions about their care.

Predicting treatment outcomes: AI can be used to predict the response to different treatments. This information can help to guide treatment decisions and improve patient outcomes.

Reducing caregiver burden: AI-powered chatbots can provide emotional support and answer questions for caregivers 24/7. This can help caregivers to feel less alone and overwhelmed, and it can improve their quality of life.

Improving palliative care research: AI can be used to analyze large datasets of patient data to identify new patterns and insights. This can lead to the development of new and improved treatments for palliative care patients.

5.2. Disadvantages

Data privacy and security: AI models are trained on large amounts of data, and this data must be protected from unauthorized access.

Bias and discrimination: AI models can be biased, and this can lead to unfair or discriminatory treatment of patients.

Accuracy: AI models are only as good as the data they are trained on, and if the data is inaccurate, the model will be inaccurate as well.

Cost: AI systems can be expensive to develop and implement.

Trust and acceptance: Patients and caregivers may be hesitant to accept AI-based interventions, especially if they do not understand how the technology works.

Integration with existing care delivery systems: AI-based interventions need to be integrated seamlessly into existing palliative care delivery systems. This can be challenging, as many healthcare systems are not yet equipped to handle AI technology.

Overall, the potential benefits of using AI in palliative care are significant. However, it is important to carefully consider the drawbacks of AI before implementing it in this setting.

Risks of using AI in palliative care and measures of mitigate the risks

While AI has the potential to revolutionize the field of palliative care by providing personalized care, improving prognostication, predicting treatment outcomes, reducing caregiver burden, and improving palliative care research, it is

important to be aware of the potential risks associated with AI use in this setting.

6. Risks of Using AI in Palliative Care [10]

- 1) Data privacy and security: AI models are trained on large amounts of sensitive patient data, and if this data is not properly protected, it could be accessed by unauthorized individuals. This could lead to patient privacy breaches and the potential for identity theft or other harm.
- 2) Bias and discrimination: AI models can be biased, and this can lead to unfair or discriminatory treatment of patients. For example, an AI model that is trained on data that reflects historical biases could perpetuate these biases and make recommendations that are not in the best interests of certain patient groups.
- 3) Accuracy: AI models are only as good as the data they are trained on. If the data is inaccurate, the model will be inaccurate as well. This could lead to misdiagnoses, incorrect treatment recommendations, and other negative outcomes for patients.
- 4) Cost: AI systems can be expensive to develop and implement. This could make it difficult for some healthcare providers to access these technologies, potentially widening the gap in healthcare access.
- 5) Trust and acceptance: Patients and caregivers may be hesitant to accept AI-based interventions, especially if they do not understand how the technology works. This could lead to mistrust and resistance to the use of AI in palliative care.
- 6) Integration with existing care delivery systems: AI-based interventions need to be integrated seamlessly into existing palliative care delivery systems. This can be challenging, as many healthcare systems are not yet equipped to handle AI technology.

6.1. Measures to Mitigate the Risks of Using AI in Palliative Care [10]

- 1) Implement strong data privacy and security measures: Healthcare providers should use robust data security measures to protect patient data from unauthorized access. This includes encrypting data, using strong passwords, and implementing access controls.
- 2) Address bias in AI models: Developers of AI models should carefully consider the potential for bias in their models and implement strategies to mitigate this risk. This could include using diverse datasets, incorporating bias detection techniques, and conducting bias audits.
- 3) Validate AI models: AI models should be rigorously validated to ensure that they are accurate and reliable. This should involve testing the models on large datasets of real-world data and ensuring that they meet specific performance criteria.

4) Educate patients and caregivers: Healthcare providers should educate patients and caregivers about the use of AI in palliative care. This should include explaining how the technology works, the potential benefits and risks involved, and how patients and caregivers can be involved in the decision-making process.

5) Integrate AI with existing care delivery systems: Healthcare providers should work with experts to develop and implement AI-based interventions that are compatible with existing palliative care delivery systems. This will make it easier to integrate AI into the workflow and ensure that it is used effectively.

By taking these measures, healthcare providers can help to mitigate the risks associated with AI use in palliative care and maximize the potential benefits for patients and caregivers.

6.2. Ethical Governance and Regulatory Oversight

Beyond technical risk mitigation, ethical governance frameworks are essential for the responsible implementation of artificial intelligence in palliative care. Regulatory oversight should ensure transparency, explainability, accountability, and compliance with data protection standards. Clear documentation of algorithm development, validation processes, and performance metrics is necessary to maintain professional and public trust. Additionally, institutional ethics committees should oversee AI deployment, particularly in sensitive end-of-life contexts. International guidelines and interdisciplinary collaboration between clinicians, data scientists, ethicists, and policymakers are crucial to ensure that AI systems align with patient dignity, autonomy, and equity principles. Continuous post-implementation monitoring should be mandatory to detect unintended consequences and maintain system reliability.

7. Conclusion

Artificial intelligence (AI) has the potential to revolutionize palliative care by providing personalized care, improving prognostication, predicting treatment outcomes, reducing caregiver burden, and improving palliative care research. However, there are also potential risks associated with AI use in palliative care, such as data privacy and security breaches, bias and discrimination, inaccurate results, high costs, and lack of trust and acceptance from patients and caregivers.

To mitigate these risks and ensure that AI is used safely, effectively, and ethically in palliative care, healthcare providers should implement strong data privacy and security measures, address bias in AI models, validate AI models rigorously, educate patients and caregivers about the use of AI, and integrate AI with existing care delivery systems.

By taking these measures, healthcare providers can help to maximize the potential benefits of AI for patients and caregivers in palliative care.

Abbreviations

AI	Artificial Intelligence
ML	Machine Learning
EHRs	Electronic Health Records
VR	Virtual Reality

Author Contributions

Velibor Bozic: Conceptualization, Investigation, Methodology, Formal analysis, Resources, Writing – original draft, Writing – review & editing, Visualization

Conflicts of Interest

The author declares that there are no conflicts of interest regarding the publication of this article.

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