

MODERN METHODS FOR FORECASTING PALLIATIVE CARE NEEDS AND THE ROLE OF PATIENT REGISTRIES: A LITERATURE REVIEW

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Background. Rational and strategically sound planning of palliative care services, specialized staffing and funding at the national level is impossible without scientifically substantiated, empirically verified estimates of actual population needs. This necessitates the use of diverse and complementary methodological approaches to predictive modelling.

Aim. To systematize, critically analyze and structure current methodological approaches to assessing the actual accessibility and population coverage of palliative care and forecasting the need for such care, as well as to comprehensively determine the strategic, managerial and clinical-epidemiological potential of patient registries in the context of international best practices and the current realities of the Ukrainian healthcare system.

Materials and Methods. Scientific publications indexed in PubMed, Scopus and Google Scholar from 2012 to 2026 and World Health Organization European Region palliative care standards served as materials for this literature-based theoretical study. Demographic, epidemiological, Delphi-based and Serious Health-related Suffering forecasting models were analyzed in depth, along with the operation of digital eHealth systems, electronic health records and databases in the European Union, the United States and Ukraine. The study was conducted as part of the first author's dissertation.

Research Ethics. The study did not involve patients or animals and therefore did not require approval by an ethics committee.

Results. Contemporary methods for forecasting palliative care needs were grouped into quantitative and qualitative approaches. Combined models were examined using long-term projections for the United Kingdom to 2040. International evidence demonstrates marked differences in palliative-care development and data capacity between countries. Registry-based approaches were considered using England and Sweden, where the Swedish Register of Palliative Care reported coverage of 60% of all deaths in 2024. For Ukraine, a unified palliative-care registry integrated with the central eHealth database is considered a prospective organizational model rather than an existing national system.

Conclusions. Deep technical and semantic integration of information systems and implementation of standardized registries of palliative care patients are important prerequisites for estimating the funding required for service packages under Ukraine's Medical Guarantees Programme.

Keywords: *organization of health care, palliative care accessibility, population coverage, healthcare planning, eHealth.*

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Сучасні методи прогнозування потреби в паліативній медичній допомозі та роль реєстрів пацієнтів: огляд літератури.

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Abbreviations

AI – Artificial Intelligence.

API – Application Programming Interface.

DNACPR – Do Not Attempt CardioPulmonary Resuscitation.

EAPC – European Association for Palliative Care.

ECOG – Eastern Cooperative Oncology Group.

IAHPC – International Association for Hospice and Palliative Care.

ICD – International Classification of Diseases.

INCB – International Narcotics Control Board.

IPOS – Integrated Palliative care Outcome Scale.

LSTM – Long Short-Term Memory.

NHSU – National Health Service of Ukraine.

NQF – National Quality Forum.

PCQN – Palliative Care Quality Network.

PPS – Palliative Performance Scale.

SAS – Symptom Assessment Scale.

SHS – Serious Health-related Suffering.

UNICEF – United Nations Children's Fund.

WHO – World Health Organization.

Introduction

Rational organizational, managerial, financial and economic planning of palliative care services, specialized staffing and long-term budgetary financing at the present stage of healthcare development is impossible without an objective, scientifically substantiated and empirically verified assessment of the actual magnitude and structure of population needs. This creates an urgent need to develop, validate and apply diverse, complementary methodological approaches [1–5].

Existing methods for forecasting current and future palliative care needs in contemporary strategic healthcare management can be broadly divided into two categories: quantitative and qualitative [6–9]. Quantitative methods traditionally include statistical and

mathematical models based on large demographic and epidemiological datasets, dynamic expert-statistical estimates, and forecasting models that directly use data from functioning patient registries, clinical databases and broader healthcare administrative registries.

By contrast, qualitative methods rely primarily on in-depth expert interviews, focus-group discussions, subjective modelling and validated Delphi approaches. They provide insight into future trends, emerging clinical patterns and specific patient needs by aggregating the clinical and managerial experience of practising physicians, healthcare administrators, managers of specialized facilities and academic experts [6; 10–14].

International experience indicates that neglecting either methodological dimension may result in shortages of inpatient beds and mobile services or inefficient budget expenditure. In resource-constrained healthcare systems, including those undergoing financing reform, forecasting accuracy has direct implications for the quality of life of patients with advanced illness [15].

The **aim** of the study was to systematize, critically analyze and structure current methodological approaches to assessing the actual accessibility and population coverage of palliative care and forecasting the need for such care, as well as to comprehensively determine the strategic, managerial and clinical-epidemiological potential of patient registries in the context of international best practices and the current realities of the Ukrainian healthcare system.

Materials and Methods

This narrative literature review used bibliographic-semantic and comparative methods and systems analysis. A structured search for

scientific publications and regulatory documents was conducted in Google Scholar, Scopus and PubMed; official reports, registries of relevant international organizations and standards of medical care were also examined.

Literature published between 2012 and 2026 was searched in Ukrainian and English using the keywords palliative care, hospice, integration models, need forecasting methods, patient registries, eHealth and healthcare in Ukraine. Sources were selected for direct relevance to forecasting palliative care needs, accessibility and coverage, registry methodology, digital health infrastructure and the Ukrainian policy context.

The source set included methodological guidance and official documents of the World Health Organization, United Nations Children's Fund, European Association for Palliative Care and International Association for Hospice and Palliative Care; original studies and reviews addressing population-need estimation, forecasting and patient registries; and relevant Ukrainian legislation, eHealth documentation and National Health Service of Ukraine materials.

Sources were excluded when they did not directly support the statement for which they were cited, had insufficiently transparent provenance, or addressed only narrow symptom-treatment questions without relevance to organizational, forecasting or registry issues. The review was narrative rather than systematic; no PRISMA claim is made.

The final bibliography comprises 48 sources used for thematic, methodological, regulatory and contextual analysis. Citations were checked against the specific claims they support.

Research Ethics

The study did not involve patients or animals and therefore did not require approval by an ethics committee.

Results

1. Methodological foundations and models for forecasting need

Demographic forecasting is among the most traditional and historically widespread approaches to strategic healthcare planning [2; 6; 16]. It extrapolates current trends

in birth rates, mortality, population ageing (including increases in the proportions of people aged over 65 and over 80 years) and life expectancy to estimate future numbers of patients requiring palliative care.

However, analytical studies have identified important limitations of purely demographic forecasting [11; 17]. In particular, simple demographic extrapolations may assume unchanged patterns of morbidity and fail to adequately capture changes in multimorbidity, the introduction of more effective treatments that extend survival and the period during which palliative care is required, or changes in environmental risk factors.

Epidemiological forecasting provides an alternative approach [2; 6; 9; 11]. It relies on disease-specific analyses of causes of death and the prevalence of progressive, life-limiting chronic diseases. Rather than relying solely on aggregate age-specific rates, epidemiological models use disease-specific indicators for:

- oncological diseases;
- end-stage chronic heart, kidney, liver and respiratory failure;
- neurodegenerative diseases (Alzheimer's disease and Parkinson's disease) and dementia;
- HIV/AIDS [18].

Contemporary forecasting models based on operational patient registries and large administrative databases can provide detailed estimates of palliative care needs using recorded clinical events [17; 19]. Such models integrate information on the frequency and duration of hospital admissions during the final year of life, emergency service use, length of intensive care stays and consumption of specialized medicines.

Another important component of contemporary analysis is the statistical processing and mathematical modelling of sociological research findings and validated patient quality-of-life scales [20]. Instruments such as the IPOS, SAS and PPS quantify symptoms including pain, dyspnoea, depression and nausea, providing data that may be incorporated as weighted variables in forecasting algorithms.

Where primary statistical or registry data are severely limited, as is often the case in low- and middle-income countries, expert methods, particularly conventional and modified Delphi approaches, may be useful [7; 10; 21]. These involve several rounds of anonymous surveys of a selected expert panel, potentially supplemented by Kendall's coefficient of concordance to quantify agreement on palliative care requirements for specific conditions.

An emerging methodological direction involves advanced mathematical modelling, data mining and machine learning [22–24]. Random forest algorithms, LSTM neural networks and Cox regression models can process large sets of de-identified electronic health records, identify nonlinear associations and help estimate appropriate times for referral to a palliative care team. Their comparative accuracy in the settings considered here requires source-specific validation.

Systematic retrospective and prospective assessment of forecasting accuracy and validity is essential for long-term planning of staffing and material resources [1; 6; 20]. Underestimation or overestimation may produce budgetary distortions and staffing imbalances.

In healthcare systems with mature information infrastructures, estimates of current and future needs may combine several methodological approaches to mitigate the limitations of individual methods [2; 6; 9; 11; 20]. A widely cited example is the United Kingdom's long-term projection of palliative care needs to 2040 [1; 11; 19]. The British analysis uses cause-specific mortality trends and projected changes in the population and disease burden. The reported increase of at least 42% in need by 2040 should be interpreted in the context of the assumptions and population used in the original study [25–26].

WHO recommendations and methodological guidance play a coordinating role in standardizing approaches and supporting international comparisons [1–2]. Major limitations of contemporary models include

technical and semantic challenges in integrating heterogeneous datasets [6; 22], information silos and differences between diagnostic coding systems, including ICD-10 and ICD-11.

2. Accessibility, coverage and international development indicators

In contemporary evidence-based social medicine, access to palliative care is understood as the actual, state-guaranteed opportunity for patients and their families to receive timely, high-quality and unobstructed medical, psychological, spiritual and social support of an appropriate scope, regardless of residence, social status, disease category or personal income [3; 11]. This definition encompasses multiple dimensions.

Structurally, accessibility comprises several interrelated dimensions:

- Geographical accessibility (density and travel radius of mobile services and location of inpatient hospices);
- Availability of specialized personnel (certified professionals);
- Physical and legal access to essential medicines;
- Financial accessibility (protection against catastrophic out-of-pocket expenditure) [20; 27–28].

For quantitative assessment and comparisons between countries, international organizations commonly use standardized service-capacity indicators per 100,000 inhabitants [1; 11; 28]. According to the cited EAPC benchmark, the minimum is two inpatient hospice beds and one mobile palliative care service per 100,000 adults.

Unlike potential accessibility, coverage describes the number of patients who actually received palliative support during a reporting period out of all those objectively assessed as needing it [6; 11]. Common approaches to estimating actual coverage include retrospective analysis of national and regional medical registries compared with overall mortality datasets [6; 11; 20] [29].

The Global Atlas of Palliative Care documents substantial inequalities in palliative care availability worldwide [1].

The available international data indicate marked differences in palliative care provision between countries with different income levels [1; 30–31].

This reported disparity highlights the potential importance of sustained public policy, national strategies and stable public financing [28; 30].

The availability of specialized personnel is another important factor in service development [3; 27–28]. European mapping demonstrates substantial cross-country variation in palliative care service capacity and development, including persistent gaps between countries and regions [27]. Workforce and service-capacity benchmarks therefore require adaptation to national population needs and service models.

Continuous physical availability of essential medicines, particularly controlled analgesics, is a core indicator of service development. WHO and INCB data have been cited to suggest that basic opioid analgesics, including oral and injectable morphine, are unavailable or critically inaccessible in 70% of the world's poorest countries, leaving many patients with severe untreated pain [1; 28].

Financial indicators for assessing palliative care systems include the existence and scope of dedicated benefit packages, medicine reimbursement arrangements and the public share of total end-of-life care expenditure [6; 20; 27; 32]. WHO strategic documents emphasize financial protection and the importance of integrating social and psychological support with medical care to reduce the risk of household impoverishment [20; 27–28].

Published comparisons of service-delivery models across regions suggest that more than 70% of patients in Canada and the United Kingdom receive palliative care at home or in day hospices through integrated primary care teams, whereas the corresponding proportion in the African region is below 10% [6; 27–28]. International frameworks and comparative indices, including the Quality of Death Index, offer criteria for comparing national systems [20; 28].

Some clinical and economic studies have reported associations between lower rates of unplanned emergency admissions and well-developed primary and outpatient palliative care [6; 20; 28]. Conversely, inadequate population coverage may contribute to uncontrolled chronic pain, pressure injuries, distress and depression among patients and family caregivers, including caregiver exhaustion [1; 28].

Ukraine has developed regulatory provisions and indicators relevant to the quality and accessibility of palliative care [28; 33]. Comparing national indicators with international recommendations may help identify the need to expand and finance mobile multi-disciplinary teams capable of supporting patients at home [28; 34].

Contemporary global estimates of palliative care need increasingly use the concept of serious health-related suffering (SHS), developed in the Lancet Commission on Palliative Care and Pain Relief report [28; 30]. Rather than estimating need solely from deaths attributable to selected diseases, this framework considers the extent and duration of physical and psychological suffering experienced both by people approaching death and by those living for years with incurable chronic conditions.

According to the Lancet Commission's global estimates, more than 61 million people experience SHS annually that may require palliative interventions and appropriate pain relief. An updated SHS 2.0 approach that differentiates suffering-days across 20 principal symptoms, including pain, dyspnoea, fatigue and cognitive impairment, and 20 major disease groups, potentially supporting estimates of material resources and medicine needs [28; 30].

3. Patient registries as a strategic management tool

Within the digital transformation of clinical medicine and healthcare, specialized patient registries are becoming increasingly important [6; 20; 35]. They have evolved from passive archives of medical records into dynamic, interactive analytical platforms.

Contemporary digital registries collect standardized, structured, longitudinal clinical and administrative information on:

- Specific diagnoses coded according to international classifications (ICD-10 and ICD-11);
- Current functional status assessed using validated scales (ECOG, ECOG-AKPS and PPS);
- Prescribed and actually dispensed opioid analgesics, including treatment regimens and doses;
- Longitudinal changes in the management of principal symptoms [6; 20; 35–36].

Properly validated medical registries may enable healthcare administrators to estimate actual rather than nominal population needs, plan the geographical distribution of services and beds, and design patient pathways while identifying regional imbalances [35–36].

The managerial value of registries includes continuous assessment of organizational models using routinely collected clinical outcomes and resource-use data, consistent with evidence-based healthcare management [6; 28; 35]. Comparative registry analyses may help assess pain control and per-patient costs across inpatient hospices, mobile services and integrated primary care, provided that differences between patient populations are appropriately accounted for.

Major challenges to registry implementation include protection of personal data, cybersecurity and ethical and legal aspects of obtaining informed consent from patients with cognitive impairment or those approaching the end of life [6; 20; 28; 37]. Addressing these challenges requires proportionate governance, access controls, de-identification and encryption of data collected by healthcare professionals.

Discussion

1. Comparative analysis of international experience with registries

Experience reported from Western European countries illustrates increasingly integrated approaches to digital monitoring in palliative care [38–39]. In England, Electronic Palliative Care Coordination Systems

(EPaCCS) are designed to record and share key information about preferences and care plans across relevant services; the national core-content standard defines the information to be held, while implementation and interoperability remain locally variable [38].

Sweden's Swedish Register of Palliative Care (Svenska Palliativregistret) illustrates the use of a national quality register for monitoring, audit and improvement of end-of-life care [39–40]. The registry's 2024 annual report recorded 55,003 complete questionnaires, corresponding to 60% of all deaths nationally; coverage of specialized palliative care was estimated at more than 90% [40].

In the United States, public Medicare and Medicaid datasets and other administrative data sources support analyses of palliative and end-of-life care [41–42]. The National Quality Forum (NQF) is a quality-measure organization rather than a patient registry; its reports are relevant to standardized quality measurement, not to the technical architecture of EPaCCS or Swedish registry coverage [41].

In low- and middle-income settings, limited information infrastructure can constrain routine measurement and registry development. International mapping and global palliative-care analyses show large differences in service integration and data capacity across countries [4; 11; 30]. In such settings, simple, clearly defined datasets may be more feasible than highly integrated national registry architectures.

2. Ukrainian experience and prospects for integration into eHealth

Ukraine's experience is closely connected with healthcare financing reform and the phased development of the national electronic healthcare system (eHealth) [22; 33; 42–44]. Separate inpatient and mobile palliative-care service packages have been implemented under the Medical Guarantees Programme [22; 45]. Published Ukrainian work has also examined packaged financing of palliative care [22] and proposed directions for improving palliative and hospice care during long-term health-system reform [46].

Ukraine does not currently have a unified national palliative-care patient registry. Existing Ukrainian studies describe regional palliative-care organization, population needs and service delivery, including wartime experience in the Kharkiv region [15; 29; 47]. Media discussions during the war also document continuing public and organizational attention to hospice and palliative care [48]. These sources describe service context but should not be interpreted as evidence that a national registry already exists.

The central database of Ukraine's electronic healthcare system contains statutory registers and supports the creation, viewing and exchange of electronic health information between connected medical information systems [33; 43–44]. This architecture provides a potential technical basis for a future palliative-care registry, but implementation would require a formally defined palliative-care dataset, governance rules and appropriate cybersecurity safeguards. The present review does not claim that the central database already contains serial palliative-specific fields such as Palliative Performance Scale scores or pain-intensity trajectories.

The comparative analysis suggests that effective use of medical registries depends on interoperability between related information systems, standardized data definitions, appropriate governance and automation [33; 37; 39; 44]. Registries should minimize additional administrative work by importing appropriate information from routine clinical records wherever technically and legally feasible.

For Ukraine, adapting international digital and methodological approaches to national legislation, the architecture of eHealth and the Medical Guarantees Programme may support a transition from planning based on incomplete estimates toward models informed by routinely collected population data [22; 33; 43–45]. Organizational principles for home-based palliative care described in Ukrainian work may also inform the design of service-level data flows [34].

To summarize the methodological approaches considered in this review, *Table 1* compares the forecasting models, while *Table 2* outlines the principal stages and architecture of a proposed integrated registry for Ukraine.

Comparative and organizational matrices

Table 1. Comparative characteristics of the main methodological approaches to forecasting the need for palliative care

Methodological approach	Input data and metrics	Main advantages	Systemic limitations	Optimal application
Demographic forecasting	Birth and death rates, population ageing (proportion of people aged >65 and >80 years).	Simple calculations; availability of macrostatistical data at the national level.	Does not account for comorbidity, morbidity trends or changes in medical technologies.	Long-term strategic planning of the overall healthcare system.
Epidemiological forecasting	Cause-specific mortality (cancer, chronic heart failure, dementia, chronic kidney disease, HIV/AIDS).	High disease specificity and linkage to particular causes of death.	Difficulty accounting for patients with multiple chronic diseases (multimorbidity).	Medium-term planning of bed capacity and regional service packages.
Serious Health-related Suffering (SHS 2.0) modelling	Extent and duration of suffering (suffering-days) across 20 symptoms and 20 disease groups, according to the Lancet data.	Focus on clinical symptoms (pain, dyspnoea); potentially detailed estimation of analgesic needs.	High requirements for symptom coding quality and data standardization.	Estimating national needs for narcotic medicines and psychotropic substances.

Methodological approach	Input data and metrics	Main advantages	Systemic limitations	Optimal application
Expert methods (Delphi approaches)	Anonymous expert panel ratings; calculation of Kendall's coefficient of concordance.	Allows forecasting where primary statistics are scarce or unavailable.	Subjectivity; dependence on expertise and potential bias among selected experts.	Local strategy development and planning in low- and middle-income countries.
Machine learning / AI	Large de-identified electronic health record datasets; random forests, LSTM algorithms and Cox models.	Identification of nonlinear patterns and estimation of when to involve palliative care.	Requires large quantities of clean, structured and integrated digital data.	Operational eHealth management and individualized patient pathways.

Table 2. Organizational and technological algorithm for implementing an integrated registry of palliative care patients in Ukraine

No.	Algorithm stage	Work and technological processes	Target outcome	Methodological rationale (sources)
1	Regulatory and semantic design (standardization)	Develop and approve a unified palliative patient medical profile at Ministry of Health level. Introduce mandatory fields for functional status scales (PPS, ECOG) and pain intensity.	A nationally approved unified palliative patient data standard mandatory for all healthcare providers.	Consistency with international and national palliative-care guidance [3; 27; 32].
2	Technical integration into the central eHealth database	Develop and launch a dedicated Palliative Care Patient Registry of Ukraine module within the central eHealth database, with seamless API interaction with existing medical information systems.	Technical readiness of the central database to receive structured palliative care records in real time.	EPaCCS and Ukrainian eHealth architecture [33; 38; 43–44].
3	Automated collection and primary data validation	Primary and specialist physicians enter data when maintaining electronic medical records. Automatically import demographics, ICD-10/11 diagnostic codes and controlled-substance prescriptions from the electronic NHSU system.	A continuously updated, de-identified database of actual clinical cases without additional administrative workload for physicians.	Registry methodology and Ukrainian electronic-health infrastructure [33; 37; 43–44].
4	Mathematical and statistical analysis and forecasting	Use data-mining algorithms and epidemiological forecasting models, including combined approaches and elements of machine learning, to estimate current and future funding requirements.	Data-driven projections for budgeting palliative care services under the Medical Guarantees Programme.	Combined forecasting and data-driven healthcare planning [16; 21; 23; 25].

Conclusions

The analysis indicates that demographic and epidemiological approaches used in isolation have limitations when forecasting palliative care needs. Combined models integrating disease-specific mortality trends with estimates of Serious Health-Related Suffering may address some of these limitations. Their comparative predictive accuracy requires direct validation.

International examples, including Svenska Palliativregistret in Sweden and EPaCCS in England, show how structured information systems can support quality monitoring, care

coordination and management. Their usefulness depends on data quality, coverage, interoperability and governance; registry implementation alone does not establish a specific level of palliative-care coverage.

Developing a unified national registry of palliative care patients using Ukraine's central eHealth database is a proposed strategic direction for the healthcare system. Implementing the proposed four-stage organizational and technological approach could integrate clinical data, automate collection and support financial modelling of NHSU palliative care packages based on observed population needs.

Declarations

Conflict of interest is absent.

All authors have agreed to the publication of the article under the terms of the Creative Commons BY-NC-SA 4.0 licence and of the public agreement with Kharkiv National Medical University as the founder and publisher of

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Authors' Contributions

Authors \ Contribution	A	B	C	D	E	F
Vrahov R.S.	+	+	+	+	+	+
Ohniev V.A.	+				+	+

Notes:

A – concept;

B – design;

C – data collection;

D – statistical processing and interpretation of data;

E – writing or critical editing of the article;

F – approval of the final version for publication and agreement to be responsible for all aspects of the work.

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СУЧАСНІ МЕТОДИ ПРОГНОЗУВАННЯ ПОТРЕБИ В ПАЛІАТИВНІЙ МЕДИЧНІЙ ДОПОМОЗІ ТА РОЛЬ РЕЄСТРІВ ПАЦІЄНТІВ: ОГЛЯД ЛІТЕРАТУРИ

Актуальність. Раціональне та стратегічно вивірене планування мережі паліативних послуг, профільного кадрового забезпечення та обсягів фінансування на державному рівні неможливе без науково обгрунтованої, емпірично перевіреної оцінки реальної популяційної потреби. Це зумовлює необхідність застосування різноманітних та взаємодоповнюючих методологічних підходів до прогностичного моделювання.

Мета. Систематизувати, критично проаналізувати та структурувати сучасні методологічні підходи до оцінки реальної доступності, популяційного покриття та прогностичного моделювання потреби у паліативній медичній допомозі, а також комплексно визначити стратегічний управлінський та клініко-епідеміологічний потенціал медичних реєстрів пацієнтів у контексті кращих світових практик та сучасних реалій української охорони здоров'я.

Матеріали та методи. Матеріалом теоретичного дослідження на основі літератури були наукові джерела з PubMed, Scopus та Google Scholar за 2012–2026 рр., стандарти паліативної допомоги Європейського регіону Всесвітньої організації охорони здоров'я (ВООЗ). Проведено поглиблений аналіз моделей прогнозування (демографічних, епідеміологічних, Delphi-підходів, Serious Health-related Suffering) та досвіду функціонування цифрових систем eHealth, електронного медичного запису (ЕМЗ) та баз даних країн ЄС, США та України. Робота виконана в межах дисертації першого автора.

Етика дослідження. Дослідження проведено без залучення пацієнтів та тварин, тому не потребувало згоди етичної комісії.

Результати. Сучасні методи прогнозування потреби у паліативній допомозі розподілено на кількісні та якісні підходи. Комбіновані моделі розглянуто на прикладі довгострокового прогнозування у Великій Британії до 2040 р. Міжнародні дані свідчать про суттєві відмінності між країнами за рівнем розвитку паліативної допомоги та інформаційною спроможністю. Реєстрові підходи проаналізовано на прикладах Англії та Швеції, де Swedish Register of Palliative Care у 2024 р. охоплював 60% усіх смертей. Для України єдиний реєстр паліативних пацієнтів, інтегрований із центральною базою даних eHealth, розглядається як перспективна організаційна модель, а не як уже наявна національна система.

Висновки. Глибока технічна та семантична інтеграція інформаційних систем та впровадження уніфікованих реєстрів паліативних пацієнтів є базовою, критично важливою передумовою для точного розрахунку фінансування пакетів послуг у межах Програми медичних гарантій в Україні.

Ключові слова: організація охорони здоров'я, доступність паліативної допомоги, охоплення населення, планування медичної допомоги, електронна охорона здоров'я.

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