

Telepalliative Nursing for Patients in Rural and Underserved Communities: Access, Acceptability, and Implementation Barriers

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Abstract

Telepalliative care can reduce geographic separation from specialist palliative services, yet technical availability does not guarantee usable, acceptable, equitable, or sustainable care. Rural residence, digital resources, workforce capacity, care organization, and patient preferences may alter whether remote access translates into meaningful service delivery. To synthesize evidence on telepalliative nursing for rural and underserved populations while separating access and reach, acceptability, clinical and service outcomes, equity, and implementation conditions. A systematic review with implementation synthesis was conducted using reproducible telepalliative, rural-access, nursing, digital-equity, and implementation search streams supplemented by targeted citation verification. Sixty record manifestations were identified; 11 duplicates were removed, 49 unique records were screened, 43 reports underwent detailed assessment, and 33 reports were included, representing 32 underlying studies or programs after linkage of one multiple-report intervention. Evidence was appraised according to study design and implementation determinants were organized using CFIR-informed categories. Telepalliative delivery could extend specialty reach, reduce travel demands, and support nursing assessment, coordination, follow-up, transition, and caregiver communication. Benefits were conditional on modality, population, clinical context, digital capability, connectivity, workforce preparation, organizational integration, and availability of escalation to in-person care. Acceptability was generally favorable but variable, and evidence for clinical outcomes was more heterogeneous than evidence for feasibility or convenience. Telepalliative nursing can reduce important access barriers, but successful implementation requires more than remote contact. Its value depends on whether technological reach is converted into clinically appropriate, acceptable, supported, and equitable care.

Keywords: Telepalliative care, Palliative nursing, Rural health, Telehealth, Digital health equity, Implementation

Introduction

Distance from specialist palliative services remains consequential when patients require symptom assessment, communication, caregiver support, care coordination, and rapid clinical advice [1, 2]. Telehealth can extend specialty palliative contact beyond conventional geographic boundaries, while rural-access evidence shows that physical distance is only one part of the access problem and nurse-delivered models depend on implementation conditions across patients, professionals, organizations, and health systems [3-7]. Patient adoption also varies with usability, confidence, communication preferences, and practical circumstances [8]. Rural hospice and end-of-life

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services face additional workforce, financial, organizational, and regulatory constraints [9, 10], while the broader digital-palliative literature encompasses synchronous consultation, remote monitoring, digital symptom support, coaching, and other functions with different implementation requirements [11].

The evidence base has also changed. Earlier reviews found that telepalliative practice was frequently described without robust evaluation [12], and video-consultation research showed feasibility alongside technical and relational limitations [13]. More recent comparative, implementation, and nursing evidence permits a more differentiated question than whether telehealth “works.” This review examines when telepalliative nursing expands access, how patients and caregivers experience it, what clinical or service outcomes are supported, and which conditions determine implementation. Its scope is distinct from caregiver-preparedness or environmental-safety questions in home palliative care: the analytical center is remote palliative delivery itself and the conversion of technical reach into usable care.

Review questions

The review addressed three linked questions. First, what does the 2017–2026 evidence establish or leave uncertain about telepalliative modalities, nursing roles, access, acceptability, and clinical or service outcomes in rural and underserved populations? Second, which patient, caregiver, professional, technological, organizational, financial, and governance conditions alter implementation? Third, when apparent gains in geographic reach occur, what evidence indicates that they do—or do not—translate into equitable and sustainable palliative care?

Materials and Methods

A systematic review with implementation synthesis was undertaken. The review retained clinical, service, qualitative, feasibility, observational, and implementation evidence when it directly informed telepalliative delivery or the conditions required to deliver it. A separate, explicitly bounded contextual evidence layer was used where general digital-health or rural-health studies informed infrastructure or equity determinants but could not support palliative-specific clinical claims.

Protocol and reporting standard

Selection and reporting followed PRISMA 2020 principles [14]. No prospective registration is claimed because none was undertaken within the executed review process. The review flow distinguishes record manifestations, unique screened records, report-level assessment, included reports, and multiple reports arising from the same underlying intervention.

Eligibility criteria

Eligible evidence was published from 2017 through 2026 and addressed palliative or hospice care delivered or supported through telehealth, telemedicine, videoconferencing, remote digital systems, or closely related modalities. Evidence was retained when it informed access, reach, acceptability, nursing practice, clinical or service outcomes, implementation, or equity. Rural or underserved populations were included when disadvantage was geographically, linguistically, economically, technologically, organizationally, or service-access related. General digital-health evidence was not used to establish telepalliative effectiveness.

Information sources

The executed retrieval combined PubMed-indexed scholarly searching, publisher and bibliographic verification, and supplementary exact-title, DOI, and citation-chaining routes. Four topic streams covered implementation barriers; digital literacy, broadband, and equity; nursing, home-based care, and caregivers; and rural access, acceptability, and outcomes. Searches were completed on 16 September 2026.

Search strategy

The search logic combined *palliative care* or *hospice* with telehealth-related terms and domain-specific terms for implementation, workforce, reimbursement, workflow, privacy, digital literacy, broadband, equity, underserved populations, nursing, home-based care, caregivers, access, acceptability, satisfaction, outcomes, and rural care. Supplementary searching was used to verify candidate primary studies and reports identified through retained reviews. The review did not treat journal quartile as an eligibility criterion.

Study selection

Duplicate record manifestations were removed before title and abstract screening. Potentially eligible reports were assessed against the review questions and eligibility criteria. Reports were excluded when telehealth was peripheral, palliative content was insufficient, the evidence unit duplicated a retained synthesis without adding a distinct contribution, or the report could not support the proposed clinical or implementation claim. Multiple publications from one intervention were linked rather than counted as independent studies.

Data extraction

Extraction captured study or review design, country or region, care setting, population, professional groups, reported sample size, palliative context, telehealth modality, comparator where applicable, measurement source, nursing or organizational processes, implementation determinants, analytical method, temporal design, principal findings, contradictory or null findings, stated limitations, applicability boundaries, and the exact claims each evidence unit could support. Unreported information was not inferred.

Critical appraisal/risk of bias

Appraisal was matched to design. Randomized studies were interpreted using RoB 2 domains; qualitative studies were assessed through design-appropriate qualitative criteria; observational, feasibility, service, and quality-improvement reports were evaluated for selection, confounding, measurement, completeness, and applicability concerns. Review-level evidence was interpreted according to methodological transparency and synthesis quality. Journal prestige was not used as a substitute for study-level appraisal.

Implementation framework and synthesis method

Implementation determinants were organized using the updated Consolidated Framework for Implementation Research [15]. Because the corpus differed substantially in modality, population, disease, outcome, setting, and professional configuration, a single pooled effect estimate was not appropriate. Narrative synthesis therefore followed SWiM-compatible principles [16], preserving differences between feasibility, association, clinical outcome evidence, qualitative experience, and implementation interpretation.

Results and Discussion

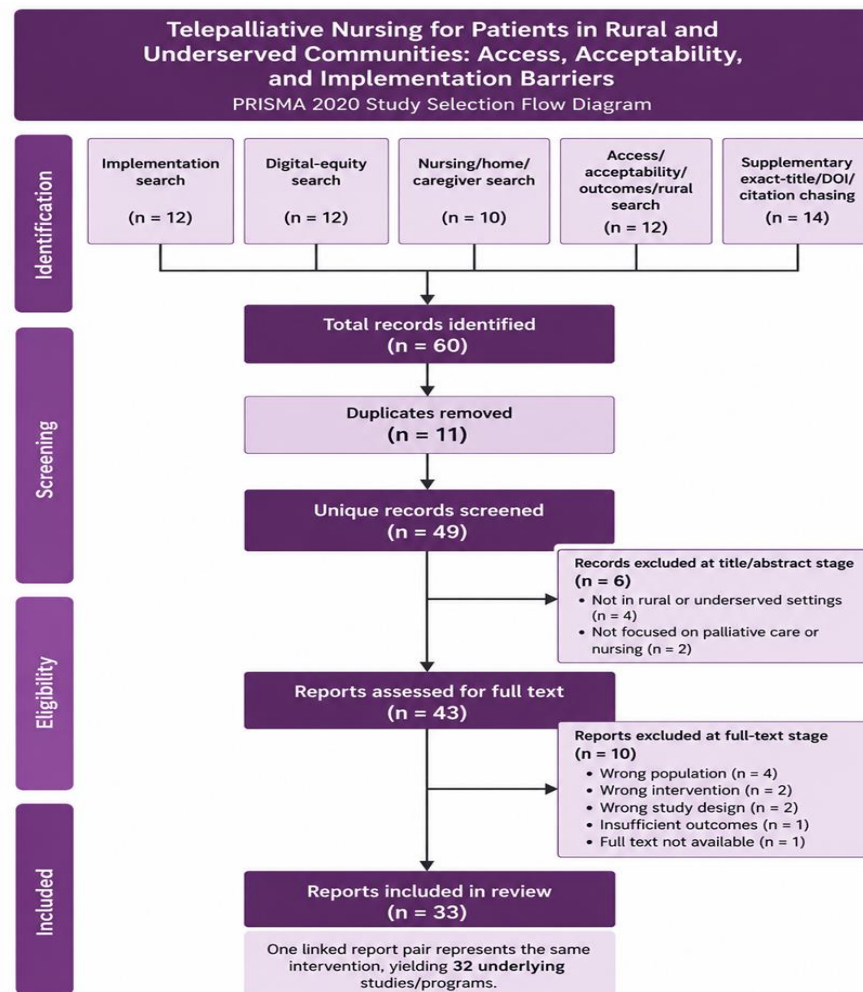
Recent evidence broadened telepalliative inquiry from simple technical feasibility to questions of nursing function, outcome variation, organizational fit, and equity. Telehome nursing reviews identify roles spanning assessment, symptom monitoring, education, coordination, caregiver support, and follow-up, while also identifying training, technology, reimbursement, and organizational readiness as implementation determinants [17]. Nurse-led intervention evidence suggests that outcomes may improve in some domains without producing uniform effects across all measured outcomes [18]. In advanced cancer, broader telepalliative syntheses likewise report potentially favorable outcomes alongside substantial variation in modality and implementation requirements [19].

The central result is consequently conditional. Evidence for the ability to create remote contact and reduce travel burden is more consistent than evidence that remote delivery is universally clinically superior, preferred, or equitable. Patient-level capability, professional practice, workflow, infrastructure, and system support alter whether access is converted into effective care.

Study selection

The search identified 60 record manifestations. After removal of 11 duplicates, 49 unique records entered title and abstract screening. Six were excluded at that stage: five lacked a sufficient telehealth component for the review question and one lacked a usable palliative or implementation evidence unit. Forty-three reports were sought and assessed in detail. Ten were excluded after detailed assessment: five overlapping secondary syntheses without a distinct contribution, two digital or quality-indicator reports unsuitable as direct review evidence units, one non-peer-reviewed report format, one ethics-only report retained solely for contextual governance use, and one report with insufficient methodological or palliative specificity. Thirty-three reports were included, representing 32 underlying studies or programs after linkage of one multiple-report intervention.

This selection pathway is summarized in **Figure 1**.

**Figure 1.** Selection of Evidence for the Telepalliative Nursing Access and Implementation Synthesis*Study characteristics*

The evidence base was methodologically diverse. It included systematic and integrative reviews, randomized and feasibility trials, comparative observational studies, cross-sectional preference research, qualitative implementation studies, service evaluations, and quality-improvement reports. Clinical populations included advanced cancer, heart failure, pediatric and young-adult oncology, hospice populations, and broader home or community palliative-care cohorts. Evidence from rural settings was supplemented by studies examining language, digital-resource, and service-access disadvantage. The heterogeneity increased interpretive breadth but limited the defensibility of treating the corpus as a single intervention class [20, 21].

Table 1 characterizes the methodological structure relevant to interpretation.

Table 1. Methodological Profile of the Included Telepalliative Evidence

Evidence stratum	Typical care context	Primary analytical contribution	Professional or participant lens	Main interpretive strength	Main interpretive constraint
Systematic and integrative syntheses	Specialty, home, cancer, rural, mixed palliative settings	Maps modalities, outcomes, implementation determinants, and evidence gaps	Patients, caregivers, nurses, multidisciplinary teams	Broad evidence coverage and cross-setting comparison	Overlap among underlying studies and substantial heterogeneity
Randomized and comparative intervention evidence	Oncology, heart failure, digital symptom management	Examines clinical, service, or mode-comparison outcomes	Patients and, in some studies, caregivers	Stronger outcome inference than descriptive studies	Intervention, disease, and outcome specificity
Preference and acceptability studies	Outpatient and community palliative care	Identifies modality preference, usability, convenience, and barriers	Patients and caregivers	Direct assessment of user experience	Preference cannot establish clinical effectiveness

Qualitative implementation studies	Community, routine services, nursing homes	Explains relational, workflow, workforce, and contextual conditions	Clinicians, patients, caregivers	Rich explanation of implementation processes	Context-specific transferability
Feasibility and quality-improvement studies	Hospice, home transition, inpatient family communication	Tests whether specific remote workflows can operate in practice	Patients, families, clinical teams	High practical relevance	Limited causal comparison
Rural and structural determinant evidence	Rural home care and broader digital-health contexts	Identifies connectivity, service-capacity, and geographic constraints	Patients, services, populations	Clarifies conditions outside the consultation itself	Some determinants are indirect rather than palliative-specific

Note: The table differentiates evidentiary function from methodological strength; categories are not rankings and do not imply equivalence among studies.

Telepalliative modalities

Telepalliative care was not a single intervention. Synchronous video consultation had the strongest direct comparative evidence: a large multisite trial of early palliative care for advanced lung cancer found video delivery capable of maintaining patient quality-of-life outcomes within the trial setting, although caregiver participation differed from in-person care [22]. Qualitative evidence from community palliative care identified convenience and reach alongside technical and relational limitations [23]. Patient preference studies further showed that willingness to use video varies with digital comfort, travel difficulty, symptoms, and individual circumstances [24], while a separate cancer cohort demonstrated that telemedicine preference can be high when attending in person is burdensome [25].

Mode of delivery also interacted with population and service characteristics. Comparative outpatient evidence found broadly similar measured quality across virtual and in-person palliative care while identifying persistent language and racial disparities [26]. Pediatric evidence similarly showed that telehealth could support outpatient specialty care without eliminating differences in utilization across patient groups [27]. Other configurations included telehealth-supported hospice transition for children and young adults [28], with linked qualitative work showing that family experience adds information not captured by feasibility measures alone [29].

Table 2 separates modality from the clinical or organizational function it serves.

Table 2. Telepalliative Modalities as Distinct Care Functions Rather Than a Single Intervention

Modality configuration	Principal palliative function	Access implication	Acceptability or relationship issue	Implementation dependency	Evidence interpretation boundary
Synchronous video consultation	Specialist assessment, communication, follow-up	Can reduce travel and geographic separation	Visual interaction may support communication but does not suit every patient or encounter	Device, connectivity, privacy, clinician workflow	Comparative findings remain disease- and setting-specific
Telephone or voice-based contact	Follow-up, symptom discussion, rapid contact	Lower technical burden than video	May be easier to access but provides fewer visual clinical cues	Reliable phone access, escalation procedures	Should not be treated as equivalent to video
Digital symptom-support applications	Symptom reporting, education, self-management support	Extends contact between scheduled encounters	Requires sustained engagement and user capability	Digital literacy, monitoring workflow, clinical response	Digital therapeutics are distinct from clinician teleconsultation
Remote family or caregiver meetings	Communication, shared planning, caregiver participation	Allows geographically separated participants to join	Relational quality depends on facilitation and context	Scheduling, platform access, communication skill	Feasibility does not establish preference for remote meetings
Telehealth-supported care transitions	Home or hospice transition, follow-up, coordination	May maintain specialty input across care boundaries	Patients and families may value continuity	Interprofessional coordination and local service availability	Program-specific evidence should not be generalized without adaptation
Hybrid telepalliative care	Remote contact combined with selective in-person assessment	Broadens reach while retaining physical-care options	Supports modality choice when preferences or clinical needs change	Clear escalation criteria and local capacity	Evidence does not support one fixed remote-to-in-person ratio

Nursing roles

Nursing involvement extended beyond operating communication technology. Nurse-delivered models included symptom assessment, education, caregiver support, follow-up, navigation, coordination, and identification of situations requiring additional clinical review [30-33]. A nurse-practitioner-led post-acute telehealth model

illustrates how remote contact can be integrated into transition from hospital to home rather than functioning as an isolated virtual encounter [34]. Across the broader evidence, the nursing contribution was therefore partly clinical and partly connective: nurses linked patient-reported needs with specialist advice, local services, caregivers, and escalation pathways. The evidence does not establish a universal telepalliative nursing role; functions varied with setting, professional authority, local staffing, and the surrounding service model [35-39].

Rural and underserved populations

“Rural and underserved” did not describe one homogeneous population. Geographic distance was prominent, but the evidence also identified language, digital-resource, service-capacity, age, family, and disease-specific sources of disadvantage. Consequently, rural residence should not be used as a proxy for digital exclusion, nor should virtual attendance be assumed to correct structural disadvantage. Some underserved patients may gain disproportionately when travel burdens are removed; others may remain excluded because the remote pathway presupposes connectivity, devices, communication support, specialist availability, or local clinical backup. This distinction is particularly important for pediatric, linguistically diverse, and clinically complex populations, for whom the practical meaning of “access” includes more than obtaining a virtual appointment.

Access and reach

The most consistent advantage of telepalliative delivery concerned potential reach. Remote consultation can reduce travel, shorten the geographic distance between specialist teams and patients, and permit follow-up in settings where conventional specialist attendance is difficult. The rural evidence also shows why reach is a conditional outcome: a connection to a distant specialist has limited practical value when the patient cannot reliably connect, the local workforce cannot implement recommendations, or an examination or procedure requires physical care [40].

Accordingly, access in this review is treated as the successful availability and usability of a service, not the mere existence of a telehealth option. Geographic reach is one component of access; continuity, affordability, technological usability, language accessibility, and local service capacity determine whether that reach becomes meaningful care.

Patient and caregiver acceptability

Patients and caregivers frequently valued convenience, reduced travel, continuity, and the ability to receive care at home. Preferences were nevertheless heterogeneous. Video could be attractive to patients comfortable with the technology while others preferred in-person care because of communication style, symptoms, privacy, unfamiliarity, or concern that remote contact would be insufficient for complex needs. Acceptability therefore depended on the encounter as well as the patient.

Caregiver participation introduced an additional dimension. Remote formats can enable geographically separated relatives to participate, but trial and qualitative evidence indicates that modality can also alter how caregivers become involved. Telepalliative acceptability is consequently better understood as a relationship among patient preference, caregiver circumstances, clinical purpose, technology, and service design than as a single satisfaction outcome.

Clinical and service outcomes

Clinical effectiveness was less uniform than feasibility or convenience. In heart failure, an integrated early telepalliative intervention demonstrated feasibility and evaluated quality-of-life effects, but the study design does not justify treating its findings as definitive evidence for all palliative populations [41]. Interpretation is also complicated by that telehealth can alter the communication environment in which palliative interactions are delivered and studied [42]. Clinicians describe remote care as capable of extending reach while simultaneously creating relational, assessment, and equity challenges [43].

Service outcomes likewise require a broader standard than encounter completion. Home-based palliative-care quality encompasses coordination, responsiveness, communication, symptom management, and continuity, so increased virtual activity cannot by itself establish improved care quality [44]. Digital symptom-management interventions provide additional evidence that remote technologies can support specific clinical functions, but these tools differ materially from synchronous nurse or specialist consultation [45].

Conclusion

Taken together, the evidence supports a bounded conclusion at this stage of the synthesis: telepalliative care can achieve clinically useful and operationally feasible outcomes in selected contexts, yet modality, disease, population, professional configuration, and implementation conditions materially shape those results. Clinical effectiveness and implementation success therefore remain separate outcomes requiring separate assessment.

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