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Environmental Quality of Healthcare Facilities and Its Association with Patient Comfort, Staff Well-Being, and Palliative Care Outcomes

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Abstract

Healthcare environments influence far more than visual appearance or technical building performance. Acoustic conditions, lighting, thermal comfort, air quality, privacy, environmental control, access to nature, and spatial organization can shape how patients rest and orient themselves, how staff experience and perform work, and how families participate in care. Yet these domains are often evaluated separately, while environmental quality is treated as though it were a single exposure with uniform consequences. This conceptual article applies a therapeutic-environment framework to examine how distinct environmental domains may operate through patient, workforce, family, and palliative-care pathways. The synthesis distinguishes environmental conditions from occupants' perceptions and from downstream health or care outcomes, emphasizing that the same physical setting may support one group while burdening another. Acoustic adaptation, circadian timing, population-specific thermal preferences, ventilation strategy, perceived control, multisensory restoration, and spatial affordances are integrated without assuming that any one environmental domain is universally therapeutic. The resulting account positions environmental quality as a configuration of interacting conditions whose effects depend on population, care setting, time, agency, illness state, and competing clinical or operational priorities. This framework supports more discriminating facility design, management, nursing observation, and research by identifying where environmental interventions are likely to reinforce one another, where trade-offs may arise, and where environmental explanations should remain subordinate to care-process, social, or service-level mechanisms.

Keywords: Healthcare environment, Indoor environmental quality, Patient comfort, Healthcare worker well-being, Therapeutic environment, Palliative care

Introduction

Healthcare facilities combine technical infrastructure, clinical work, emotional vulnerability, prolonged occupancy, and highly variable human needs within the same physical setting. The unresolved problem is not whether environments matter, but how different environmental conditions act through different occupants and outcomes, and when these relationships become clinically or organizationally consequential [1, 2].

The interpretive difficulty is intensified by heterogeneity among occupants. Built features can support or frustrate psychological needs such as autonomy, competence, and relatedness [3, 4], while hospital-ward evidence indicates that satisfaction with indoor conditions reflects several environmental dimensions rather than a single global exposure [5, 6].

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This article develops such an analysis across acoustic conditions, light and circadian exposure, thermal comfort and air quality, privacy and personal control, nature and positive distraction, and spatial organization. The purpose is not to assign a universal environmental optimum. It is to identify the mechanisms, actor differences, trade-offs, and limits that determine when healthcare environments support care and when apparently beneficial design choices may have weak, competing, or unintended effects.

Conceptual foundations

A therapeutic environment should be understood as a setting in which environmental conditions can support care-related human functioning without assuming that environmental exposure alone produces health. Conceptual precision matters because environmental evidence becomes overstated when a subjective evaluation is treated as a proxy for physiological benefit, work performance, or care quality [1, 7].

Psychological needs add a second layer. Environmental features can alter opportunities for autonomy, competence, and relatedness by changing what occupants can control, perceive, access, or do within a setting [3, 8]. These mechanisms are especially relevant in healthcare, where illness, mobility restrictions, cognitive impairment, professional hierarchy, and clinical routines can reduce individual control. Therapeutic value therefore depends partly on whether an environmental resource is usable by the intended occupant, not simply whether it exists.

Supportive and evidence-based healthcare design

Evidence-based healthcare design links environmental decisions to documented occupant needs and outcomes while preserving the limits of the underlying evidence. Reviews of healthcare indoor environments show that acoustic, thermal, visual, spatial, and air-quality conditions are repeatedly associated with occupant experience, but effect patterns vary across settings and groups [2, 9]. Hospital-ward research similarly indicates that perceived environmental quality is jointly shaped by multiple domains and that satisfaction cannot be attributed to one parameter in isolation [5, 9].

Supportive design should consequently be treated as a matching problem: a design or facility-management action must be matched to the occupant, mechanism, and outcome it is intended to influence. Architectural experimentation outside clinical settings further suggests that built interventions can affect psychological and social responses, although such findings should not automatically be translated into clinical effects [10]. The key question is whether an environmental modification changes a relevant exposure, provides a meaningful affordance, or removes a burden for the people who actually use the space.

The distinction between conceptual outcome, environmental mechanism, and practical design response is summarized in **Table 1**.

Table 1. Differentiating core constructs used to interpret therapeutic environmental quality in healthcare

Analytical unit	What it represents	Primary question	Typical environmental relevance	Interpretation boundary
Physical environmental condition	Measurable property of the setting	What is present in the environment?	Sound level, light exposure, temperature, airflow, spatial configuration	Physical measurement alone does not establish benefit or harm
Perceived environmental quality	Occupant appraisal of environmental conditions	How is the setting experienced?	Comfort, noise appraisal, perceived privacy, control, satisfaction	Subjective appraisal is not equivalent to health status
Psychological need support	Opportunity for autonomy, competence, or relatedness	Does the setting enable agency and connection?	Control interfaces, privacy choices, access to social or restorative spaces	Available features may be unusable for frail or dependent occupants
Supportive design function	Environmental contribution to a care-relevant activity or experience	What does the environment enable or reduce?	Rest, communication, orientation, privacy, social interaction, staff workflow	Supportive function depends on context and occupant
Therapeutic environmental contribution	Environmental influence that plausibly supports patient, staff, family, or care processes	Through what pathway might the setting assist care?	Reduced disturbance, improved controllability, restorative opportunity, safer work conditions	Contribution should not be treated as proof of clinical causality
Downstream care or health outcome	Consequence beyond immediate environmental experience	Does environmental change alter care, performance, or health?	Sleep, work experience, interaction quality, access, caregiver burden	Requires outcome-specific evidence and appropriate causal design

Environmental quality as a multidimensional construct

Environmental quality in healthcare is better represented as a configuration than as a single index. Physical domains coexist, interact, and are interpreted by occupants with different physiological, cognitive, professional,

and emotional requirements. Hospital studies show that several indoor environmental conditions contribute to overall appraisal [5], while broader evidence on personalized control and worker experience indicates that responses depend on both exposure and the capacity to adapt to it [9, 11, 12].

A multidimensional account also prevents inappropriate substitution. Improved lighting does not compensate automatically for poor acoustic privacy; acceptable room temperature does not neutralize inadequate ventilation; access to nature does not resolve lack of personal control. Some environmental domains can reinforce one another, while others generate competing demands. The therapeutic significance lies in the configuration experienced by a specific person at a specific point in care.

Acoustic environment

Healthcare acoustics involve more than noise reduction. Adaptive-acoustic models therefore treat appraisal as context-sensitive rather than as a direct response to a fixed sound threshold [13, 14]. In hospitals, this is important because alarms, conversations, equipment, footsteps, doors, clinical procedures, and family interactions may be necessary yet still disruptive.

Evidence from hospital wards indicates that acoustic treatments can improve aspects of the sound environment and occupant experience, while patients, visitors, and staff do not necessarily evaluate the same acoustic conditions in identical ways [15, 16]. Such differences make a universal acoustic target insufficient as a therapeutic strategy. A technically quieter environment may still provide poor speech privacy, contain unpredictable peaks, or interfere with communication.

Architectural-acoustic scholarship also emphasizes that meaningful assessment requires integration of physical measurement with perceptual and contextual evidence [17, 18]. Acoustic quality is therefore best understood as a balance among rest, communication, awareness, privacy, and work requirements.

Light and circadian environment

Lighting acts through visual, temporal, behavioral, and potentially circadian pathways. In healthcare workplaces, implemented circadian-lighting systems alter how staff experience the visual environment across the day, although subjective appraisal should not be interpreted as proof of biological circadian normalization [19]. Lighting design therefore needs to account for work timing, task visibility, alertness requirements, and differences between daytime and nighttime care.

Patient evidence provides a complementary pathway. Dynamic lighting has been associated with changes in sleep timing and duration among hospitalized patients [20, 21]. This supports the possibility that light timing can contribute to inpatient rest, but the inference should remain endpoint-specific. Sleep-related effects do not establish broader improvements in recovery, complications, or mortality. Therapeutic lighting should consequently be evaluated according to the outcome being targeted, the timing of exposure, the patient population, and interactions with nighttime care practices.

Thermal comfort and air quality

Thermal comfort in healthcare is strongly population- and context-dependent. Reviews identify variation across climate, building type, patient group, professional role, activity, clothing, and health status, while hospital field evidence shows that nurses may experience thermal conditions differently across seasons and work circumstances [22-24]. Standard thermal assumptions are therefore useful reference points rather than universal representations of healthcare comfort.

Patients may diverge further from conventional predictions. Studies comparing modeled thermal conditions with patient-reported experience indicate that standard approaches may not fully capture comfort in hospitalized populations, particularly under climate- and illness-specific conditions [25, 26]. The practical implication is that environmental management based exclusively on generalized neutrality can miss vulnerable or atypical users.

Shared healthcare spaces introduce an additional problem: occupants may prefer different thermal conditions simultaneously. Evidence comparing people receiving procedures with accompanying persons demonstrates that co-occupants in the same facility can exhibit different thermal preferences [27]. A room set point that appears acceptable at population level may therefore impose discomfort on a subgroup. This creates a genuine design and management trade-off rather than a measurement error.

Air quality adds another layer. Ventilation configurations can alter the transport and inhalation of airborne contaminants in hospital-room scenarios [28], while negative-pressure and isolation-room airflow strategies can change patterns of healthcare-worker aerosol exposure [29, 30]. These findings support careful ventilation design, but exposure modeling or tracer evidence should not be translated directly into claims about observed infection incidence.

Personalized environmental control offers one response to heterogeneous thermal and air-quality needs. Systematic evidence suggests that personalized systems can improve comfort and aspects of perceived or measured air quality, although evidence for broader health and performance outcomes is less consistent [11].

Personalization is therefore best viewed as a conditional strategy that expands adaptive opportunity rather than as a universal solution.

Privacy and personal control

Privacy and environmental control are related but distinct. Hospital-room research involving window blinds, daylight, views, and perceived control indicates that these factors can shape evaluations of the hospital and perceived care quality, but control does not operate uniformly across every condition [31, 32].

Control is also only meaningful when occupants can exercise it. Older adults describe multi-domain comfort partly through access to environmental adjustment and agency, yet mobility, cognition, technology, staffing practices, or institutional routines may constrain that agency [33]. In healthcare, an interface, blind, thermostat, door, or seating option cannot be assumed to provide autonomy merely because it exists.

The therapeutic contribution of personal control therefore depends on capability, permission, comprehension, and clinical appropriateness. In some circumstances, increased control may support comfort and dignity; in others, patients may depend on staff or family to act on their behalf. Environmental agency should consequently be treated as a relational resource rather than an architectural feature alone.

Nature and positive distraction

Nature-based and positively distracting environments are commonly proposed as restorative elements, but their operation is not reducible to the presence of greenery. Experimental work on hospital healing landscapes suggests that combinations of visual, auditory, and olfactory information can alter restorative responses, indicating that sensory congruence and multisensory composition may matter [34]. This broadens the concept from "view of nature" to a more complex restorative encounter.

At the same time, architectural interventions can produce different psychological and social effects depending on their design and context [35]. Positive distraction should therefore not be treated as universally beneficial or as a substitute for privacy, comfort, social connection, or clinical care. Its likely therapeutic role is supportive: redirecting attention, reducing environmental monotony, offering restorative opportunity, or enabling brief psychological distance from treatment and illness.

Spatial organization and social interaction

Spatial organization influences what occupants can see, reach, avoid, join, and control. Evidence from dementia-care settings suggests that layout and indoor environmental conditions can be associated with changes in behavior, demonstrating that space creates opportunities and constraints rather than functioning as a neutral container [36]. Such evidence should be interpreted cautiously because behavioral responses are highly person- and context-dependent, but it illustrates how environmental organization can participate in care processes.

Healthcare spaces must often support competing forms of interaction: clinical observation, private conversation, family presence, staff collaboration, social contact, and withdrawal. Spatial quality therefore depends on whether the arrangement allows occupants to move between desired states rather than forcing a single interaction pattern.

These interactions among thermal conditions, air quality, control, restorative opportunity, and spatial organization create different management responsibilities and different forms of environmental burden, summarized in **Table 2**.

Table 2. Interaction patterns linking thermal comfort, air quality, environmental control, and spatial organization in healthcare settings

Environmental situation	Primary mechanism	Who may benefit	Who may be disadvantaged	Management responsibility	Key boundary condition
Uniform temperature across a shared room	Centralized thermal standardization	Occupants near the assumed comfort range	Patients, staff, or family with different metabolic or activity requirements	Facility management with clinical input	Heterogeneous physiology and activity
Personalized local thermal adjustment	Expanded adaptive opportunity	Occupants able to understand and use controls	People with limited mobility, cognition, or access to controls	Facility management, nursing, assistive design	Actual ability to exercise control
Increased ventilation or directional airflow	Dilution or redirection of airborne contaminants	Staff and patients where exposure is reduced	Occupants experiencing drafts, noise, or thermal discomfort	Engineering and infection-prevention teams	Airflow pattern, room function, occupancy
Negative-pressure isolation configuration	Containment and directional air movement	Staff and adjacent occupants when appropriately designed	Isolated patient if thermal, acoustic, or social burdens increase	Engineering, infection control, clinical team	Door use, airflow stability, care workflow

Open or visually connected layout	Observation and social accessibility	Staff coordination and some socially engaged occupants	People requiring privacy or reduced stimulation	Design team and unit management	Care model, acuity, confidentiality needs
More enclosed/private spatial arrangement	Visual and social separation	Patients requiring privacy, quiet, or confidential interaction	Staff visibility and spontaneous social interaction may be reduced	Design and clinical governance	Monitoring need and patient preference
Access to adjustable blinds, doors, seating, or local controls	Perceived and actual environmental agency	Occupants able to make meaningful choices	Occupants dependent on staff/family assistance	Nursing, facility management, accessibility design	Capability, permission, safety
Restorative or multisensory retreat space	Attention restoration and reduced environmental monotony	Patients, families, and staff seeking temporary respite	Limited benefit where access is difficult or exposure is poorly matched	Facility planning and operational management	Accessibility, timing, sensory tolerance

Patient comfort pathway

Patient comfort emerges from the interaction between environmental exposure, bodily condition, perception, control, and care activity. Ward-level evidence shows that environmental satisfaction reflects multiple indoor domains [5], while dynamic lighting research demonstrates that temporal environmental interventions can influence sleep-related endpoints [20]. Thermal studies further show that patients may not conform to standard comfort predictions [26]. These findings make patient comfort a pathway of integration rather than an independent environmental domain.

Perceived control can modify this pathway. Window, daylight, blind, and view conditions influence how patients evaluate hospital environments, but the effects of control are not uniform [31]. Similarly, restorative environments may support psychological recovery or distraction under particular sensory combinations [34]. The patient pathway therefore includes both exposure and interpretation: what the environment does physically, how the patient can interact with it, and whether the resulting state is compatible with illness, treatment, rest, and personal preference.

Importantly, comfort should not be promoted into a surrogate for clinical effectiveness. Therapeutic environmental quality is strongest when claims remain matched to the endpoint actually observed.

Staff well-being and work-performance pathway

Healthcare staff occupy the same buildings under different conditions. Multi-domain indoor-environment research in workers indicates that environmental conditions can be associated with health, well-being, and productivity, although non-healthcare evidence should remain supporting rather than definitive for hospital staff [37, 38].

Hospital evidence adds greater specificity. Staff and patients can differ in their acoustic evaluations [16]; implemented lighting systems are experienced for work timing and task demands [19]; nurses show context-dependent thermal preferences [24]; and ventilation design can influence modeled or experimental exposure pathways relevant to healthcare-worker protection [29]. These findings indicate that a facility optimized around the sedentary patient cannot be assumed to provide equivalent conditions for mobile staff.

The workforce pathway is therefore operational as well as experiential. Environmental burdens may affect concentration, communication, fatigue, thermal strain, perceived support, or the effort required to perform routine work. Yet the same caution applies as in patient research: associations with environmental satisfaction or perceived productivity should not be converted automatically into causal claims about error rates, retention, or clinical performance.

Family and caregiver experience

Family members and informal caregivers are neither patients nor staff, and their environmental needs should not be treated as extensions of either group. Shared-space thermal evidence demonstrates that accompanying persons can prefer different conditions from patients undergoing procedures [27]. Older-adult research likewise shows that comfort and environmental agency are shaped by the ability to adapt and exercise control [33]. Family needs may therefore conflict with patient needs even where both groups occupy the same room.

Supportive-care environments illustrate a broader dimension. Place-based research on cancer-support settings shows how material, social, and affective affordances can support refuge, interaction, and hope [36]. These findings are not equivalent to evidence from acute inpatient palliative units, but they demonstrate that care environments influence how families and patients engage with support, privacy, sociality, and emotional respite.

Caregiving also introduces burdens that cannot be explained by design alone. Reviews of home-based palliative care show that informal carers may experience both support and additional responsibility depending on how care is organized [37]. Environmental quality therefore intersects with, but does not replace, the distribution of care

work. A quiet room, adjustable lighting, accessible seating, or private family space may facilitate presence, but cannot substitute for adequate communication, clinical support, respite, or coordination.

This distinction is important for the transition into palliative-care analysis. The family pathway connects environmental experience with participation in care, emotional processing, privacy, rest, and sustained presence, while remaining embedded in broader relational and service systems. **Figure 1** summarizes the article-specific mechanisms established to this point and distinguishes evidence-supported pathways from proposed cross-domain synthesis.

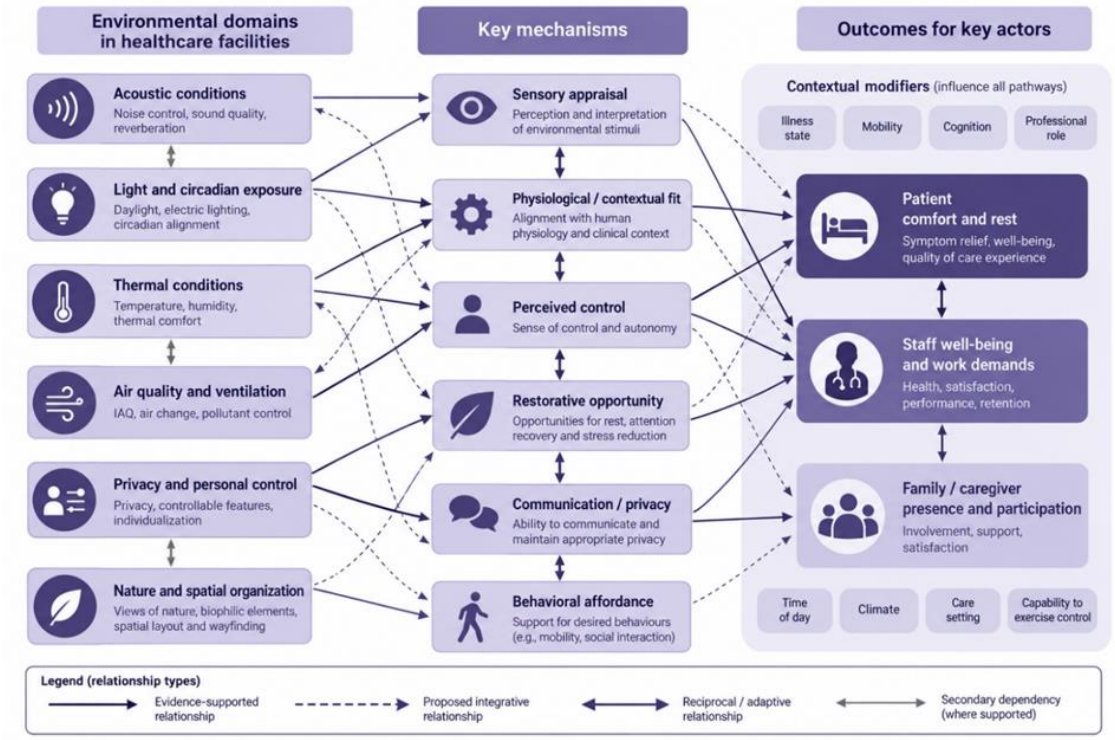


Figure 1. Environmental conditions, adaptive resources, and actor-specific pathways linking healthcare settings with patient, workforce, and family experience

Pathways to palliative care quality

Palliative-care quality is particularly sensitive to the distinction between environmental contribution and environmental determinism. Experiences of serious illness and end-of-life care are organized through relationships, support, meaning, uncertainty, and changing dependency, so the physical setting operates within a larger care system rather than above it [39]. Environmental quality may nonetheless influence whether privacy is achievable, whether family can remain comfortably present, whether difficult conversations can occur without unnecessary intrusion, and whether patients can alternate between social contact and withdrawal.

Place and service context further modify these pathways. Rural palliative-care evidence demonstrates that geography and service configuration shape patient and family experience [40], while hospice research shows that places may acquire positive or negative meanings that influence willingness to approach services [41]. These findings expand the therapeutic-environment concept beyond room conditions: access and acceptability can depend partly on what a care setting represents socially and emotionally.

Environmental support also operates alongside interventions that are not architectural. Transitional palliative-care interventions can assist family caregivers through structured clinical and relational support [42], and qualitative syntheses of hospital end-of-life care show that family experience depends on communication, emotional support, involvement, and organizational responsiveness as well as the physical setting [43]. A well-designed facility can make these processes easier to enact, but cannot substitute for them.

Proposed environment–comfort–workforce–care framework

The proposed framework therefore treats healthcare environmental quality as a set of interacting conditions that act through four partially separable pathways: patient comfort and rest, staff well-being and work demands, family participation and caregiver experience, and care-process quality. Personalized control can modify some relationships by allowing occupants to adapt exposure [11], while place-based supportive environments illustrate how physical and social affordances can become mutually reinforcing [36].

The framework does not assign equal weight to every domain or assume that all relationships are causal. Environmental quality becomes therapeutically meaningful when the configuration reduces avoidable burden, enables care-relevant activity, or improves the conditions under which clinical and relational work occurs.

Table 3. Application and boundary-condition matrix for the Environment–Comfort–Workforce–Care Framework

Decision situation	Environmental question	Relevant actor pathway	Appropriate application	Boundary requiring caution	Interpretation if evidence remains uncertain
Persistent patient discomfort despite technically acceptable room conditions	Are several domains interacting rather than one parameter failing?	Patient comfort	Review acoustic, thermal, lighting, control, and spatial conditions together	Illness state may dominate environmental preference	Treat environmental adjustment as a testable supportive intervention
Staff report acceptable patient conditions but poor work experience	Are staff exposure, activity, timing, or workflow materially different?	Workforce	Assess staff-specific acoustic, lighting, thermal, and air-quality demands	Patient-centered metrics may not represent mobile staff	Separate staff outcome measurement from patient satisfaction
Patient and family preferences conflict	Can environmental choice be individualized or temporally negotiated?	Patient and family	Use local control, zoning, scheduling, or alternative spaces where feasible	Clinical safety and patient vulnerability may limit choice	Make the trade-off explicit rather than forcing one universal optimum
Privacy improvement reduces observation or social contact	What function is most important at this stage of care?	Patient, family, staff	Match privacy level to clinical monitoring, interaction, and confidentiality needs	Acuity and cognitive status may alter acceptable separation	Treat privacy as adjustable and context-dependent
Ventilation change improves exposure control but worsens thermal or acoustic experience	Can engineering objectives be achieved without transferring burden to another domain?	Patient and workforce	Evaluate domains jointly during commissioning and operation	Infection-control requirements may supersede comfort temporarily	Document the trade-off and seek compensatory measures
Restorative spaces exist but are rarely used	Is the resource accessible, understandable, and compatible with care routines?	Patient, family, staff	Examine access, mobility, timing, wayfinding, and operational permission	Severe illness or workload may prevent use	Do not infer therapeutic benefit from availability alone
Palliative-care environment appears physically supportive but families remain distressed	Are communication, staffing, service coordination, or caregiver support the dominant mechanisms?	Family and care quality	Pair environmental review with care-process assessment	Environmental contribution may be secondary	Avoid attributing relational or service failures to space

Synergies and trade-offs

Environmental domains can reinforce one another when, for example, adequate control allows occupants to adapt thermal or visual conditions, or when multisensory restorative settings combine compatible visual and auditory qualities [34]. Yet improvement in one domain may impose costs elsewhere. Greater ventilation may create drafts or noise; increased openness may improve observation but reduce privacy; daylight strategies may conflict with glare, heat, or confidentiality; and patient–family thermal preferences may diverge in shared rooms [27].

The practical implication is that optimization should occur across configurations rather than isolated metrics. A therapeutic environment is not the sum of maximized individual domains. It is a negotiated balance in which benefits, burdens, and priorities differ by occupant and care phase.

Boundary conditions

The framework is bounded by population, place, time, method, and capability. Thermal evidence varies by climate and patient status [23], standard models may fit hospitalized patients imperfectly [26], and environmental control depends on whether occupants can actually use available options [33]. Acoustic interpretation is likewise context-sensitive [13], while worker evidence obtained outside healthcare cannot be transferred directly to clinical staff [12].

Care setting is particularly important for palliative interpretation. Rural care models, hospice environments, hospital wards, cancer-support centres, home care, and specialist palliative services organize relationships and environmental exposure differently [40]. Consequently, associations observed in one setting should generate hypotheses for another rather than automatic design prescriptions.

Design and facility-management implications

Facility design and management should prioritize environmental adjustability, cross-domain monitoring, and actor-specific assessment. Evidence from hospital acoustic treatment [15], circadian-lighting implementation [19], ventilation experiments [28], and personalized environmental systems [11] supports this more conditional approach.

Operational management is as important as initial design. Facility performance should therefore be evaluated as the interaction between physical provision and actual use.

Figure 2 translates these principles into a decision architecture that preserves environmental trade-offs, competing care-process explanations, and evidence boundaries.

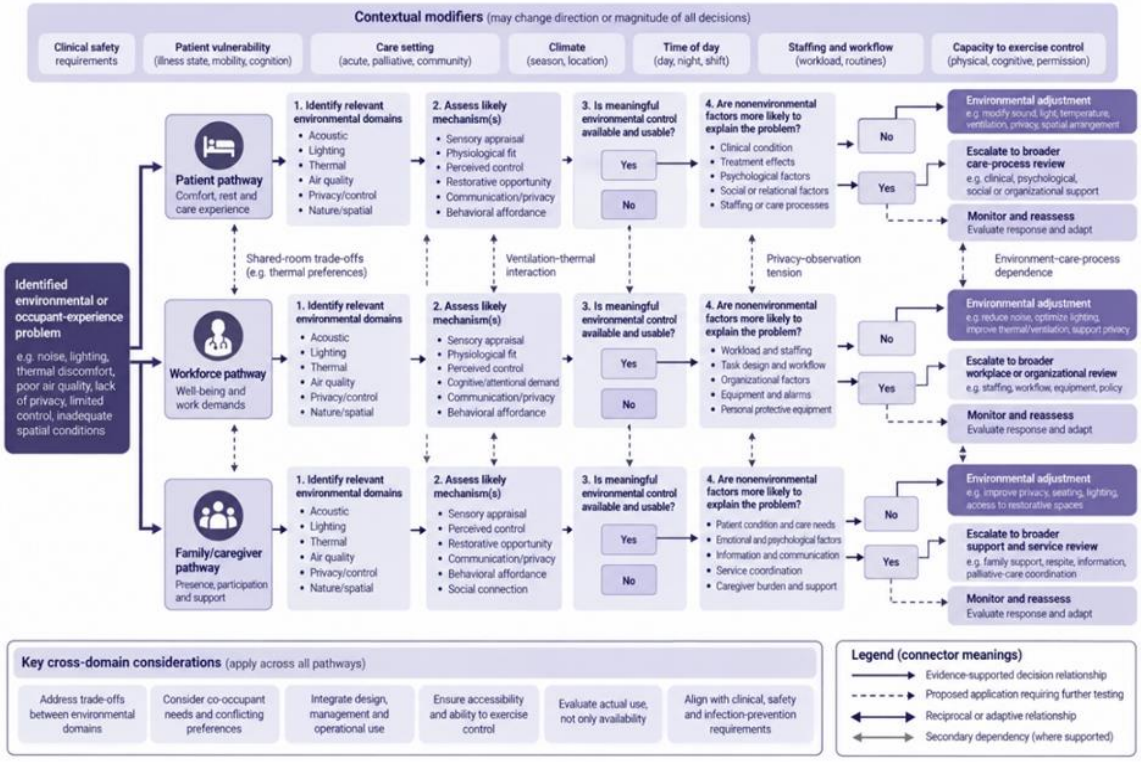


Figure 2. Decision architecture for applying environmental interventions under competing comfort, workforce, family, and care priorities

Nursing implications

Nursing practice sits at the interface between infrastructure and lived environmental experience. Palliative-care ethnography further shows that trust and confidential conversation develop through presence, timing, silence, continuity, and protection from disruptive conditions [44].

Nursing responsibility should not be expanded into ownership of building-system failures. Its distinctive contribution is environmental mediation: recognizing when surroundings are affecting care, using available controls appropriately, advocating for adjustments, and identifying when a problem requires facility, engineering, infection-control, or organizational action.

Research agenda

Future studies should test configurations rather than continuing to examine environmental domains exclusively in isolation. Research should distinguish availability of control from the capacity to exercise it and should examine whether personalization reduces conflict among co-occupants.

Longitudinal work is also needed to separate immediate comfort from downstream health, work, or care outcomes. Such designs would directly test where the proposed framework adds explanatory value.

Results and Discussion

The evidence supports a conditional rather than universal relationship between environmental quality and healthcare outcomes. Patients, staff, and family members may respond differently to the same thermal, acoustic, visual, spatial, or control conditions, and improvement in one domain can create burden in another.

The principal conceptual contribution is therefore a shift from environmental quality as a facility attribute to environmental quality as a configuration experienced through distinct pathways. This interpretation also limits overstatement. Environmental design is most defensible as an enabling or constraining condition within these processes.

Limitations

This synthesis combines evidence from healthcare facilities with selected nonclinical built-environment studies where direct hospital evidence is limited. The proposed cross-domain and cross-actor relationships should therefore be treated as testable synthesis rather than validated causal structure.

Conclusion

Environmental quality in healthcare facilities is most usefully understood as a configuration of interacting acoustic, lighting, thermal, air-quality, privacy, control, restorative, and spatial conditions rather than as a single exposure. These conditions can contribute to patient comfort, staff well-being, family experience, and the circumstances under which palliative care is delivered, but their effects differ across occupants, settings, time, illness states, and opportunities for adaptation. Design and facility management are therefore strongest when they preserve adjustability, recognize trade-offs, and distinguish environmental burden from problems rooted primarily in care processes or service organization. A therapeutic environment is not one that maximizes every environmental parameter; it is one that enables care-relevant needs to be met with the least avoidable environmental burden under the conditions of a particular patient, workforce, family, and care setting.

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