

**PRESSURE INJURY AND CONTEMPORARY CARE: CLINICAL GOVERNANCE,
TECHNOLOGICAL INNOVATION, AND THE RECOGNITION OF THE
MULTIPROFESSIONAL TEAM IN PERSPECTIVES**

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Abstract

Pressure injuries (PIs) remain among the most frequent, costly, and preventable adverse events in contemporary health care, serving as a sensitive indicator of quality of care and patient safety. This article aims to analyze, in light of current scientific literature, the multidimensional nature of PIs by examining the pathophysiological, technological, organizational, and human determinants affecting their prevention and treatment. This is a narrative review with a qualitative and critical-analytical approach, based on national and international literature published predominantly between 2020 and 2026. The findings indicate that persistently high incidence rates do not result from gaps in technical and scientific knowledge, but rather from systemic failures in clinical governance, understaffing, and the symbolic, technical, and financial undervaluation of the non-physician professionals who sustain preventive

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practices on a daily basis: nurses, nursing technicians, physiotherapists, nutritionists, occupational therapists, and social workers. The role of emerging technologies, such as pressure sensors, artificial intelligence applied to early diagnosis, and clinical decision support systems, is also discussed, demonstrating that their effectiveness is inseparable from investment in human capital. It is concluded that sustainably reducing the incidence of PIs requires overcoming fragmented models of care by establishing organizational cultures that recognize the multiprofessional team as a strategic, rather than ancillary, component of patient safety.

Keywords: Clinical Governance, Health Technology, Multiprofessional Team, Patient Safety, Pressure Injury.

INTRODUCTION

Over the past two decades, patient safety has become a cornerstone of quality-of-care policies worldwide and has been reaffirmed by the World Health Organization as a global strategic priority since the launch of the Global Patient Safety Action Plan 2021–2030 (World Health Organization, 2021).

Within this context, pressure injuries (PIs) rank among the most extensively studied and monitored, yet paradoxically most persistent, adverse events, constituting an epidemiological paradox: despite the extensive body of scientific literature, the widespread dissemination of international protocols, and technological advances in support surfaces and advanced dressings, their incidence in hospitals remains high across different care settings, particularly in intensive care units, geriatric units, and long-term care services (Almeida; Ferreira, 2023).

Traditionally, the understanding of PIs has been grounded in a biomechanical perspective centered on the relationship among pressure, shear, friction, and duration of exposure over bony prominences. More recent literature, however, has shown that although this perspective remains necessary, it is insufficient to explain the persistence of the phenomenon (Coelho; Nogueira, 2022).

A broader understanding has therefore emerged, viewing PIs as the result of the intersection among individual biological vulnerability, weaknesses in clinical surveillance systems, insufficient material and human resources, and, of particular relevance to this study, fragilities in the interprofessional dynamics that sustain continuous care (Ribeiro et al., 2024).

The terminological change introduced by the National Pressure Injury Advisory Panel (NPIAP), replacing “pressure ulcer” with “pressure injury,” was not merely a semantic adjustment but reflected a significant paradigm shift. It acknowledged that not all pressure-related tissue damage necessarily progresses to open ulceration and that medical devices, ventilatory support technologies, and invasive monitoring have themselves become significant causes of tissue injury (Silva; Andrade, 2023).

This conceptual shift also accompanied the growing prevalence of highly complex clinical profiles observed in the post-pandemic setting, in which sequelae from severe respiratory infections, hypercoagulable states, and prolonged periods of mechanical ventilation in the prone position revealed new dimensions of tissue vulnerability that had received little attention in the classical literature (Teixeira et al., 2022; Nascimento; Rocha, 2023).

Against this backdrop of increasing clinical complexity, one element remains systematically underestimated in institutional analyses: the strategic role, and concurrent undervaluation, of the multiprofessional team directly and indirectly involved in preventing and managing PIs. Nurses, nursing technicians and assistants, physiotherapists, nutritionists, occupational therapists, clinical pharmacists, and social workers form a care network whose effectiveness depends not only on individual technical competence but also on institutional recognition, decision-making autonomy, and adequate working conditions (Martins; Souza, 2024).

Recent literature has consistently demonstrated that work environments characterized by understaffing, excessive workloads, rigid professional hierarchies, and the marginalization of non-medical knowledge are directly correlated with higher rates of preventable adverse events, among which PIs occupy a prominent position (Fernandes; Lopes, 2022; Oliveira et al., 2023).

Given this situation, the general objective of this article is to provide a critical analysis, in light of current scientific literature, of the etiopathogenic, technological, organizational, and human dimensions involved in the contemporary prevention and management of PIs, with particular emphasis on the undervaluation of the multiprofessional team as a frequently overlooked institutional risk factor.

Its specific objectives are to: (i) systematize recent advances in the pathophysiological understanding of PIs in populations with highly complex clinical conditions; (ii) map emerging technologies applied to prevention and early diagnosis; (iii) discuss the organizational determinants influencing the effectiveness of preventive strategies; and (iv) propose pathways for revaluing the multiprofessional team institutionally as a structural patient safety strategy.

The relevance of this study lies in two dimensions. From an academic perspective, it contributes to updating the scientific debate on a topic traditionally addressed from a predominantly technical standpoint by incorporating a sociotechnical and organizational interpretation that has received limited integrated attention in the national literature.

From a social perspective, the study directly engages with concrete problems faced by health care institutions, health care workers, and patients by demonstrating that PI prevention is not merely a matter of clinical protocol, but also of institutional justice, decent working conditions, and the effective recognition of professional groups historically undervalued within the symbolic hierarchy of health care.

METHODOLOGY

This is a qualitative, critical-analytical narrative literature review guided by the following research question: “What contemporary clinical, technological, and organizational determinants influence the prevention and management of pressure injuries, and how is recognition of the multiprofessional team related to the effectiveness of these strategies?”

The narrative review method was selected because of its suitability for studies seeking to connect different fields of knowledge, including pathophysiology, health technology, hospital management, and

professional ethics. It allows for an interpretive and reflective synthesis that extends beyond the mere tabulation of findings typical of strictly systematic reviews, while nevertheless maintaining methodological rigor in the selection and analysis of sources (Rother, 2022).

The literature search was conducted in the Scientific Electronic Library Online (SciELO), Latin American and Caribbean Health Sciences Literature (Literatura Latino-Americana e do Caribe em Ciências da Saúde, LILACS), Medical Literature Analysis and Retrieval System Online (MEDLINE/PubMed), Cumulative Index to Nursing and Allied Health Literature (CINAHL), and Cochrane Library databases. Technical and regulatory documents issued by leading international organizations were also consulted, including the European Pressure Ulcer Advisory Panel (EPUAP), the National Pressure Injury Advisory Panel (NPIAP), and the Pan Pacific Pressure Injury Alliance (PPPIA), particularly their most recent joint international guideline.

The following controlled descriptors, indexed in the Health Sciences Descriptors (Descritores em Ciências da Saúde, DeCS) and Medical Subject Headings (MeSH) vocabularies, were combined using the Boolean operators AND and OR: Pressure Injury; Patient Safety; Interprofessional Relations; Clinical Governance; Patient Care Team; Biomedical Technology; and Working Conditions.

The inclusion criteria were: (a) original articles, systematic reviews, meta-analyses, and clinical guidelines published between January 2020 and 2026; (b) full texts available in Portuguese, English, or Spanish; and (c) studies directly or indirectly addressing clinical, technological, organizational, or ethical aspects related to PI prevention and management.

The exclusion criteria included isolated case studies without a robust theoretical foundation, conference abstracts that had not been expanded into full articles, and publications predating 2020, except for foundational conceptual milestones of recognized historical relevance to the field whose conceptual currency was confirmed in subsequent publications.

The selection process consisted of three stages: review of titles and abstracts, full-text review of preselected articles, and critical content analysis guided by the following a priori thematic categories: (1)

contemporary etiopathogenesis; (2) emerging risk factors and highly vulnerable populations; (3) prevention and diagnostic technologies; (4) clinical governance and organizational culture; (5) multiprofessional team dynamics and recognition; and (6) the economic and ethical dimensions of care.

Data were analyzed through qualitative triangulation, comparing biomedical evidence with health management studies and literature on teamwork to identify convergences, contradictions, and gaps in current scientific research. The absence of a formal risk-of-bias assessment for the included studies is acknowledged as a methodological limitation inherent to the narrative review design and as a characteristic distinguishing this method from systematic reviews per se. This limitation was mitigated by prioritizing sources of high scientific relevance, well-established technical and regulatory documents, and studies with robust methodological designs.

DEVELOPMENT

CONTEMPORARY ETIOPATHOGENESIS: BEYOND THE CLASSICAL BIOMECHANICAL MODEL

The classical model for understanding PIs, based primarily on the relationship among external pressure, duration of exposure, and tissue tolerance, remains scientifically valid but is currently insufficient to explain all cases observed in contemporary clinical practice (Coelho; Nogueira, 2022). Recent literature has adopted a broader understanding that incorporates microvascular, inflammatory, metabolic, and immunological factors into the pathophysiological process underlying pressure-related tissue injury.

Particularly noteworthy in this regard is the concept of “sustained tissue perfusion insufficiency,” according to which even pressures considered mild to moderate can cause significant tissue damage when associated with low cardiac output, peripheral hypoperfusion, interstitial edema, or microcirculatory dysfunction (Ribeiro et al., 2024). This phenomenon became especially relevant in the post-pandemic context, in which sequelae from severe SARS-CoV-2 respiratory infections revealed hypercoagulability,

microthrombosis, and systemic endothelial dysfunction, factors that significantly increased tissue vulnerability among critically ill patients even when preventive protocols had been properly implemented (Teixeira et al., 2022; Nascimento; Rocha, 2023).

Furthermore, the concept of the “ischemia-reperfusion cycle” has become established. Under this model, repeated episodes of compression and pressure relief, even when performed at the intervals recommended by classical guidelines, may cause cumulative oxidative damage in tissues already compromised by underlying comorbidities such as diabetes mellitus, peripheral vascular disease, and protein-calorie malnutrition (Almeida; Ferreira, 2023).

This finding has significant practical implications because it calls into question the sufficiency of standardized repositioning protocols and reinforces the need to individualize clinical management according to each patient’s specific metabolic and hemodynamic profile.

Another important conceptual advance concerns the clinical differentiation between pressure injury and incontinence-associated dermatitis (IAD). Although these conditions are pathophysiologically distinct, they frequently coexist in highly dependent patients and display similar clinical presentations, creating a significant risk of underreporting or misclassification (Santos; Vieira, 2023).

Recent literature emphasizes that accurately distinguishing between these conditions is not merely an academic exercise but a direct determinant of appropriate therapeutic management. Continuing education for nursing teams is therefore critical to reducing diagnostic errors in this area.

HIGHLY VULNERABLE POPULATIONS AND NEW RISK PROFILES

The growing prevalence of complex clinical profiles among recent generations of hospitalized patients has substantially broadened the range of populations considered at high risk of developing PIs. Older adults with multiple comorbidities, individuals receiving palliative care, patients with obesity and mobility difficulties, neonates and infants in intensive care units, and patients undergoing prolonged

mechanical ventilation in the prone position currently constitute the most vulnerable groups described in the literature (Nascimento; Rocha, 2023).

Obesity warrants particular attention as an emerging and increasingly prevalent risk factor given the marked rise in its global prevalence. Patients with a high body mass index present specific challenges related to pressure distribution on conventional support surfaces, difficulties in safe mobilization by care teams, which increase the risk of musculoskeletal strain among nursing and physiotherapy professionals, and a greater predisposition to moist skin folds, which contribute to the development of both PIs and moisture-associated dermatitis (Vasconcelos; Pinheiro, 2022).

Concurrently, recent literature has drawn attention to racial bias in the early identification of PIs, particularly at their initial stages, which are characterized by non-blanchable erythema. In more deeply pigmented skin, the classical signs of cutaneous hyperemia may not be as visually apparent as they are in lighter skin tones (Vasconcelos; Pinheiro, 2022).

This finding has prompted a critical reassessment of traditional risk assessment and staging instruments, such as the Braden Scale, indicating the need to supplement visual examination with systematic palpation techniques, including assessment of local temperature, tissue consistency, and tenderness, as well as to develop imaging technologies capable of detecting subclinical changes independently of skin tone. This topic will be revisited in the discussion of technological innovation.

Pediatric and neonatal populations, in turn, exhibit anatomical and physiological characteristics that require a differentiated preventive approach. The immaturity of the skin barrier, the unfavorable ratio of body surface area to mass, and the frequent need for medical devices, including catheters, tubes, saturation sensors, and noninvasive ventilatory support interfaces, make these populations particularly susceptible to so-called medical device-related pressure injuries (MDRPIs). This category has received increasing attention in the literature as an etiologically distinct subtype whose prevention fundamentally depends on coordinated, collaborative action among nursing, respiratory physiotherapy, and clinical engineering teams in selecting and adjusting interfaces (Teixeira et al., 2022).

EMERGING TECHNOLOGIES: POTENTIAL AND STRUCTURAL LIMITATIONS

Technological advances in PI prevention and early diagnosis have been remarkable over the past decade, ranging from dynamic support surfaces with programmable pressure redistribution systems to wearable devices capable of continuously monitoring pressure exposure in real time and alerting care teams to the need for repositioning (Martins; Souza, 2024).

Capacitive pressure sensors integrated into smart mattresses can generate dynamic body pressure maps, enabling personalized interventions and moving beyond the generic logic of repositioning patients every two hours, a practice historically implemented in a standardized and insufficiently individualized manner.

At the same time, artificial intelligence (AI) applied to diagnostic imaging has shown promise in the early identification of subclinical tissue changes through machine-learning algorithms trained to recognize patterns of erythema, temperature change, and variations in tissue perfusion based on thermal and high-resolution photographic images (Oliveira et al., 2023).

Recent studies have demonstrated greater diagnostic sensitivity than conventional visual assessment, particularly in populations with more deeply pigmented skin, thereby partially mitigating the racial bias discussed above. Clinical Decision Support Systems (CDSSs) integrated into electronic health records have also been adopted to calculate risk scores automatically, issue reassessment alerts, and recommend individualized preventive interventions based on clinical data updated in real time.

Nevertheless, the literature emphatically indicates that however sophisticated such technologies may be, they neither replace human clinical judgment nor operate autonomously and effectively in the absence of adequately staffed, qualified teams capable of interpreting alerts and translating them into effective care interventions (Fernandes; Lopes, 2022).

Several studies document the phenomenon of “alert fatigue,” in which the excessive number of electronic notifications generated by decision support systems, combined with overburdened and understaffed teams, leads to the progressive desensitization of professionals, thereby undermining the

very effectiveness that the technology was intended to ensure (Ribeiro et al., 2024). This finding is central to the argument advanced in this article: technology is a necessary but never sufficient condition for sustainably reducing PI incidence, because its actual effectiveness intrinsically depends on the quality, availability, and recognition of the human capital responsible for its daily operation.

Furthermore, inequalities in access to these technologies among institutions of different sizes and across different regions must be considered, particularly in resource-constrained public health settings, as seen in a substantial portion of the Brazilian and Latin American health care network. State-of-the-art alternating-pressure mattresses, continuous monitoring systems, and decision support software remain restricted in many cases to large private hospitals or centers of excellence, thereby exacerbating existing inequities in access to patient safety interventions (Santos; Vieira, 2023).

This observation reinforces the need for public policies that combine technological investment with distributive equity, lest innovation increase rather than reduce disparities in health care.

CLINICAL GOVERNANCE AND ORGANIZATIONAL CULTURE AS STRUCTURAL DETERMINANTS

Clinical governance, understood as the set of institutional structures, processes, and responsibilities aimed at continuously ensuring quality of care and patient safety, is central to explaining why PI incidence remains high in many settings despite the existence of well-established technical and scientific knowledge (Oliveira et al., 2023). Recent literature converges on the diagnosis that the gap lies not primarily in “knowing what to do,” but in “being able to do it systematically, continuously, and sustainably.” This is a characteristically organizational rather than merely technical problem.

Particularly relevant in this regard is the concept of a “patient safety culture,” understood as the set of shared values, beliefs, and practices that determine the priority accorded to safety in an institution’s day-to-day decisions (Fernandes; Lopes, 2022).

Organizations characterized by rigid hierarchies, vertical communication that is largely unreceptive to contributions from non-medical professional groups, and the absence of effective mechanisms for reporting and learning from adverse events tend to perform systematically worse on PI indicators, regardless of the availability of technological resources and formally established protocols (Martins; Souza, 2024).

One particularly relevant finding concerns the consistent association between nurse staffing levels and PI incidence. Recent multicenter studies have demonstrated that every decrease in the nurse-to-patient ratio below the parameters recommended by professional councils and specific legislation correlates with a statistically significant increase in the incidence of preventable adverse events. PIs are particularly prominent among these events because of their high sensitivity to variations in repositioning frequency, skin inspection, and moisture management (Almeida; Ferreira, 2023).

This evidence reinforces the conclusion that understaffing is not merely an administrative or budgetary issue, but a genuine clinical determinant of care outcomes that should be addressed with the same scientific rigor devoted to other biomechanical or pathophysiological risk factors.

Furthermore, fragmented care, manifested in the absence of structured multiprofessional rounds, asynchronous and poorly documented communication among professional groups, and the lack of institutional protocols formalizing shared responsibility for PI prevention, has been identified as a recurring systemic failure (Coelho; Nogueira, 2022).

The health management literature suggests that introducing care bundles, consisting of evidence-based interventions implemented in a coordinated and simultaneous manner, yields better results than isolated interventions. This is precisely because bundles require and foster systematic cooperation among different professional groups, distributing preventive responsibility more equitably and making it less exclusively centered on the nursing team.

THE MULTIPROFESSIONAL TEAM AS A STRATEGIC COMPONENT: RECOGNITION, AUTONOMY, AND WORKING CONDITIONS

This theme constitutes the central argumentative core of this article. Although contemporary scientific literature formally recognizes the multiprofessional nature of PI prevention, its citation practices and the institutional models it describes often reproduce a symbolic hierarchy that assigns nearly exclusive centrality to physicians and, to a lesser extent, nursing professionals, while relegating the contributions of physiotherapists, nutritionists, occupational therapists, clinical pharmacists, and social workers to a secondary position (Ribeiro et al., 2024).

This hierarchy is empirically unjustifiable in light of the available evidence. The role of clinical nutrition, for example, is recognized as a direct determinant of tissue healing and the skin's resistance to injury through the correction of protein-calorie malnutrition, hypoalbuminemia, and specific micronutrient deficiencies, including zinc, vitamin C, and arginine (Vasconcelos; Pinheiro, 2022).

Nevertheless, in many institutions, nutritionists remain limited to occasional consultations that are poorly integrated into risk assessment routines. Nutritional assessment is rarely included as a formal and mandatory step in PI prevention protocols, despite explicit recommendations in the most recent international EPUAP/NPIAP/PPPIA guidelines.

Similarly, physiotherapy plays a critical role in early mobilization, appropriate therapeutic positioning, and the prevention of contractures and deformities that increase exposure to at-risk areas. Its role is particularly relevant for critically ill patients receiving mechanical ventilation and for those placed in the prone position (Nascimento; Rocha, 2023).

Occupational therapists, in turn, make unique contributions by adapting support surfaces, recommending customized orthoses and positioning devices, and instructing family caregivers on the continuity of care in the home. This dimension is frequently overlooked in the predominantly hospital-centered analyses found in the literature.

The role of social workers also warrants attention. Their contributions are systematically rendered invisible in technical discussions of PIs despite their demonstrated relevance in identifying socioeconomic vulnerabilities that compromise adherence to preventive care in the home, such as the absence of family support, precarious housing conditions, and difficulty accessing basic supplies, including dressings, positioning pads, and specialized mattresses, after hospital discharge (Santos; Vieira, 2023).

Neglecting this social dimension helps explain high readmission rates associated with worsening PIs among patients discharged from inpatient care. This represents a gap in care that extends beyond the boundaries of the hospital and underscores the need for stronger coordination with primary care and social assistance services.

Recent literature on teamwork in health care has also emphasized the symbolic and psychosocial dimensions of professional undervaluation. Qualitative studies show that nursing technicians and assistants, who in daily practice perform most direct repositioning, hygiene, and skin inspection activities, frequently report a sense of institutional invisibility, compensation that is inconsistent with their level of responsibility, and exclusion from decision-making processes concerning the very protocols they are paradoxically tasked with implementing (Fernandes; Lopes, 2022).

This finding is particularly troubling because it suggests that the professional group most critical to the practical effectiveness of PI prevention is simultaneously one of the least heard in institutional clinical governance processes, revealing a structural mismatch between operational responsibility and decision-making power.

Accordingly, revaluing the multiprofessional team should not be understood as merely rhetorical recognition, but as a structural patient safety strategy that can be operationalized through concrete measures: (i) the formal and mandatory inclusion of all relevant professional groups in institutional PI prevention protocols, with clearly defined duties and responsibilities; (ii) the establishment of structured, periodic multiprofessional rounds, with the contributions of each professional group formally

documented; (iii) the effective participation of representatives from nursing, physiotherapy, nutrition, and social services on institutional patient safety and quality-of-care committees; (iv) staffing levels consistent with recognized technical parameters, thereby preventing excessive workloads that compromise the quality of clinical surveillance; and (v) continuous investment in interprofessional continuing education that moves beyond isolated and fragmented training by professional category and promotes collaborative learning based on actual clinical cases (Martins; Souza, 2024).

ECONOMIC AND ETHICAL DIMENSIONS OF CARE

From an economic standpoint, the cost of treating established PIs is substantially higher than the investment required to prevent them. Although this fact has been extensively documented in the health economics literature, it has yet to be adequately incorporated into hospital managers' decision-making processes (Oliveira et al., 2023).

Advanced dressings, adjunctive therapies such as topical negative pressure therapy, prolonged hospital stays, an increased risk of secondary infection, and the potential need for reconstructive surgery significantly increase the direct and indirect costs associated with each case. These figures do not include intangible costs related to pain, psychological distress, and loss of quality of life for patients and their family caregiving networks.

This disconnect between the clear economic rationale for prevention and persistent underinvestment in human resources reveals an inherently ethical dimension of the problem. The literature has characterized the high incidence of preventable PIs as a form of “silent institutional violence” insofar as it results largely from organizational choices, rather than unavoidable clinical circumstances, that prioritize short-term cost containment over structural investments in staffing and working conditions (Coelho; Nogueira, 2022).

From this perspective, PI prevention transcends the technical dimension and becomes a matter of institutional justice, requiring managers, public policymakers, and clinical leaders to assume explicit

shared responsibility for the structural conditions that either enable or impede excellence in day-to-day care.

DISCUSSION

The synthesis of the literature analyzed supports the conclusion that persistently high PI incidence, despite well-established technical and scientific knowledge and significant technological advances, constitutes an essentially sociotechnical phenomenon in which biomechanical, technological, and organizational determinants interact in complex and nonlinear ways.

The central hypothesis advanced in this article, namely that the undervaluation of the multiprofessional team constitutes an underestimated institutional risk factor, is consistently supported by multiple strands of recent literature, although these strands are seldom integrated into a single analytical framework.

First, the conceptual evolution of PI pathophysiology, including the incorporation of microvascular, inflammatory, and medical device-related factors, has not been accompanied to the same extent by a corresponding reformulation of the organizational models responsible for putting this knowledge into practice in day-to-day care. A significant mismatch persists between the growing sophistication of technical and scientific knowledge and, in many settings, the rudimentary structural working conditions provided to the teams responsible for applying it.

Second, the analysis of emerging technologies reveals a recurring pattern in the health care innovation literature: a tendency to place disproportionate expectations on technology's ability to independently solve problems that are structurally and fundamentally human and organizational.

Smart sensors, artificial intelligence algorithms, and decision support systems represent genuine advances and should not be underestimated. Their actual effectiveness, however, depends on the existence of adequately staffed, technically qualified, and institutionally empowered teams capable of translating technological alerts into timely clinical action. The “alert fatigue” documented in the literature

paradigmatically illustrates how technology, without corresponding investment in human capital, can even have counterproductive effects.

Third, the discussion of clinical governance and organizational culture helps explain why technically appropriate protocols frequently fail to achieve sustainable implementation. The absence of effective mechanisms for multiprofessional accountability, rigid workplace hierarchies, and chronic understaffing, particularly in nursing but also in physiotherapy, nutrition, and social services, constitute structural barriers that no isolated technological advance can overcome.

One point of tension warranting further critical reflection is the risk that institutions may adopt the discourse of “multiprofessional revaluation” only rhetorically, without translating it into concrete measures regarding staffing levels, appropriate compensation, and effective participation in decision-making.

The health management literature repeatedly warns of the phenomenon of “symbolic isomorphism,” whereby organizations adopt discourses and terminology aligned with socially valued trends, such as “humanization” and “patient-centered care,” without those discourses corresponding to genuine structural changes in working conditions and internal decision-making processes. Managers and policymakers committed to sustainably reducing PI incidence must take this risk into account. Otherwise, well-intentioned initiatives may be reduced to occasional awareness campaigns with no lasting impact on care indicators.

Finally, the ethical and economic dimensions discussed reinforce the conclusion that PI prevention should not be treated solely as a technical or clinical matter, but as an issue of institutional policy and distributive justice requiring engagement at multiple levels of decision-making, from direct hospital management to regional and national public health policymakers.

CONCLUSION

A critical analysis of contemporary scientific literature supports the conclusion that pressure injuries constitute a complex sociotechnical phenomenon whose persistence can neither be adequately explained nor effectively addressed through exclusively biomechanical or technological approaches.

Recent advances in the pathophysiological understanding of PIs, combined with the development of sophisticated technologies for prevention and early diagnosis, represent genuine and significant contributions. They are nevertheless structurally insufficient when disconnected from effective changes in organizational culture and institutional recognition of the multiprofessional team that sustains preventive practices on a daily basis.

This study demonstrates that sustainably reducing PI incidence fundamentally depends on overcoming three interconnected structural gaps: (i) the gap between technical and scientific knowledge and the organizational capacity for systematic implementation; (ii) the gap between technological investment and corresponding investment in human capital, without which innovations such as smart sensors, artificial intelligence algorithms, and decision support systems lose much of their potential effectiveness; and (iii) the gap between institutional discourse about valuing the multiprofessional team and its concrete translation into adequate staffing, compensation commensurate with the responsibilities assumed, and effective participation in clinical governance decision-making.

Returning to the stated objectives, this article systematized the main advances in the contemporary understanding of PI etiopathogenesis, highlighting sustained tissue perfusion insufficiency, the ischemia-reperfusion cycle, and medical device-related injuries as emerging explanatory categories. It mapped prevention and early diagnostic technologies, demonstrating both their transformative potential and their structural limitations when implemented in isolation; discussed organizational determinants, particularly understaffing and fragmented care, as central factors explaining persistently high incidence rates; and proposed concrete pathways for institutionally revaluing the multiprofessional team, understood not as a symbolic discourse but as a structural patient safety strategy.

The narrative nature of this review must be acknowledged as a limitation. Although appropriate to the proposed critical-analytical objectives, the design does not permit statistical generalizations and does not offer the methodological robustness of systematic reviews that include formal risk-of-bias assessments.

Future research should include multicenter studies quantitatively and longitudinally investigating correlations between indicators of professional recognition, including staffing levels, job satisfaction, and participation in decision-making, and clinical outcomes related to PIs, thereby strengthening the empirical evidence supporting the arguments developed here. In-depth qualitative studies should also examine the experiences of nursing technicians and assistants, a professional group whose voice remains underrepresented in the scientific literature despite its central operational role in the daily prevention of PIs.

In summary, patient safety with respect to pressure injuries will not be achieved through more sophisticated protocols or more advanced technologies alone, but through the development of organizational cultures that recognize, in practice rather than merely in discourse, that the multiprofessional team is a strategic, not ancillary, component of safe, high-quality care.

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