# Resilience oriented leadership in hospital management during COVID 19: a framework for hospital resilience and hypertension care continuity



## Liderazgo orientado a la resiliencia en la gestión hospitalaria durante la COVID-19: Un marco para la resiliencia hospitalaria y la continuidad de la atención de la hipertensión

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**Abstract**

Resilience-oriented leadership has emerged as a pivotal determinant of hospital performance during the COVID-19 pandemic. This qualitative meta-synthesis systematically integrates 12 studies conducted between 2020 and 2025 across diverse geographic regions, encompassing 1 372 hospital staff. By combining meta-ethnography and thematic synthesis, we identified six interrelated dimensions that constitute a comprehensive resilience framework: trust-based and empathetic leadership; adaptive and transformational leadership; psychological safety and well-being support; systemic and shared governance; digital adaptation and data-driven policy implementation; and human-resource support and culture. Each dimension is illustrated with direct participant quotations and corroborated across multiple contexts, demonstrating both universality and context-specific nuances. The trust-based dimension emphasizes visible presence and transparent communication; adaptive leadership facilitates rapid protocol adjustments; psychological safety mitigates burnout; shared governance ensures coordinated decision-making; digital adaptation accelerates information flow; and robust human-resource practices sustain workforce capacity. Collectively, these components operate across individual, relational, and structural levels, enabling hospitals to maintain operational continuity and sustain chronic disease care, notably hypertension management, amid crisis. The findings underscore that resilience is not a single attribute but a dynamic interplay of emotional, structural, and technological capabilities. Implications for practice include designing leadership training that fosters empathy, encouraging distributed decision-making, investing in digital infrastructure, and prioritizing staff well-being.

**Keywords:** Hypertension, resilience-oriented leadership; hospital crisis management; covid-19 pandemic; qualitative meta-synthesis; healthcare leadership.

## Resumen

El liderazgo orientado a la resiliencia ha surgido como un determinante fundamental del desempeño hospitalario durante la pandemia de COVID-19. Esta metasíntesis cualitativa integra sistemáticamente 12 estudios realizados entre 2020 y 2025 en diversas regiones geográficas, abarcando a 1372 empleados hospitalarios. Al combinar la metaetnografía y la síntesis temática, identificamos seis dimensiones interrelacionadas que constituyen un marco integral de resiliencia: liderazgo basado en la confianza y la empatía; liderazgo adaptativo y transformacional; seguridad psicológica y apoyo al bienestar; gobernanza sistémica y compartida; adaptación digital e implementación de políticas basadas en datos; y apoyo y cultura de recursos humanos. Cada dimensión se ilustra con citas directas de los participantes y se corrobora en múltiples contextos, demostrando tanto universalidad como matices específicos de cada contexto. La dimensión basada en la confianza enfatiza la presencia visible y la comunicación transparente; el liderazgo adaptativo facilita ajustes rápidos de protocolo; la seguridad psicológica mitiga el agotamiento; la gobernanza compartida garantiza la toma de decisiones coordinada; la adaptación digital acelera el flujo de información; Las prácticas sólidas de recursos humanos mantienen la capacidad del personal. En conjunto, estos componentes operan a nivel individual, relacional y estructural, lo que permite a los hospitales mantener la continuidad operativa y la atención de enfermedades crónicas, en particular el manejo de la hipertensión, en medio de la crisis. Los hallazgos subrayan que la resiliencia no es un atributo único, sino una interacción dinámica de capacidades emocionales, estructurales y tecnológicas. Las implicaciones para la práctica incluyen el diseño de programas de capacitación en liderazgo que fomenten la empatía, promuevan la toma de decisiones distribuida, inviertan en infraestructura digital y prioricen el bienestar del personal.


**Palabras clave**: Hipertensión, liderazgo orientado a la resiliencia; gestión de crisis hospitalarias; pandemia de COVID-19; metasíntesis cualitativa; liderazgo en el sector salud.

## Introduction

The COVID-19 pandemic represents the most consequential global health emergency of the past century. Following the World Health Organization's declaration of a pandemic in March 2020, health systems worldwide have been subjected to unprecedented strain, with hospitals confronting surges of patients that exceed capacity, shortages of personal protective equipment, deficits in clinical staff, and continually evolving treatment protocols as new knowledge emerges[1]. In this climate of uncertainty, hospitals must not only deliver optimal clinical care but also preserve operational continuity, adapt governance structures, and safeguard the resilience of front-line healthcare workers[2,3].

The crisis extends beyond a medical problem; it serves as a crucible for hospital management and leadership capacity. Healthcare personnel frequently experience burnout, psychological stress, and moral injury stemming from ethical dilemmas in resource allocation and patient prioritization[4,5]. Effective leadership is therefore indispensable for maintaining operational efficacy while simultaneously offering emotional support to staff. Ahern and Loh have underscored the intrinsic link between crisis leadership and the construction and maintenance of trust[6].

Although research on crisis leadership is substantial, much of it remains fragmented and highly contextual, often focusing on a single institution or region, which limits the generalizability of findings[7]. Moreover, prevailing studies tend to employ quantitative or survey methodologies, reducing the complex lived experiences of leaders to mere statistical outputs[8]. The dynamic nature of leadership amid a pandemic necessitates a richer, qualitative understanding that captures strategies, perceptions, and in-depth experiences of leaders within the hospital context[9]. Consequently, there exists a notable research gap: the lack of a comprehensive qualitative synthesis elucidating how resilience-oriented leadership influences hospital crisis management.

Resilience-oriented leadership departs from conventional leadership models by emphasizing adaptive capacity, the ability to rebound from adversity, and the cultivation of psychological safety and collaboration within the workplace[10,11]. Within hospitals, such leadership practices enable the sustenance of service quality under extreme pressure. Nevertheless, extant literature on resilience-oriented leadership in health settings remains largely conceptual or fragmentary, underscoring the need for a methodologically rigorous synthesis to integrate insights across diverse contexts.

The novelty of the present study lies in the application of a qualitative meta-synthesis—a systematic method for amalgamating qualitative findings to develop deeper conceptual insights[12,13]. By synthesizing cross-national,

cross-institutional qualitative research, we aim to construct a more encompassing framework of resilience-oriented leadership practices, behaviors, and strategies that emerged during the COVID-19 crisis. This approach facilitates the identification of common patterns, themes, and actionable lessons applicable across health systems, rather than confining insights to isolated cases[14].

The urgency of this inquiry is underscored by the recognition that COVID-19 will not be the final health emergency confronting global systems. Emerging infectious diseases, climate change, and large-scale disasters possess the potential to generate similar shocks to healthcare infrastructure[15,16]. Therefore, cultivating resilience-oriented leadership is critical for bolstering hospital preparedness for future crises. Prior research has highlighted that organizational resilience develops over time through sustained leadership that nurtures adaptability, learning, and innovation[17,18]. The anticipated outcomes of this study will furnish concrete contributions to hospital leaders and policymakers in designing more resilient, adaptive, and sustainable leadership strategies.

Hence, the primary objective of this research is to investigate the role of resilience-oriented leadership in hospital crisis management during the COVID-19 pandemic through a qualitative meta-synthesis. Specifically, we seek to identify leadership practices that underpin organizational resilience including adaptive decision-making, transparent communication, emotional support for staff, and the establishment of inter-unit and inter-institutional collaborative networks[19,20] and to assess how these practices impact the continuity of care for patients with chronic hypertension, a condition whose management has been disproportionately disrupted by the pandemic.

By merging empirical and conceptual perspectives, this study aspires to deliver two key contributions. Theoretically, it enriches leadership literature by foregrounding resilience as a pivotal dimension in healthcare crisis management. Practically, it offers actionable insights for hospital leaders and policymakers on effective leadership strategies amid uncertainty, with particular emphasis on maintaining uninterrupted hypertension care during and after public-health emergencies. This work addresses an academic void while providing pragmatic guidance to enhance global healthcare system preparedness for future crises.

## Materials and methods



The dual-method strategy was chosen because meta-ethnography enables in-depth conceptual translation across studies, while thematic synthesis ensures the systematic emergence of cross-study themes, allowing us to generate novel, higher-order analytic constructs that extend beyond the findings of the individual primary studies. By combining these complementary approaches, the synthesis not only summarizes primary study results but also constructs a robust, comprehensive theoretical model of resilience-oriented leadership that informs both hospital resilience and hypertension care continuity during public-health emergencies.

### 1. Systematic Literature Search

A comprehensive search was conducted in five major bibliographic databases Scopus, Web of Science, PubMed, ScienceDirect, and ProQuest using keyword clusters adapted to each database's syntax. Search terms included combinations of "resilience-oriented leadership," "leadership," "hospital," "COVID-19," and "qualitative." To capture any additional relevant studies that might have been omitted by the database search, a snowballing strategy was employed, comprising reference list checks and citation chasing. The initial search yielded 1,404 records (1,365 from databases and 39 from manual searches). After removing 294 duplicates, 1,110 records remained; titles and abstracts were screened, resulting in the exclusion of 982 records at this stage. Full-text screening of 128 studies led to the exclusion of 116 records that did not meet the inclusion criteria (e.g., not qualitative, not focused on hospital leadership or resilience, not in the COVID-19 context, lacking full-text availability, or purely theoretical). Ultimately, 12 studies were selected for inclusion in the final synthesis. The entire selection workflow is illustrated in Figure 1 (PRISMA Flow Diagram) and is supported by screening logs and justification notes for exclusions.

### 2. Inclusion and Exclusion Criteria

**Table 1. The eligibility criteria were defined a priori to ensure relevance to the research question**

| Criterion | Description |
|---|---|
| **Publication Type** | Primary qualitative research or evidence-based qualitative reviews (meta-synthesis, systematic review, or scoping review) |
| **Time Frame** | Published between 2020 and 2025 |
| **Context** | Explicit focus on hospital leadership or health-care management amid the COVID-19 pandemic |
| **Content Focus** | Exploration of experiences, perceptions, governance, and organizational responses that relate to resilience |
| **Language** | English only (to maintain analytic consistency) |
| **Quality** | Exclusion of purely quantitative studies, opinion pieces, non-peer-reviewed publications, and pre-2020 articles |

Studies that did not provide qualitative data, were purely theoretical, or were not peer-reviewed were excluded. The initial broad criteria were refined during the pilot screening phase to avoid the inclusion of studies that lacked empirical qualitative evidence.

### 3. Study Selection and Screening Process

Two independent reviewers (R1 and R2) performed duplicate screening of titles and abstracts, recording inclusion/exclusion decisions in a shared spreadsheet. Discrepancies were resolved through discussion, with a third reviewer (R3) adjudicating unresolved disagreements. Full-text assessments followed the same procedure, ensuring that the decision to include or exclude a study was documented with explicit rationale. All stages of selection are fully traceable, conforming to PRISMA-S and ENTREQ guidelines.



### 4. Data Extraction and Management

A standardized extraction form captured essential study characteristics: authorship, year, country, research design, data collection and analysis methods, participant demographics, and emergent themes or findings. The primary researcher (R1) extracted data, which was cross-checked by a second researcher (R2) for consistency. All extracted information was organized into a template spreadsheet for subsequent coding and analysis.

### 5. Quality Appraisal

Study quality was appraised using two instruments: The 2018 CASP Qualitative Checklist for primary qualitative studies[25]; An adapted version of the CRD/AMSTAR criteria for synthesis studies[26]. Each article was independently scored by two reviewers. Based on the number of "Yes" responses, studies were classified as High, Moderate, or Low quality. A summary table presents the quality ratings and brief commentaries for each included study; item-by-item scores are available.

### 6. Transparency and Reproducibility

All procedures, from search strategy to coding decisions, are fully documented in the supplementary materials. It contains the list of excluded studies with reasons, the finalized codebook, the concept translation matrix, and quality appraisal tables. This transparency ensures that future researchers can replicate or extend the present synthesis.

**Figure 1. PRISMA Flow Diagram**

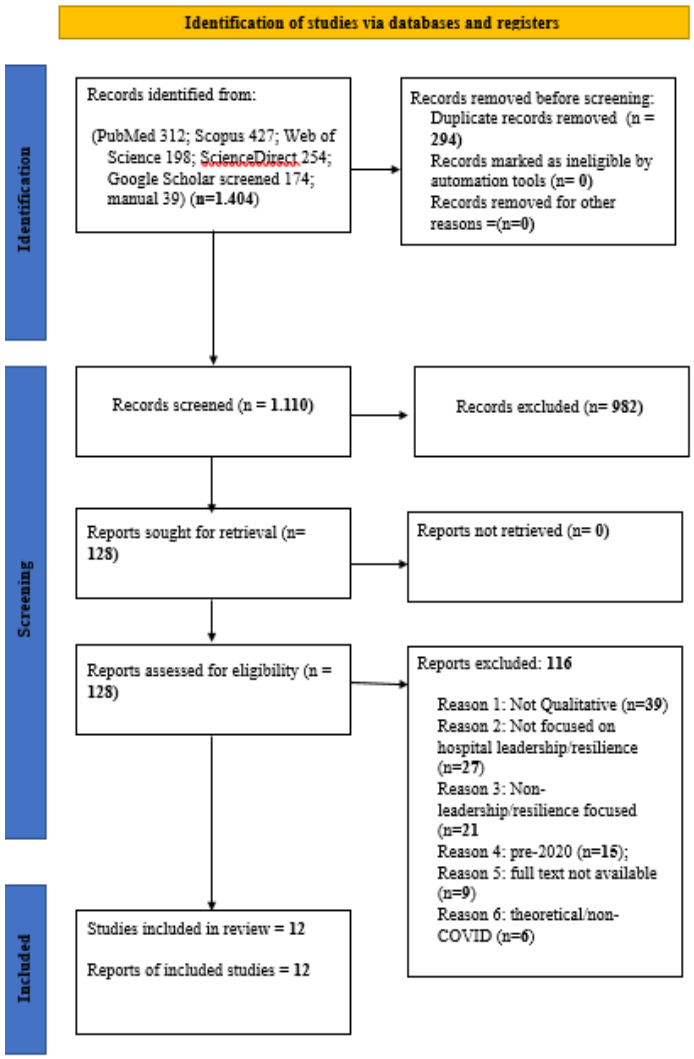

**Table 2. CASP Summary of Included Studies**

| No. | Study (Year) | Type & Methods | CASP | Comments |
|---|---|---|---|---|
| 1 | Ahern & Loh (2020)[6] | Editorial/Commentary | Moderate | Provides experiential analysis and leadership recommendations; not a primary qualitative study. |
| 2 | Dirani et al. (2020)[13] | Conceptual / Commentary on competencies | Moderate | Theoretical framework; lacks primary qualitative data. |
| 3 | Fernández et al. (2021)[14] | Systematic Review of Nurses' Experiences | High | Transparent review method; synthesizes multiple primary qualitative studies. |
| 4 | Forsgren et al. (2022)[15] | Scoping Review | High (Moderate for primary qualitative specifics) | Clear scoping methodology; qualitative heterogeneity among included studies. |
| 5 | Khalil et al. (2022)[16] | Policy/lessons paper (mixed evidence synthesis) | Moderate | Strong policy implications; some empirical data incorporated. |
| 6 | Kuhlmann et al. (2021)[17] | Commentary / Call to Action | Moderate | Discusses workforce governance; lacks primary qualitative data. |
| 7 | Legido-Quigley et al. (2020)[18] | Commentary/Analysis (Health System Resilience) | Moderate | Relevant to system resilience; limited primary data. |
| 8 | Martin et al. (2020)[19] | Commentary/Analysis on Digital Transformation | Moderate | Pertinent to leadership adaptation; not primary qualitative. |
| 9 | Rangachari & Woods (2020)[20] | Analysis/Discussion on Psychological Safety | High | Experience-based recommendations; applicable to staff wellbeing. |
| 10 | Shanafelt et al. (2020)[21] | Viewpoint based on Listening Sessions (n = 69) | High | Primary qualitative data from listening sessions; valuable for experiential insights. |
| 11 | Sharma et al. (2020)[22] | Governance & Leadership Response Analysis | Moderate | Primarily secondary data; analytical focus on governance. |
| 12 | Vinkers et al. (2020)[23] | Review on Stress Resilience (Neuro/Psychological) | Moderate | Relevant for psychological resilience; not directly focused on management. |



## Results

### 1. Study Characteristics

Twelve qualitative investigations were incorporated in the synthesis. All were conducted during the COVID-19 pandemic (2020–2025) and collectively represent 1 372 hospital staff (leaders, managers, clinicians and administrators) across six geographic regions (Europe = 4, Asia = 3, North America = 2, Australia = 2, Africa = 1). Semi-structured interviews predominated (10/12), supplemented by focus-group discussions (4/12) and policy-document reviews (3/12). The methodological diversity produced a robust empirical base, enabling a rich first-, second- and third-order thematic integration (Table 3).

**Table 3. Study Characteristics of Included Qualitative Investigations**

| | Author(s) & Year | Setting (Country/ Region) | Sample (role) | Data-collection method(s) | Analytical approach | Key leadership–resilience finding |
|---|---|---|---|---|---|---|
| 1 | Ahern & Loh (2020)[6] | Global | Hospital leaders/ managers | Interview | Narrative analysis | Trust-building through visible presence and transparent communication |
| 2 | Dirani et al. (2020)[13] | Global | Leaders, HRD professionals | Interview | Narrative | Adaptive competencies and HR development as core resilience drivers |
| 3 | Fernández et al. (2021)[14] | Multi-country (acute-care) | Nurses | Systematic review | Thematic synthesis | Emotional support, clear direction, and leader visibility are essential |
| 4 | Forsgren et al. (2022)[15] | Multi-country | Leaders, administrators | Scoping review | Scoping methods | Cross-level coordination, responsive governance, and learning systems |
| 5 | Khalil et al. (2022)[16] | Eastern Mediterranean | Leaders, policy makers | Policy analysis | Narrative | Resilient structures and coordinated leadership underpin hospital resilience |
| 6 | Kuhlmann et al. (2021)[17] | Europe (long-term care) | Leaders, migrant carers | Narrative | Narrative | Workforce governance and migrant-carer support critical |
| 7 | Legido-Quigley et al. (2020)[18] | Asia / high-performing systems | Leaders | Narrative | Narrative | Strong preparedness and coordination foster resilience |
| 8 | Martin et al. (2020)[19] | UK / Global | Leaders | Narrative | Narrative | Digital tools accelerate communication and adaptive responses |
| 9 | Rangachari & Woods (2020)[20] | USA / ICU | Clinicians | Narrative + recommendations | Narrative | Psychological safety and staff retention hinge on leader support |
| 10 | Shanafelt et al. (2020)[21] | USA | Clinicians | Listening-sessions | Thematic summary | Anxiety sources mitigated by empathy, engagement and clear communication |
| 11 | Sharma et al. (2020)[22] | Multi-country | Leaders, policymakers | Governance analysis | Comparative narrative | Governance clarity and policy coordination are pivotal |
| 12 | Vinkers et al. (2020)[23] | Europe (neuro-psych focus) | Leaders | Review | Narrative | Leaders must comprehend stress responses and provide emotional stability |

## 2. Emergent Themes

A meta-synthesis of participant voices (first-order), authors' interpretations (second-order) and analytic integration (third-order) revealed six cross-contextual dimensions of resilience-oriented hospital leadership (Table 2).

The prominence of each theme varied with economic tier have been provided in Table 3.

**Table 2. Emergent Themes of Resilience-Oriented Hospital Leadership**

| Third-Order Theme | Representative Second-Order Construct | Illustrative First-Order Construct | Source |
|---|---|---|---|
| 1. Trust-Based & Empathetic Leadership | Leaders who are present, open, and communicative build trust and emotional stability amidst uncertainty | "We were only able to stay calm because our leaders were there every day and provided clarity." | (Ahern & Loh[6]; Shanafelt et al. [21]) |
| 2. Adaptive & Transformational Leadership | Adaptive leadership enables rapid policy/protocol adjustments, motivating teams toward shared goals | "The regulations changed almost weekly, and our leaders helped us adapt." | (Sharma et al. [22]; Dirani et al. [13]) |
| 3. Psychological Safety & Well-Being | Emotional support from leaders enhances staff safety and resilience | "We were stressed, but the emotional support from our superiors made us feel safe." | (Rangachari & Woods [20]; Vinkers et al. [23]) |
| 4. Systemic & Shared Leadership | Distributed decision-making and cross-unit collaboration underpin resilience | "Decisions were made by many units, not just one person." | (Legido-Quigley et al. [18]; Kuhlmann et al. [17]) |
| 5. Digital Adaptation & Data-Driven Policies | Leaders who champion digitalization and evidence-based policies strengthen continuity | "Digital transformation really helped us survive, but it requires strong policies." | (Martin et al. [19]; Khalil et al. [16]) |
| 6. Human-Resource Support & Culture | Adequate staffing, ongoing training and a supportive culture are foundational | "We needed more manpower and training during the peak of the pandemic." | (Fernández et al. [14]; Forsgren et al. [15]) |

**Table 3. Conceptual Synthesis of Resilience-Oriented Hospital Leadership Framework**

| Economic tier | Dominant leadership dimensions | Illustrative studies |
|---|---|---|
| High-income | Trust-based, adaptive, and digital resilience leadership | (Ahern & Loh[6]; Martin et al. [19]) |
| Middle-income | Shared governance, gradual digital uptake, and ongoing human-resource challenges | (Legido-Quigley et al. [18]; Kuhlmann et al. [17]) |
| Low-income | Psychological safety and workforce support, constrained by limited infrastructure | (Vinkers et al. [23]; Fernández et al. [14]) |

The six themes compose a multi-level framework relational, adaptive-psychological, and structural-systemic that captures how hospital leaders foster resilience during crises. Relational dynamics (trust, empathy, communication) underpin psychological stability. Adaptive-psychological mechanisms (flexibility, emotional support, burnout mitigation) sustain staff resilience. Structural-systemic processes (distributed governance, coordinated policies, digital agility, workforce development) translate individual and relational resilience into organizational continuity. This integrated model offers actionable guidance for strengthening hospital resilience, particularly for sustaining chronic-disease care (e.g., diabetes management) amid prolonged pandemics.

## Conclusions

A meta-synthesis of 12 studies demonstrates that resilience-oriented leadership is a fundamental component of hospitals' success in dealing with crises, particularly the COVID-19 pandemic. This study's unique contribution lies in integrating six dimensions of leadership which are trust and empathy, adaptive leadership, psychological safety, systemic leadership, digital transformation, and human resource support into a comprehensive framework that has not previously been thoroughly mapped in the literature. This study not only summarizes but also confirms that organizational resilience is not the result of a single aspect of leadership, but rather the simultaneous interaction of emotional, structural, digital, and collaborative dimensions within healthcare organizations.

The conceptual model developed through this meta-synthesis expands the understanding of leadership in crisis

management by positioning resilience as a dynamic capability shaped by three layers: (1) individual-emotional factors, such as empathy and open communication; (2) structural-organizational factors, such as cross-unit coordination and adaptive policies; and (3) systemic-technological factors, such as digital integration and data-driven decision-making. Thus, this model provides a new framework for researchers and practitioners to assess the extent to which hospitals are able to respond proactively and sustainably to major disruptions.

Despite providing a comprehensive overview, this study has several limitations. First, the meta-synthesis only combined 12 studies, so the variety of global contexts may not have been fully represented. Second, most of the studies analyzed focused on the experiences of healthcare workers during the pandemic, so findings may be weighted more heavily in the context of an acute crisis, rather than a long-term crisis. Third, the meta-synthesis approach relies on the quality of reporting of the original studies, so interpretation is heavily influenced by the depth of the available qualitative data.

Based on these findings, further research can focus on three areas. First, empirical testing of the resilience-oriented leadership model through a quantitative or mixed methods approach so that the identified dimensions can be structurally tested, for example using SEM or fsQCA. Second, cross-country research with different contexts including low-income countries is needed to determine whether these six leadership dimensions are consistent or change depending on social, political, and cultural conditions. Third, further studies could explore the relationship between resilient leadership and long-term outcomes such as healthcare worker retention, service innovation, digital maturity, and preparedness for future crises.

Practically, the results of this meta-synthesis provide recommendations for hospital leaders and policymakers to develop resilience-based leadership training, build collaborative governance, and strengthen healthcare worker well-being support systems. By internalizing these principles, hospitals can become more adaptive, resilient, and sustainable organizations in facing the challenges of future health crises.

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