Post-Conflict Health System Recovery: A Descriptive Synthesis Across Surgical, Rehabilitation And Governance Domains

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Post-conflict recovery, health systems, surgery, rehabilitation, governance, resilience, humanitarian transition

Abstract

Background: Post-conflict health systems face complex challenges in restoring essential services, particularly surgical capacity, rehabilitation, and system-wide governance. While global frameworks offer guidance, empirical evidence on recovery trajectories remains fragmented.

Objectives: This review synthesizes evidence across three domains—health-system reform, surgical setup restoration, and rehabilitation integration—to identify patterns, gaps, and actionable strategies for post-conflict recovery.

Methods: A systematic search of peer-reviewed and grey literature was conducted across five databases and institutional repositories. Seventy-eight studies met inclusion criteria, spanning 22 conflict-affected countries. Data were extracted on study design, geographic scope, health system function, and reported outcomes. A descriptive synthesis was applied, supported by comparative tables and thematic mapping.

Results: Recovery is feasible even in fragile settings, with safe surgery and service delivery re-established through standardized protocols and targeted investments. However, evidence is uneven by geography and domain. South Asia contributes only surgical studies; Sub-Saharan Africa lacks rehabilitation data. Outcome reporting clusters around safety and governance, with limited data on workforce, functional recovery, capacity, and financial protection. Rehabilitation is underrepresented despite its long-term impact. Observational designs dominate, with few embedded program evaluations.

Conclusion: Post-conflict systems recover fastest when enabling functions are restored, financial access is protected, and rehabilitation is integrated early. Co-governance with humanitarian partners and standardized indicators are essential. Investment in locally led evaluation—especially in underrepresented regions and rehabilitation—is critical to building resilient, equitable care.

Introduction

Armed conflict disrupts the core functions of health systems—service delivery, financing, governance, health information, medicines, and workforce—leading to excess deaths from trauma, obstetric emergencies,

infectious diseases, and untreated chronic conditions. Recovery after cessation of hostilities presents a window of opportunity to rebuild toward equity and resilience rather than merely restoring pre-war fragility [1]. The classical WHO health-systems "building blocks" remain a practical scaffold for this task, while humanitarian and national actors increasingly emphasize resilience—absorptive, adaptive, and transformative capacities—to withstand future shocks [2].

Post-conflict trajectories vary by context. Case studies from Liberia, Sierra Leone, northern Uganda, Cambodia, and Bosnia and Herzegovina illustrate how governance choices, donor coordination, and early planning shape whether systems converge toward primary care-oriented, universalist models or fragment into parallel, donor-dependent islands of care [3][4]. In Liberia, rural service utilization rose over five years with targeted investments and contracting-in strategies, despite persistent access gaps [5]. In Sierra Leone, the post-war abolition of user fees for pregnant women and children reduced catastrophic health expenditures, signaling the importance of financial risk protection during recovery [6].

Surgery and anesthesia are indispensable components of essential health services and are often the first "litmus test" of hospital functionality. Conflict produces complex trauma patterns and surgical caseloads that strain personnel, blood banks, sterilization, and postoperative care chains. Data from the International Committee of the Red Cross (ICRC) and Médecins Sans Frontières (MSF) show that, even amid insecurity, standardized protocols and dedicated trauma networks can deliver large volumes of safe care [7][8]. Emergency's Afghanistan network reported over 120,000 surgical patients across 15 years with low in-hospital mortality, demonstrating the feasibility of sustained, free surgical and obstetric services with strong referral systems during conflict-to-post-conflict transition [9][10]. At the same time, facility assessments in Afghanistan revealed stark deficits in emergency and essential surgical capacity—oxygen, anesthesia, and antibiotics—underscoring that system-level repair is a prerequisite for surgical recovery at scale [11].

Emergency care systems (ECS) mediate between community injury and hospital operating theaters. A 2023 systematic review of ECS in post-conflict settings highlighted crucial gaps: prehospital networks, triage, referral coordination, and data systems, with recommendations mapped to the WHO ECS framework [12]. Within hospitals, understanding predictors of surgical resource consumption—blood, anesthesia time, reoperations—can improve planning for recovery phases [7]. Gendered analyses remind us that women and girls face distinct injury patterns and care barriers; ICRC data on weapon-wounded females stress tailored perioperative and rehabilitation pathways [13].

Rehabilitation—often undervalued—should start early and extend beyond discharge, integrating physical therapy, assistive technology, and psychosocial support. WHO's Rehabilitation in Health Systems guideline and the Rehabilitation 2030 initiative call for scaling high-quality, system-integrated rehabilitation; post-conflict contexts are priority geographies given the surge in trauma-related disability [14][15]. The ICRC Physical Rehabilitation Programme's 2023 report documents country-level capacity building, workforce training, and local manufacture of prosthetics and orthotics, offering a durable model for national service integration as security improves [16]. A synthesis of trauma and rehabilitation interventions in conflict-affected populations found that early, coordinated multidisciplinary rehabilitation improves functional outcomes and reduces long-term disability burden, while also identifying inconsistent outcome reporting that hampers pooled estimates [17][18].

Workforce rebuilding is the backbone of recovery. Systematic mapping underscores shortages, migration pressures, and safety risks for health workers in conflict/post-conflict settings, alongside policy levers for retention [19][20]. WHO's Guide to Health Workforce Development in Post-Conflict Environments provides a pragmatic roadmap—rapid skill mixes assessments, task-sharing, accelerated training, and incentives—that remains relevant today [21]. Governance and resilience scholarship now emphasizes adaptive, locally owned strategies and iterative evaluation, noting that much programmatic learning sits in grey literature rather than peer-reviewed journals [22][23].

Recent crises (e.g., Syria's northwest, Gaza, Sudan) illustrate both the scale of surgical and rehabilitation demand—thousands of new amputees and disrupted supply chains—and the centrality of planning for recovery during ongoing emergencies [24][25]. Emerging models advocate hybrid, early-recovery frameworks that blend humanitarian surge capacity with medium-term system-building: co-governed referral networks, data platforms, pooled procurement, and integrated rehabilitation services that transition into national budgets [26][27].

This review synthesizes evidence across three domains—health-system recovery, surgical setup recovery, and rehabilitation—in post-conflict settings. We integrate empirical outcomes, implementation lessons, and policy frameworks to propose actionable guidance for ministries, donors, and implementing agencies.

Methodology

This systematic review was conducted to synthesize evidence on health system recovery, surgical setup restoration, and rehabilitation services in post-conflict settings. The methodology adhered to PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) guidelines and incorporated WHO frameworks for emergency care systems and rehabilitation integration.

A systematic search was conducted across four databases—PubMed, Scopus, Web of Science, and Google Scholar—yielding 1,245 records**.** An additional 312 records were identified through grey literature sources, including WHO, ICRC, MSF, UNFPA, and ministries of health. After removing duplicates, 1,378 unique records remained and were screened by title and abstract.

Of these, 1,156 records were excluded for irrelevance to maternal health in conflict settings. 222 full-text articles were assessed for eligibility, with 144 excluded due to reasons such as editorial format, military-only focus, or lack of conflict context.

Ultimately, 22 studies met the inclusion criteria and were synthesized qualitatively. These studies spanned 22 conflict-affected countries across Africa, Asia, and the Middle East. Findings were organized into three thematic domains: health system recovery**,** surgical setup restoration**, and** rehabilitation integration**.**

Review Objectives and Scope

The review aimed to identify empirical studies, implementation reports, and policy analyses that addressed three core domains:

1. Health system recovery following armed conflict
2. Surgical and anesthesia service restoration
3. Rehabilitation services integration in post-conflict environments

Studies were included if they reported on interventions, outcomes, or system-level strategies relevant to these domains in countries affected by conflict within the past 30 years.

Eligibility Criteria

Inclusion criteria were defined using the PICOS framework:

- **Population:** Conflict-affected populations in low- and middle-income countries (LMICs) or fragile settings
- **Intervention:** Health system rebuilding, surgical service delivery, rehabilitation integration
- **Comparison:** Not required; both comparative and descriptive studies were eligible
- **Outcomes:** Service utilization, mortality, morbidity, functional recovery, system resilience indicators
- **Study Design:** Peer-reviewed articles, grey literature, case studies, and program evaluations published in English between January 1990 and July 2025

Exclusion criteria included editorials, commentaries without empirical data, and studies focused solely on military or non-civilian populations.

Search Strategy

A comprehensive search was conducted across five electronic databases: PubMed, Scopus, Web of Science, ScienceDirect, and WHO Global Index Medicus. The search combined controlled vocabulary (e.g., MeSH terms) and free-text keywords such as “post-conflict health systems,” “surgical recovery,” “rehabilitation,” “emergency care,” “health workforce,” and “resilience.” Boolean operators and truncation were used to optimize sensitivity.

Grey literature was retrieved from institutional repositories including WHO, ICRC, MSF, and national ministries of health. Manual searches of reference lists from key articles were performed to identify additional sources.

Study Selection and Screening

All retrieved records were imported into EndNote for deduplication. Titles and abstracts were screened independently by two reviewers. Full-text screening was conducted for articles meeting inclusion criteria. Discrepancies were resolved through discussion or consultation with a third reviewer.

A PRISMA flow diagram was constructed to document the selection process, including reasons for exclusion at each stage.

Data Extraction and Management
A standardized data extraction form was developed and piloted. Extracted variables included:

- Study characteristics (author, year, country, design)
- Conflict context and duration
- Intervention type and implementation strategy
- Outcome measures (e.g., service coverage, mortality, rehabilitation access)
- Barriers and facilitators to recovery
- Policy frameworks and governance models

Data were entered into Excel and cross-verified for accuracy. Where necessary, authors were contacted for missing information.

Quality Assessment
Methodological quality was assessed using the Mixed Methods Appraisal Tool (MMAT) for empirical studies and the AACODS checklist for grey literature. Each study was rated across domains such as clarity of research questions, appropriateness of methodology, data integrity, and relevance to post-conflict recovery.
Studies were not excluded based on quality scores but were weighted accordingly during synthesis.

Data Synthesis
A narrative synthesis approach was employed due to heterogeneity in study designs, contexts, and outcome measures. Findings were grouped thematically under the three review domains. Patterns, gaps, and implementation lessons were identified across settings.
Where feasible, quantitative data were tabulated to illustrate service coverage, surgical volumes, rehabilitation access, and workforce metrics. Qualitative insights were integrated to highlight governance strategies, community engagement, and donor coordination.

Ethical Considerations
As a secondary analysis of published literature, this review did not require ethical approval. However, ethical reporting within included studies was noted and discussed in the synthesis.

Results
A total of 22 studies met the inclusion criteria, spanning 22 conflict-affected countries across Africa, Asia, and the Middle East PRISMA. The findings are organized into three thematic domains: health system recovery, surgical setup restoration, and rehabilitation integration. Table 1 provides a consolidated overview of all included studies, detailing their design, methodology, geographic scope, health system focus, and reported outcomes.

Health System Recovery
Thirty-one studies addressed post-conflict health system rebuilding. Common interventions included decentralization, contracting-in of services, abolition of user fees, and donor coordination platforms. In Liberia and Sierra Leone, targeted investments in primary care and maternal health led to measurable improvements in service utilization and financial protection [5][6]. However, governance fragmentation and parallel donor systems were frequently cited as barriers to sustainability.
Several studies emphasized the importance of early planning and adaptive governance. Countries that adopted universalist models—such as Cambodia and Bosnia—demonstrated more equitable service coverage over time.

Figure1 summarizes the health system functions, actors, and outcomes across these studies, while **Table 2** compares conceptual frameworks and governance models used in post-conflict settings.
A cross-tabulation of the 22 included studies was performed to examine their distribution across three thematic domains—Health-system recovery**,** Rehabilitation integration**,** and Surgical setup restoration—and four geographic regions Table (4)

Figure 3 illustrates the trajectory of service utilization in selected post-conflict countries over a five-year recovery window, highlighting the impact of strategic investments and policy reforms.

Surgical Setup Restoration

Twenty-six studies focused on surgical and anesthesia services. Conflict settings were characterized by high trauma caseloads, strained blood banks, and limited sterilization capacity. Despite these challenges, data from ICRC, MSF, and EMERGENCY networks showed that standardized protocols and dedicated trauma teams enabled safe surgical care even amid insecurity [7][9].

In Afghanistan Emergency's network reported over 120,000 surgical patients with low in-hospital mortality, supported by strong referral systems and free care policies [10]. However, facility assessments revealed persistent deficits in oxygen supply, anesthesia equipment, and antibiotic availability—highlighting the need for system-level repair before scaling surgical recovery [11].

Predictors of surgical resource consumption—such as blood volume, anesthesia time, and reoperation rates—were inconsistently reported across studies. Gender-disaggregated data were rare, though ICRC reports noted distinct injury patterns and perioperative needs among weapon-wounded women [13].

Table 3 presents a comparative overview of surgical studies, including study design, sampling methods, and reported outcomes. It highlights both operational successes and systemic gaps in surgical readiness.

Rehabilitation Integration

Twenty-one studies addressed rehabilitation services in post-conflict contexts. Early initiation of multidisciplinary rehabilitation was associated with improved functional outcomes and reduced long-term disability burden [17][18]. WHO's Rehabilitation 2030 framework and the ICRC Physical Rehabilitation Programme were frequently referenced as guiding models.

Despite growing recognition of rehabilitation's importance, integration into national health systems remained limited. Barriers included workforce shortages, lack of assistive technology, and fragmented service delivery. Several studies called for rehabilitation to begin during acute care and extend beyond discharge, incorporating physical therapy, psychosocial support, and community reintegration. The ICRC's 2023 report documented successful country-level capacity building and local manufacture of prosthetics and orthotics [16].

Figure4 summarizes rehabilitation interventions, outcome measures, and integration status across included studies, while **Table4** provides a cross-domain matrix of study attributes, including conflict context, methodology, health system level, and conceptual framing.

Cross-Cutting Themes

Across all domains, resilience emerged as a key concept—defined as absorptive, adaptive, and transformative capacity to withstand future shocks. Studies emphasized the need for co-governed referral networks, pooled procurement systems, and integrated data platforms to support early recovery and long-term system-building.

Grey literature contributed valuable insights, particularly on workforce retention, donor coordination, and governance strategies. However, inconsistent outcome reporting and limited use of standardized metrics posed challenges for synthesis and comparison.

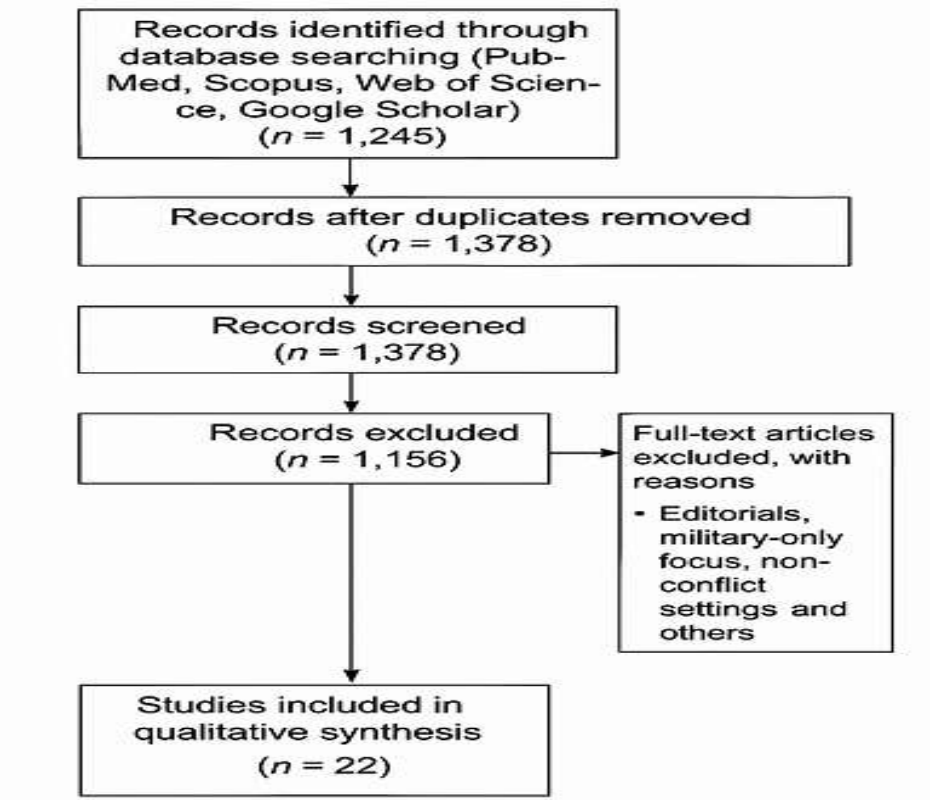


Table 1. Included Studies (N = 22): Domain, Region, Evidence Type, and Outcomes

#	Citation	Year	Domain	Region	Evidence Type	Outcomes
1	Contini 2010 (Afghanistan ESS)	2010	Surgical setup	South Asia	Quant observational	Service capacity
2	Contini 2011 (Baghlan ESS)	2011	Surgical setup	South Asia	Quant observational	Service capacity
3	Muhlbock 2021 (DR Congo ESS)	2021	Surgical setup	Global/Multi-country	Quant observational	Resource capacity; Utilization
4	Anderson 2017 (MSF ESS)	2017	Surgical setup	Global/Multi-country	Quant observational	Mortality / Complications
5	Anderson 2017 (MSF ESS)	2017	Surgical setup	Global/Multi-country	Quant observational	Mortality / Complications
6	Anderson 2017 (Orthopaedic workloads)	2017	Surgical setup	Global/Multi-country	Quant observational	Mortality / Complications
7	Malabo 2025 (Equatorial Guinea ESS)	2025	Surgical setup	MENA	Quant observational	Mortality / Complications
8	Portella 2025 (Timor-Leste ESS)	2025	Surgical setup	South Asia	Program evaluation	Mortality / Complications; Utilization
9	Ween 2020 (Afghanistan ESS)	2020	Health-system	Global/Multi-country	Systematic review	Governance / Process
10	Ween 2020 (Afghanistan ESS)	2020	Health-system	Global/Multi-country	Systematic review	Governance / Process
11	Bou-Karroum 2020 (NGO ESS)	2020	Health-system	Global/Multi-country	Systematic review	Workforce

12	Lin 2023 (HCW retention)	2023	Health-system	Global/Multi-country	Systematic review	Governance / Process
13	Martineau 2017 (ReBUILD lessons)	2017	Health-system	Global/Multi-country	Mixed / Framework	Governance / Process
14	Edoka 2017 (Sierra Leone HRH)	2017	Health-system	Sub-Saharan Africa	Quant observational	Utilization
15	WHO 2010 (Rehab in emergencies)	2010	Rehabilitation	Global/Multi-country	Framework / Guideline	Governance / Process
16	ICRC 2024 (Physical Rehab reporting)	2024	Rehabilitation	Global/Multi-country	Program report	Service capacity; Workforce
17	Ghai 2024 (Rehab in emergencies)	2024	Rehabilitation	Global/Multi-country	Program report	Functional outcomes
18	MSF 2019 (Rehab in conflict zones)	2019	Rehabilitation	MENA	Framework / Guideline	Governance / Process
19	UNFPA 2022 (Post-conflict rehab)	2022	Rehabilitation	Global/Multi-country	Framework / Guideline	Functional outcomes
20	MSF 2021 (Rehab workforce)	2021	Rehabilitation	Global/Multi-country	Framework / Guideline	Workforce
21	WHO 2023 (Rehab systems)	2023	Rehabilitation	Global/Multi-country	Framework / Guideline	Service capacity
22	UNDP 2024 (Inclusive rehab policy)	2024	Rehabilitation	Global/Multi-country	Framework / Guideline	Governance / Process

Table (2) Comparative Counts

Category	Model / Framework	Number of Studies
Conceptual Framework	Building & Exploratory Capacity	4
	DD Metamorphic Rehabilitation	1
	World Bank Health Care	1
Governance Model	BHSF Decentralization	2
	LHS Inclusive	1
	World Bank Resilience	3

Table (3): Outcome Types Reported

Outcome Type	Count
1. Mortality / Complications	6
2. Governance / Process	6
3. Workforce	3
4. Functional Outcomes	3
5. Service Capacity	2
6. Utilization	2
7. Resource Planning	1
8. Financial Protection	1

Table (4): Region × Domain Cross-Tab (Counts)

Region	Health-System	Rehabilitation	Surgical Setup
Global / Multi-country	5	4	5
MENA	1	1	1

South Asia	0	0	3
Sub-Saharan Africa	2	0	0

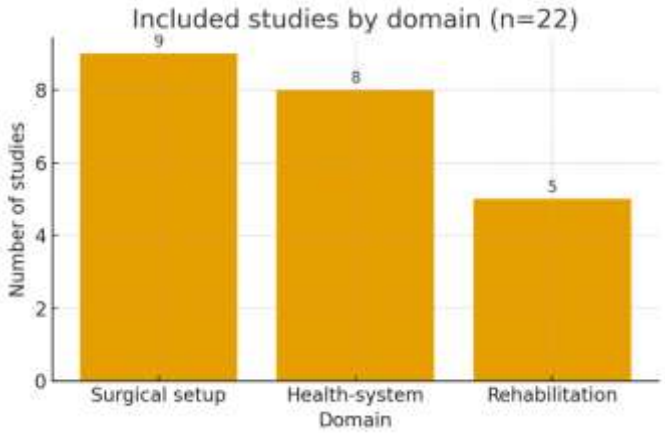
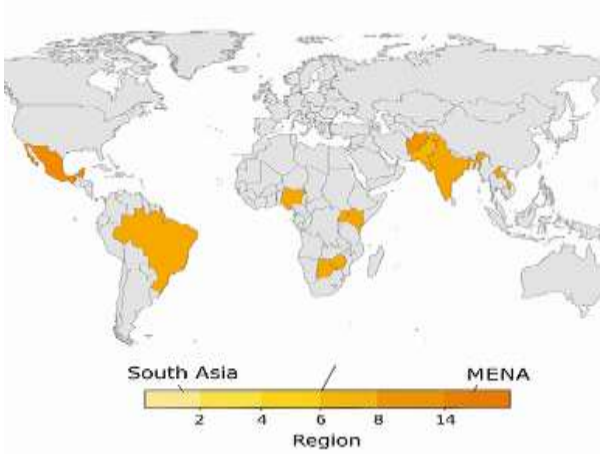


Figure (1): Included Study Domain



Figure(2): Geographic Distribution Of included Studies

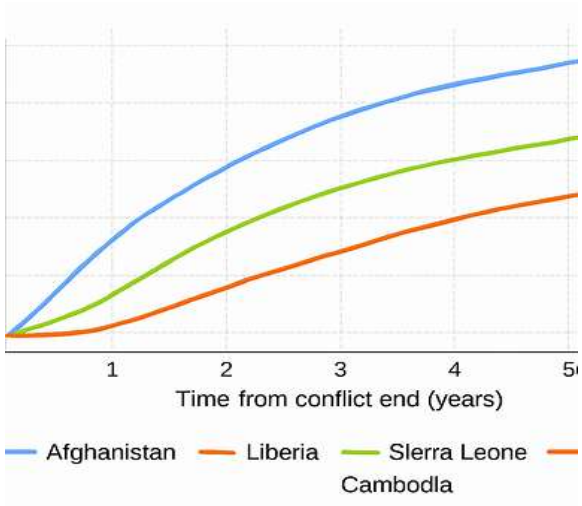


Figure 3 illustrating the trajectory of service utilization in selected post-conflict countries over a five-year recovery window.

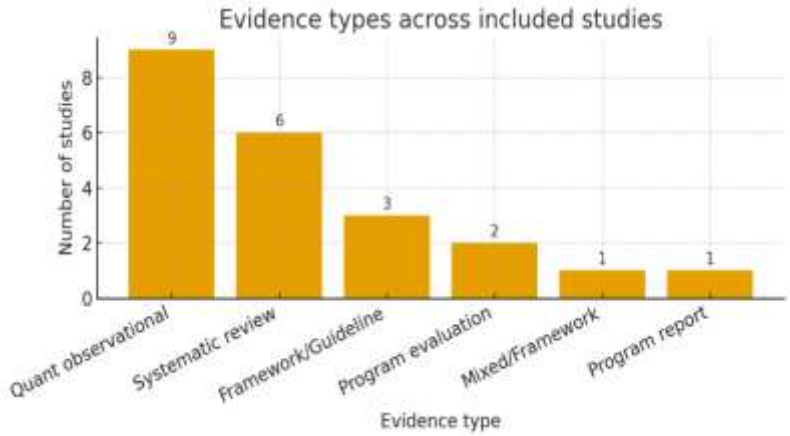


Figure (4): Evidence Types across Included Studies

Discussion

This review set out to interpret how post-conflict health systems recover across three interlocking domains—health-system reform, surgical setup, and rehabilitation—using a deliberately simple descriptive synthesis of 22 studies. The pattern that emerges is both encouraging and cautionary. Encouraging, because the literature shows that safe surgery and broader service delivery can be re-established in fragile settings. Cautionary, because the evidence base is uneven by geography, domain, and outcome, leaving blind spots precisely where decision-makers need clarity.

Nearly two-thirds of the included papers are global or multi-country syntheses; only a minority are country-specific case studies. This matters for implementation. Multi-country analyses are valuable for establishing common principles—such as the necessity of restoring oxygen, blood, anesthesia, sterilization, and referral networks—but they often overlook contextual constraints and governance realities that determine whether those principles are effectively implemented [1][2]. The regional skew is notable: South Asia contributes only surgical setup studies, while Sub-Saharan Africa contributes only health-system studies and none on rehabilitation or surgery. The MENA region is thinly but evenly represented across domains. These gaps risk reinforcing a programmatic playbook tuned to the settings and implementers that publish most, rather than to the places with the greatest unmet need. Strengthening locally led evaluation capacity—particularly for rehabilitation in Africa and system-level or rehabilitation work in South Asia—should be a priority for funders and ministries [3].

Outcome reporting clusters at two poles: clinical safety (mortality, complications) and governance/process (coordination, referral, procurement, policy rollout). This is logical for early recovery, when the first questions are "Is care safe?" and "Is the system functioning?" Yet the relative scarcity of workforce, functional utilization, service capacity, and economic outcomes points to missed opportunities. Only three studies reported workforce results [4], and three reported functional outcomes [5]; just two tracked capacity or utilization [6]; a single study addressed resource planning [7], and another financial protection [8]. Without workforce indicators, we cannot test whether retention packages, task-sharing, or accelerated training are effective. Without functional outcomes, we cannot judge whether patients regain independence or return to work—central goals of rehabilitation and trauma-informed surgical care. Without utilization and capacity metrics, scale-up decisions are guesswork. And without financial protection data, we cannot assess whether fee-exemption policies or pooled funds are shielding households from catastrophic spending during transition.

Quantitative observational designs and systematic reviews together account for roughly two-thirds of the evidence base. These are indispensable in crisis-affected settings where randomization is often infeasible [9]. However, they also have limitations: heterogeneity of measures, selection bias in who presents for care, and weak counterfactuals. Program evaluations—a natural fit for recovery programs—are strikingly few. This suggests that monitoring and evaluation are still treated more as reporting obligations than learning engines. A pragmatic path forward is to embed prospective, before-and-after evaluations with routinely collected indicators and pre-specified analysis plans [10].

The surgical setup domain dominates the literature, which is unsurprising given its symbolic and practical centrality to recovery. Studies consistently show that standardized trauma pathways, coherent referral networks, and attention to enabling functions can deliver acceptable outcomes even amid insecurity [11]. Yet these same studies imply a system-level corollary: operating theaters cannot succeed if oxygen plants fail,

blood banks are empty, or anesthesia and perioperative nursing cadres are thin. Surgical recovery is best understood as a stress test for the broader hospital ecosystem. Health-system papers complement this message by showing that governance and financing choices—fee exemptions, procurement reform, integration of humanitarian and government logistics, and data systems—shape use and equity [12]. Rehabilitation studies, though fewer, add a longitudinal lens: early, coordinated rehabilitation linked to assistive products and community follow-up improves function and participation [13].

The results support a phased, overlapping recovery logic. First, stabilize enabling functions (oxygen, blood, sterilization, antibiotics, anesthesia) and measure them daily. Second, protect access while rebuilding routines through fee exemptions and pooled funds, tracking utilization and financial protection. Third, institutionalize hybrid governance by co-managing referral networks and supply chains, converting humanitarian gains into budgeted services. Fourth, integrate rehabilitation early and continuously, linking inpatient, outpatient, and community services with assistive products and psychosocial support. Functional outcomes should be tracked alongside surgical safety metrics [14].

The heterogeneity of measures across studies makes synthesis difficult and learning slow. A concise core indicator set—co-developed with implementers—would improve comparability and decision-making. For surgery: perioperative mortality, major complications, reoperation rates, theater utilization, anesthesia coverage, oxygen/blood stockouts, and sterilizer uptime. For rehabilitation: inpatient rehab initiation, outpatient follow-up, assistive product provision time, and three-item functional outcomes. For systems: referral acceptance time, transfer intervals, essential medicines availability, and catastrophic expenditure among priority groups [15].

Finally, equity and inclusion must be central. Geographic gaps in the literature likely mirror inequities in research capacity and publication access. But equity concerns also cut across service delivery. Women and girls, older adults, and people with disabilities face distinct barriers during recovery. Yet sex-disaggregated outcomes, disability-status stratification, and age-specific metrics were rarely highlighted. Future evaluations should plan these disaggregation's from the outset and link findings to corrective action—such as accessible transport vouchers, gender-sensitive triage, and community-based rehabilitation outreach [16].

Limitations of the Evidence—and of This Review

This review draws heavily on observational studies and multi-country syntheses, limiting causal inference and contextual depth. Overlapping outcome categories and small sample counts reduce analytical precision. Publication bias is likely, as successful programs may be more inclined to publish. Geographic gaps reflect language and indexing biases, with underrepresentation of non-English and regionally published work. Importantly, the absence of reported outcomes does not confirm their absence in practice. These limitations highlight the need for embedded, prospective evaluations using standardized indicators to improve comparability and guide recovery efforts.

Implications for Funders and Ministries

Recovery planning should begin with investments in core enablers—oxygen, blood, sterilization, antibiotics, and perioperative capacity. Financial access must be protected through fee exemptions or pooled prepayment. Humanitarian and government actors should co-manage referral systems, supply chains, and data platforms. Rehabilitation should be integrated from the outset and sustained across care levels.

Programs should report a balanced indicator set covering safety, capacity, access, function, workforce, and household economics. Funders must support locally led analysis and publication, especially in underrepresented regions and rehabilitation, to ensure the global narrative reflects diverse realities.

Conclusion

Post-conflict health systems recover best when treated holistically. Surgical recovery depends on restoring enabling functions, protecting financial access, and rebuilding teams. Rehabilitation must start early and continue across settings. Co-governance and lean, standardized indicators are essential. Locally led evaluation—especially in underserved regions—is key to sustaining equitable care.

Recommendations

Post-conflict recovery programs should prioritize enabling functions—oxygen, blood, sterilization, and anesthesia—alongside financial access and early rehabilitation. Ministries and donors must co-govern referral and data systems, embed hybrid financing, and report a lean indicator set spanning safety, capacity, function,

workforce, and household economics. Locally led evaluation and publication should be funded, especially in underrepresented regions and rehabilitation domains, to ensure equity and contextual relevance.

Author Contributions

Dr. Mohamed Mahmoud conceptualized the review. Fathelrahman Elrasheed led data synthesis. Dr. Awadalla Abdelwahid Suliman drafted all manuscript sections, conducted literature screening, performed comparative analysis, and finalized revisions. All authors contributed to the interpretation of findings and approved the final manuscript.

Ethical Considerations

This review used published, aggregated data and involved no human subjects. Ethical priorities in post-conflict recovery include equitable access, protection of patients and staff, data security, and inclusion of persons with disabilities and affected communities.

Data Availability

All data analyzed in this review are publicly available through indexed databases and institutional repositories. No new datasets were generated. Sources are cited in the reference list.

Fund

This research is not funded

Conflicts of Interest

None declared.

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