Rebuilding Rehabilitation Services for Amputees in Gaza

Prepared by:
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In coordination with
Ministry of Health in Palestine and WHO occupied Palestinian territory

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TAAWON

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"**Stolen Steps**"

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Foreword and Acknowledgements

This initiative is first and foremost dedicated to the **people of Gaza**, whose strength and dignity in the face of unimaginable loss inspires this work. To the patients - children, women, and men - living with amputation and injury: your resilience is the reason this coalition exists, and your right to mobility, independence, and dignity is at the heart of every effort we make.

We extend our deepest respect and gratitude to the **Ministry of Health in Palestine and to the competent staff of the Physiotherapy and Rehabilitation Department**, as well as to the dedicated health and rehabilitation professionals, and the community-based organizations who, despite displacement, destruction, and personal loss, continue to provide care and hope. Your courage sustains the rehabilitation sector even in its darkest hours.

We also acknowledge the vital role of the **Rehabilitation Task Force (RTF) under the Health Cluster, led by World Health Organization occupied Palestinian territory (WHO oPt)**, whose collaboration and technical guidance have been instrumental in framing this initiative and ensuring it connects with global best practice. Alongside WHO oPt, the insights and contributions of countless stakeholders and partners, **from local practitioners to international organizations**, have shaped this roadmap. Your voices have grounded this work in the lived realities of Gaza and ensured it responds to real needs.

We extend our sincere gratitude to **Visualizing Palestine** for generously allowing the use of their graphics and for their outstanding campaign, Stolen Steps, which powerfully illustrates the human impact of Gaza's amputation crisis.

As convening partners - Taawon, the Munib & Angela Masri Foundation, and the Global Health Institute at the American University of Beirut - we recognize that our role extends beyond mobilizing resources. It is also to listen, learn, and to accompany. We remain **committed to supporting Palestinian leadership**, fostering inclusive collaboration, and embedding evidence and innovation so that this initiative does more than rebuild - it restores hope, dignity, and opportunity.

Finally, we dedicate this work to all those whose lives have been lost, and to the survivors who carry the weight of injury and trauma. May this collective effort honor their resilience and contribute to a **future where every person in Gaza can stand, walk, and live with dignity**.

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Executive Summary

Gaza is facing an unprecedented rehabilitation crisis. With more than **65,000 Palestinians killed** and **167,000 injured** as of September 2025, at least **one quarter of the injured** are estimated to require long-term, multidisciplinary rehabilitation. Among them is an unprecedented cohort of child amputations, making **Gaza home to the highest number of child amputees per capita worldwide**. This situation poses unique challenges: repeated prosthetic refitting, complex psychosocial needs, and a lifelong demand for rehabilitation services.

Despite this immense need, rehabilitation in Gaza remains **severely underfunded, fragmented, and donor dependent**. Services are provided through a small number of overstretched centers, only two of which are partially operational, with fewer than ten prosthetic specialists remaining in the Strip. Current financing is dominated by short-term humanitarian projects that prioritize emergency trauma care while leaving long-term rehabilitation needs unmet.

To respond, **Taawon, the Munib & Angela Masri Foundation, and the American University of Beirut's Global Health Institute (AUB-GHI)**, in close coordination with the **Ministry of Health in Palestine and the World Health Organization in the occupied Palestinian territory (WHO oPt)**, have launched a joint initiative to co-develop a coalition framework and financing roadmap for Gaza's rehabilitation sector. This process has engaged a wide range of stakeholders to identify systemic gaps and chart a path toward recovery.

The consultation process highlights three critical financing gaps:

1. **Severe underfunding and unmet needs** - with less than one-quarter of the 2025 OCHA Flash Appeal for health funded.
2. **No dedicated allocations** for prosthetics and pediatric rehabilitation.
3. **Fragmented, inequitable financing** that duplicates efforts in some areas while leaving major gaps in others.

To meet these needs, the report proposes a dual-path approach:

- **Path 1 – Risk Mitigation (6 months):** Rapid interventions to deploy mobile prosthetic and rehabilitation units, strengthen primary healthcare for pre- and post-prosthetic care, build urgent staff capacity, and secure advocacy for the entry of materials and equipment.

- **Path 2 – Long-Term System Recovery:** Establishment of a **Rehabilitation Care Fund (RCF) - a Palestinian-led independent financing vehicle** pooling public, philanthropic, and impact investment capital to ensure continuity of care, rebuild systems, and embed research and evidence generation.

Based on global cost benchmarks (WHO, ICRC, MSF), providing prosthetics, mobility devices, physiotherapy, and psychosocial support for Gaza's estimated **6,500 limb-loss patients** will require **~US$24 million annually**, alongside a **one-time capital investment of US$10–15 million** for facilities, workshops, and training centers. Over a **20-year horizon**, the total requirement is **~US$480 million**.

The RCF would guarantee continuity of care, invest in system strengthening, and embed research and evidence generation. Governance would rest with an independent Board of Trustees, supported by a Palestinian-led implementing secretariat, and transparent monitoring and reporting systems.

The Rehabilitation Care Fund offers donors and partners a credible, transparent, and inclusive mechanism to align resources with patient needs. More than a financing tool, it represents a **commitment to restoring mobility, dignity, and opportunity** for Gaza's amputees and to building a rehabilitation system that is both sustainable and globally significant.

Background

Gaza's amputation and rehabilitation crisis has deepened significantly. According to the WHO September 2025 report, *Estimating Trauma Rehabilitation Needs in Gaza*, **167,376 people injured** with an estimated total of **41,844 people sustaining life-altering impairments**.[1] Of these, approximately **5,000 to 6,500 amputee cases**.[2] All of these cases require long-term, multidisciplinary rehabilitation. Children constitute a disproportionate share, about **25 % of the life-changing injuries are among children.**[2]

Gaza is now home to the highest per capita rate of pediatric amputations globally.[2]

Meanwhile, Gaza's population have been **repeatedly displaced** on a massive scale and access to rehabilitation services is severely limited due to the **widespread destruction** of healthcare infrastructure. **Less than one-third of pre-war rehabilitation services remain operational**, and **no rehabilitation service is fully functional**.[2] The war has further devastated workforce capacity. As of the latest WHO reporting, only **eight prosthetists remain active in Gaza**, providing extremely limited prosthetic and rehabilitation services.[2]

Effective rehabilitation requires a multidisciplinary, patient-centered approach involving orthopedic and surgical specialists, prosthetists, physiotherapists, mental health professionals, and community-based support.

Immediate action is required to expand access, strengthen coordination, and plan for a scalable rehabilitation system. **A coalition approach is needed to align actors, pool resources, and co-develop a unified roadmap.**

The Initiative

In response, a joint initiative has been launched by Taawon, the Munib & Angela Masri Foundation, and the AUB/GHI, in close coordination with the MoH in Palestine and WHO oPt. Through a series of structured stakeholder consultations, this effort brings together key partners to map needs and shape a sustainable and inclusive response for **restoring mobility, dignity, and opportunity to Gaza's people living with limb loss.**

The overarching **objective is to co-develop a shared framework** of principles that can guide both immediate action and long-term system recovery, beginning with the urgent needs of **persons with limb amputations** and ultimately strengthening rehabilitation services for all who require care.

This report is intended to provide donors and implementing partners with a clear orientation on needs and **opportunities for coordinated interventions** framed within the WHO health system building blocks. It offers **a roadmap for interventions that connect emergency response with long-term recovery**, ensuring that mobilized resources deliver sustainable impact in rebuilding Gaza's rehabilitation services for war-related limb loss.

Illustration by ***Visualizing Palestine,***
"**Stolen Steps**"

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[1] WHO, *Estimating Trauma Rehabilitation Needs in Gaza: September 2025 Update, September 2025.*
[2] UNRWA, *If Not for the Sake of Anyone Else, Then at Least for Children … (Official Statement), 2025.*

Methodology

This initiative is committed to grounding itself in the reality of Gaza's current context. The methodology therefore combined inclusive stakeholder engagement with the use of internationally recognized frameworks as an organizing lens.

Stakeholder Engagement and Local Ownership

Between July and September 2025, the team conducted in-depth interviews and a series of online consultations with key actors across the rehabilitation ecosystem in Gaza and the West bank, including coordination bodies from the Physiotherapy and Rehabilitation Department, surgeons, physiotherapists, prosthetists, community rehabilitation specialists, mental health professionals, and international development agencies. This process ensured that the perspectives of those working directly with limb amputations were central to the assessment, promoting local ownership and practical relevance.

Use of Frameworks

To structure the inquiry and guide the packaging of interventions, the analysis drew on the World Health Organization's Health System Building Blocks (2010)[3] and Rehabilitation 2030: A Call for Action (2017)[4]. While not originally designed for contexts of mass, conflict-related amputation, these frameworks provided a systematic structure for assessing gaps and opportunities across the rehabilitation system. They were used as focus areas, rather than rigid evaluation tools, ensuring the analysis remained both comprehensive and aligned with international standards.

Note on Data

The interviews and statistics in this report were collected between July and September 2025, reflecting the most up-to-date information available at the time. A main challenge was the difficulty of interviewing due to internet connectivity and safety considerations. As in any crisis, data is fluid but the data in this report provides a credible snapshot of the scale of need and should be read as the best available to guide urgent action, with the understanding that only once stability is restored can data be fully verified.

[3] WHO, *Monitoring the Building Blocks of Health Systems, 2010.*
[4] WHO, *Rehabilitation 2030: A Call for Action, 2017.*

Guiding Framework

WHO Health System Building Blocks (2010)
The Building Blocks framework identifies six essential components of any health system:

1. Financing – predictable, equitable funding flows.

2. Health Workforce – trained, retained professionals.

3. Service Delivery – integrated, accessible, quality care.

4. Health Information Systems – data for planning, monitoring, and accountability.

5. Medicines & Technologies – safe, evidence-based, maintainable.

6. Governance & Leadership – coordination, standards, and accountability.

In this report, the blocks are used not as rigid categories but as organizing lenses to analyze gaps and package interventions for Gaza's rehabilitation system.

Guiding Framework

Rehabilitation 2030: A Call for Action (WHO, 2017)
Rehabilitation 2030 emphasizes that rehabilitation is not an optional extra, but an essential part of universal health coverage. Its priorities include:

- **Scaling up workforce capacity** for rehabilitation professionals.
- **Integrating rehabilitation into primary care** and across the continuum of services.
- **Building robust health information systems** for patient tracking and outcome measurement.
- **Ensuring sustainability** through long-term investment, not short-term projects.

For Gaza, *Rehabilitation 2030* is a reminder that prosthetics are just one element of care: rehabilitation must be continuous, multidisciplinary, and embedded into the health system.

Current Rehabilitation Context in Gaza

The rehabilitation system in Gaza is under unprecedented strain. Once gradually developing toward a continuum of acute, prosthetic, and social care, it is now being dismantled by destruction of facilities, blockade conditions, and repeated displacement (see Annex A for a comparative illustration of Gaza's patient pathways before and during the war).

Pre-War Limb Amputation Pathway

Before the current war, Gaza's limb amputation pathway was evolving into a comprehensive continuum of care. Acute injuries were managed by specialized limb reconstruction surgeons, who prioritized limb salvage where possible. Patients received physiotherapy, occupational therapy, and assistive devices during hospital admission, with inpatient rehabilitation beds available for complex cases.

Amputees were referred to two prosthetic centers, assessed by multidisciplinary teams, and provided with follow-up and lifelong prosthetic maintenance. Prosthetic provision included advanced devices supplied through NGO-supported projects. Social reintegration opportunities existed through vocational training, adaptive sports programs, and NGO-led initiatives that supported independence and livelihoods.[5]

Current Context

Stakeholder consultations underscored that Gaza's rehabilitation system is collapsing under a triad of destruction:

- **Military offensive:** Facilities destroyed, specialized staff killed or displaced, overwhelming caseloads, and loss of limb salvage capacity.
- **Blockade and Supply Restrictions:** Severe shortages of medicines, surgical materials, assistive devices, nutrition, and prosthetics.
- **Evacuation and displacement:** Patients and staff repeatedly displaced, continuity of care broken, and services evacuated before becoming operational.

This section, based on stakeholder consultations (July–September 2025) and supporting secondary data, presents the current status of rehabilitation and the limb-amputation pathway through two complementary lenses: first, using the WHO Health System Building Blocks to capture system-level realities, and second, through the amputee care journey to illustrate the lived experience of patients navigating each stage of care.

[5] Stakeholder interviews with rehabilitation actors in Gaza, July–September 2025.

Snapshot: Current Status of Rehabilitation System (WHO Building Blocks)

Service Delivery

62% decrease in pre-war rehabilitation facilities. None fully functional.[2]

Fragmented services dominated by emergency trauma care. Limb reconstruction capacity has collapsed, referral pathways are weak, and most primary care and community rehab services are non-functional.

Health Workforce

8 prosthetists remain active. No new P&O graduates since late 2023.[2]

Severe shortages of physiotherapists, prosthetists, occupational therapists, and mental health providers. Training pipelines disrupted; many professionals displaced or killed. In-country training opportunities are suspended.

Health Information Systems

Estimated 5,000-6,500 amputations since Oct 2023, including 1,250-1,625 children.[2]

A centralized registration portal is in place and used to track cases across regions. Coverage and verification remain incomplete due to displacement and access barriers, and longitudinal outcome data are limited.

Medicines & Technologies

Estimated ~6,000 prosthetic limbs required.[6]

Imports of prosthetic materials and assistive devices are severely restricted. Stocks are nearly exhausted. Locally developed adaptations (e.g., modular sockets, 3D printing) exist but remain at pilot stage.

Financing

Only ~20% of assistive device needs covered in 2024–25.[7]

Rehabilitation depends almost entirely on short-term humanitarian aid. Funding is fragmented across projects, leaving no sustainable financing for long-term rehabilitation, prosthetics maintenance, or system strengthening.

Leadership & Governance

Coordination mechanism active; P&O technical committee formation in progress (2025).

A dedicated coordination body for rehabilitation is active, mapping services, convening partners, and issuing technical guidance. A technical committee on prosthetics & orthotics is established to set standards and provide oversight. **Strategic policy direction and long-term planning remain weak; interventions are still largely project-based and emergency-driven.**

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[6] Humanity & Inclusion, *More than 6 Thousand Prosthetic Limbs Needed in Gaza, Press release, June 2025.*

[7] OCHA, *Financial Tracking Service – Flash Appeal 2025 Funding Progress, 2025.*

Snapshot: Current Status - Amputee Care Journey

Emergency & Acute Care

Hospitals remain overwhelmed, often operating at more than triple their intended capacity. Limb salvage services have largely collapsed due to destruction of surgical units, loss of skilled staff, and critical shortages of supplies. Many amputations are performed under extreme conditions with high risk of infection. Premature discharges are common as beds are urgently needed for new trauma cases.

Early Rehabilitation

Physiotherapy and wound care are inconsistent. Many patients are discharged without mobility aids, delaying recovery and increasing risk of long-term disability. Psychosocial support remains limited, though remote and community-based services have been introduced in shelters and camps to bridge gaps.

Prosthetic Fitting

A centralized registration system is in place, with thousands of new amputees recorded. Yet material shortages, damaged facilities, and only a handful of prosthetic specialists mean most patients face long delays. Device quality and durability are inconsistent, and pediatric coverage is minimal. Some centers have begun pooling staff and coordinating care to reach displaced patients.

Long-Term Rehabilitation

Access is extremely limited. Waiting lists already exceed available capacity. Community-based rehabilitation remains weak, though some outreach initiatives are restarting. Preventable secondary complications (e.g., bedsores, contractures) are rising sharply due to lack of follow-up.

Psychosocial & Social Reintegration

Amputation carries severe psychological and social consequences, including stigma, isolation, and loss of livelihoods. Psychosocial support is being delivered in schools, camps, and “one-stop” service points, but needs far exceed resources.

Current Response Efforts: Challenged yet Committed

The rehabilitation response in Gaza is **sustained by a determined but overstretched network of actors**. The Ministry of Health (MoH) carries overall responsibility, working with civil society and international partners, and co-leading the Rehabilitation Task Force with the World Health Organization occupied Palestinian territory (WHO oPt) office and Humanity & Inclusion (HI). This body plays a central role in mapping services, coordinating partners, and issuing technical guidance.[8]

In consultations with Task Force members and prosthetics and orthotics specialists, stakeholders underscored both the severe obstacles and the adaptive efforts underway. **Hospital-based rehabilitation** has been reduced to a fraction of its former capacity, with most primary care centers collapsed and outreach suspended. **Amputation care** is especially critical with limited staff and materials. **Long-term rehabilitation** is curtailed, with uneven access across Gaza, while **psychosocial support** continues in schools, shelters, and community points thanks largely to community actors.

Despite immense strain, stakeholders consistently emphasized their commitment to continuity and safety, stressing that all interventions must remain evidence-based and sustainable.

Illustration by *Visualizing Palestine*, "**Stolen Steps**"

[8] WHO, *Rehabilitation Task Force Terms of Reference*, WHO Health Cluster, 2024.

Current Response Actors at a Glance[9]

Ministry of Health (MoH)	Holds overall responsibility for the health sector; provides limited inpatient and outpatient rehabilitation in hospitals; co-leads the Rehabilitation Task Force with the World Health Organization occupied Palestinian territory (WHO oPt) office and Humanity & Inclusion (HI).
World Health Organization occupied Palestinian territory (WHO oPt)	Co-leads the Rehabilitation Task Force; provides technical guidance and standards; drives global push to restart limb reconstruction services; coordinates donor engagement and international technical assistance.
Humanity & Inclusion (HI)	Co-leads the Rehabilitation Task Force; delivers technical expertise; supports remote rehabilitation services; facilitates outreach through community-based rehabilitation approaches.
International Committee of the Red Cross (ICRC)	Co-supports the registration system (MoH–ICRC–WHO); provides technical and material support for prosthetics production and fitting; supports limb reconstruction initiatives; trains and mentors local rehabilitation staff; facilitates emergency medical and surgical support.
Artificial Limbs and Polio Center (ALPC)	Provides prosthetic and orthotic services, physiotherapy, and rehabilitation for amputees and persons with disabilities; collaborates with international partners for training and materials.
Hamad Hospital for Rehabilitation and Prosthetics	Specialized rehabilitation hospital in Gaza providing prosthetics, orthotics, physiotherapy, and inpatient rehabilitation; a major referral point for amputees.
Al-Wafaa Hospital	Provides long-term inpatient rehabilitation, geriatric care, physiotherapy, and occupational therapy; key referral center for patients with severe disabilities and chronic rehabilitation needs.
Nasser Hospital	Serves as a major referral hospital and limb-amputation center; provides emergency trauma care and life-saving surgeries, including amputations.
Palestinian Medical Relief Society (PMRS)	Runs community-based rehabilitation programs, mobile clinics, and outreach, including psychosocial support for displaced populations.
Gaza Community Mental Health Programme (GCMHP)	Provides mental health and psychosocial support (MHPSS) services, integrated care pilots, and psychosocial support in schools and shelters.
United Nations Relief and Works Agency for Palestine Refugees in the Near East (UNRWA)	Delivers primary healthcare for refugees; supports rehabilitation referrals; integrates psychosocial support in schools; operates health centers in camps.
Restoring Hope Society (RHS) in collaboration with Royal Medical Services (RMS, Jordan)	Provide specialized surgical teams and facilities in Jordan for complex reconstructive surgeries; operate mobile medical and rehabilitation units in Gaza, including prosthetics and outreach services for displaced populations.
Civil Society & Local NGOs	Provide ad-hoc outreach, psychosocial activities, and limited assistive devices; expand rehabilitation outreach in communities.

[9] Author's compilation based on stakeholder consultations and public sources, August 2025. This table presents the main actors engaged in rehabilitation response in Gaza. It is not intended as an exclusive or exhaustive account.

System Strengths and Sparks of Resilience

Despite the immense strain, important strengths have emerged that demonstrate resilience and creativity within Gaza's health and rehabilitation system. Based on stakeholder consultations, patients can now register their injuries and self-refer for prosthetic care through an online referral system coordinated by the Ministry of Health, WHO, and the ICRC. This mechanism, while still under development, is a milestone in reducing fragmentation and ensuring visibility of new amputees. A global effort is also underway to restart local limb reconstruction services, including surgical training to improve long-term outcomes.

To overcome access barriers, virtual services have been introduced: physiotherapy, mental health support, and follow-up consultations are now being delivered remotely. On the ground, prosthetic centers are collaborating closely, pooling staff and coordinating care across facilities to ensure that even displaced patients are reached. Community-based actors have also stepped in to expand rehabilitation outreach and provide psychosocial support in schools, camps, and medical points. Integrated "one-stop" service points have also been established, bringing wound care, rehabilitation, and mental health support together in a single location to reduce the burden of travel for patients.

These efforts illustrate that, even under devastating conditions, adaptive solutions are possible. They form a base of resilience that donors can strengthen and scale – transforming fragmented emergency responses into a more cohesive, sustainable rehabilitation ecosystem for Gaza.

Building on these fragile but vital adaptations, a clear framework for action is needed to convert emergency coping strategies into a sustainable, coordinated rehabilitation system for Gaza.

Key Challenges at a Glance

- **Geographic inequity:** Services are concentrated in the north, leaving central and southern Gaza underserved.
- **Collapse of infrastructure:** Most primary care centers and specialized rehab units are closed; only a few hospitals remain partially functional.
- **Workforce shortage:** Only eight qualified prosthetics specialists are available for thousands of new amputees.
- **Material scarcity:** Severe restrictions on importing prosthetics, mobility aids, and rehab equipment limit service delivery.
- **Continuity gaps:** Lack of follow-up care leads to preventable complications.
- **Overwhelming demand:** Waiting lists for long-term rehab already exceed available capacity, with new cases rising daily.

System Strengths at a Glance

Access Solutions

- **Self-Referral:** Patients can register injuries and self-refer for prosthetic care through an online system.
- **Virtual Care:** Physiotherapy, mental health support, and follow-up consultations are being delivered remotely to overcome access barriers.

Collaborative Care

- **Limb Reconstruction:** Efforts are underway to restart local limb reconstruction services, supported by surgical training to improve long-term outcomes.
- **Prosthetics Collaboration:** Centers are pooling staff and coordinating care to ensure continuity of services for displaced patients.
- **Integrated Service Points:** "One-stop" locations bring wound care, rehabilitation, and mental health support together, reducing the burden of travel.

Community Outreach

- **Expanded Services:** Community-based actors are increasing rehabilitation and psychosocial support in schools, medical points, and camps to extend patient reach.

Illustration by *Visualizing Palestine*, "**Stolen Steps**"

Framework for Action

From Dialogue to Direction

Partners engaged in this initiative agree that rebuilding Gaza's rehabilitation system cannot be achieved through isolated projects or short-term fixes. The consultations made clear that what is needed is a coordinated framework for action - one that prevents duplication, ensures continuity of care, and lays the foundation for a system that is both resilient and equitable.

To provide such structure, the WHO Health System Building Blocks have been adapted as the organizing framework. Addressing leadership and governance, financing, service delivery, workforce, information systems, and access to essential technologies, the model offers a comprehensive lens through which gaps can be identified, priorities set, and interventions sequenced.

This framework serves as a shared roadmap for action to guide donors, implementing agencies, and local partners in aligning resources and expertise. The intervention packages that follow translate this roadmap into practical proposals, offering clear entry points for investment and collaboration. They are a starting point for collective action and will require further development with stakeholders to ensure effective, sustainable implementation.

Structure of the Roadmap

The framework is presented through six focus areas, each corresponding to a WHO Health System Building Block: workforce, service delivery, technologies, information systems, financing and governance. Each chapter outlines the case for action, synthesized needs, and an intervention package designed around progressive levels of investment, as well as collaboration opportunities and case examples.

While each focus area can be read independently, they are interlinked: financing must underpin all other pillars; workforce capacity is essential to service delivery; technologies require both financing and trained personnel; information systems are the backbone of planning; and governance ties all pieces together. Taken together, the six chapters form a cohesive framework and roadmap for moving from emergency response toward long-term system recovery.

Focus Area 1: Service Delivery for Rehabilitation & Continuity of Care

The Case for Action

The destruction of Gaza's health system has left rehabilitation services deeply fragmented, under-resourced, and often inaccessible. The scale of need is unprecedented.

Key Facts: Gaza's Amputation and Rehabilitation Crisis (WHO, September 2025)[2]

167,376 people injured since October 2023.

41,844 people (~ 25%) people with life-changing injuries.

25% of all life-changing injuries are among children.

5,000 – 6,500 amputations.

Gaza now has the **highest per-capita rate** of pediatric amputations globally.

840 cases of child amputations (~17% of total amputations) reported by MoH.

62% decrease in pre-war rehabilitation facilities; none fully functional.

Only **eight prosthetists** remain active, providing extremely limited services, under severe constraints.

Rehabilitation today is provided ad hoc - through temporary NGO arrangements or overloaded hospital wards - with no structured service delivery system. Beyond destroyed facilities, service delivery is constrained by severe mobility and infrastructure challenges. The infrastructure in Gaza has largely collapsed, leaving patients unable to reach rehabilitation centers even when they are functioning. For amputees, especially children and the elderly, displacement compounds these barriers: each move cuts them off from continuity of care. Without mobile outreach, the majority of amputees remain unreached.

Providers also stressed that service delivery is almost entirely emergency-driven, focused on trauma stabilization rather than long-term rehabilitation. Many amputees receive a prosthesis without structured follow-up therapy, while others receive rehabilitation sessions without access to a device. The absence of standardized care pathways means duplication for some patients and total exclusion for others. For children, the gaps are especially severe. Pediatric rehabilitation - which should combine prosthetic refitting, physiotherapy, play-based therapy, and educational support - is absent.

Synthesized Need

Based on stakeholder consultations and analysis of available data, service delivery gaps can be synthesized into three priority areas:

1. **Integration and Equity Across the Continuum of Care**

- **Rehabilitation must move beyond emergency-driven interventions** to become a structured continuum of care - from prosthetic fitting, to therapy, to psychosocial support, to follow-up.
- **Integration into primary care is essential:** general therapists must be equipped with basic amputation and psychosocial care skills, while a specialized cadre is trained to deliver advanced services.
- **Integrated mobile rehabilitation teams must be prioritized** to overcome Gaza's destroyed transport infrastructure and patient immobility, ensuring continuity of care for displaced families and those in remote areas.
- **Community-based rehabilitation (CBR) and outreach are needed** to ensure that women, children, elderly, and people with pre-existing disabilities are not left behind.

2. **Pediatric Rehabilitation as a System Cornerstone**

- **Dedicated pediatric rehabilitation services must be established** as children require repeated prosthetic refits, long-term therapy and psychosocial support, ensuring that children are not excluded from rehabilitation pathways.

3. **Rebuilding and Restoring Rehabilitation Facilities**

- **Facility-based care must be re-established** to anchor multidisciplinary rehabilitation, including prosthetics, physiotherapy, occupational therapy, and psychosocial services.

Intervention Package: Service Delivery

Overall Aim

To rebuild Gaza's rehabilitation service delivery system as a continuum of care - linking prosthetic provision, therapy, psychosocial support, and follow-up - that is facility-based, mobile, equitable, and child-inclusive.

Three Service Delivery Envelopes

The package is structured into three envelopes with realistic outputs over a three-year horizon. While presented separately, they must overlap in execution.

Envelope	Key Actions	Expected Outputs
Restore Access through Mobile & Core Facility Services (1-2 Yrs)	• Deploy integrated mobile rehabilitation teams (prosthetist, physiotherapist, occupational therapist, psychosocial worker, driver/assistant) with fully equipped vans. • Rehabilitate and reopen 3–4 core multidisciplinary rehab centers as anchors for mobile services. • Integrate basic amputation and psychosocial care into primary care facilities to expand frontline access. • Launch community-based rehabilitation (CBR) pilots in displaced communities. • Provide targeted pediatric mentoring programs for children with new amputations.	~30% of amputees reached with services; 10+ mobile teams active; 3–4 centers functional; pediatric protocols initiated in at least 2 locations.
Expand Continuum of Care & Coverage (2-3 Yrs)	• Expand to 20+ integrated mobile teams covering all governorates. • Scale up to 8–10 multidisciplinary rehab centers as hubs for advanced and referral-level care. • Standardize care pathways (device → therapy → psychosocial → follow-up) across providers. • Expand CBR programs to all governorates, targeting women, children, and people with disabilities. • Embed pediatric rehabilitation services in schools and community centers, with trained specialists.	~60% of amputees covered by structured rehabilitation; pediatric rehab integrated in schools; standardized pathways operational; displacement no longer a barrier to access.
Institutionalize & Sustain a National Continuum (3+ Yrs)	• Institutionalize mobile rehabilitation services as part of Gaza's standard health service model. • Integrate rehabilitation into all primary care networks, ensuring basic amputation and psychosocial care are available at the first point of contact. • Establish a national rehabilitation referral network linking hospitals, rehab centers, mobile teams, schools, and community services. • Institutionalize pediatric rehabilitation programs, with dedicated units, curricula, and psychosocial support embedded. • Establish a monitoring and quality assurance system linked to the amputee registry.	~90% of amputees reached; 20+ mobile teams institutionalized; pediatric rehabilitation fully embedded; rehabilitation is a permanent, quality-assured part of the health system.

Collaboration Opportunities and Case Examples

Rebuilding, scaling and sustaining service delivery for rehabilitation in Gaza will require leveraging the strengths of existing local actors and proven regional models.

- **Palestinian Medical Relief Society (PMRS):** Decades of experience in community-based rehabilitation (CBR) and outreach, with a strong network of community health workers. PMRS could anchor mobile rehabilitation teams and home-based care, reaching displaced and hard-to-access populations who cannot travel to facilities.[10]

- **Gaza Community Mental Health Programme (GCMHP):** The leading provider of mental health and psychosocial support (MHPSS) in Gaza. With established programs in schools, clinics, and communities, GCMHP is ideally positioned to embed psychosocial care into rehabilitation pathways, ensuring trauma and disability are addressed together.[11]

[10] PMRS, *Community-Based Rehabilitation in Palestine – Annual Report*, 2021.
[11] GCMHP, *Mental Health and Psychosocial Services in Gaza*, 2022.

- **UNRWA "One-Stop" Model:** UNRWA piloted integrated hubs combining primary care, rehabilitation, and psychosocial support.[12] This "one-stop" model reduces duplication and improves continuity of care and could be adapted as a template for Gaza's multidisciplinary rehab centers.

- **The Bethlehem Arab Society for Rehabilitation (BASR)** operates a comprehensive rehabilitation hospital and outreach teams. BASR's experience in linking hospital-based services with home and community care is a ready partner model for Gaza.[13]

- **Regional Rehabilitation Hubs (Jordan)** - The Royal Medical Services (RMS) and Médecins Sans Frontières (MSF) operate advanced centers in Amman that integrate surgery, prosthetics, physiotherapy, occupational therapy, and psychosocial care. These facilities can serve as referral partners, training sites for Gaza clinicians, and platforms for joint procurement of specialized equipment.[14,15]

  Additionally, Restoring Hope Society (RHS) are currently in the process of setting up a Jordanian Center of Excellence to serve conflict-affected patients from Gaza, Syria, Iraq, Yemen, Sudan, and beyond, while also offering advanced rehabilitation services to Jordanian and international patients, in addition to training and innovation.

- **Lebanon: The Chair of Conflict Medicine at AUB** can mobilize its network of medical practitioners and experts, including surgeons, prosthetists, physiotherapists, and pediatric specialists, for deployment to Gaza. Their engagement will be essential in the acute emergency phase to provide immediate, life-saving services. These interventions can be structured to ensure continuity of care, creating pathways that link urgent response with longer-term rehabilitation and recovery. This is to be done in parallel to building and strengthening local workforce capacity, enabling a sustainable transition from external support to locally led service delivery.

- **Ukraine (comparative):** Following 2022, Ukraine scaled mobile rehabilitation teams to reach displaced populations despite destroyed infrastructure and introduced tele-rehabilitation services.[16]

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[12] UNRWA, *Annual Health Programme Report*, 2022.

[13] BASR, *Annual Report*, 2022.

[14] Jordanian Royal Medical Services, *New Royal Initiative Launched to Address Gaza Amputee Crisis*, August 26, 2024.

[15] Médecins Sans Frontières, *MSF Opens Upgraded Reconstructive Surgery Hospital for Victims of War*, Press release, September 7, 2015.

[16] WHO, *Ukraine Rehabilitation Response – Situation Report*, 2023.

Focus Area 2: Health Workforce for Rehabilitation & Prosthetics

The Case for Action

Rehabilitation in Gaza is paralyzed not only by destroyed facilities and underfunded services but by the collapse of its workforce. As of 2025, only eight prosthetics remain active.[2] Gaza has the highest per capita rate of pediatric amputations in the world. Yet there are no pediatric-trained rehabilitation professionals in Gaza.

Stakeholders describe a workforce on the brink of collapse. Against global standards - roughly 1 prosthetist per 250-300 amputees and 1 physiotherapist per 100–150 rehabilitation patients - Gaza's current ratios fall far below minimum requirements.[17] Training pipelines have broken down, leaving no mechanism to replenish or expand capacity. Even where new graduates or specialists have been trained abroad, many have been denied re-entry into Gaza due to access restrictions, further eroding capacity and creating a bottleneck in workforce renewal.[18]

International surge support has also been constrained: nearly half of Emergency Medical Team staff attempting to enter Gaza have been denied access, according to WHO and OCHA reporting in 2025.[19] While not disaggregated by specialty, these restrictions severely limit the deployment of prosthetists, physiotherapists, and other rehabilitation experts.

The absence of research feedback loop further undermines quality, as no data links patient outcomes to training, workforce planning, or financing.

Synthesized Need

Without urgent action to stabilize and expand this workforce, international investments in devices, facilities, and financing will be wasted. Based on stakeholder consultations, there is an urgent and systemic need to:

1. **Stabilize and retain the existing workforce** - by sustaining salary support for current workforce, mentoring, surge deployments, and psychosocial support to ensure Gaza does not lose its last prosthetists and physiotherapists.
2. **Rebuild capacity and establish long-term development pathways** - by training new cohorts, expanding accredited CPD (Continuous Professional Development), embedding rehabilitation into national health program, and developing a national training program linked to research and outcomes. Rehabilitation must also be integrated into primary care, so that general therapists are equipped with basic amputation care skills, while a specialized cadre is built to provide advanced services.
3. **Establish pediatric specialization as a cornerstone** - by developing a dedicated cadre of prosthetists and physiotherapists trained to meet the complex, long-term needs of child amputees, including repeated prosthetic replacement and child-centered physiotherapy.

Intervention Package: Health Workforce for Rehabilitation & Prosthetics

Overall Aim

To transform Gaza's depleted and fragmented rehabilitation workforce into a predictable, specialized, and sustainable system capable of delivering high-quality prosthetic and rehabilitation care, with pediatric specialization and built-in research-feedback loop.

Stabilize and retain the existing workforce - by sustaining salary support for current workforce, mentoring, surge deployments, and psychosocial support to ensure Gaza does not lose its last prosthetists and physiotherapists.

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[17] ISPO, *Workforce Norms and Global Standards.*

[18] WHO EMRO, *Access and Movement Restrictions Impact on Health Workforce – Occupied Palestinian Territory Update*, 2025.

[19] WHO, *Emergency Medical Teams in Gaza, March–May 2025*, 2025.

Rebuild capacity and establish long-term development pathways - by training new cohorts, expanding accredited CPD (Continuous Professional Development), embedding rehabilitation into national health program, and developing a national training program linked to research and outcomes. Rehabilitation must also be integrated into primary care, so that general therapists are equipped with basic amputation care skills, while a specialized cadre is built to provide advanced services.

Establish pediatric specialization as a cornerstone - by developing a dedicated cadre of prosthetists and physiotherapists trained to meet the complex, long-term needs of child amputees, including repeated prosthetic replacement and child-centered physiotherapy.

Three Workforce Envelopes

The package is structured into three envelopes with realistic outputs over a three-year horizon. While presented separately, they must overlap in execution.

Envelope	Key Actions	Expected Outputs
Retain & prevent collapse (1-2 Yrs)	• Provide salary support for current workforce. • Deploy a minimum of 10 international surge experts (prosthetists, physiotherapists, psychosocial specialists). • Establish remote mentoring & tele-supervision networking. • Deliver rapid training workshops for Gaza-based staff. • Initiate pediatric mentoring and appoint 2–3 pediatric leads.	Workforce collapse averted; ~25–30% of amputees reached with services; mentoring networks active; pediatric protocols introduced.
Rebuild & expand capacity (2-3 Yrs)	• Train 50 new rehabilitation professionals. • Expand accredited CPD/e-learning platforms. • Provide 30 scholarships abroad for rehabilitation sciences. • Scale up mentorship systems. • Develop and implement pediatric CPD modules & practicums. • Ensure that new P&O enter the market with base skills for the use of new technologies, e.g. update/reinforce local curriculums and education institutions to accelerate the adoption of new technologies in the assistive devices and rehabilitation fields.	Workforce +50%; 10–15 pediatric specialists in training; ~60% amputees gain access to structured rehab.
Institutionalize & specialize (3+ Yrs)	• Establish a national accredited training program in prosthetics and rehabilitation sciences. • Embed CPD/e-learning into the national health workforce system. • Establish a rehabilitation research unit to link outcomes with training and planning. • Develop pediatric sub-specialty accreditation and build a dedicated faculty pipeline.	Sustainable pipeline (~250 professionals incl. 20–30 pediatric specialists); pediatric rehab embedded; research-driven workforce planning.

Collaboration Opportunities and Case Examples

When considering how to execute the proposed actions and funding envelopes to address Gaza's rehabilitation workforce crisis, it is essential to look beyond Gaza itself and leverage regional and international collaboration opportunities to expand training capacity, accelerate specialization, and create sustainable pipelines of expertise.

West Bank: The Arab American University (AAUP) recently established a P&O training program, the first of its kind in Palestine.[20] The program is already exploring online and blended learning to reach students beyond its main campus. Collaboration with Gaza universities and health institutions could scale this initiative, delivering both undergraduate training and accredited continuous professional development (CPD) modules tailored to rehabilitation needs inside Gaza.

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[20] Arab American University, *P&O Program Launch Announcement*, 2024.

Jordan: Several universities in Amman, including the University of Jordan, offer accredited prosthetics and orthotics (P&O) and physiotherapy programs.[21] Adapted fellowship or scholarship pathways could allow Palestinian students from Gaza to train in Jordan, with return agreements to ensure reintegration into the Gaza health system.

Lebanon: The Chair of Conflict Medicine at AUB can leverage its network of academics, humanitarian and development partners, and telemedicine services to strengthen the rehabilitation and prosthetics workforce in Gaza, including scholarships for medical residencies in Lebanon and the region. Furthermore, the Global Health Institute at AUB offers a range of online and in-person training and certification programs, such as the Mobile University for Health[22] which equips community health workers with MHPSS skills, the Infection Prevention and Control Certificate, the online Certificate in Conflict Medicine[23] and the Humanitarian Leadership Diploma (HLD)[24] , which enhance practitioners' capacity in conflict settings, as well as strengthen their leadership skills. AUB-GHI also offers the CREEW Fellowship[25] which equips frontline health practitioners with the necessary skills to conduct research in conflict settings. Finally, AUB-GHI provides specialized in-person courses to prepare medical and humanitarian professionals to manage trauma, amputations, and rehabilitation in complex emergencies, and can mobilize experts to deliver remote training in prosthetics and orthotics, ensuring technical expertise reaches practitioners in Gaza.

Ukraine (comparative model): Following the 2022 invasion, Ukraine faced a surge in traumatic injuries and amputations. In response, rapid fellowship programs were created to retrain physiotherapists and occupational therapists in war-related rehabilitation needs.[26] Gaza could adopt a similar model.

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[21] University of Jordan, *Faculty of Rehabilitation Sciences – Program Overview*, 2024.

[22] AUB, *Mobile University for Health (MUH)*, Global Health Institute, December 12, 2024.

[23] AUB, *Certificate in Conflict Medicine (CCM)*, Global Health Institute, January 27, 2025.

[24] AUB, *Humanitarian Leadership Diploma (HLD)*, Global Health Institute, 2025.

[25] AUB, *Center for Research and Education in the Ecology of War (CREEW)*, Global Health Institute, October 1, 2025.

[26] WHO Europe, *Rehabilitation in Ukraine: Rapid Response Fellowship Models for War-Related Trauma*, 2023.

Focus Area 3: Medicines & Technologies

The Case for Action

Rehabilitation in Gaza is critically constrained by the collapse of access to prosthetic devices, assistive technologies, and rehabilitation equipment. Import restrictions, facility destruction, and funding shortages mean that most amputees in Gaza remain on waiting lists for prosthetic devices, and even those who receive a first fitting often lack access to follow-up adjustments or replacement cycles. This is especially acute for children, who require 2–3 prosthetic refits within three years to keep pace with growth. Without timely replacement, devices become painful, non-functional, or even damaging.

Stakeholders report that current provision is fragmented and donor-driven, often reliant on short-term humanitarian shipments. There is no centralized registry to track who has received devices, when replacements are due, or how outcomes compare across providers. This leads to duplication for some patients while others remain entirely excluded.

Global standards highlight the urgency of systematic provision: access to appropriate assistive technologies is considered a core pillar of universal health coverage, yet in Gaza, provision is far below minimum benchmarks. Pediatric-appropriate devices are especially scarce, and no local capacity exists for systematic fabrication or repair.

Without predictable access to prosthetic and rehabilitation technologies, investments in other building blocks - such as workforce training and service delivery - risk being wasted. Physiotherapists cannot deliver effective therapy without devices, and patients cannot benefit from rehabilitation programs without properly fitted prosthetics. Technologies are therefore a critical enabler of the entire rehabilitation system.

The demand is overwhelming, particularly among children, while the capacity to respond is extremely limited. Stakeholders highlighted the following reinforcing barriers:

1. **High and rising demand:** large numbers of amputees, particularly children, with limited capacity to respond.
2. **Severe mobility and infrastructure constraints:** destroyed facilities, displacement, and restrictions on patient movement.
3. **Supply bottlenecks:** scarcity of raw materials and reliance on fragile logistics.
4. **Fragmented systems:** siloed service provision and absence of a unified information platform leading to duplication and inequity.
5. **Human resource shortages:** very few trained prosthetists and technicians relative to need.
6. **Cost sustainability:** uncertainty around financing long-term prosthetic care for expanding cohorts of patients.

Amid these challenges, a spectrum of emergency and innovative responses is being piloted:

- **Mobile prosthetic units and rapid socket technologies** have enabled hundreds of emergency fittings under extreme conditions, often within hours.
- **Hybrid models** combine traditional prosthetics with digital solutions: scans taken in Gaza, sockets produced in regional workshops, and devices returned for fitting.
- **3D-printed prostheses** show potential as scalable, cost-effective solutions and turnaround times as short as one week.
- **Regional manufacturing strategies** are being explored to leverage industries in the West Bank and neighboring countries, emphasizing harmonized standards and pooled procurement, effective data systems, and government engagement.
- **Research collaborations** are advancing pediatric-focused designs and reinforcing the need to integrate evidence, follow-up, and monitoring into all models of care.

Stakeholders consistently emphasized that while such innovations are valuable, they must not replace the immediate provision of proven devices. Instead, pilots should be linked to research, audit, and systematic follow-up so that emergency improvisation evolves into sustainable practices that improve service quality and patient outcomes.

Taken together, these findings illustrate both the urgency of the crisis and the opportunity for system transformation if coordinated through a balanced roadmap that links immediate relief with medium-term rebuilding and long-term sustainability.

Synthesized Need

Based on stakeholder consultations, Gaza's prosthetic and rehabilitation technology gaps can be synthesized into three priorities:

1. **Immediate Provision of Assistive Devices**
- Current stock is far below demand, and many fitted devices go without follow-up adjustment or repair, becoming unusable within months.
- The immediate need is to scale what already works - proven prosthetic models, urgent repairs, and rapid pediatric refits (2-3 cycles in the first three years for each child).

2. **Adoption of Proven Prosthetic Technology with Research Linkages**
- Stakeholders stressed that Gaza cannot be a testing ground for unproven prosthetic prototypes.
- However, hybrid approaches - such as combining imported components with modular, regionally sourced, or 3D-printed parts - can reduce costs and improve sustainability if introduced cautiously.
- These innovations must be linked to research-feedback loop that tracks safety, usability, and outcomes, ensuring that only field-tested solutions are scaled.

3. **Development of Local and Regional Production Models**
- Gaza has no local fabrication capacity and remains fully dependent on humanitarian imports - a system that is fragile, fragmented, and inequitable.
- Sustainable provision and servicing require a shift toward local assembly and repair capacity, supported by regional procurement or manufacturing alliances with neighboring countries.
- Over time, selective use of digital manufacturing (e.g., 3D printing of pediatric components) can complement these models, improving adaptability and resilience.

Together, these three priorities - urgent assistive device provision, proven prosthetic technology linked to research, and local/regional production models - would transform Gaza's technology landscape from fragmented humanitarian shipments into a system that is predictable, safe, and sustainable.

To illustrate the complexity of rehabilitation and the range of interventions required, the following figures present key dimensions of Gaza's limb loss and amputation care journey.

Together, these figures provide a visual framework for understanding the patient journey, the technical requirements of prosthetic care, and the systemic investments needed to make rehabilitation both effective and sustainable.

Figure 1. Medical Products and Assistive Devices Needed across the Limb Loss and Amputation Care Journey

Limb Loss and Amputation Care Journey

Medical Products and Assistive Devices Needed

Emergency & Acute Care	Early Rehabilitation	Pre-Prosthetic Preparation	Prosthetic Fitting & Training	Long-Term Reintegration	Psychosocial & Preventive Supports
Tourniquets, antibiotics, external fixators, negative-pressure wound therapy	**Wheelchairs with cushions, stump shrinkers, pressure-relief supports, pain relief tools**	**Silicone liners, compression socks, temporary sockets, parallel bars, balance tools**	**Modular prosthetic systems (sockets, pylons, feet, knees), CAD/CAM workshop tools**	**Wheelchairs, ramps, home modifications, protective sovers, apape parts**	**Pain management (TENS, mirror therapy), ortheses for sound limb, peer groups, follow-up care**
Saves lives, prevents infections	Restores mobility prevents complications	Prepares limb and body for prosthetic fitting	Enables participation in community, school and work	Enables participation in community, school and work	Improves quality of life and prevents secondary-disability

Figure 2. Prosthetic Solutions: From Temporary to Long-Term Solutions

Temporary Solutions

Traditional (Temporary)

Pylons and training sockets

Pros: Simple, low-cost, quickly fabricated.

Cons: Limited durability, uncomfortable for extended use, poor aesthetics.

3D-Printed (Temporary)

Lightweight training sockets or interim limbs

Pros: Fast turnaround, customizable fit, scalable in emergencies.

Cons: Material strength can be lower, limited lifespan; requires printers and trained staff.

Long-Term Solutions

Traditional (Modular Systems)

Sockets, pylons, SACH/Polycentric feet, body-empowered arms

Pros: Proven, robust, relatively affordable, maintainable in low-resource settings.

Cons: Less natural movement, heavier, less comfortable for active users.

3D-Printed (Definitive Devices)

Sockets, covers, hands/limbs

Pros: Highly customizable, lightweight, scalable for children and growing populations.

Cons: Material strength can be lower, limited lifespan; requires printers and trained staff.

High-Tech (Advanced & Smart Systems)

Energy-storing feet, hydraulic/microprocessor knees, myoelectric hands

Pros: Closest to natural function, reduces risk of falls, enhances independence.

Cons: High cost, requires specialized maintenance and skilled professionals, limited availability, repairs and replacements challenging in low-resource settings, power or charging requirements.

Figure 3. Production Models for Prosthetic Care

Centralized Workshops

Prostheses are produced in specialized rehabilitation centers with trained technicians.

Decentralized/Community -Based Workshops

Smaller satellite workshops extend services closer to patients, often using prefabricated modular components.

3D Printing and Digital Production

Digital scanning and 3D printing allow sockets or temporary devices to be produced quickly and with less reliance on heavy machinery.

Hybrid Models

Combines centralized expertise with local outreach and 3D technology.

Intervention Package: Medicines & Technologies

Overall Aim

To ensure timely, equitable, and sustainable access to prosthetic devices, assistive technologies, and rehabilitation equipment, with systems for replacement, repair, and pediatric adaptation, underpinned by safe and proven technologies and built-in research-feedback loop.

Three Technology Envelopes

The package is structured into three envelopes with realistic outputs. While presented separately, they must overlap in execution.

Envelope	Key Actions	Expected Outputs
Immediate Access & Repair (1-2 Yrs)	• Procure, distribute and fit prosthetic and orthotic devices using mobile units, rapid sockets and 3D printing options. • Prioritize pediatric refits (2–3 replacements per child within three years). • Deploy mobile repair and adjustment teams to extend device lifespan. • Stockpile critical components inside Gaza to minimize supply chain disruptions.	100% of new amputees provided with initial devices; ~70% of pediatric amputees receive first refit; emergency repair services functional.
Hybrid Technology & Structured Replacement (2-3 Yrs)	• Scale structured rehabilitation cycles (fitting, therapy, refitting, replacement). • Rehabilitation of prosthetics workshops. • Launch a centralized prosthetic registry linked to the amputee database to track devices and replacements. • Expansion of hybrid traditional–digital models. • Link all hybrid technology pilots to a research-feedback loop to monitor safety, usability, and outcomes. • Establish structured research collaborations on prosthetics and assistive technologies; embed follow-up, audit, and data systems into all service delivery. • Prioritize pediatric prosthetics research. • Build partnerships with local and international academic institutions. • Support displaced researchers.	Registry established and operational; 60% of amputees in structured rehab cycles; 1,500+ pediatric refits completed; hybrid technologies tested under research oversight.
Local Production & Regional Alliances (3+ Yrs)	• Establish a local prosthetic fabrication and assembly facility, including technician training. • Pilot digital manufacturing for pediatric sockets and modular parts. • Develop a regional procurement/manufacturing alliance for economies of scale. • Link production to Gaza through mobile fitting and rehabilitation services. • Upgrade existing industrial capacity for prosthetics components (especially metallic parts). • Introduce harmonized standards, referral systems, and cloud-based medical data management to integrate providers and ensure patient tracking.	Local production covering 30–40% of demand; regional procurement alliance active; pediatric 3D-printed solutions mainstreamed; predictable and equitable access sustained.

Collaboration Opportunities and Case Examples

When building Gaza's rehabilitation technology system, there are opportunities to leverage regional expertise, global research, and post-conflict innovation models.

West Bank:

- The Bethlehem Arab Society for Rehabilitation (BASR) operates a prosthetics and orthotics workshop and has pioneered hybrid prosthetic models (locally made sockets with imported joints).[14] It could serve as a quality reference partner, support mentoring for Gaza technicians, and contribute to a shared P&O registry across oPt.
- The Arab American University (AAUP) has begun applied research in prosthetic design and rehabilitation sciences.[27] Gaza partnerships could expand this into joint registries, hybrid technology pilots, and online training, linking both territories in a unified rehabilitation system.

Jordan: The Royal Medical Services and prosthetics workshops can serve as regional referral hubs for Palestinians.[28] These centers provide prosthetic fitting and fabrication, and could support Gaza through training exchanges, supply partnerships, and regional procurement models.

Lebanon: The Chair of Conflict Medicine at AUB can strengthen access to essential technologies and assistive devices through its global network of biomedical engineering institutions and innovation programs. It also has the capacity to support the creation of incubator projects in Gaza leveraging local and international clinical, engineering, and public health expertise. Furthermore, AUB's Humanitarian Engineering Initiative (HEI)[29] has been successful in establishing academic, service and research collaborations and partnerships exploring affordable, context-specific prosthetics and orthotics tailored to users' needs. Finally, the Global Health Institute at AUB is collaborating with Imperial College London on research into low-cost prosthetics and orthotics technologies, paving the way for innovation and evidence-based solutions.

Ukraine (comparative model): Following the 2022 invasion, Ukraine expanded prosthetic access through local manufacturers, digital fabrication hubs, and donor-backed procurement.[30] This demonstrates how conflict-affected countries can combine emergency imports with rapid development of local production.

Imperial College London (UK): Imperial's Centre for Blast Injury Studies focuses on amputation injuries and prosthetic design, including pediatric adaptation and socket innovation.[31] Their expertise in 3D printing, hybrid prosthetic models, and biomechanics could support Gaza in piloting safe, affordable technologies linked to a research–feedback loop.

UNIDO (United Nations Industrial Development Organization): UNIDO brings expertise in developing local manufacturing and supply-chain resilience.[32] In other fragile settings, it has supported public–private partnerships for assistive technology production. For Gaza, UNIDO could help establish a prosthetic fabrication and assembly facility, facilitate regional procurement alliances, and ensure that devices meet ISO quality standards. Their platforms could also prioritize pediatric modular prosthetics, embedding child-appropriate designs into early production pipelines.

Global Partnerships: The WHO Global Cooperation on Assistive Technology (GATE) initiative and the International Society for Prosthetics and Orthotics (ISPO) offer technical standards, accreditation, and innovation pipelines.[33] Their involvement would help ensure Gaza's hybrid and digital prosthetics meet global benchmarks for safety and usability.

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[27] Arab American University, *Rehabilitation Sciences Research Projects – P&O Program*, 2024.
[28] ICRC, *Physical Rehabilitation Programme – Jordan Overview*, 2022.
[29] AUB, *Humanitarian Engineering Initiative*, 2017.
[30] WHO Europe, *Rehabilitation in Ukraine: Expanding Prosthetic Access through Local Partnerships*, 2023.
[31] Imperial College London, *Centre for Blast Injury Studies – Research Highlights*, 2023.
[32] UNIDO, *Joint Programme on Assistive Technology Innovation and Local Production*, 2019.
[33] WHO, *GATE: Global Cooperation on Assistive Technology*, 2017.

Focus Area 4: Health Information Systems for Rehabilitation

The Case for Action

Stakeholder consultations with Gaza-based rehabilitation actors (July–September 2025) underscored that health information systems are hamstrung by fragmented data, broken coordination, and the absence of end-to-end patient tracking.6 Until recently, there was no centralized amputee registry; providers collected information on paper or in separate systems that did not interconnect. This produced duplication of services for some patients, total exclusion for others, and no reliable baseline for planning.

Some progress has been made: in 2024-2025 the Ministry of Health, with ICRC support, launched a rehabilitation registration link through which more than 4,000 people enrolled. While the system is geographically structured (north, center, south) and collects data on type of amputation and therapy eligibility, it faces major access barriers - some patients could not reach committees, others missed announcements, and many have since left Gaza. Data capture remains incomplete, and real-time monitoring is lacking.

Further challenges undermine system reliability:

- **Fragmentation:** Hospitals, NGOs, and civil society actors collect data separately, with no unified platform.
- **No continuity tracking:** Patients discharged from hospitals often “disappear” without mobile or community follow-up, leading to preventable complications such as bedsores.
- **Device–follow-up gap:** Prosthetic fittings are not linked to maintenance obligations; children fitted abroad with advanced devices have returned to Gaza with no servicing capacity or spare parts.
- **No research–feedback loop:** Outcomes such as functional recovery, psychosocial status, or reintegration are not systematically tracked, leaving planners and donors blind to effectiveness.

Crucially, there is no formal, two-way information flow between Gaza and the West Bank. Health authorities in Ramallah report no mechanism to view amputee pathways in Gaza or to track evacuees to the West Bank or abroad. The West Bank is piloting a national amputee self-registration database that could interoperate with Gaza’s registry under a common coordination mechanism.

Finally, there is no systematic tracking of amputees who leave Gaza. Evacuations to the West Bank, Jordan, Egypt, or Europe are not captured in any national database, creating a “black hole” in patient pathways. Without this data, investments risk duplication and waste: one child may be fitted twice while another receives nothing, or advanced prosthetics may break down with no local repair.

Synthesized Need

1. **Amputee & Rehabilitation Registry (Bilateral and Portable)**
- Convert Gaza’s MoH–ICRC registration into a permanent, centralized registry and federate it with the West Bank’s pilot database using a shared minimum data set.
- Capture not only Gaza-based patients but also those evacuated abroad, with fields for location, devices provided, and follow-up needs.
- Make the record portable for displaced patients, so care continues across checkpoints, facilities, and borders.

2. **Integrated Pathway Tracking & Standardized Reporting**
- Track the full patient journey (injury - fitting - therapy - follow-up) by linking rehabilitation data to hospital discharge, primary care, prosthetics providers (public, NGO, licensed private), mobile teams, and psychosocial services.
- Use licensing and contracting to mandate standardized digital reporting; require that any organization providing devices also documents maintenance and follow-up.
- Mandate that evacuated patients are logged into the registry at referral and upon return; NGOs sponsoring evacuations must be accountable for data entry.

3. **Governance, Research–Feedback, and Donor Alignment**
- Establish a technical rehabilitation/HIS committee (Gaza + West Bank + WHO + NGOs) with a designated Gaza representative to ensure two-way flow, standards, and data sharing rules.
- Start a research & learning unit (with regional partners) to track outcomes, unit costs, and cost-effectiveness, closing the loop to training, procurement, and financing.

Intervention Package: Health Information Systems (HIS)

Overall Aim

To establish a shared, portable, and governed HIS that ensures end-to-end tracking of amputees across Gaza, the West Bank, and referral sites abroad, closing current fragmentation and enabling continuity, accountability, and evidence-based planning.

Three HIS Envelopes

The package is structured into three envelopes with realistic outputs over a three-year horizon. While presented separately, they must overlap in execution.

Spotlight: *Sijilli* – Portable Health Records for Displaced Populations

Sijilli ("my record" in Arabic) is a cloud-based electronic personal health record developed by the AUB Global Health Institute. It has been piloted successfully with Syrian and Palestinian refugees in Lebanon, giving displaced people secure, portable access to their medical histories.

Why it matters for Gaza

- Gaza's displaced amputees often lose access to records due to destroyed facilities, mass movement, and fragmented providers.
- *Sijilli* could be adapted as a patient-held rehabilitation record, ensuring continuity of care across hospitals, mobile teams, NGOs, and community centers. The system is encrypted, multilingual, and portable (via cloud, secure USB, or QR codes), making it suitable even in unstable environments with limited connectivity.
- Adopting *Sijilli* would give Gaza a ready-made, field-tested tool to reduce duplication, improve continuity, and empower patients - while aligning with WHO and UN calls for digital innovation in humanitarian health systems.

Envelope	Key Actions	Expected Outputs
Foundation - Build the Core Registry (1 Yrs)	• Convert the Gaza MoH–ICRC registration into a permanent amputee & rehabilitation registry, ensuring consistent fields across providers. • Federate with the West Bank's self-registration database through a shared minimum dataset. • Pilot Sijilli [34] portable records so patients carry their own medical data across checkpoints and borders. • Link hospital discharges and prosthetics providers into the registry.	~6,500 amputees registered with disaggregated profiles. 2,000 patients issued portable Sijilli records. All licensed Gaza providers mandated to report digitally.
Expansion – Integrate Pathways & Track Evacuations (1-2 Yrs)	• Link mobile/outreach teams, psychosocial providers, and community rehab programs into the registry. • Require NGOs and donors sponsoring evacuations abroad to log patients at referral and on return, with device details and therapy received. • Scale up Sijilli to cover all new amputees, ensuring compatibility with West Bank and regional partners (Jordan, Egypt). • Introduce dashboards for decision-makers (coverage, dropouts, outcomes).	80% of amputees in Gaza and evacuees abroad logged and tracked. Standardized longitudinal pathway captured (injury - fitting - therapy - follow-up). Regular reporting of functional outcomes and costs to donors.
Institutionalization – Research, Governance, and Interoperability (2-3+ Yrs)	• Formalize a Technical HIS Committee (Gaza + West Bank + WHO + NGOs) with rules on data sharing, privacy, and governance. • Establish a Rehabilitation Research & Learning Unit to analyze outcomes, unit costs, and cost-effectiveness, feeding back into training, procurement, and financing. • Institutionalize Sijilli as the patient-held record, fully interoperable with national and regional HIS. • Benchmark outcomes: local vs. external treatment.	HIS institutionalized under shared governance. Research loop functioning (annual outcome and cost-effectiveness reports). 100% of patients - inside Gaza and evacuated abroad - captured, tracked, and visible to planners.

Collaboration Opportunities and Case Examples

Strengthening HIS for rehabilitation and prosthetics in Gaza cannot be achieved in isolation. A set of regional and institutional partnerships offers tested models and entry points that can be adapted for Gaza:

Sijilli (AUB-GHI, Lebanon) - A cloud-based, portable electronic health record used for Syrian refugees in Lebanon. It provides encrypted, patient-held records that can be carried across borders - directly addressing Gaza's need for portable data continuity.

West Bank – National Amputee Database: The Ministry of Health in Ramallah is piloting a national self-registration database for amputees. This initiative could be federated with Gaza's registry, creating the first unified Palestinian amputee information system. A bilateral registry would reduce duplication, align standards, and enable visibility across Gaza and the West Bank.

ICRC Registry Partnership (Gaza): With ICRC support, over 4,200 amputees have registered through Gaza's MoH link. This initiative can be expanded from a short-term list into a permanent HIS backbone, interoperable with West Bank and regional systems.

Ukraine (Comparative model): Following the 2022 war, Ukraine rapidly established electronic patient tracking and outcome reporting for war-injured populations, including amputees.[35] This demonstrated that wartime environments can still build robust HIS if donor investment is aligned.

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[34] AUB-GHI, *Sijilli Electronic Health Record Initiative*, 2023.

[35] WHO Europe, *Rehabilitation in Ukraine: Rapid Adaptations during Wartime*, 2023.

Focus Area 5: Health Financing for Rehabilitation & Prosthetics

The Case for Action

Rehabilitation in Gaza faces not only medical and logistical barriers but also chronic financing challenges. Three critical financing challenges were highlighted during the stakeholder consultations:

1. **Severe underfunding and unmet needs.**
- The 2025 OCHA Flash Appeal requested US$596.1 million for the Health Cluster (of which Gaza accounted for ~US$555M). By September, only 24–26% had been funded.[36] WHO's 2025 operational plan earmarked US$265M for early recovery and rehabilitation out of a total US$648M appeal, yet resources remain far short of need.[37]

2. **Lack of dedicated allocations for prosthetics and pediatric rehabilitation.**
- Current budgets do not disaggregate expenditures for prosthetics and rehabilitation. There are no transparent estimates of unit costs (per prosthetic, per rehab cycle), nor dedicated allocations for pediatric cases, despite children requiring prosthetic refits throughout their growth.

3. **Fragmented, inequitable financing.**
- Providers stressed that reliance on small-scale, short-term humanitarian projects often leads to duplication in some areas and gaps in others. Donor funding is frequently earmarked for emergency trauma care rather than long-term rehabilitation, resulting in inequitable access and short-sighted pilot projects. These dynamics risk wasting scarce resources while leaving systemic needs unmet.

The result is a financing environment where even when prosthetic devices are fitted, follow-up therapy and pediatric replacement cycles remain unfunded - perpetuating avoidable disability and dependence.

Synthesized Need

Stakeholder consultations emphasized that Gaza's rehabilitation system requires a dual financing approach:

- Immediate risk mitigation and service continuity to ensure amputees are not abandoned when military offensive, blockade and displacements interrupts services.

- Long-term pooled and predictable financing to shift from fragmented, underfunded rehabilitation services to build a sustainable ecosystem that includes prosthetics manufacturing, rehabilitation centers, workforce training, and psychosocial support.

This requires:

- Creating clear budget lines for prosthetics and pediatric rehabilitation.

- Investing in facilities, workforce recovery, and subsidized prosthetic provision.

- Linking financing gaps directly to patient need (e.g., the number of amputees waiting for devices or therapy).

Drawing on global cost benchmarks (WHO, ICRC, MSF, and large rehabilitation programs), service delivery for an estimated 6,500 limb-loss patients in Gaza (including prosthetics, mobility devices, physiotherapy, and psychosocial support) is projected at ~US$22 million annually.[38] This reflects typical unit costs of US$1,800–2,500 per prosthetic fitting, US$500 per mobility device, and US$300–600 per course of therapy, aligned with global practice.

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[36] OCHA, *Flash Appeal: Occupied Palestinian Territory 2025 – Mid-Year Review*, 2025.

[37] WHO, *Operational Response and Early Recovery Plan for the Occupied Palestinian Territory – 2025*, 2025.

[38] WHO EMRO and ICRC, *WHO Analysis Highlights Vast Unmet Rehabilitation Needs in Gaza and Physical Rehabilitation Programme Annual Report 2011.*

System resilience also requires capital investment and capacity-building. This includes upgrading prosthetics and rehabilitation workshops, establishing training centers for prosthetists, physiotherapists, and psychologists, expanding rehabilitation infrastructure, introducing digital systems for patient follow-up, and strengthening supply chains for prosthetic materials.

International benchmarks suggest that the one-time capital costs for such investments range between US$10–15 million over the first 2–3 years.[39] In addition, global rehabilitation programs typically allocate 10–12% of annual service delivery budgets to system strengthening and workforce training which, in Gaza's case, translates into approximately US$2.5 million per year.[40]

Patient Group / Service	Unit Cost (USD/year)	Annual Total (USD)
Children with limb loss (1,000) – Prosthetics	2,500	2,500,000
Adults with limb loss (5,500) – Prosthetics	1,800	9,900,000
Mobility / Assistive Devices (all 6,500 patients)	500	3,250,000
Physiotherapy (avg. 2 sessions/week per patient)	600	3,900,000
Psychosocial Support (counselling, trauma care)	300	1,950,000
System strengthening & training (~12%)	—	2,500,000
Total Annual Need (incl. system strengthening)	—	24,000,000

Without pooled and predictable financing, rehabilitation in Gaza will remain donor-dependent, inequitable, and inefficient. Current funding patterns lock the sector into short-term humanitarian projects that fail to guarantee continuity of care or support the recovery of local capacity. To overcome these cycles of disruption, stakeholders propose establishing a dedicated financing vehicle that provides stability and predictability while enabling long-term investments in prosthetics manufacturing, rehabilitation centers, and the training of skilled personnel.

[39] Humanity & Inclusion, *Gaza: Critical Lack of Rehabilitation Services Will Leave a Generation with Permanent Disabilities*, October 3, 2024.
[40] Médecins Sans Frontières, *Reconstructive Surgery and Rehabilitation: Global Cost Benchmarks*, Technical Brief, 2020.

Intervention Package: Health Financing for Rehabilitation & Prosthetics

Overall Aim

To establish a dual-track financing approach that both safeguards immediate rehabilitation services under crisis conditions and secure long-term, predictable funding to build a sustainable rehabilitation system in Gaza. This means ensuring continuity of care for amputees today while creating structures that will guarantee equitable, high-quality, and locally led rehabilitation over the next two decades.

The Financing Envelopes

The package is structured into two envelopes with expected outputs. While presented separately, they must overlap in execution.

Envelope	Key Components	Expected Outputs
Risk Mitigation & Service Continuity (Next 6 Months)	• Deploy mobile P&O units. • Emergency advocacy to allow entry of prosthetics and materials. • Urgent capacity building for Gaza clinicians. • Equip PHC clinics for pre- and post-prosthetic rehab.	Scale of Financing: ~US$3M • 2–3 mobile P&O units fully operational across Gaza. • 300–350 urgent prosthetic fittings or repairs completed. • 30-50 local clinicians trained in early rehabilitation skills. • 4-5 PHC clinics providing scaled-up pre/post-prosthetic rehabilitation and accessible care. • Secured humanitarian entry of prosthetic materials and components, and necessary rehabilitation service equipment.
Rehabilitation Care Fund (RCF) (Long-Term)	• Independent trust fund under international jurisdiction • Endowment (~US$200M) generating ~US$8–9M/year • Annual donor contributions (~US$13–14M/year) • Innovative financing (waqf, diaspora bonds, impact bonds) • Comprehensive coverage: prosthetics, mobility devices, physiotherapy, psychosocial care • Investments in training, facilities, and digital systems	Scale of Financing: ~US$24M annually +US$10–15M one-time capital in first 2–3 years.

While both financing envelopes are essential, they serve different functions. **Envelope 1: Risk Mitigation & Service Continuity addresses** the urgent need to keep services running in the next 100 days and beyond, ensuring that no amputee is left without support even under extreme conditions of war and blockade.

However, short-term measures alone cannot solve the structural financing gap that has kept Gaza's rehabilitation system fragmented and donor-dependent. To achieve real sustainability, predictability, and local ownership, a **long-term mechanism is required.**

For this reason, the following section goes into depth on **Envelope 2: The Rehabilitation Care Fund (RCF)** - a dedicated financing vehicle designed to guarantee continuity of care for 20 years, enable investments in facilities and workforce, and attract a diverse mix of donors and investors.

Envelope 2: The Rehabilitation Care Fund (RCF) for Gaza

Overall Aim

The goal of the Rehabilitation Care Fund (RCF) is to **guarantee continuity of care for amputees and persons with disabilities in Gaza over the next 20 years**, while building a sustainable rehabilitation ecosystem that reduces dependence on fragmented humanitarian projects. The Fund will ensure that every patient has access to prosthetics, mobility devices, physiotherapy, and psychosocial support, delivered through a predictable, transparent, and sustainable financing mechanism.

The Proposal

The RCF is designed as a **dedicated pooled financing vehicle** that secures long-term investments in rehabilitation. It moves beyond project-by-project grants to create stability and predictability, allowing both patients and service providers to plan with confidence.

Key objectives include:

- Sustained continuity of care for an estimated 6500 patients over 20 years.
- Provision of prosthetics, assistive devices, physiotherapy, and psychosocial support on a consistent basis.
- Development of a rehabilitation ecosystem through training, facilities, innovation, and supply chains.
- Blending public, philanthropic, and impact investment capital to diversify funding.
- Ensuring governance credibility through an independent trust structure with inclusive oversight.

Together, these objectives position the RCF not just as a financing instrument but as a platform for system recovery, linking urgent patient needs with structural investments that reduce long-term dependence on humanitarian relief.

The Fund Structure and Financing Mechanism

The Fund would be established as an independent trust under international jurisdiction and resources would be mobilized through a hybrid financing model, combining:

- **Endowment capital** from anchor donors to provide a reliable baseline of financing (US$200M → yields US$8–9M annually).
- **Annual contributions** from governments, multilaterals, philanthropy and CSR programs to sustain service delivery (US$13–14M/year).
- **Innovative financing mechanisms** such as waqf, diaspora bonds, blended finance, and social impact bonds designed to attract diverse investors and link capital to measurable rehabilitation outcomes (~US$2M/year plus catalytic capital).

This structure balances long-term financial stability with the flexibility to respond to changing needs on the ground. It delivers a predictable ~US$24M annual flow, aligned with the estimated cost of comprehensive rehabilitation services and system strengthening.

Governance and Accountability

To translate financing into lasting impact, the Fund must be anchored in a governance model that inspires donor confidence, safeguards resources, and ensures that patient outcomes remain at the center of decision-making:

- **Board of Trustees:** Independent oversight with national and international representatives, medical professionals, and patient/community voices.
- **Fund Manager:** Professional investment firm responsible for endowment performance.
- **Implementing Secretariat:** A Palestinian entity (led by MoH) leading programmatic coordination with rehabilitation providers and sector partners.
- **Monitoring & Evaluation:** Annual outcome reporting, tracking indicators such as mobility, reintegration, and psychosocial well-being.
- **Transparency:** Regular audited accounts, impact dashboards, and public reporting to build trust and donor confidence.

The RCF thus moves the sector beyond fragmented, project-based aid to a strategic, pooled model capable of sustaining both patient care and system recovery. It offers donors a credible, transparent vehicle to invest in Gaza's future, ensuring that no amputee is left without care and that rehabilitation services become a pillar of resilience rather than a cycle of dependency.

Financing Framework: Rehabilitation Care Fund (RCF)

Annual Financing Mix

- **Endowment:** US$200M generates ~US$8–9M/year.
- **Annual Contributions:** US$13–14M/year (governments, multilaterals, CSR, philanthropy).
- **Innovative Finance:** ~US$2M/year + catalytic capital (waqf, diaspora bonds, impact bonds).

Total predictable annual flow: ~US$24M

- Aligned with baseline annual need for prosthetics, mobility devices, physiotherapy, psychosocial care, and system strengthening.

Long-Term Horizon

- **20-year program cost:** ~US$480M (not inflation adjusted).
- **One-time capital build-out:** US$10–15M (first 2–3 years for workshops, facilities, training centers).

Focus Area 6: Leadership & Governance for Rehabilitation System

Governance and Leadership: The Way Forward

The case for action across financing, workforce, service delivery, technologies, and health information systems is clear: each requires urgent investment to prevent Gaza's rehabilitation system from collapsing. Yet the success of these efforts will ultimately depend on one cross-cutting enabler: **governance and leadership.**

Today, Gaza's rehabilitation response is marked by fragmentation, duplication, and short-termism. NGOs and donors often act in silos, and often without coordination with relevant authorities. Stakeholders repeatedly emphasized that without predictable governance, investments risk being wasted.

What Happens if We Do Not Act? Lessons from Evacuation Models

The experience of groups supporting amputees evacuated from Gaza shows the risks of inaction and fragmented provision. Their work highlights how a system in disarray leads to patient harm, wasted resources, and exploitation:

- **No continuity of care:** Evacuated amputees often receive prosthetics abroad with no follow-up plan. Many return with devices they cannot use.
- **Short-termism and exploitation:** Some organizations deliver devices for visibility or fundraising, with no sustained support. Patients may receive multiple unusable prosthetics while others are entirely excluded.
- **Neglect of upper-limb amputees:** Lower-limb devices dominate, while upper-limb amputees - especially children - remain almost completely unserved.
- **Adults sidelined:** Although ~30% of amputees are adults, children are disproportionately prioritized for evacuation, leaving large numbers of adults without rehabilitation.
- **Fragmentation and duplication:** Without a centralized registry, some patients receive overlapping interventions while others are missed altogether.

If Gaza's prosthetics and rehabilitation system is not rebuilt on predictable, ethical, and coordinated foundations, these same failures will be replicated at scale. Amputees will cycle through fragmented NGO projects, children will outgrow devices with no replacements, and donor funds will be wasted on short-lived or poor-quality interventions.

The evacuation experience underscores the need for:

- **Ethical, rights-based care** over marketing-driven approaches.
- **Centralized procurement and quality assurance** to prevent unsafe fittings.
- **Integrated, long-term rehabilitation pathways** for both children and adults.
- **Dedicated capacity for upper-limb prosthetics**, not just lower-limb solutions.

Moving from Projects to Systems

Governance in rehabilitation is achieved by establishing joint steering structure that connects all ecosystem actors in Gaza and the West bank, setting common quality standards for prosthetics and training, and aligning donor funding under shared priorities. This approach transforms rehabilitation from a fragmented, emergency-driven response into a resilient and accountable system of care. Critically, governance is not a standalone block - it is the thread that ties the others together:

- **Financing** becomes predictable and equitable only when pooled and overseen by accountable governance.
- **Workforce** expansion and retention require accreditation and integration into formal structures.
- **Service delivery** is strengthened when facilities, mobile services, and psychosocial care are coordinated under a shared plan.
- **Technologies** require regulation to ensure that only devices that can be serviced and maintained locally are introduced.
- **Health information systems** need governance to enforce standards, ensure two-way visibility, and make patient data portable across Gaza, the West Bank, and abroad.

Opportunities already exist. WHO's facilitation of a technical committee on prosthetics and orthotics is an important first step. The Arab American University and regional partners such as AUB and Jordan RMS provide models for accreditation and standard setting.

Evidence-Based Governance

A particular challenge in Gaza is the unprecedented scale of child amputations. Globally, there is little precedent for managing such a large pediatric cohort requiring long-term prosthetic care, repeated refitting, and psychosocial support into adulthood. This reality calls for thinking beyond traditional models and investing in research, innovation, and new care pathways tailored to children's lifelong needs.

Why Gaza's Child Amputee Cohort Is Unique

- **Unprecedented Scale:** Gaza has the highest number of child amputees per capita globally, creating a cohort with no international precedent.
- **Lifelong Prosthetic Needs:** Children require repeated prosthetic refitting as they grow - often every 12–18 months - multiplying lifetime costs and service demands.
- **Complex Psychosocial Burden:** Pediatric amputations are compounded by trauma, displacement, and loss of family or community support, requiring intensive mental health care.
- **Gap in Global Evidence:** Very limited research exists on managing large-scale pediatric amputation in conflict settings - making Gaza a critical context for innovation, documentation, and shared learning.

Lessons generated in Gaza could establish new global benchmarks for pediatric rehabilitation in conflict and post-conflict settings.

The way forward is clear: governance must evolve from fragmented, short-term oversight to an inclusive, transparent, and accountable system that sets standards, aligns financing, and ensures that every amputee in Gaza - child or adult - receives equitable, sustained care. With governance in place, investments in all other building blocks will deliver lasting value. Without it, they will remain vulnerable to duplication, inequity, and waste.

Strengthening Palestinian Health Governance

At the heart of the Rehabilitation Care Fund (RCF) lies a **Palestinian-led Secretariat**, serving as the operational and coordinating engine of the Fund. Its design ensures that rehabilitation system rebuilding is both **locally owned and internationally supported**, balancing legitimacy, technical rigor, and transparency.

Secretariat Functions

The Secretariat would operate as the **executive arm of the Fund**, responsible for coordination, oversight, and reporting. Its core functions include:

- **Strategic Coordination:** Ensuring alignment between the Ministry of Health, service providers, donors, and technical agencies, while maintaining coherence across the three envelopes of the rehabilitation roadmap.
- **Fund Management Support:** Preparing investment plans, appraising project proposals, monitoring disbursements, and ensuring accountability for results.
- **Technical Oversight:** Convening expert working groups on prosthetics and orthotics, pediatric rehabilitation, and health information systems to maintain technical standards.
- **Knowledge and Learning Hub:** Managing data platforms, patient registries, and research partnerships to generate evidence and guide adaptive learning.
- **Communications and Advocacy:** Articulating shared priorities to donors, amplifying local voices, and communicating outcomes to global audiences.
- **Capacity Building:** Supporting institutional and workforce development to accelerate Palestinian leadership and reduce dependence on external expertise.

Governance Features

The Secretariat should be:

- **Palestinian-led**, with clear accountability to a multi-stakeholder Board of Trustees that includes representatives from the Ministry of Health, national NGOs, regional partners, and donor representatives.
- **Professionally staffed**, blending national leadership with time-bound international technical support.
- **Transparent and auditable**, with public reporting, open calls for proposals, and annual independent reviews.
- **Adaptive**, capable of maintaining operations even under humanitarian constraints through remote coordination, mobile programming, and contingency planning.

This structure embeds **Palestinian governance at the center** while ensuring access to regional and international expertise. It transforms the Fund into both a **financing mechanism and a coordination platform**, reinforcing coherence, trust, and accountability across all rehabilitation actors.[41]

[41] *The American University of Beirut's Global Health Institute (AUB-GHI) has offered to provide institutional support to the Secretariat, including hosting functions during the inception phase, technical coordination, and capacity-building for Palestinian staff to ensure rapid localization of governance and management.*

Call for Action and Sustainability

The challenges are immense, but the pathway is within reach. Gaza's rehabilitation system for amputees must be built on **two parallel tracks**:

1. **Keeping services alive under crisis conditions** through mobile and community-based delivery, regional referral pathways, tele-rehabilitation, and emergency stockpiles.
2. **Laying the foundations for a sustainable system** with predictable financing, a specialized and retained workforce, integrated and accessible services, appropriate technologies, and robust information systems.

Gaza's rehabilitation system for amputees does not need to be rebuilt from nothing - **it needs to be organized, connected, and sustained**. The building blocks are clear: financing that is predictable, a workforce that is specialized and retained, services that are integrated and accessible, technologies that are appropriate and maintainable, and information systems that make every patient visible. But it is governance and leadership that will hold these pieces together, preventing duplication, driving standards, and ensuring value for every dollar invested.

We invite donors, technical partners, and regional institutions to join in shaping this collective effort. With your partnership, Gaza can move beyond fragmented emergency responses toward a dual pathway: ensuring that even under the most extreme conditions, amputees are not left without care, while building a coherent, equitable, and evidence-driven system for the future. Together, we can restore not just mobility, but dignity, participation, and hope for thousands of amputees, especially children, whose futures depend on it.

Annex A: Patient Pathways Before and During the War

This annex presents two figures that illustrate how patient pathways for lower limb injuries and amputations in Gaza have shifted from a limited but functioning system of recovery to today's fragmented, overstretched, and unsafe conditions.

Figure A1 shows the pathway prior to the war, when a relatively well-established system for lower limb reconstruction and rehabilitation was in place. Patients accessed two specialized rehabilitation centers offering complementary services, ensuring a continuum of care across facilities. Multidisciplinary teams - including surgeons, physiotherapists, occupational therapists, prosthetists, and mental health professionals - delivered integrated treatment that addressed both physical and psychological needs. The pathway also incorporated inpatient care, vocational training, and structured capacity-building programs to strengthen professional expertise. Together, these components supported holistic recovery, enabling patients to regain function and reintegrate into their communities.

Figure A2 illustrates the current pathway for patients with traumatic limb amputations. It shows how Israel's ongoing military offensive and blockade have disrupted care at every stage. Damage to health facilities, shortages of medicines and prosthetics, and limited access to specialists have reduced opportunities for limb salvage, increased the number of amputations, and weakened prospects for recovery. Patients now face delays in reaching care, unsafe travel for treatment, and a health system unable to meet rising demand for prosthetic repair, replacement, and rehabilitation. Rehabilitation resources are fragmented and far below the needs of the growing amputee population, leaving many without adequate support for long-term reintegration.

Figure A1. Pre-War Patient Pathway for Lower Limb Reconstruction and Rehabilitation.

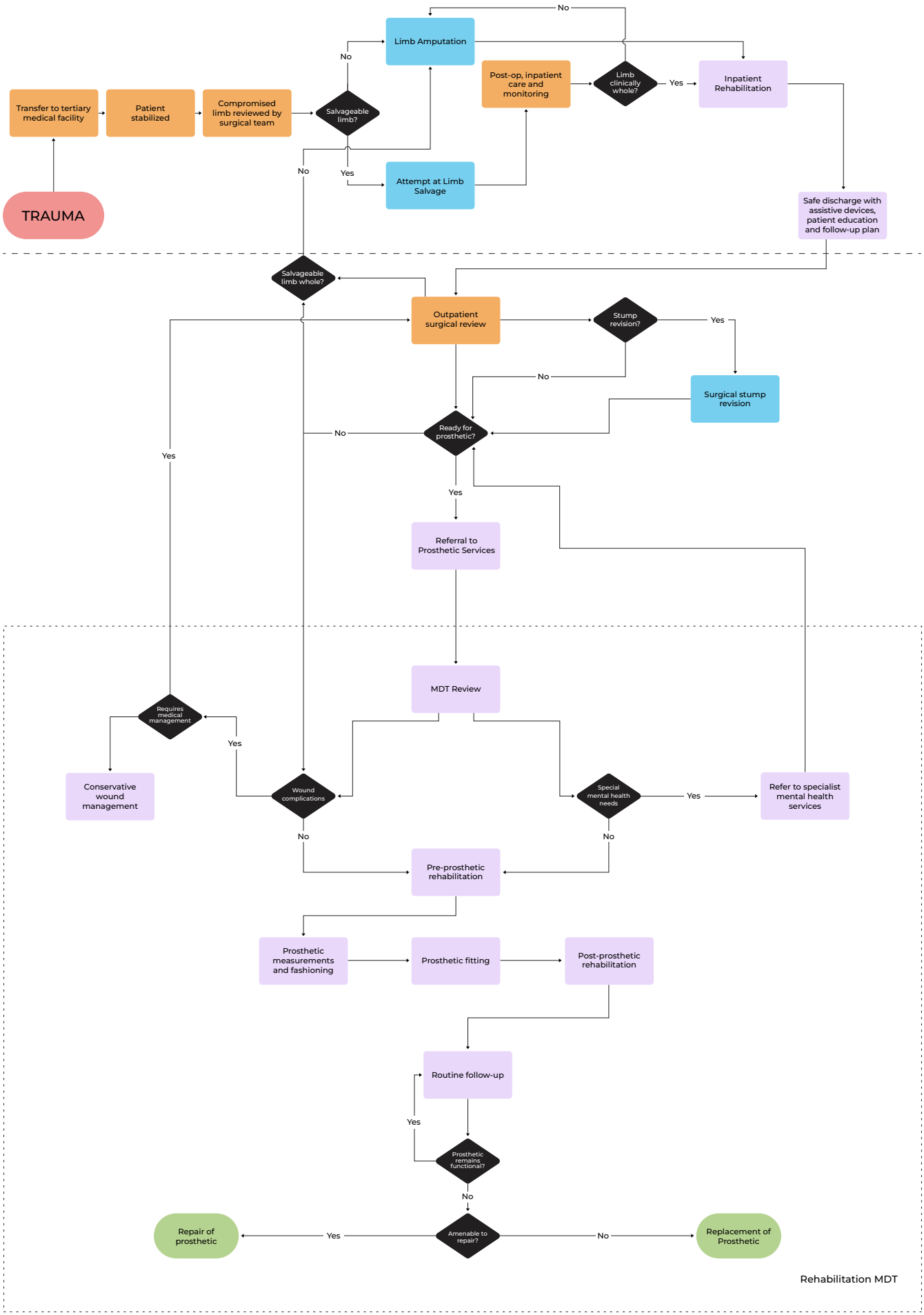

Figure A2. Current Fragmented Pathway for Traumatic Limb Amputations under Military Offensive and Blockade.

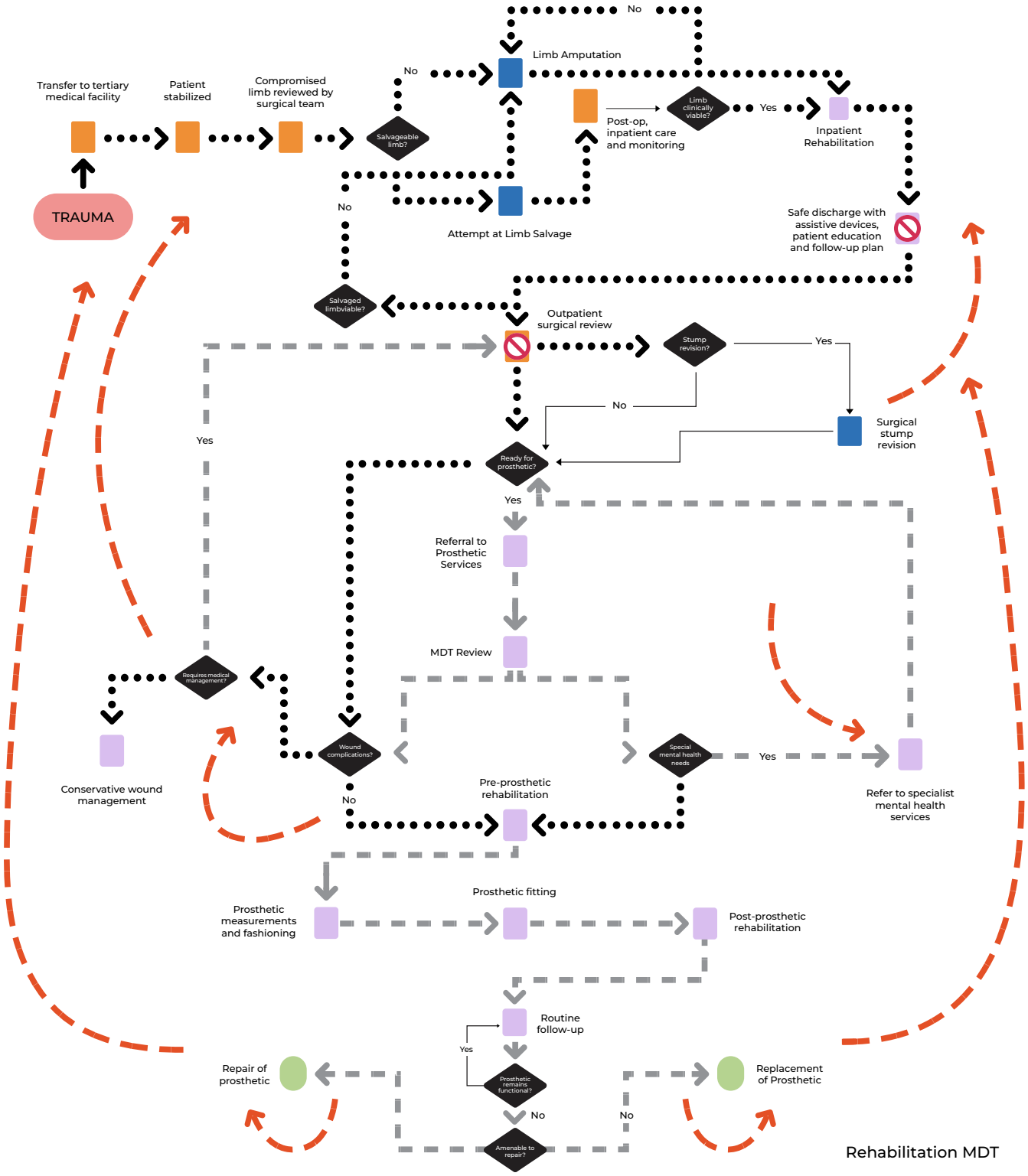

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Illustration by *Visualizing Palestine*, "Stolen Steps"