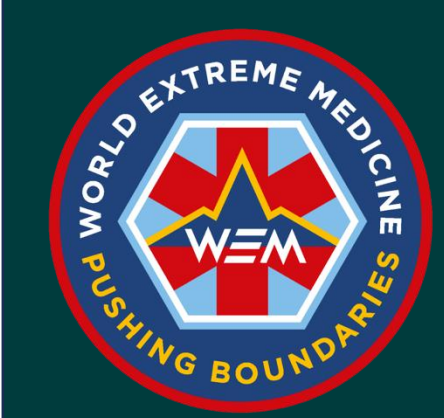




Assistive Technology (AT) for People with Disabilities in Humanitarian Settings: A scoping review of availability, use, benefits and harms

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2, 217 Records | 119 Included Sources | 170 Device Level Entries | 27 Countries | 26 Databases Searched | 2023-2026

Background & Rationale

CONTEXT

- 2.5B people need ≥1 AT device; 1B lack access
- Crises compound risk — new injuries, service disruption, device loss
- PWDs routinely excluded from emergency planning & evacuation

GAP

- No prior review maps AT at the device level in humanitarian settings
- Earlier syntheses (Whittaker 2021; Gosling 2024) stayed system-level

RESEARCH QUESTION

What is known about the availability, use & outcomes of AT for PWDs in humanitarian settings?

OBJECTIVES

- 1 Map availability & provision · 2 Patterns of use · 3 Benefits & harms · 4 Evidence gaps

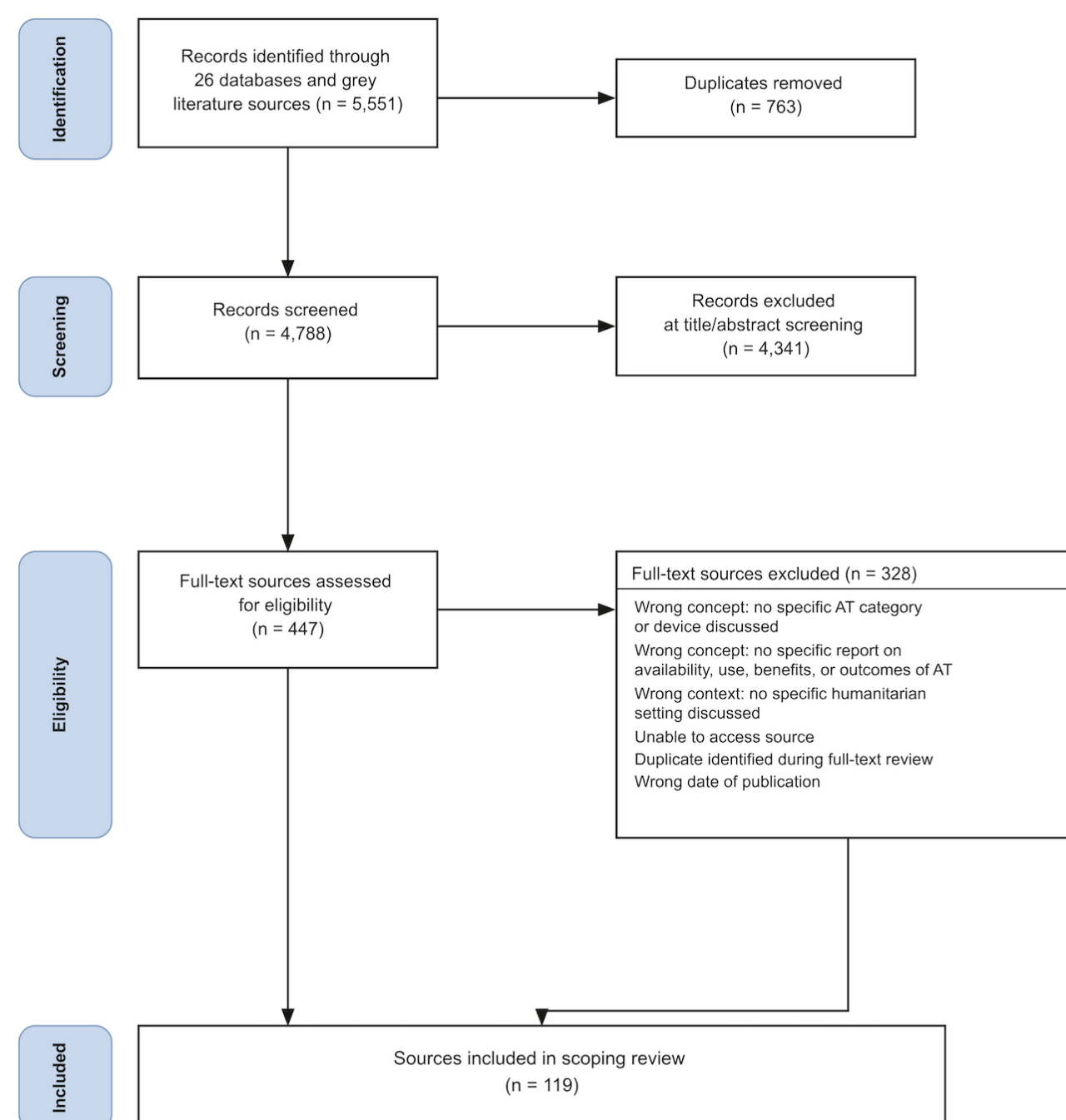
FRAMEWORKS

- WHO GATE 5P · ICF · PCC · Arksey & O'Malley · PRISMA-ScR

Methods

- Protocol:** OSF-registered · Arksey & O'Malley + PRISMA-ScR
- Search:** 26 databases (MEDLINE, Scopus, Embase) + grey literature (Relief Web, WHO IRIS, Policy Commons, NGO sites)
- Eligibility (PCC):** Physical/sensory/communication disability × WHO Priority AT (excl. cognitive) × humanitarian context · all source types · English · Jan 2023–Feb 2026
- Screen:** Title/abstract → full-text (two passes)
- Dual-Tier Extraction (MS Forms):** Tier 1 source-level (n=119) · Tier 2 device-level (n=170)
- Synthesis:** Content analysis + thematic coding · WHO GATE 5P & ICF frameworks
- Quality Appraisal:** AACODS + JBI on random sample per source category

Fig. 1 PRISMA Flow Diagram



Source Characteristics (n = 119)

full source characteristics in Appendix

- 27 countries represented across 5 world regions
- Palestine/OPT and Ukraine over-represented
- Humanitarian Settings: 112 health facility/rehab service, 85 camp, 52 urban, 40 rural, 31 temporary shelter
- Crisis Phase: 98 protracted, 47 acute
- Age: 62 mixed, 33 adults, 19 children

Provision Pathway × Assistive Technology Category

T2 device-level entries (N = 170) · cells = entry count · multiple pathways per entry permitted

Row totals (right) = entries per pathway · Column totals (below) = entries per AT category

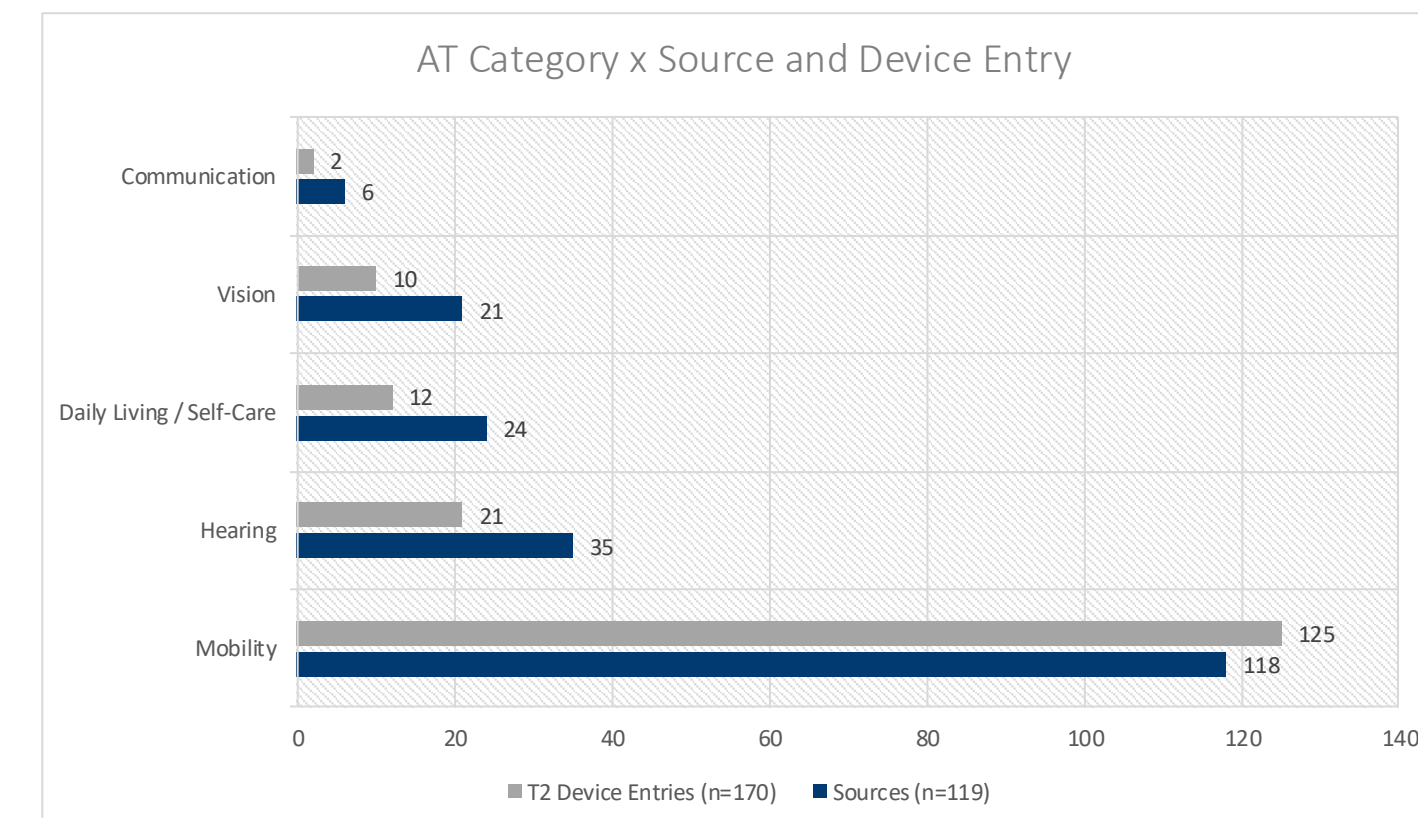
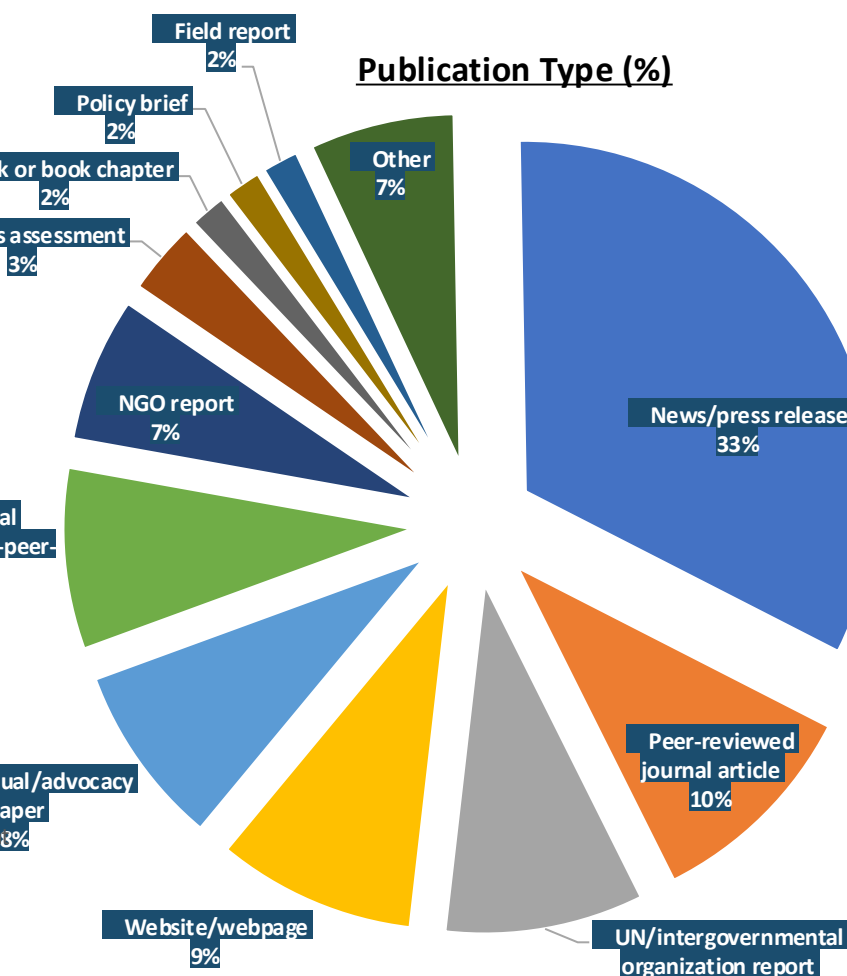
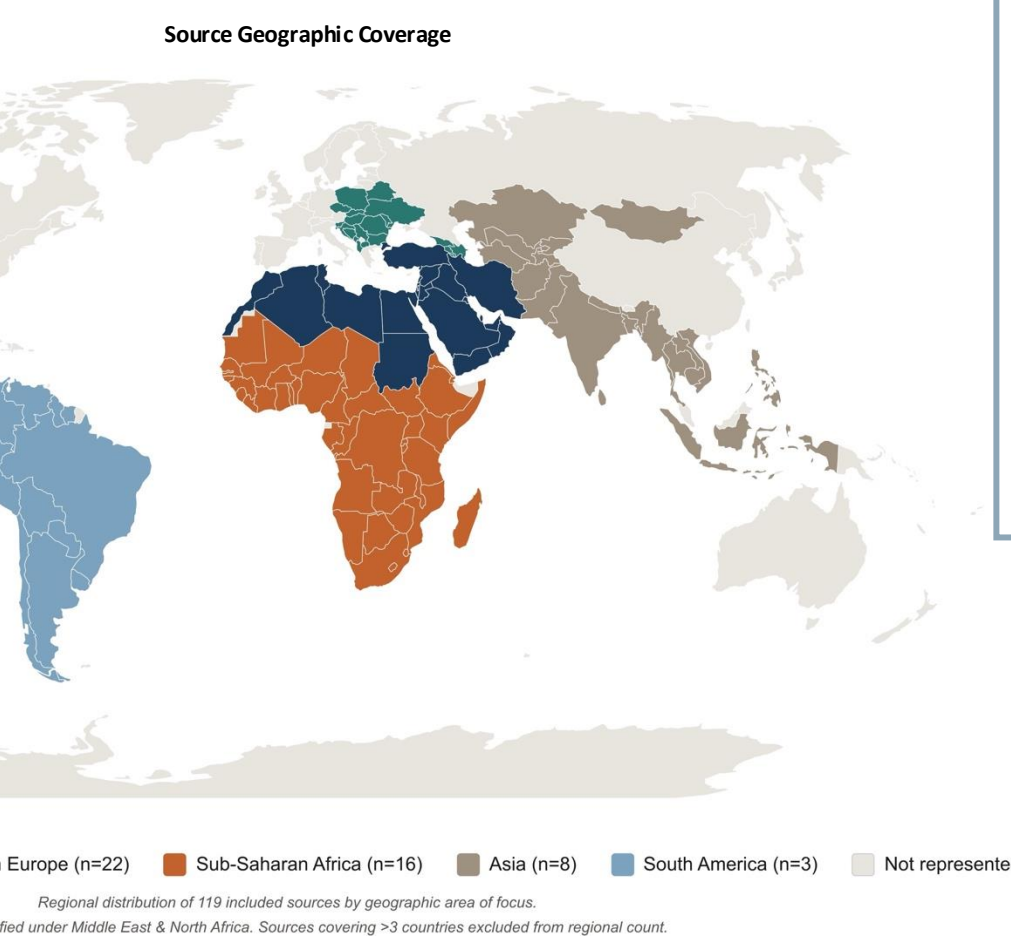
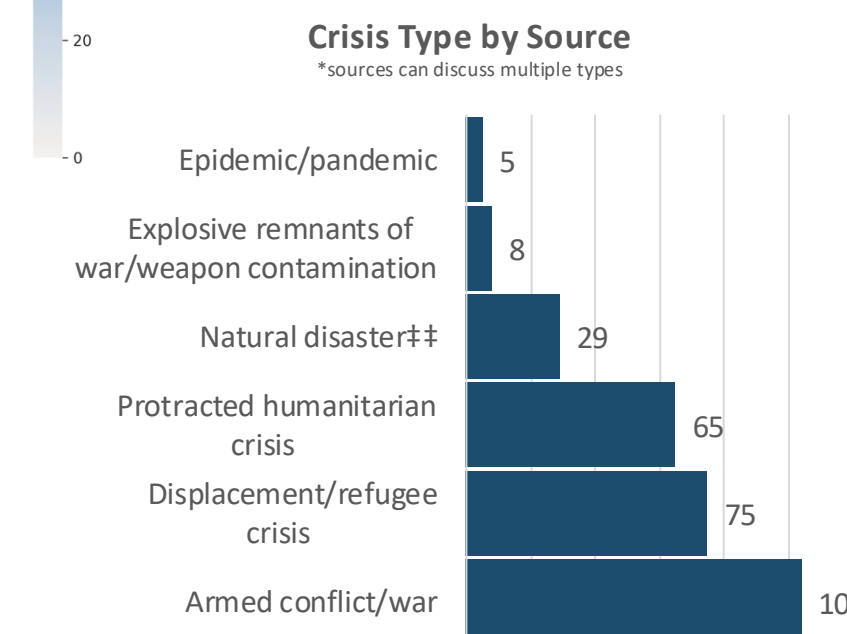
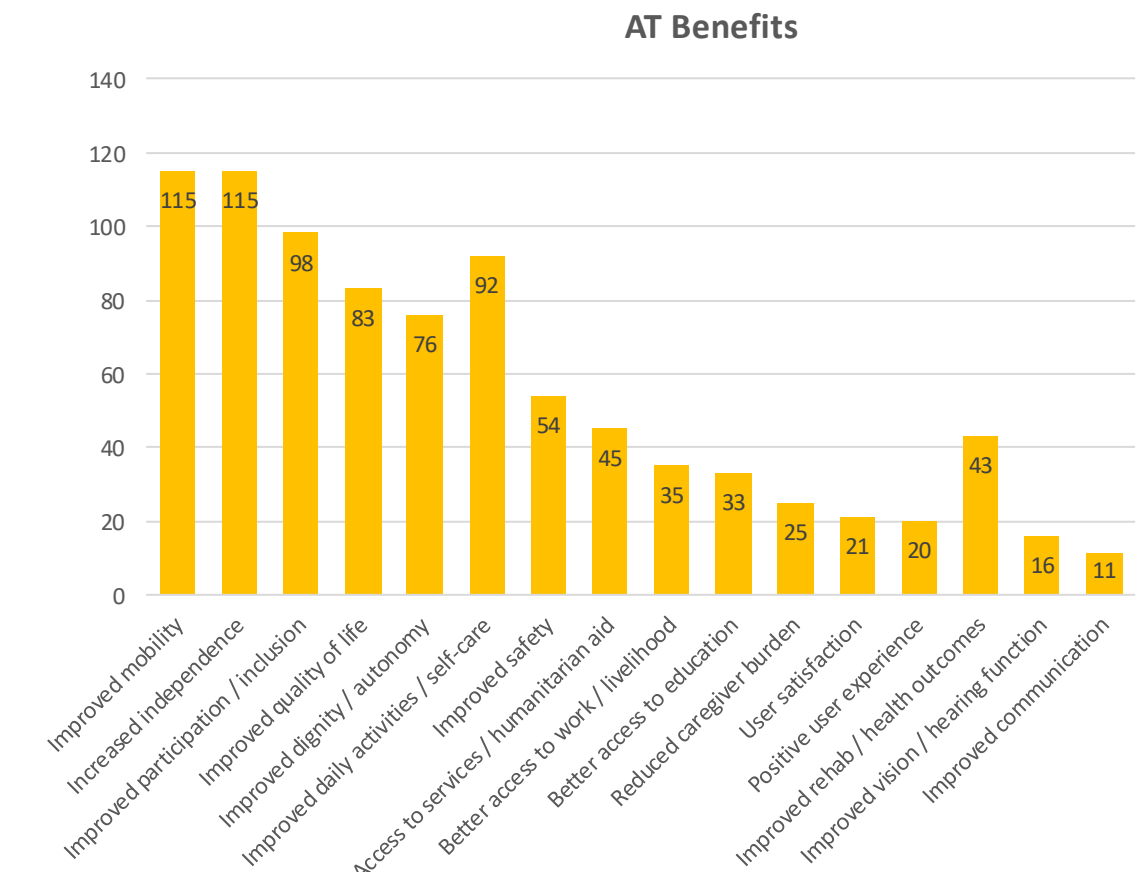
Provision Pathway	Mixed / Multiple	NGO	Health Facility	Government	UN / Intergov.	Community-Based	Donation-Based	Unclear / Not Reported	Private Market	n
Mobility	87	91	68	48	41	36	25	23	2	n=127
Hearing	12	8	5	3	5	1	3	11	2	n=18
Vision	7	7	4	4	4	1	2	5	2	n=10
Daily Living / Self-Care	11	7	6	6	3	2	4	2	0	n=13
Communication	1	1	1	1	1	1	1	1	0	n=2
	n=118	n=114	n=84	n=62	n=54	n=41	n=35	n=42	n=6	

Objective I: Availability & Provision

- 5 themes: supply failures · provision actors/pathways · access barriers · device-type disparities · emerging good-practice models
- Supply failures dominate — stockouts, demand far exceeding supply
- NGO-led provision: 118/170 entries had mixed/multiple actors; who funded/fitted/followed-up rarely specified → sustainability risk
- Access barriers: geographic, logistic, workforce, cost, injury-to-receipt delay
- Device Type Disparities: Mobility AT >>> All other types
- Good-practice models: scaled & sustained, community-driven low-cost, multi-sector pathways

Objective IIIa: Benefits of AT

- 5 themes: functional restoration · participation & inclusion · psychosocial well-being & dignity · caregiver-burden reduction · WASH & self-care
- Benefits reported in 98/119 sources
- Functional restoration most consistent (115/170): restored ambulation, livelihood, school, childcare
- Participation & inclusion (98/170): access to education, livelihoods, healthcare, community life
- Psychosocial gains (76–83/133): improved quality of life, reversed hopelessness & withdrawal; children felt "like other children"
- WASH & self-care (92/170): safe sanitation where infrastructure inaccessible; continence AT a state-entitled benefit in Ukraine

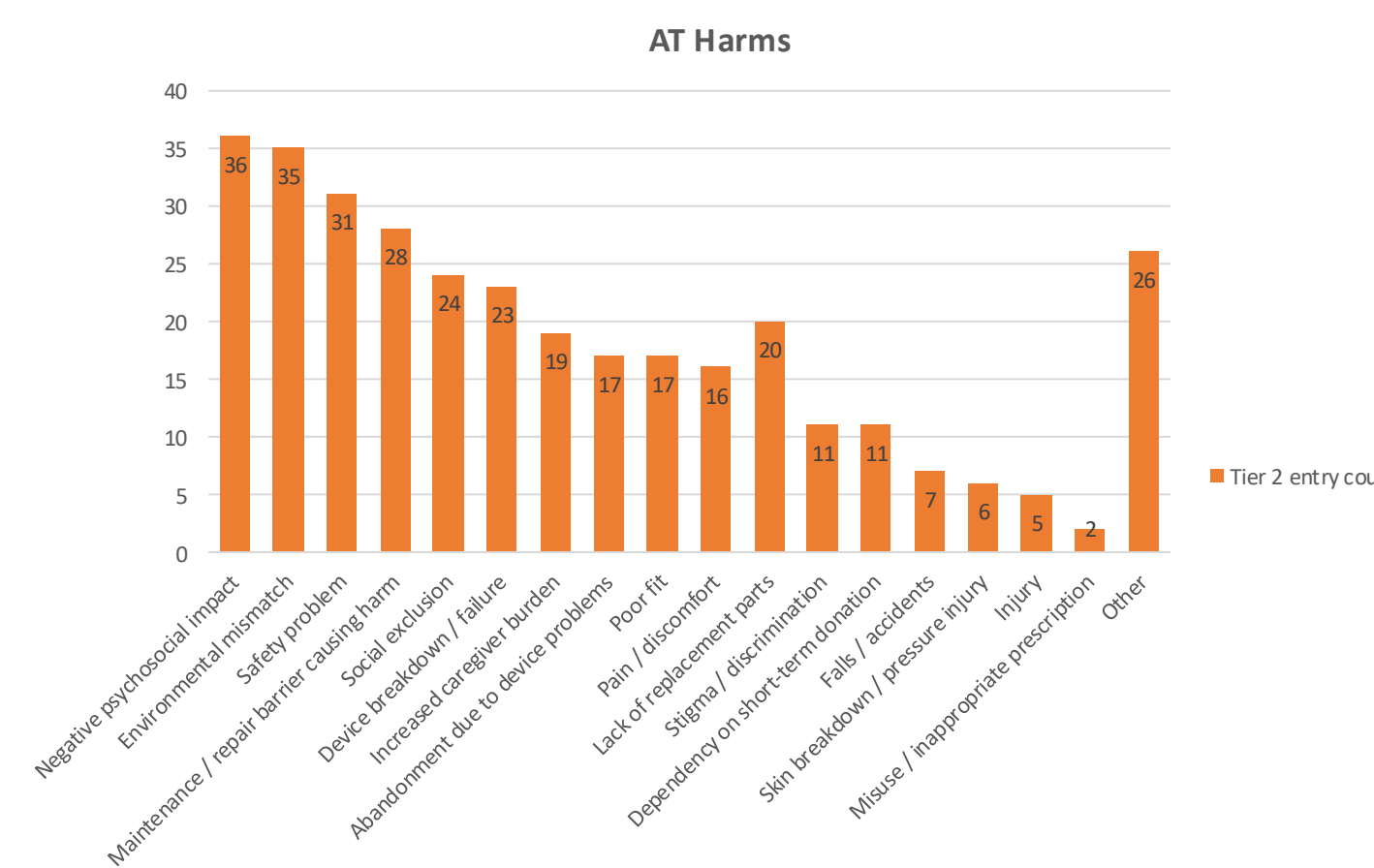


Objective II: Patterns of AT Use

- 4 themes: uptake & functional integration · device-specific patterns · environmental mismatch · abandonment & non-use
- High uptake when AT is appropriate, fitted & training-supported → return to school, work, sport, social life
- Sustained use hinges on rehab access: follow-up → years of use; none → drift to abandonment
- Device-specific patterns: prostheses enable daily ambulation, work & sport; wheelchairs transform community access; self-care AT prevents hygiene complications; hearing aids work only where powered & training-supported
- Environmental mismatch (35/119): rubble, mud, inaccessible latrines limit mobility AT; one source noted only 23% of users had context-suited devices
- Non-use rarely intentional → 5 structural drivers: device loss in evacuation, no repair, power constraints, environmental mismatch, service collapse

Objective IIIb: Harms of AT

- Harms reported in 50/119 sources
- Harms arise from device absence, loss, poor fit & provision failure — not unsafe devices
- Psychosocial harm & stigma (36/170): shame, lost autonomy; visible devices drew bullying & job discrimination
- Safety risk from absence/loss (31/170): unable to flee danger; siren-only alerts endanger deaf/hard of hearing; no comms AT to call for help
- Provision-continuity failure (36/170): no repair → immobility, pressure sores, contractures, infection; no child-sized parts for pediatric amputees
- Physical device harms (prostheses): phantom/stump pain, skin breakdown; improvised prosthetic limb → near-fatal sepsis



Objective IV: Evidence Gaps

EXPLICITLY AUTHOR-IDENTIFIED (N=33 SOURCES)

- Absent disaggregated data
- No standardized outcomes
- AT excluded from DRR
- Non-mobility AT underdocumented
- No longitudinal follow-up
- Children underrepresented
- Role-disaggregated reporting absent

Discussion

CENTRAL FINDING: AT delivers real benefits in humanitarian settings — but the conditions for success (timely provision, good fit, trained staff, maintenance) are rarely all in place at once.

- Harms are system failures, not device failures: absence, loss, poor fit & provision discontinuity drive harm → the goal is better-supported provision, not different devices
- Narrow conception of disability: near-exclusive focus on mobility AT leaves hearing, vision, communication & daily-living needs systematically underserved
- Provision is NGO/organization-led; coordinated multi-sector approaches appear more sustained than single-actor delivery
- This review vs. prior evidence: confirms Whittaker (2021) structural deficits recur across all crisis types; first known review with device-level evidence of the AT-category gap; aligns with WHO-UNICEF (2022) findings
- Evidence caveat: 90% grey literature (33% news/press) → benefits likely overstated, harms undercounted; 118/170 mixed-actor provision entries rarely name who funded/fitted/followed up

Implications & Conclusion

First **device-level** AT synthesis across humanitarian settings. AT works — but the systems to deliver it effectively are rarely in place. Harms = **provision failures**, not device failures.

- POLICY**
 - Integrate AT into DRR and national rehab plans **before** crises occur
 - WHO AT6/AT10 pre-positioning (Ukraine) as replicable model
- PRACTICE**
 - Adopt **full-cycle provision**: assessment → fitting → training → maintenance → follow-up
 - Expand beyond mobility AT — include hearing, vision, communication, daily living
- RESEARCH**
 - Standardized outcomes; device-level, actor-disaggregated reporting
 - Longitudinal studies; focus on children & sensory/communication disability

- | STRENGTHS | LIMITATIONS |
|---|--|
| ✓ First dual-tier device-level extraction | ✗ Single-reviewer screening & extraction |
| ✓ OSF pre-registered protocol | ✗ 87% armed conflict; Palestine/Ukraine over-represented |
| ✓ 26 databases + grey literature | ✗ 90% grey lit; selection bias likely |
| ✓ WHO GATE 5P & ICF frameworks | ✗ English-language only; 2023+ recency cutoff |

