

Rehabilitation and assistive technologies in disability-inclusive development and health systems

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Background

Rehabilitation and assistive technologies (AT) have been described by the Pacific Disability Forum and other disability representative groups as ‘preconditions’ for both disability-inclusive development, and equitable, responsive health systems that respond to population changes. In this paper, we build on this call from persons with disabilities to argue the critical and ‘cross-cutting’ importance of rehabilitation for everyone.

Disability inclusion, health systems strengthening, and humanitarian preparedness are interlinked themes in Australia’s development agenda. Rehabilitation and AT are essential to all these areas. Political commitment and normative guidance are stronger than ever, but without an urgent, coordinated response, services will continue to lag behind the rapidly growing need.

Populations are growing, ageing, and living longer with more long-term health conditions. Chronic respiratory and motor sequelae of COVID-19 provided a stark example of the importance ongoing care after infectious disease. At least a third of all people globally experience more than one health condition. Global ‘Burden of Disease’ data suggests that up to one in three people overall may benefit from rehabilitation services,² while a recent Global Report on AT reports persistent unmet needs for AT.³ In lower-income countries, as few as 3% of people can access needed products due to out of pocket costs, poor supply, limited knowledge, and fragmented systems.

While there is clear evidence of persistent unmet needs, and epidemiological transitions from communicable to non-communicable diseases are mostly well-understood, social trends are also changing and provide further impetus for re-thinking the right mix of health and social services. Families are getting smaller, more people are living in cities, and traditional family models for providing care and support to family members who are unwell, ageing, have difficulty functioning, or experience disability are becoming less common.^{4,5}

Among the implications for population health and social cohesion, and how systems respond, is an urgent need to redress the shortage of rehabilitation and AT services.

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² Cieza A, Causey K, Kamenov K, Hanson S W, Chatterji S and Vos T. 2021. Global estimates of the need for rehabilitation based on the Global Burden of Disease study 2019: a systematic analysis for the Global Burden of Disease Study 2019. <https://pubmed.ncbi.nlm.nih.gov/33275908/>

³ World Health Organisation and United Nations Children’s Fund. 2022. Global Report on Assistive Technology. <https://www.who.int/publications/i/item/9789240049451>

⁴ Seltzer J A. 2019. Family Change and Changing Family Demography. *Demography* 56(2), pp. 405–426. <https://doi.org/10.1007/s13524-019-00766-6>

⁵ Schoeni R F, Cho T C, and Choi H. 2022. Close enough? Adult child-to-parent caregiving and residential proximity. *Soc Sci Med*. 2022. [10.1016/j.socscimed.2021.114627](https://doi.org/10.1016/j.socscimed.2021.114627)

In broad terms, rehabilitation and AT involve a range of services and professionals, spanning multiple systems including health, social services, education, and others. AT includes both products and services to support, adapt to, or recover from functional difficulties with the aim to optimise function, promote recovery, or facilitate participation.

In our region, the Pacific Disability Forum (PDF) has argued⁶ that access to AT is a ‘precondition’ for disability inclusion, essential for preparing for climate and population changes, and progressing development goals.⁷ The Pacific Framework for the Rights of Persons with Disabilities goals require development of vocational rehabilitation expertise and services, along with reasonable accommodations including assistive products.⁸ Strategies for rehabilitation and AT, either as standalone strategies or embedded within health or disability strategies or both, are now common.

Rights for people with disabilities to access rehabilitation and AT are well established (including in the United Nations Convention on the Rights of People with Disabilities), and a recent World Health Assembly resolution⁹ bolstered political commitment for Member States to strengthen rehabilitation services and integrate them with health systems.

Rehabilitation and AT have been an important part of Australia’s development investments. From at least the late nineties, Australia has provided financial, technical, and other in-kind support to the rehabilitation of landmine and other unexploded ordnance (UXO) victim-survivors through Victim’s Assistance (VA) support. Australia was one of the top 6 donors as recently as 2014 (OECD), but specific VA funding has declined.¹⁰ Rehabilitation and AT, including through VA, previously dominated ‘disability’ investments. Recognising disability inclusion and disability rights, rehabilitation and AT have tended to be de-emphasised in favour of ‘mainstreamed’ approaches to inclusion for people with disabilities across all development, paradoxically reducing opportunities for rehabilitation and AT which are essential for inclusion.

While these issues continue to occupy an uncertain place in development investment – neither fully part of health systems strengthening nor disability inclusion, and with an uncertain place in humanitarian preparedness and response – the strategic opportunity to build on current progress will be missed.

Challenges and opportunities

Even as population trends have shifted and focus on non-communicable disease and injury demanded a greater focus on rehabilitation and AT, these services have been provided either through community-based rehabilitation or specialised rehabilitation services in larger, urban centres. In general terms, these have worked independently of each other and from the health system, resulting in a fragmented system of urban specialist rehabilitation centres and volunteer, community-based rehabilitation at primary or local levels.

Increasingly, national ministries of health and social affairs have recognised the urgent need to respond. The Global Report on AT was prepared to guide efforts to strengthen AT services. In rehabilitation, the World Health Organization (WHO) has supported many countries to assess and generate evidence-based plans to strengthen rehabilitation services and to better integrate rehabilitation in health systems. New evidence and technical guidance to implement evidence-based systems responses is emerging and will guide the next generation of responses.

⁶ Pacific Islands Forum Secretariat. 2022. 2050 Strategy for the Blue Pacific Continent. Pacific Island Forum Secretariat, Suva. <https://forumsec.org/2050>

⁷ Pacific Disability Forum. 2020. Guideline on Pre-Condition to Inclusion Persons with Disabilities – COVID-19. <https://pacificdisability.org/wp-content/uploads/2021/03/Guideline-on-pre-condition-to-inclusion-for-persons-with-disabilities-1.0.docx>

⁸ Pacific Islands Forum. N.d. Pacific Framework for the Rights of Persons with Disabilities: 2016 – 2025. Pacific Island Forum Secretariat, Suva. <https://forumsec.org/sites/default/files/2023-12/PFRPD.pdf>

⁹ World Health Organisation Executive Board. 2023. Agenda item 8: Strengthening rehabilitation in health systems. [https://apps.who.int/gb/ebwha/pdf_files/EB152/B152\(10\)-en.pdf](https://apps.who.int/gb/ebwha/pdf_files/EB152/B152(10)-en.pdf)

¹⁰ McMullan B and Davies R. 2016. Demining disaster? DevPolicy Blog. <https://devpolicy.org/demining-disaster-20160819/>

Opportunities

Combined efforts of Australian collaborators, such as NGOs, professional associations, research groups, OPDs and others, along with organisations and government partners in Asia and the Pacific are already working to strengthen rehabilitation and promote access to rehabilitation and AT. With stronger government commitment and a growing body of technical resources to support change, there is a strategic opportunity to re-focus investment on rehabilitation and AT, recognising their centrality to both disability inclusion and in responding to population health changes.

Below, three illustrative cases outline strategic directions to complement other areas of investment. The cases focus on three different entry points: procurement, capabilities, and health systems.

Technical support and procurement of AT

Robust methods to assess AT needs, and select and procure, as well as training local personnel to assess needs and provide simple products, are now available and being used around the world, but there are many opportunities to introduce these 'shovel-ready' approaches in Asia and the Pacific.^{11,12,13}

A number of current and recent investments in the rehabilitation and AT space provide strategic entry points to coordinate efforts and implement the growing body of evidence and technical guidance at scale. Doing so has multiple benefits, including for disability inclusion, ageing, injury management, and managing NCDs including vision and hearing-related conditions.

WHO and Department of Foreign Affairs and Trade have previously commissioned a report on strategic entry points to strengthen AT procurement in the Pacific, which recommended, among other things, to:

- coordinate regional efforts and provide technical support, including through a specific AT facility
- develop a regional approach to AT procurement and supply
- coordinate AT workforce development initiatives.¹⁴

Promising technologies and experiences implementing them have enormous potential to improve how people access appropriate AT. Diverse fields like app-based communication solutions, centralised fabrication of specialist products and 3D-printing continue to evolve. At the same time, informal markets and ultra-low-cost solutions will remain commonplace, highlighting the importance of whole-of-system emphasis, rather than focusing on just a few product types, or methods to produce and provide them. Overall, strategic priorities include to:

- leverage 'critical mass' of global efforts to generate evidence and implementation capacity in integrating rehabilitation and AT into health systems through strategic collaborations with organisations working in health systems strengthening
- contribute to pooled resourcing arrangements, such as ATscale¹⁵
- situate rehabilitation and AT as 'pre-conditions', which cross-cut health, social inclusion, education, livelihoods, disability inclusion, ageing, humanitarian response, and others.

¹¹ Zhang W, Eide A, Pryor W, Khasnabis C, and Borg J. 2021. Measuring Self-Reported Access to Assistive Technology Using the WHO Rapid Assistive Technology Assessment (rATA) Questionnaire: Protocol for a Multi-Country Study. *International Journal of Environmental Research and Public Health*, 18(24). <https://doi.org/10.3390/ijerph182413336>

¹² World Health Organisation. 2021. Assistive product specifications and how to use them. <https://www.who.int/publications/i/item/9789240020283>

¹³ World Health Organisation. 2023. Training in Assistive Products. <https://www.who.int/teams/health-product-policy-and-standards/assistive-and-medical-technology/assistive-technology/training-in-products>

¹⁴ World Health Organisation Regional Office for the Western Pacific. 2020. Assistive Technology Procurement Study: Technical Report. World Health Organisation, Manila. <https://www.who.int/publications/i/item/9789290619178>

¹⁵ ATscale. N.d. Global Partnership for Assistive Technology. <https://atscalepartnership.org/>

- include high level indicators (drawing on WHO's Rehabilitation Indicators)¹⁶ for rehabilitation and AT in health-related program designs.

Supporting rehabilitation and AT competency development

Providing appropriate rehabilitation and AT services requires adequate human and financial resources. This includes rehabilitation-specific professions, rehabilitation competencies among other health professional (doctors, nurses, etc.), and continuing to develop the role and capabilities of community-based inclusive development (CBID) managerial staff. Australia and its collaborators have strong capabilities and existing relationships. Strategic opportunities include to:

- generate political will to allocate resources and effort to grow the rehabilitation and AT workforce, including through opportunities for training and strengthening relevant professional groups
- support regional countries and partners to collect information about workforce readiness
- apply technical and logistic support to implement evidence-based approaches for building competencies among health workers in rehabilitation and AT. This includes building regional and national capabilities to design and implement locally adapted training and service design projects, potentially alongside or within existing health-sector investments, is a promising avenue to scale-up access to timely rehabilitation care
- continue efforts to strengthen rehabilitation and AT in a context of ongoing support to regional CBID investments.

Integrating rehabilitation and AT in health systems

Recognising that rehabilitation and AT have mostly been provided in parallel to health services by a mix of civil society (including international) actors, there is strong political commitment and growing evidence and guidance for greater action to integrate rehabilitation into health systems.

Practical solutions for estimating needs, evaluating current arrangements, and developing strategic plans are now available and in use. There is good guidance to prioritise interventions to address the most prevalent conditions, and to adapt and implement 'packages' within health systems.

Understanding whether and how those interventions are taken up at scale, and how rehabilitation services are governed, financed, and sustained, are priorities for health systems research.¹⁷

Strategic opportunities include:

- strengthening rehabilitation and AT in regional health systems, including coordinating with WHO and in-country expertise in situation analysis, strategic planning and implementation strategies
- applying participatory methods to simplify assessment of rehabilitation and AT in local health systems¹⁸
- working with health systems actors to raise awareness of the need for and effective solutions to, strengthening rehabilitation and AT in health systems
- supporting organisations of people with disabilities to contribute to health systems reforms (both in general, and specifically related to rehabilitation and AT)

¹⁶ World Health Organisation. 2023. Rehabilitation Indicator Menu: A tool Accompanying the Framework for Rehabilitation Monitoring and Evaluation (FRAME). World Health Organisation, Geneva. <https://www.who.int/publications-detail-redirect/9789240076440>

¹⁷ Cieza A, Kwamie A, Magaqa Q, Paichadze N, Sabariego C, Blanchet K, et al. 2022. Framing rehabilitation through health policy and systems research: priorities for strengthening rehabilitation. Health Research and Policy Systems. <https://pubmed.ncbi.nlm.nih.gov/36127696/>

¹⁸ Learning, Acting and Building for Rehabilitation in Health Systems. 2024. R-FIT. <https://relabhs.org/r-fit/>

- supporting national and sub-national assessments of AT needs, workforce readiness, and local rehabilitation and AT arrangements using existing tools and methods
- supporting national and subnational health authorities to develop strategic plans (including through WHO's Rehabilitation Guide for Action)¹⁹
- providing technical and financial support for local service providers to strengthen disability inclusion.

Looking ahead to 2030

Recognising how population health and functioning is changing, modest integration of rehabilitation and AT in health systems, new global consensus and commitments to collective efforts, specific focus on rehabilitation and AT in both health-related investments and disability-inclusive programming is as important as ever.

Key messages

- Rehabilitation and AT are critically important to achieve both universal health coverage and disability inclusion.
- Access to affordable rehabilitation and AT are rights for people with disabilities, and pre-conditions for attaining other rights, as well as for inclusion.
- There is a growing and unmet need for rehabilitation and AT to respond to population changes including ageing, increasing prevalence of NCDs, chronic effects of infectious diseases, injuries, and changing patterns of social care.
- Australian stakeholders are uniquely positioned to convene expertise and partner with regional actors to strengthen rehabilitation and AT in both health and disability inclusion sectors.
- There are current global efforts and high level inter-governmental commitments to addressing the shortfalls in rehabilitation and AT.
- Emerging high-level commitments, including World Health Assembly resolutions in particular, reflect global consensus that rehabilitation and AT are essential health services and call for shared efforts to redress historic neglect of these issues.
- Emerging normative guidance provides stronger, evidence-based frameworks to integrate rehabilitation and AT into health and social systems.

¹⁹World Health Organisation. 2019. Rehabilitation in health systems: guide for action. World Health Organisation, Geneva.
<https://www.who.int/publications/i/item/9789241515986>