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## Designing and Implementing telerehabilitation interventions



Rehabilitation Division, May 2023

### About HI

Humanity & Inclusion is an independent and impartial aid organisation working in situations of poverty and exclusion, conflict and disaster. The organisation works alongside people with disabilities and vulnerable populations, taking action and bearing witness in order to respond to their essential needs, improve their living conditions and promote respect for their dignity and fundamental rights.

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### About this brief

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Humanity & Inclusion  
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The full **practical guide** is available on [HiLibrary](#).

### Key messages

**Telerehabilitation is the use of Information and Communication Technologies (ICT) to provide rehabilitation services to people at a distance in their environments.**

**Telerehabilitation is a complementary modality to traditional rehabilitation service provision.** It can improve access to rehabilitation services, promote continuity of care, limit health costs and enable universal health coverage.

**Telerehabilitation interventions require careful design and implementation** to ensure that they are effective, equitable, and accessible to all who need them.

**Telerehabilitation interventions are provided by rehabilitation professionals.** Provision of telerehabilitation includes identification of the needs, assessment, informed consent, treatment plan, training of user, follow-up and discharge.

**Telerehabilitation can be provided under synchronous, asynchronous or hybrid mode.**

**Telerehabilitation is part of a more generic field of telemedicine, eHealth and Digital Health.**

## Context



### Key definitions

**Telerehabilitation:** refers to the delivery of rehabilitation services via information and communication technologies. Clinically, this term encompasses a range of rehabilitation and habilitation services that include assessment, monitoring, prevention, intervention, supervision, education, consultation, and counselling.

Telerehabilitation services are provided to adults and children by a broad range of professionals.

Telerehabilitation has the capacity to provide service across the lifespan and across a continuum of care. [1].



### Available tools

- [User Information Sheet](#)
- [Informed consent form](#)
- [Memo - Users](#)
- [Memo - Professionals](#)
- [Checklist - Professionals](#)
- [Solution Cards](#)
- [Glossary](#)
- [Product catalogue](#)

### A means to meet needs

According to the World Health Organization (WHO), there is an estimated 2.4 billion people globally that are currently living with a health condition that benefits from rehabilitation. In some low- and middle-income countries, more than 50% of people do not receive the rehabilitation services they require, partly because of difficulties in accessing care and rehabilitation services.

The development of Digital Technologies and ICT, coupled with the increasing number of mobile phones and internet users, has enabled the emergence of digital health and telerehabilitation. Telerehabilitation as an additional modality to ensure access to rehabilitation services and to contribute to universal health coverage.

Since 2016, HI has been researching and testing the use of ICT in remote service provision, particularly for low- and middle-income countries and complex situations.

The study [Barriers and levers to the use of telerehabilitation through experimentation in 3 countries](#) carried out by HI in 2021 highlighted the obstacles, particularly from a technological point of view, but also the advantages for users and professionals. The results show adherence from beneficiaries and professionals, satisfaction in using this modality and willingness to develop telerehabilitation in HI projects. In 2022, HI finalized the development of an Open Source, Multidisciplinary, Telerehabilitation software - [OpenTeleRehab](#), today recognized as Digital Public Good.

Telerehabilitation interventions require careful design and implementation. The guide presents key concepts and a brief state-of-the-art of telerehabilitation, key principles and recommendations for designing and implementing telerehabilitation interventions, and additional resources that can be used to design and implement such interventions.

## Designing telerehabilitation interventions

Well-designed and implemented telerehabilitation interventions have the potential to contribute to health equity and universal health coverage by improving access to rehabilitation services. However, there is a risk that poorly designed telerehabilitation interventions could increase health inequities and further marginalize vulnerable populations. It is crucial to take several key factors into consideration when designing telerehabilitation interventions in order to ensure that they are effective, equitable, and accessible to all who need them.

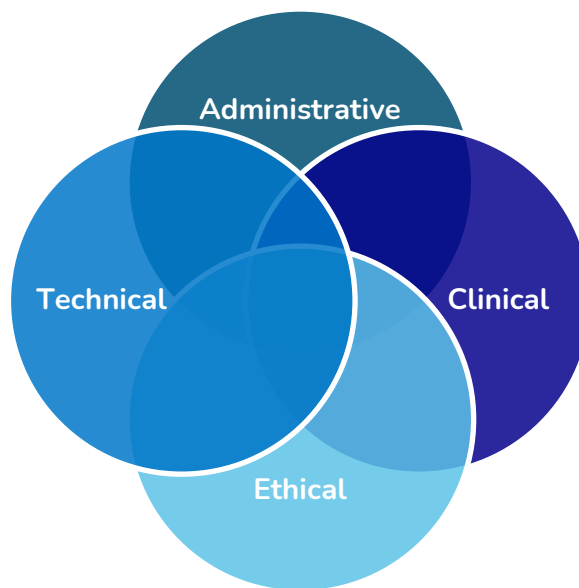
- Digital Environment
- Human Resources
- Regulatory framework
- Rehabilitation system and levels of service
- Sustainability and affordability
- Conflict and disasters

### Telerehabilitation Intervention Design Model

Designing telerehabilitation interventions requires careful design. The proposed telerehabilitation intervention design model provides a 4 step model that can be used to design telerehabilitation interventions at country or programme level.

- 1** Managers implement a rapid country digital maturity assessment. Conclusions show the digital requirements needed to successfully implement a telerehabilitation intervention.
- 2** Managers answer the rehabilitation institution maturity assessment for telerehabilitation. Needed improvements are included into an action plan.
- 3** Rehabilitation professionals select the appropriate intervention and solutions using the decision making tool for rehabilitation professionals and related solution cards.
- 4** Rehabilitation professionals assess the user's digital readiness using the decision making tool for rehabilitation service users and related solution cards.

## Implementing telerehabilitation interventions



### Implementing telerehabilitation at the level of the service provider

There is no single guideline for implementing telerehabilitation interventions at the level of the service provider. However, there are many principles to be integrated into the practice of telerehabilitation that are agreed upon in the literature. These principles are grouped in four interconnected categories: Ethical, Administrative, Technical and Clinical principles. The guide provides key recommendations and attention points for each category.

### Implementing telerehabilitation intervention at the level of the service user

The choice to use telerehabilitation can only be decided after the identification of the rehabilitation needs and after a holistic assessment has been carried out by a rehabilitation professional.

Implementing telerehabilitation at the level of the user includes the following steps: identification of the need, assessment, informed consent, treatment plan, training of user, follow-up and discharge. The guide provides details for each steps and the overall process is presented in the flowchart.



#### Key documents

- [A Blueprint for Telerehabilitation Guidelines, \*International Journal of Telerehabilitation\*, Brennan et al. 2010. \[1\]](#)
- [Barriers and levers to the use of tele-rehabilitation through experimentation in 3 countries, \*HI\*, 2021.](#)
- [World Federation of Occupational Therapists' Position Statement on Telehealth, \*International Journal of Telerehabilitation\*, World Federation of Occupational Therapists, 2014.](#)
- [Report of the World Physiotherapy/INPTRA Digital Physical Therapy Practice Task Force, \*World Physiotherapy\*, 2019.](#)
- [Telerehabilitation. Principles and Practice, Elsevier, M. Alexander, 2021.](#)