Introduction to

Telerehabilitation

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Intro

- **Why Telerehabilitation?**
  - **Budget issues**
  - **Time limitation**
  - **Inclusiveness**
  - **Accessibility**
  - **Shortage of health care professionals**
  - **Technological advances**
  - **And the Pandemic**

Benefits of telerehabilitation

- Increased accessibility of services to clients who live in remote or underserved areas
- Improved access to providers and specialists otherwise unavailable to clients
- Prevention of unnecessary delays in receiving care
- Decreased isolation for therapists through distance learning, consultation and research

Definition

- **Telehealth** is the use of electronic information and telecommunications technologies to support long-distance clinical health care, patient and professional health-related education, public health and health administration.

- It is the provision of health care remotely by means of a variety of telecommunication tools, including telephones, smartphones, and mobile wireless devices, with or without a video connection.

Definition

- **Telerehabilitation** (TR) is the use of telecommunication technology to deliver and support rehabilitation services[2] and it is the clinical application of consultative, preventative, diagnostic, and therapeutic services via two-way or multi-point interactive telecommunication technology.

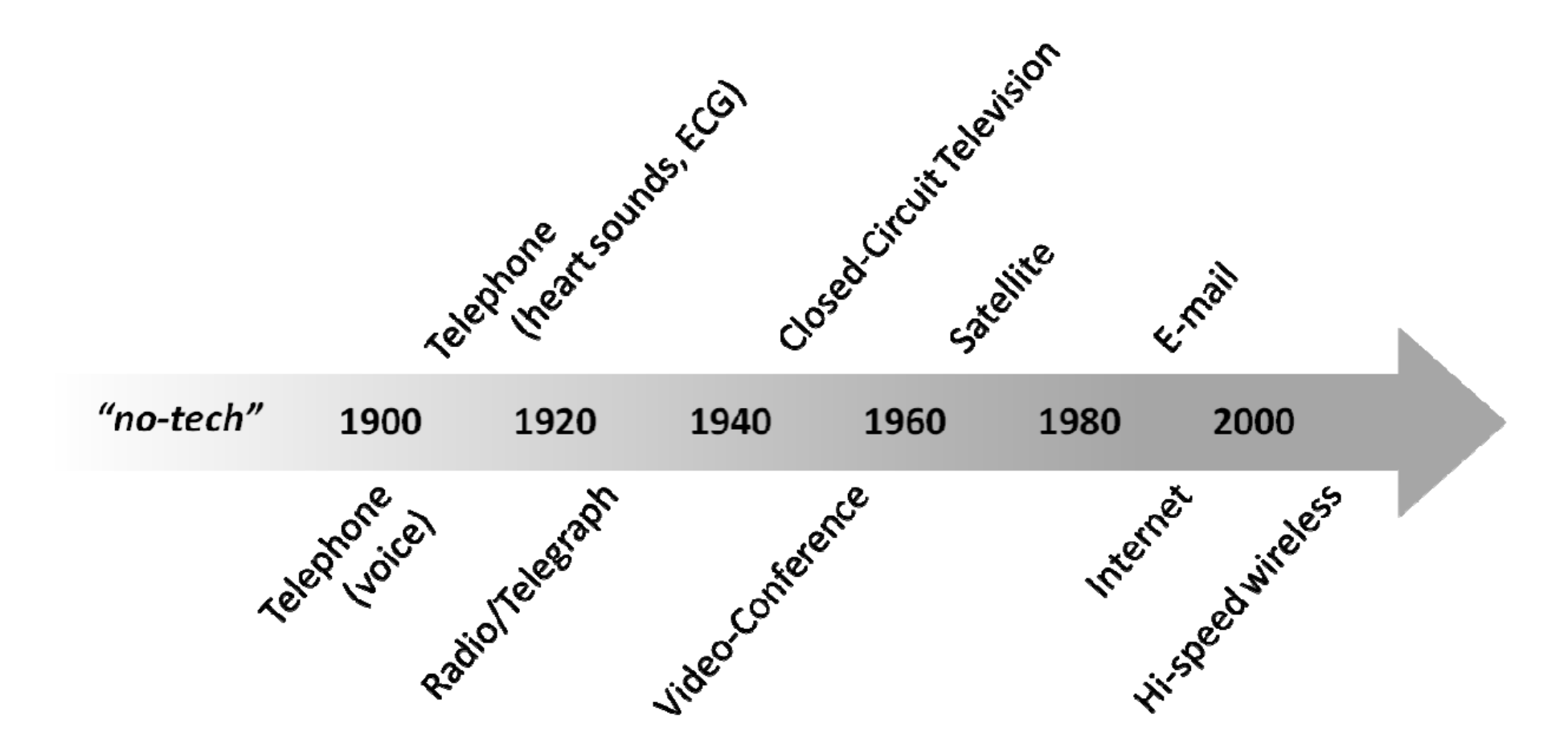
- TR refers to the delivery of rehabilitation services via information and communication technologies.

- Assessment, Monitoring, Intervention, Supervision, Education, Consultation, And Counseling

Definition

- There are two main components of TR services:
  - Rehabilitation service (clinical application) and
  - Telecommunication/information technology.
- This is a way to interact, examine, diagnose, and treat patients remotely

Origins of Telerehabilitation



Telerehabilitation models

- Present telerehabilitation models of care often describe services by what is being provided such as
  - “tele-therapy”,
  - “tele-monitoring”,
  - “tele-mentoring”,
  - “tele-supervising”,
  - “tele-consulting”, and
  - “tele-education.”

Telerehabilitation models

- There are two main health care application models associated with telerehabilitation: clinical and non-clinical.

- **Clinical applications** include consultation, assessment, intervention, case management and clinical supervision.
- **Non-clinical applications** include distance learning and research.

The 10 “E’s” of any “telehealth” service

Any successful telehealth activity should adhere to:

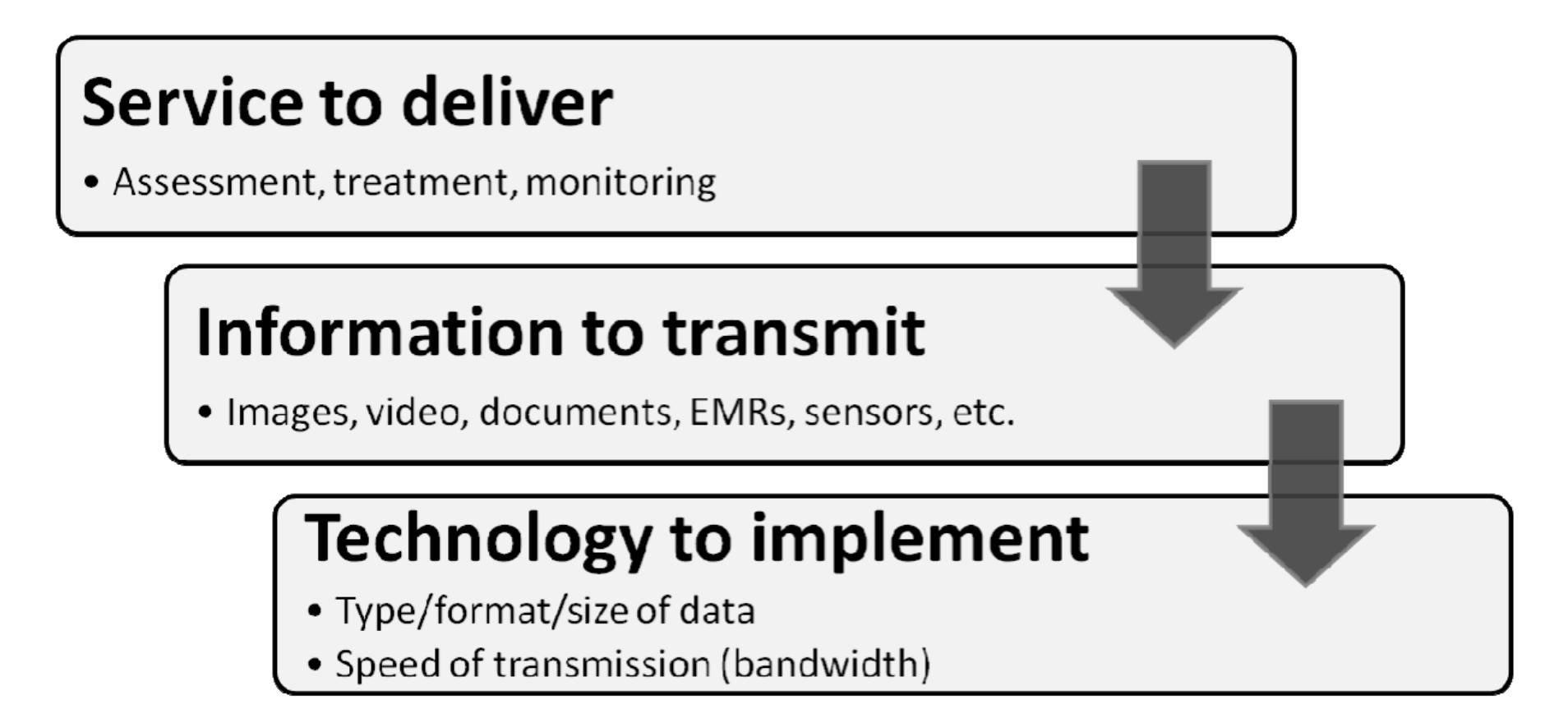
1. Efficiency (decrease costs)
2. Enhancing quality of care (client to provider, access to outcomes and specialists)
3. Evidence-based practice
4. Empowering consumers
5. Encouraging new relationships
6. Education
7. Enabling information exchange
8. Extension
9. Ethics and Equity
10. Easy to use, Entertaining, and Exciting opportunities

Telerehabilitation activity

- Telerehabilitation applications have used various technologies such as the videophone, hardware videoconferencing systems, PC-based videoconferencing systems with dedicated software tools, sensor technologies and expensive, fully immersive virtual reality systems with and without patient feedback

- technologies used for telerehabilitation can be classified as:
  - (1) image-based telerehabilitation;
  - (2) sensor-based telerehabilitation; and
  - (3) virtual environments and virtual reality telerehabilitation

Needs-Based Approach for Selecting Technology

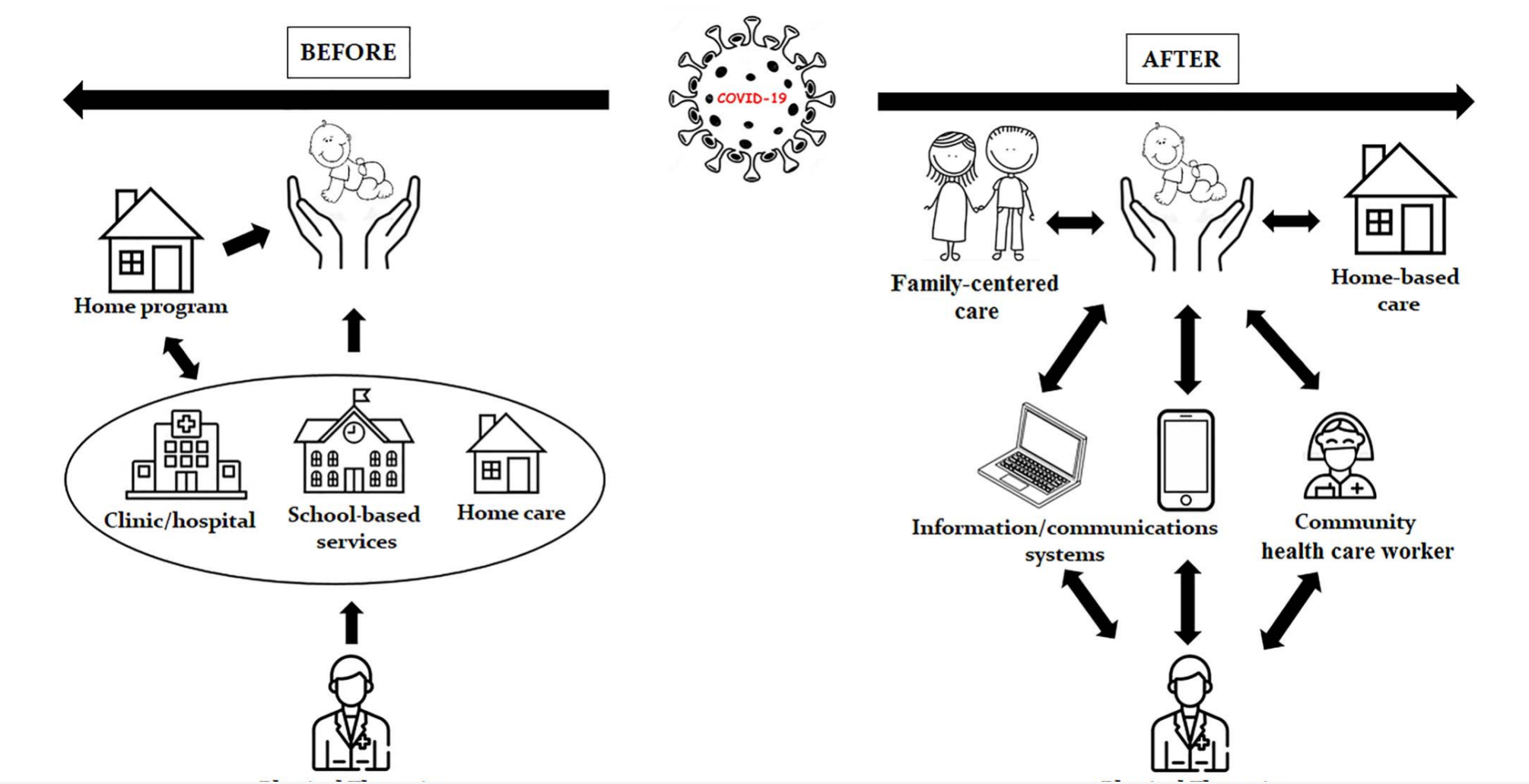


Types of Telerehabilitation

- 1. Real time or synchronous—information or data is transferred live.
- 2. Store and forward (S&F) or asynchronous—information is recorded and transferred.
- 3. Tele-monitoring or remote monitoring—medical devices record and process personal information and transmit continuously (real time) or in a processed summary form (asynchronously) to the clinician
- 4. Mobile health or mHealtha is a special form of Digital Health using Smart mobiles.

And in conclusion…

Paradigm Shift in the Time of the COVID-19 Pandemic



Any Question?