

# Landscape analysis & Needs Assessment Report

Dr Gerard Urimubenshi, Dr David Tumusiime & Ms Juliette Gasana/UR

Ms Kaisa Jokinen/Jamk

RADIC Mid-Conference 18.-19.9.2024

jamk | University of Applied Sciences



THE STATE UNIVERSITY OF ZANZIBAR  
*Catalyst for Social Changes*



UNIVERSITY OF RWANDA



**RADIC**



Funded by  
the European Union

# Contents

## 1. Landscape analysis (Dr David Tumusiime & Ms Juliette Gasana/UR)

→ The aim was to provide an overview of existing research and practices concerning digital competencies of rehabilitation professionals in East Africa

## 1. Needs assessment report (Ms Kaisa Jokinen/Jamk UAS)

→ The aim was to understand the digital rehabilitation related learning needs of the (future) rehabilitation professionals and challenges they face in working life related to applying digital rehabilitation.

## 2. Conclusions

# Landscape analysis

jamk | University of Applied Sciences



THE STATE UNIVERSITY OF ZANZIBAR  
*Catalyst for Social Changes*

UNIVERSITY OF RWANDA



**RADIC**



Funded by  
the European Union

# Landscape analysis

## Background and Objectives

- The introduction of digital technologies has caused a revolution in the healthcare industry in recent years, sparking a change in the way rehabilitation services are envisioned and provided
- A landscape analysis aiming to provide an overview of existing research and practices concerning digital competencies for rehabilitation professionals in East Africa was conducted
- Specific objectives were:
  - **To review the literature on digital competencies of rehabilitation professionals**
  - **To review the literature on ePedagogy**
  - **To conduct a survey on digital competencies among rehabilitation professionals in East Africa**

# Literature review on Digital Competencies

## Methods

- European Digital Competence for Citizens (DigComp) Framework
- Searched the PubMed database, and considered references of included articles
- Inclusion criteria:
  - *English studies and reports published from 1<sup>st</sup> July 2013 to the 30<sup>th</sup> June 2023.*
  - *Studies and reports specific to East African countries*
  - *Publications about rehabilitation professionals including PTs, OTs, SLTs, P&Os, psychologists, rehabilitation physicians, nurses, or social workers.*

# Literature review on Digital Competencies...

## Results

1. Three studies included for the review : Tanzania (1 publication) and Uganda (2 publications).
2. The publications dates ranged from 2018 to 2023.
3. The participants across the included studies highlighted the importance of digital technologies due to shortage of consultation and treatment time
4. Lack of digital knowledge and skills
5. It is important to raise awareness among local clinicians about the availability and role of rehabilitation digital tools in the context of LMICs

# Literature review on ePedagogy

## Methods

- European Digital Competence Framework for Educators (DigCompEdu)
- Searched EBSCOHost and Web of Science databases., and reference lists of relevant articles
- Inclusion criteria:
  - *English studies and reports published from 1<sup>st</sup> July 2013 to the 30<sup>th</sup> June 2023.*
  - *Publications about any rehabilitation program in East Africa*
  - *Publications about either rehabilitation lecturers or students or both*
  - *Reporting on at least one of the domains of the DigComp for educators.*
  - *Reporting on at least one digital pedagogical solution*

# Literature review on ePedagogy...

## Results

1. Four publications were included: Three involved a single country (Rwanda, Ethiopia, and Kenya), fourth included Kenya, Uganda, and Rwanda. Publication dates ranged from 2018 to 2022
2. Digital devices and technologies used: desktops, laptops, tablets, smartphones, digital cameras, Personal Digital Assistant (PDA) tools
3. Applications: e-learning systems, e-libraries, file downloading, web conferences, emails, WhatsApp
4. Software: Word, Excel, PowerPoint, AutoCAD, GIS, SPSS
5. Moodle e-learning platform.
6. Challenges:
  1. *Limited access to ICT infrastructure*
  2. *Limited digital competence*
  3. *Limited integration of ICT in teaching and learning*



# Survey on Digital Competencies among Rehabilitation Professionals in East Africa

## Methods

- Conducted in Rwanda, Kenya and Tanzania
- A mixed method approach for triangulation purposes
- Quantitative structured questionnaire: European Digital Competence for Citizens (DigComp) for clinicians & and European Digital Competence Framework for Educators (DigCompEdu) for academicians
- Focus Group Discussions (FGDs) and thematic data analysis.
- Study population consisted of rehabilitation professionals
- Stratified convenience and purposive sampling
- Quantitative data were collected using Google Forms

# Survey on Digital Competencies...

## Results

- 220 rehab professionals including 174 clinicians, and 46 academicians responded to the survey
- Majority of the participants were PTs for both clinicians (62.1%) and academicians (54.3%)
- Only 20.1% of the clinicians and 52.1% of the academicians had a postgraduate level of education.
- 60% of the clinical rehabilitation professionals were working in urban settings.
- 65.5% of rehab clinicians reported the scores above 47 (maximum score is 84), corresponding to experts (40.8%), leaders (18.4%) and pioneers (6.3%).
- 73.9% of rehab academics reported the scores above 49 (maximum score is 88), corresponding to experts (45.7%), leaders (26.1%) and pioneers (2.2%)

# Survey on Digital Competencies...

## Results

- FGD participants expressed that the level of digital competencies among rehabilitation professionals was very low
- Challenges in integrating digital technologies in practice

|                              |                                  |
|------------------------------|----------------------------------|
| <i>lack of awareness</i>     | <i>resource constraints</i>      |
| <i>negative mindset</i>      | <i>data security concerns</i>    |
| <i>healthcare systems</i>    | <i>resistance to change</i>      |
| <i>technology illiteracy</i> | <i>low internet connectivity</i> |

# Needs assessment report

jamk | University of Applied Sciences



THE STATE UNIVERSITY OF ZANZIBAR  
*Catalyst for Social Changes*

UNIVERSITY OF RWANDA



**RADIC**



Funded by  
the European Union

# Needs assessment report

## Background

- In 2021 a needs analysis on the role of higher education in supporting digital transformation in rehabilitation services was completed in Kenya, Tanzania, and Rwanda.
- Since digital transformation is an ongoing process, it is crucial that this analysis was updated to reflect the current needs in the region.
- This needs analysis report was conducted by collecting data from the firsthand experts in the region, working-life rehabilitation professionals.

# Needs assessment report

## Objectives

- Main objective:
  - To understand the digital rehabilitation related learning needs of the (future) rehabilitation professionals and challenges they face in working life related to applying digital rehabilitation.
- Specific objectives:
  - 1) To collect and summarize views of the stakeholders on how digital rehabilitation should be addressed in the curricula of rehabilitation professionals (that is physiotherapists, occupational therapists, speech therapists, psychologists, and prosthetists & orthotists) in East African partner HEI's.
  - 2) Collect information to create a competence framework of rehabilitation professionals applying digital rehabilitation in East Africa (D4.1).

# Needs assessment report

## Methods

- Target group:
  - Working-life rehabilitation professionals in East African RADIC project countries (Kenya, Tanzania mainland, Zanzibar, and Rwanda) were recruited
- Approach:
  - Quantitative and qualitative data collection was done via online survey. The collected quantitative data is presented by using tables and graphs, the collected qualitative data was analysed by data driven content analysis.
- Research questions:
  1. What kind of competences the rehabilitation professionals need to apply digital rehabilitation in Rwanda, Kenya, and Tanzania?
  2. How do the rehabilitation professionals think the current education responses to the needed competences to apply Digital Rehabilitation in Rwanda, Kenya, and Tanzania?
  3. What elements should be included in the curricula to promote the use of Digital Rehabilitation solutions in practice in Rwanda, Kenya, and Tanzania?

# Needs assessment report

## Results

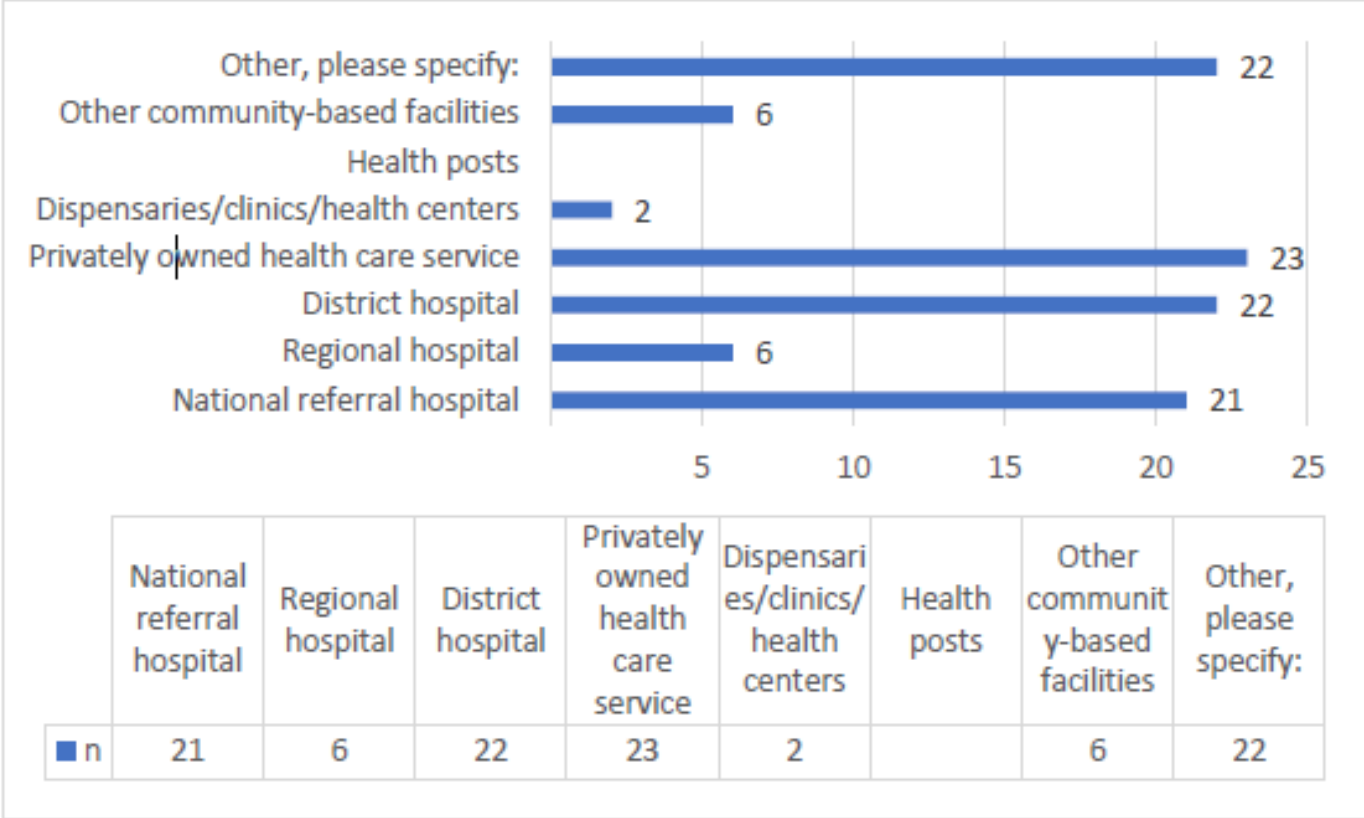
- The total number of answers, where informed consent was given, was  $n = 102$ .
- 40.2% of the respondents were from Kenya, 43.1% from Rwanda and 16.7% from Tanzania (including Zanzibar)
- 70.6% were physiotherapists, 17.6% occupational therapists, 4.9% prosthetics and orthotics and 1% psychologists. 5.9% answered “other”: combined physio and speech therapist, occupational health specialist, special educator, health educator and educator.
- 32.4% of the respondents had worked 5 years or less. 31.4% had worked 6-10 years, 20.6% 10-20 years and 10.8% 20-30 years. 4.9% had worked over 30 years in the field of rehabilitation.



# Needs assessment report

## Results

- “Other” answers include teaching hospitals, specialist hospitals, universities, sports, home-based care, regulatory body, NGOs and Ministry of Health.



# Needs assessment report

## Results

- Digital solutions and their effectiveness in rehabilitation practice
  - 92% of the respondents think that digital solutions could be utilised in rehabilitation.

- 1) use in exercises,
- 2) remote monitoring,
- 3) education and training,
- 4) increased accessibility,
- 5) possibility for online consultations
- 6) time and cost efficiency,
- 7) increased patient independence,
- 8) work efficiency and
- 9) use in data management analysis

# Needs assessment report

## Results

- Required competences of rehabilitation professionals
  - The respondents found these skills to be necessary for the efficiency, workload minimization, and the feel that use of digital exercises and technologies require special attention.

- 1) digital knowledge,
- 2) communication skills,
- 3) rehabilitation technology skills,
- 4) training and education skills,
- 5) ethical skills,
- 6) computer programming skills,
- 7) digital service design skills, and
- 8) analytical skills.

# Needs assessment report

## Results

- Challenges in the use of digital rehabilitation
  - 1) poor internet access and connection,
  - 2) inadequate digital knowledge of the client,
  - 3) inadequate digital knowledge of the professional,
  - 4) time constraints related to monitoring and evaluation,
  - 5) inadequate digital infrastructure and equipment,
  - 6) client treatment compliance,
  - 7) regulations and policies,
  - 8) language barriers,
  - 9) lack of trust in digital solutions,
  - 10) poor education,
  - 11) financial constraints,
  - 12) poor electrical supply, and
  - 13) job displacement

15 % stated that they have never used or tried to use digital solutions in their work

# Needs assessment report

## Results

- Supplementary training for rehabilitation professionals
- Three main concepts:
  - 1) general digital rehabilitation and its usage,
  - 2) ICT skills, and
  - 3) digital technology support and maintenance

- 4) online assessment training,
- 5) use of software and applications,
- 6) communication and engagement training,
- 7) e-therapy,
- 8) evidence-based practice,
- 9) data analysis
- 10) cyber security,
- 11) ethical knowledge,
- 12) remote exercise training,
- 13) robotics,
- 14) digital health and safety,
- 15) digital content creation,
- 16) data protection and management,
- 17) software development and programming.

# Needs assessment report

## Results

- Points of view on the current curricula
  - 76 respondents gave their answer.
  - 10.5% stated that they do not know. Same number estimated that the curricula address digital skills quite well.
  - 78.9% thinks that the current curricula do not address digital skills so that future rehabilitation professionals could use digital solutions in their practice.
  - It was mentioned that the curricula involve basic digital ICT skills but not related to rehabilitation. The lack of practical training in application was pondered upon.

# Needs assessment report

## Results

- How the competences should be included in the curricula
  - 23.2% did not specify the ways, only stated that it should be included.

1) in theory,  
2) in practice and  
3) utilizing multidisciplinary approaches.

- The importance of combining theory into practice was highlighted.

# Needs assessment report

## Results

- Advantages and disadvantages of digital rehabilitation in education

### Disadvantages

- 1) inadequate digital equipment or infrastructure available,
- 2) possible financial constraints,
- 3) possible exclusion and inequality,
- 4) resistance to change,
- 5) ethical challenges and
- 6) loss of jobs

### Advantages

- 1) acquirement of adequate knowledge on digital rehabilitation,
- 2) improvement in the quality of care,
- 3) increased accessibility to rehabilitation services,
- 4) adaptation to technological trends,
- 5) increased job opportunities,
- 6) professional competitiveness,
- 7) reduced staff shortage and
- 8) increased interdisciplinary collaboration.



# Conclusion

- There is an apparent moderate level of digital competencies among East African rehabilitation specialists, but the results cannot be generalized.
- In EAC, there are challenges for digital rehabilitation and pedagogy at individual, institutional, and policy levels
- To enhance the digital competencies of rehabilitation professionals in East Africa, it's essential to involve key stakeholders and collaborate on strategic initiatives
- In addition to enhancing the digital rehabilitation education possibilities for current degree students in the East African HEIs, it would be important to offer possibilities to develop their competences also to working-life professionals.
- To fully reach the potential that digital transformation in rehabilitation offers, a systemic level change is needed.

# Thank you!

jamk | University of Applied Sciences



THE STATE UNIVERSITY OF ZANZIBAR  
*Catalyst for Social Changes*

UNIVERSITY OF RWANDA



**RADIC**



Funded by  
the European Union