

## Research Implications for future telemedicine studies and innovations

Lorenz Harst

*P Timpel<sup>1</sup>, L Harst<sup>2</sup>*

<sup>1</sup>TU Dresden, MKII, Prevention and Care of Diabetes, Dresden, Germany

<sup>2</sup>TU Dresden, ZEGV, Forschungsverbund Public Health Sachsen, Dresden, Germany

Contact: lorenz.harst@tu-dresden.de

Despite the increasing application of information and communication technologies (ICT) in health care, robust data on the effectiveness and implementation of digital health solutions is lacking. Therefore, the objective of this analysis is to identify and categorise implications for future research in order to inform policy and practice decisions.

Systematic reviews and meta-analyses of RCTs evaluating the effectiveness of telemedicine in chronic diseases, all identified via a recent umbrella review, were used as primary sources of information. Qualitative content analysis following Mayring (2000) was used to categorize future research topics mentioned in the discussion sections and conclusions of included research published after 2015. Parallel, independent data extraction and coding using inductive category development was performed by two researchers with previous coding experience. Any disagreements were solved by discussion.

Of the 25 included systematic reviews and meta analyses, 23 reported on future research implications. They were categorised as follows: (1) Need for high quality studies including specific outcome measures; (2) Need for comprehensive technology assessment; (3) Need for in-depth considerations of patients' characteristics & more diverse study populations; (4) Ethics & Safety; and (5) Translation & implementation strategies. A codebook comprising descriptions and examples of those categories and sub-categories was developed.

Results show a need for larger and more rigorous studies with longer intervention durations, mid- to long-term follow-ups as well as more heterogeneous study populations. More pragmatic study designs to evaluate multimodal and tailored interventions like telemedicine solutions are needed to develop an improved understanding on mechanisms and target-group specific effectiveness.

### Key messages:

- We need a stronger focus on relevant and well-designed studies to improve the impact of telemedicine trials.
- Identified needs have the potential to inform future guidelines for the use of telemedicine.