Use of real-world data for advancing clinical practice
K. Taraldsen, S. Mellone (Conveners)

Participants R. Bergquist (NO), C.-P. Jansen (DE), A. Paraschiv-Ionescu (CH). **ISSUE** Randomised Clinical Trials (RCTs) are the gold standard in advancing clinical research. The progress in technology and the increasing availability of Real-World Data (RWD), collected through wearable devices and mobile applications, can provide important information on functional decline, disease development, the impact of a disease in people's lives, and the effectiveness of an intervention. **CONTENT** This symposium focuses on how RWD can be used for assessing key determinants of health such as functional capacity, life space, and mobility. **STRUCTURE** R. Bergquist will present how app-based clinical tests can allow users to assess their own physical function by use of their own smartphones. Objective measures of physical function in older adults are widely used to predict health outcomes such as disability, institutionalization, and mortality1. Smartphones are equipped with inertial sensors and have high computational power; they can be considered as an inertial measurement unit enabling an objective and reliable assessment of the functional capacity. Results from these tests can potentially guide interventions remotely and provide more detailed prognostic information about the users' physical performance for the users themselves, researchers, therapists and other health care professionals. C.P. Jansen will present on the concept of life-space that has frequently been used as a measure of the spatial extent of mobility in a person's natural environment. It is highly associated with clinically relevant aspects of healthy aging such as social participation and functional independence. As older people age in diverse settings and surroundings, different methods need be applied to fully capture their life-space. In this presentation, findings based on different sensor technology solutions for life-space measurement in community-dwelling as well as institutionalized older persons are presented and discussed. A. Paraschiv-Ionescu will present body worn sensors and how they can revolutionise mobility assessment in the context of everyday life. Today advance in sensor technology is associated with the effort to develop algorithms able to extract comprehensive mobility parameters from the raw sensor data. From a clinical perspective, an important aspect to consider is the relevance of mobility parameters extracted from specific sensor configurations (e.g., single or multiple, fixed on trunk, wrist or lower limbs). This presentation will discuss the paradigm of sensor-algorithm pairing, with a focus on the estimation of real-world walking speed, considered as the 6th vital sign? **CONCLUSION** This symposium brings together domain experts with different backgrounds and from different countries but all presenting about state-of-the-art applications of RWD. Presentations will not only focus on the results and future perspectives but also on challenges and les-sons learned. K. Taraldsen and S. Mellone will moderate the exchange with the audience, highlighting take home messages, and encouraging people to join the discussion.