



IMPEDE-CVD: Human centered design to adapt and inform an integrated chronic disease management program in Uganda using mobile payment services

Project type

interdisciplinary pilot project
 cross-sector project
 global health postdoc fellowship

Research areas involved

Biomedical sciences
 Public health
 Social sciences and humanities
 Engineering and other sciences

Project duration

May 2021 – December 2023

Project team

Name	Organization	Discipline(s)
Prof Robert Kalyesubula	ACCESS Uganda	Medicine, Public Health
PD Shannon McMahon	Heidelberg Institute of Global Health	Public Health, Social Sciences
Prof Christine Nalwadda	Makerere University	Social Sciences, Public Health
Prof Nikkil Sudharsanan	Technical University Munich	Public Health
Dr Samuel Knauß	mTOMADY	Medicine, Public Health
Prof Till Bärnighausen	Heidelberg Institute of Global Health	Public Health
Prof Felix Knauf	Charité Berlin	Medicine, Public Health
John Bosco Ntambara	ACCESS Uganda	Health Sciences
Juliette Cazier	mTOMADY	Software engineering, Public Health
Jonas Wachinger	Heidelberg Institute of Global Health	Social Sciences, Public Health
Rebecca Ingenhoff	Charité Berlin	Public Health
Katali Estherloy	ACCESS Uganda	Business Administration
Andrew Basanero	ACCESS Uganda	Pharmacy, Public Health
Ivan Weswa	ACCESS Uganda	Public Health



Josephine Schwab	Heidelberg Institute of Global Health	Medicine, Public Health
Caterina Favaretti	Technical University Munich	Public Health
Vasanthi Subramonia Pillai	Technical University Munich	Public Health



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Case study

Hypertension is a key risk factor for several cardiovascular diseases, and its prevalence is rapidly increasing in many sub-Saharan African countries, including Uganda. However, access to long-term and sustainable treatment including antihypertensive medication is often limited and out-of-pocket expenditure is high. To address this challenge, clients and staff at a designated NCD clinic in rural Nakaseke district initiated a community-led medication financing scheme where clients could voluntarily contribute money to be used for buying medication in bulk. This scheme, while promising and accepted, was not successful in reliably generating sufficient funds for bulk purchasing.

Our IMPEDE-CVD project aimed at exploring the potential of mobile interventions to build on this community-initiated pooled financing program. Following a human-centered design approach, we engaged patients, healthcare providers, and stakeholders on community and national levels throughout the process of developing an intervention prototype. A range of qualitative methods allowed us to gain a better understanding of end-user priorities and preferences which informed iterative prototype refinement. The final prototype is a pooled financing platform running via unstructured supplementary service data (USSD) menus, which operate via service and control commands in a mobile network, are fully accessible from feature phones, and do not require mobile data. As part of a pilot-testing phase, participants were randomized to one of two study arms which either allowed them to contribute a fixed sum directly to the platform pool on a monthly basis (top-up approach), or to flexibly send money to a personal marked savings account from which platform contributions were automatically deducted at fixed intervals (subscription approach).



Data analysis, including of clinical endpoints, is still ongoing, but preliminary findings suggest an increase in drug availability over the course of pilot testing. Qualitative insights highlight the burden of a hypertension diagnosis on the patient and their families, as well as the relevance of previous interactions with the health system, saving schemes, and health interventions for trust and willingness to engage with new interventions. To facilitate a sustainable implementation, we have closely partnered with stakeholders on various levels to ensure platform functioning and potential scale-up beyond the project duration. Our research process also highlighted chances and challenges of multisectoral design and implementation work in Global Health, and we are happy to discuss experiences and insights with other GLOHRA members and the wider Global Health community.

List of materials

- IMPEDE-CVD protocol publication: <http://dx.doi.org/10.2196/46614>
- TV-coverage of dissemination workshop: <https://www.youtube.com/watch?v=cwzolibyWCc>

Contact e-mail

Jonas.wachinger@uni-heidelberg.de (Heidelberg Institute of Global Health)

johnboscontambara@gmail.com (ACCESS Uganda)

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Contact

German Alliance for Global Health Research (GLOHRA)

Secretariat c/o Charité – Universitätsmedizin Berlin
Charitéplatz 1, 10117 Berlin, Germany
e: secretariat@globalhealth.de
t: +49 30 450 572 100

www.globalhealth.de
linkedin.com/company/globalhealth-de
twitter.com/globalhealth_de

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