



## Project: "Health telematics for improvement of TB- and HIV-care in rural Tanzania"

### Partners:

- Charité - University Medical Center, Berlin, Germany
- St Francis Referral Hospital, Ifakara, Tanzania
- Ifakara Health Institute, Dar es Salaam, Tanzania
- eHealth Africa, Nigeria & Berlin

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Figure 1 - Village healthcare worker entering data from a TB suspect

### Background / Problem:

Despite the significant improvement in the diagnostic and therapeutic options for tuberculosis and HIV, the care of the rural population in Africa and other developing countries is still a major problem. Efficient test methods for diagnosing tuberculosis and for checking and adapting ongoing HIV therapy are based on molecular test procedures, which for technical, logistical and financial reasons can only be kept in central health facilities. The rural population in Africa usually does not have access to these modern test methods due to the long distances between home and central health facilities, a lack of financial resources and organizational difficulties in sending in samples and communicating results.

### Solution approach:

TB diagnostics and therapy in rural areas is to be transferred from local use of inefficient test procedures and from paper-based documentation and transmission of findings to a **digital system** that also records sample transport, the return of findings and the further course after diagnosis of tuberculosis. In addition to improving care in rural areas, the system should provide valuable data on the performance of the health system and on public health.

### Methodology:

After a detailed analysis of the existing structures of the local health system and the needs of the local population, an IT system ("**Health Telematics Infrastructure - HTI**") was developed which, in the case of tuberculosis, allows for the simple registration of people suspected of having tuberculosis and registering a sputum sample on a tablet computer or smartphone. The registered and tracked sample is transported to a central laboratory using local transport routes. After the sample has been tested, the result is recorded in the IT system and immediately sent to the healthcare worker on site via SMS. After interpreting the findings, the healthcare professional can forward the result to the tested person's mobile phone. In the same way, the therapy control for HIV-positive patients, which is necessary at least once a year, is organised. Patient adherence in TB and HIV management is supported with an

