

DOCTORAL CANDIDATE: Caroline Ngoma
DEGREE: Philosophiae Doctor
FACULTY: Faculty of Mathematics and Natural Sciences
DEPARTMENT: Informatics
AREA OF EXPERTISE: Health Information Systems
SUPERVISORS: Jens Kaasbøll, Faraja Igira and Margunn Aanestad
DATE OF DISPUTATION: 20th of November 2014

DISSERTATION TITLE: *Approaches for Improving the Quality and Accessibility of Maternal and Child Health Data from Rural Communities: Action-Case Studies from Tanzania.*

Health Information Systems have been marred by a lack of reliable data to support decision-making and planning, and for taking actions. This study provides knowledge on the application of different approaches to improve collection, recording and use of maternal and child health data in rural communities and hence improve the quality of data within the health information systems.

Results obtained from two action-cases conducted indicate improvements in data collection at the health facility as a result of increased number of referred women and reported births that took place in the community. This was due to the involvement of traditional birth attendants and village health workers who were provided with standardised data collection registers which allowed them to collect data as well as to record their performance, and incentives for recording data and referring women to the health facility.

Furthermore, this study also illustrates the process of designing a computer application to support provision of maternal and child health services in rural health facilities. In this process, the application of participatory design techniques such as ethnographic and prototyping techniques challenged the designers in supporting mutual learning during the early stages of system development. The application of participatory design techniques such as hands-on training, system experimentation and prompted reflections presented opportunities for supporting mutual learning during and after the system implementation. These results emphasize on the significance of supporting post-implementation learning as a potential period for system designers and the users together to define how to represent the users' work in the system design.