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PhD in Medical Sciences
2018-2019

INVITATION to the Public defence of

Gustave KARARA

To obtain the academic degree of '**DOCTOR IN MEDICAL SCIENCES**'

ICT-enabled monitoring and evaluation methods of health coverage for sub-Saharan health facilities: A field study in Rwanda, Burundi, DRC, Tanzania, Mali and Senegal.

Thursday 11 October 2018

Auditorium **Piet Brouwer**, 17:00

Faculty of Medicine and Pharmacy, Laarbeeklaan 103, 1090 Brussel

How to reach the campus Jette:

<http://www.vub.ac.be/english/infoabout/campuses>

Summary of the dissertation

Universal Health Coverage (UHC) is at the center of the Sustainable Development Agenda 2030. During the period 2010–2016, the PhD researcher made an evaluation of the indicators allowing quantification of the impact of health coverage schemes on patients, applied in 6 sub-Saharan countries: Rwanda, Burundi, DRC, Tanzania, Mali and Senegal.

After an analysis of potential health coverage indicators, the most relevant ones were calculated on the basis of patient health records collected via *OpenClinic GA*, a health management information system (HMIS) used in several sub-Saharan health facilities (HF).

Results of this research show that DRC and Malian health facilities (HF) have a level of patient coverage lower than those in Rwanda and Burundi, where the patient is covered by more solidarity-based health insurance schemes. This research also managed to estimate the average costs of health insurance expenditure per patient and pathology related financial burdens in the studied sub-Saharan HF. More efforts are needed to achieve a good financial protection of patients in sub-Saharan HF. Only Rwandan HF had reached the indicators recommended by WHO thanks to the high reimbursement rates of CBHI (*Mutuelles de santé*).

The research contributed to establish relevant parameters for assessing the level of health coverage in sub-Saharan HF using ICT-HMIS patient routine data. Additional broader studies involving more HF are needed in order to draw further conclusions on the role of health insurance schemes in health coverage in sub-Saharan countries.

The same methods could also be applied to all health facilities in developing countries through implementation of an adequate ICT infrastructure for health information management.

Curriculum Vitae

After my studies in medicine, hospital management and public health, I immediately started to acquire professional experiences in Belgium as Administrative and financial manager in hospitals, Deputy Investigator at the Institute of Public Health, ICT trainer at the ULB and social non-profit organizations.

From 2003, I started supporting the public hospitals in Rwanda by developing a health information system (HIS) for the management of patient records. I conducted several studies in Rwanda and Burundi through the project Migration for Development in Africa-Great Lakes of the International Organization of Migration.

In 2007, I joined the project OpenClinic GA at its beginnings at the VUB. The project aimed to improve HIS by using ICT methods and implementing an integrated hospital management information system (HMIS). The pilot project began at the University hospital of Kigali. Very soon, several health facilities in sub-Saharan region adopted the project. For several years, I had been involved in implementing activities of *OpenClinic GA* project in several health facilities in Rwanda, Burundi, DRC, Mali, Tanzania, Senegal, Congo-Brazzaville and Gabon. The Belgian Cooperation nominated this project for the Digital for Development (D4D) award in 2016.

Lecturer in Statistics and Epidemiology at the Rwanda Regional e-Health Center of Excellence of University of Rwanda, Researcher at VUB in the department of Public health, unit of Biostatistics and Medical Informatics; I am also the Co-editor of the National e-Health Enterprise Architecture of the Ministry of Health in the DRC and the principal author of several international publications on the monitoring and evaluation of health coverage in sub-Saharan countries.