

Marilys Victoire RAZAKAMANANA

Antananarivo, 18 October 2018

PhD on Health Economics

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OBJECT : Statement of interest

Dear organizers,

I am writing this letter to explain why I would like to participate in the E<sup>2</sup>M<sup>2</sup> Workshop: Ecological and Epidemiological Modeling in Madagascar.

PhD in Health Economics from Clermont Auvergne University, I defended a thesis on the economic effects of malaria and pneumonia in Madagascar.

As an application of economics in the health field, health economics consist on the study of projects in the field of health, economic determinants of the use of care, supply and demand for care and the economic effects of diseases. Then, empirical analyzes leading to the implementation of economic models are necessary. In each model, there are both economic and health or epidemiological variables. I used a dynamic panel model as part of my thesis, to do this I used STATA software. However, dynamical models in economics and in epidemiology are different. In economics, dynamism means use of autoregressive variables, whereas in epidemiology it is something else.

My current project is to do an economic analysis of the use of community health workers (CHW) in Madagascar thanks to a postdoctoral fellowship of the “Fondation Croix Rouge Française”. This study aims to explain why the impacts of community care programs on community health workers utilisation rate are not significant. Indeed, working at the village level, CHWs are more accessible than health centers and the services they provide are cheaper than those of health centers. However, despite the existence of CHW, households continue to use self-medication. Therefore, my study consists in identifying the economic determinants of the use of CHW and in making a comparative analysis between the different types of care in terms of costs, effectiveness and quality of care offered. For this analysis, models were used for estimating demand for health. The aim of this study is to promote the use of CHW to achieve universal health coverage, as community program can solve problems of accessibility to care.

As my specialty is health economics, use of epidemiological data and methods are essential. Thus, I am convinced that this training will be useful to me in the research I plan to carry out in the field of health economics. It would also allow me to propose relevant solutions and recommendations through the implementation of a model that reflects reality.

Last year, I was received, but unfortunately I was not able to attend the workshop due to an unexpected meeting that I had to attend. So, I'm trying to apply again this year

because as a health economist, this workshop is very useful for my current and future research.

I look forward to your response and thank you for your consideration,

Sincerely,

A handwritten signature in blue ink, appearing to read 'Marilys', is positioned above the printed name.

Marilys RAZAKAMANANA

Marilys Victoire Razakamanana

PhD in Health Economics from Clermont Auvergne University, France

### **Abstract of my project**

As health is the first condition for any economic agent to produce, health economics is an area to be studied in depth. In Madagascar, this area is less exploited than others. Indeed, this it requires not only knowledge in economics but also in epidemiology and public health. Methods used in economics and epidemiology are very different but complementary. Moreover, in these fields, a strong knowledge in mathematics and statistics is also necessary.

Low-income countries like Madagascar are still vulnerable to various diseases that have been eradicated in developed countries especially because of the problems of accessibility to care. Because of this situation, since this year 2018, Madagascar has undertaken to take steps to achieve universal health coverage, which consists of ensuring access to health care and guaranteeing the right to health of the population. To this end, many projects are implemented. Therefore, economic evaluation of these projects and identification of the different determinants of the use of care are necessary in order to determine recommendations. According to WHO, strengthening of primary care by community health workers (CHWs) is one of the effective means to ensure universal health coverage in Madagascar. Indeed, working at the village level, CHWs are more accessible than health centers and the services they provide are cheaper than those of health centers. However, despite the existence of CHW, households continue to use self-medication. My current project is to make an economic analysis of the use of CHWs thanks to a postdoctoral fellowship of the “Fondation Croix Rouge Française”. This study aims to explain why the impacts of community care programs on the rate of utilization of CHWs are not significant. It consists in identifying the economic determinants of the use of CHW and in making a comparative analysis between the different types of care in terms of costs, effectiveness and quality of care offered. For this analysis, models were used for estimating demand for health. The models I used are purely economic, although the data are both related to economic and related to health (I must consider all types of diseases manage by CHW). The use of dynamical models in epidemiology would be interesting to complete these empirical economic models. Then, knowing different estimation methods would also allow me to develop a model that reflects reality.

**RAZAKAMANANA Marilys Victoire**

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**EDUCATION**

- 2008-2013: First year – 5th year, Macroeconomics and Public economics at Catholic University of Madagascar - Ambatoroka - Antananarivo
- 2014-2017: PhD in Health Economics Université Clermont Auvergne, Centre d'Etudes et de Recherches sur le Développement International (CERDI) - Clermont Ferrand 1 - France  
Thesis title: Economic effects of malaria and pneumonia in Madagascar

**EXPERIENCE**

- October 2018- now: Carried out a post-doctoral study untitled : “Economic analysis of the use of community health workers in Madagascar”, “Fondation Croix Rouge Française” and Government of Monaco
- April 2018- now: Carried out the study untitled : “Improving Financial Acces to Rehabilitation Services”, Humanity and Inclusion
- November 2017-now: Lecturer at Catholic University of Madagascar and at University of Ankatso
- May 2014-September 2017: Research internship in the Epidemiology Unit of the Pasteur Institute of Madagascar in preparation for the thesis in health economics
- July 2014 - December 2016: Carried out the study untitled: “cost-effectiveness analysis of integration of pneumonia diagnosis and treatment with malaria management at the community level in Madagascar”, Institut Pasteur de Madagascar and UNICEF
- July - December 2014: Carried out the study untitled : “An approach to assessing bottlenecks to flow, use and tracking of funds for immunization services at sub-national levels” as part of GAVI project, Institut Pasteur de Madagascar and UNICEF

**TRAININGS**

- October 2014: Training on Epidemiological Data Analysis with Stata in collaboration with Institut Pasteur International Network (RIIP) at the Institut Pasteur of Madagascar
- December 2014: Training on The Burden Influenza Disease in collaboration with Centers for Disease Control and Prevention (CDC) in Cape Town Africa
- April 2015: Training on References: uses, standards and management software at the Institut Pasteur of Madagascar

- June 2016: Training on Geomatics by Santoni O. at Centre for Studies and Research on International Development, Clermont-Ferrand, France
- November 2016: Training on "Measuring and analyzing the dynamics of rural poverty: theories and applications to the data of the Rural Observatories", DIAL and IRD, Antananarivo

## **SEMINARS AND CONFERENCES**

- June 2016: Seminar at Clermont Auvergne University/CERDI, presentation of the paper about "Macroeconomic analysis of malaria effects in Madagascar", Clermont-Ferrand 1, France
- September 2016: "Third EuHEA (European Health Economists Association) PhD student-supervisor and early career researcher Conference", presentation of the paper about "Macroeconomic analysis of malaria effects in developing countries: the case of Madagascar", Barcelona, Spain
- May 2017: Seminar at Clermont Auvergne University/CERDI, presentation of the paper about "Impact and efficiency of the integration of the diagnosis and the treatment of pneumonia in malaria community case management in Madagascar", Clermont-Ferrand 1, France
- June 2017: "Journées de la Microéconomie Appliquée", presentation of the paper about: "Impact and efficiency of the integration of the diagnosis and the treatment of pneumonia in malaria community case management in Madagascar", Le Mans, France

## **PUBLICATIONS**

- Razakamanana, M.V., et al. (2018). Macroeconomic analysis of malaria effects in Madagascar. Journal of African Economies (submitted)
- Razakamanana, M.V., et al. (2018). Impact and efficiency of the integration of diagnosis and treatment of pneumonia in community case management in Madagascar. Revue Economique (accepted)

## **LANGUAGES**

<b>Language</b>	<b>Speaking</b>	<b>Reading</b>	<b>Writing</b>
<b>Malagasy</b>	Excellent	Excellent	Excellent
<b>French</b>	Excellent	Excellent	Excellent
<b>English</b>	Fair	Fair	Fair

## **REFERENCE**

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