



Pilar Research & Education

In Partnership With:



Dept of Clinical Epidemiology, College of Medicine, U.P. Manila

Empowering research for better healthcare (EMBRACE) Workshop Modern analytical approaches to non-communicable disease

Date

10 August 2017

Venue

Sophia Function Room
Hotel Kimberly Manila
770 Pedro Gil St, Malate
1004 Metro Manila



Background

The rapid growth of an elderly population in the Philippines coupled with successful initiatives to reduce death rates from communicable disease have driven a rising demand in healthcare provision for non-communicable diseases such as cancer. At the same time, closing the vast gap in the quality of healthcare delivered to different socioeconomic groups remains one of the country's biggest challenges.

In order for the policies and practices to address these issues to be effective, affordable and swift, they need to be grounded in evidence from high-quality research.

This workshop will examine how health research can inform healthcare delivery, and will discuss modern approaches to research on non-communicable diseases.

Aims

This workshop seeks to equip current and prospective Filipino researchers with the knowledge and skills to conduct research that furthers our understanding of non-communicable disease.

The workshop will combine lectures and practical examples from real-life data, with plenty opportunities for interaction between speakers and participants. The changing trends in non-communicable disease and practical considerations for research in the Philippines will be recurrent themes throughout the workshop.

Learning outcomes

On successful completion of this workshop, participants will be able to:

- 1) Understand the current situation and challenges of non-communicable disease in the Philippines and how health research can address these challenges
- 2) Get an overview of common statistical methods in health research
- 3) Understand the fundamentals of the design and analysis of observational research
- 4) Understand the fundamentals of the design and analysis of experimental research
- 5) Gain knowledge on trend prediction of health outcomes
- 6) Be able to recognise potential challenges and solutions in analysis of a health study
- 7) Gain knowledge on analytical approaches of complex data

Agenda

Time	Topic	Session leader
Session I: Introduction (Chair: Prof. Nina Castillo-Carandang)		
09.00-09.15	Introduction from PILAR and the Dept of Clinical Epidemiology, College of Medicine, U.P. Manila	Dr. Johnathan Watkins, Prof. Nina Castillo-Carandang
09.15-10.00	Trends in non-communicable disease in the Philippines and the role of research	Dr. Carlo Irwin A. Panelo
10.00-10.45	An overview of data analysis	Prof. Tim O'Brien
10.45-11.00	Coffee break	
Session II: Fundamentals of data analysis (Chair: Dr. Johnathan Watkins)		
11.00-11.45	Design and analysis of observational research, experience from a population study in the Philippines	Dr. Rody G. Sy
11.45-12.30	Design and analysis of experimental research	Prof. Tim O'Brien
12.30-13.00	Projecting the rates of chronic disease outcomes	Dr. Johnathan Watkins
13.00-14.00	Lunch	
Session III: Practical issues in data analysis (Chair: Dr. Johnathan Watkins)		
14.00-15.00	Small group activity: Planning a health research analysis	Dr. Johnathan Watkins, Prof. Nina Castillo-Carandang
15.00-15.45	Dealing with complex data: modern practice and practical considerations	Prof. Tim O'Brien
15.45-16.00	Closing	Dr. Johnathan Watkins

Brief summary of sessions

09.00-09.15 Introduction from PILAR and the Dept of Clinical Epidemiology, College of Medicine, UP Manila (Dr. Johnathan Watkins and Prof. Nina Castillo-Carandang)

The workshop will commence with a brief introduction of PILAR's background and aims, and potential future work with the Department of Clinical Epidemiology, College of Medicine, UP Manila.

09.15-10.00 Trends in non-communicable disease in the Philippines and the role of research (Dr. Carlo Irwin A. Panelo)

There is a need for healthcare to adapt with changes in demographics and disease trends. This talk will discuss how research may inform this process. In particular, highlights from a recent health policy report prepared by Dr Panelo and colleagues "Reaching the Poor with a Continuum of Care: A 25-Year Assessment of Health Sector Performance", will be discussed.

10.00-10.45 An overview of data analysis (Prof. Tim O'Brien)

Basic statistics knowledge, including hypothesis testing, types of data and options of statistical analysis in the context of health research will be reviewed in this session.

11.00-11.45 Design and analysis of observational research, experience from a population study in the Philippines (Dr. Rody G. Sy)

This session will introduce different types of study design, potential bias and confounding in observational research and analytical approaches to address them, using experiences from a Filipino population study as an example.

11.45-12.30 Design and analysis of experimental research (Prof. Tim O'Brien)

Experimental research is often costly and has limited number of experiments or sample size. This talk will discuss potential design and analytical strategies to optimise efficiency.

12.30-13.00 Projecting the rates of chronic disease outcomes (Dr. Johnathan Watkins)

This talk will demonstrate several modelling approaches in projecting disease outcomes, using as an example a recent publication in *The Lancet* about the possible impact of macroeconomic factors on cancer mortality.

14.00-15.00 Small group activity: Planning a health research study (Dr. Johnathan Watkins and Prof. Nina Castillo-Carandang)

Participants will work in pairs or small groups to critically review an analytical plan of a health study (a scenario and an accompanying guide to discussion will be prepared by the organising committee), and exchange views about ideal practice and real-life issues in health research. Learning outcomes from previous talks will be touched on.

15.00-15.45 Dealing with complex data: modern practice and practical considerations (Prof. Tim O'Brien)

The talk will provide an overview of modern approaches to handle today's rich and complex research data. This may include brief explanations and scenarios in which advanced methodologies such as multivariate analysis and data-driven algorithms are required.

Confirmed international speakers

Prof. Timothy O'Brien is Professor of Mathematics & Statistics at Loyola University Chicago, and a former Senior Science Advisor and Jefferson Science Fellow at USAID. He has led a number of statistical methods workshops in South East Asia and has more than 50 peer-reviewed publications to his name, with a particular research interest in the optimal design of experiments.

Dr. Johnathan Watkins is a co-founder and Track Leader in PILAR Research and Education. He is a graduate of the University of Cambridge and King's College London, and is currently a management consultant at one of the top consulting firms. He has patents for predicting therapeutic response in cancer patients pending and has conducted research in areas ranging from cancer genomics and bioinformatics to health economics and policy with publications in some of the highest impact journals such as *The Lancet*, *Nature Medicine*, and *Cancer Discovery*.