



# Myo Minn Oo

MBBS, PhD

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Myo-Minn-Oo | myominnoo | myominnoo

*As an epidemiologist, I'm dedicated to global health and implementation science, focusing on reducing health disparities in underserved communities. I specialize in data science and automation to tackle real-world health challenges. Even this CV was compiled using code and a data-driven approach.*

## Education

### Prince of Songkla University

PHD, EPIDEMIOLOGY

*Hat Yai, Thailand*

*Aug 2018 – Jul 2021*

- Dissertation: "Myanmar Migrants with Tuberculosis: Health Insurance, Delays in Access to Healthcare, Model of Care on Treatment Outcomes and Quality of Life in a Border Area of Thailand and Myanmar"
- Committee: François Henry Nosten (Chair), Tippawan Liabsuetrakul (Advisor), Virasakdi Chongsuvivatwong, Sawitri Assanangkornchai, Wit Wichaidit

Received an excellent evaluation after successfully defending my PhD thesis.

### The Union, MSF Luxembourg, WHO-TDR

STRUCTURAL OPERATIONAL RESEARCH INITIATIVE (SORT-IT) TRAINING COURSE

*Nepal & Sri Lanka*

*Mar 2016 – Dec 2016*

- Research project: "Alarming attrition rates among HIV-infected individuals in pre-antiretroviral therapy care in Myanmar, 2011–2014" (doi: 10.3402/phap.v9.21280)

### University of Medicine

MBBS

*Mandalay, Myanmar*

*Jan 2007 – Dec 2012*

- Produced a report on vital statistics for a township in Myanmar that is among the most under-developed and remote areas of the country

## Research Interests

Infectious Diseases (HIV/STBBI, TB, Malaria), Implementation Science, Health Service Research, Underserved Populations (Sex workers, gbMSM, Migrants, Indigenous Peoples).

## Professional Experience

### Options Lab (MAP Center for Urban Health Solutions @ St. Michael's Hospital)

SENIOR RESEARCH ASSOCIATE

*Toronto, CA*

*April 2024 — Present*

Conducting HIV/STBBI research in underserved populations

### Waapihk Research

EPIDEMIOLOGIST

*Winnipeg, CA*

*October 2023 — March 2024*

- Consistently met project deadlines, ensuring timely delivery of client deliverables at Waapihk Research.
- Conducted a thorough scoping review on harm reduction interventions for underserved populations in remote rural areas, providing actionable insights for targeted interventions.
- Significantly improved the accuracy and relevance of the healthcare fiscal analysis report for northern Manitoba communities through rigorous revision and updates.
- Produced a comprehensive population health review report tailored to northern Manitoba communities, facilitating evidence-based decision-making for healthcare initiatives.

### University of Manitoba

POST-DOCTORAL FELLOW

*Winnipeg, CA*

*May 2022 — October 2023*

- I led the epidemiological analyses of projects in Kenya that aim to enhance understanding of the epidemiology and transmission dynamics of HPV in female sex workers and men who have sex with men (MSM).
- I also contributed to creating bioinformatics pipelines, specifically focusing on pipelines for bulk and single-cell RNA sequencing, and trained PhD students on these workflows.
- Initiated collaboration with PHDA and HOYMAS to start research projects in epidemiology aimed at gaining a better understanding of health service access, utilization patterns, mortality rates, and maternal and child health outcomes among sex workers, including the MSM population.
- Developed interactive Shiny projects and automated dashboards for improved monitoring and communication purposes.

This work resulted in a peer-reviewed paper, two manuscripts are under writing, and a successful co-authored grant.

### PLOS ONE

ACADEMIC EDITOR

*Jan 2022 — Present*

- Served as an editor for three manuscript submissions, overseeing the peer review process, making editorial decisions, and ensuring that the submissions met the standards of the journal.

## Swiss Tropical and Public Health Institute (University of Basel)

Basel, Switzerland

POST-DOCTORAL SCIENTIFIC COLLABORATOR

Aug 2021 — Apr 2022

- Conducted a feasibility study to assess the accuracy, reliability, and viability of calculating under-five mortality through repeated malaria surveys.
- This work resulted in a manuscript (under writing) and a completed technical report that provides evidence and insights on malaria preparedness in Papua New Guinea.

## Papua New Guinea Institute of Medical Research

Goroka, Papua New Guinea

SENIOR RESEARCH FELLOW

Aug 2021 — Apr 2022

- Successfully oversaw the National Health Facility Survey of 2021 and ensured its timely and effective completion.
- Designed and developed an automated interactive dashboard to facilitate the monitoring of the survey in a streamlined and efficient manner.
- Delivered technical consultations to both the Institute and the National Technical Working Group for Malaria.
- Completed a draft for an automated report for the 2021 Health Facility Survey.
- Conceptualized a QR linkage system for implementation in the upcoming malaria indicator survey.

## Prince of Songkla University

Hat Yai, Thailand

DOCTORAL STUDENT (CAREER BREAK)

Aug 2018 — Jul 2021

- Earned a full doctoral scholarship and secured two research grants to support my PhD field project.
- Published five first-authored papers, presented at the CDC Migration Summit in Singapore, and received the best oral presentation award in Indonesia.
- This work produced three important papers that offer valuable evidence to enhance health insurance coverage and healthcare access for migrants in Thailand, providing policymakers with insights and recommendations to address the challenges faced by these populations.

## The Union, South-East Asia Office

Mandalay, Myanmar

RESEARCH FELLOW & TECHNICAL AIDE (BASED IN MYANMAR)

Aug 2016 — Jul 2018

- Undertook over 20 research projects across various countries, including Myanmar, Bhutan, Nepal, India, and China.
- Supervised and mentored over 10 participants
- Generated over 25 research outputs and publications in peer-reviewed international journals.
- Organized and led the third National SORT-IT course, as well as a workshop on TB research agenda in Myanmar.

## The Union, Country Office

Mandalay, Myanmar

MONITORING & EVALUATION OFFICER/MANAGER

May 2014 — Jul 2016

- Completed a one-year SORT-IT training program with success and published my first paper as the primary author, despite facing difficult health conditions and personal challenges during that period.
- Spearheaded the Monitoring and Evaluation Unit responsible for maintaining accurate records for more than 35,000 patients.
- Examined the attrition rates of the program and assessed the existing tracing system, resulting in subsequent improvements and more effective call-back procedures.

## The Union, Country Office

Enhanced daily oversight of a team of 15 or more employees to promote streamlined workflows and enhanced communication.

Mandalay, Myanmar

MEDICAL OFFICER

Feb 2014 — Dec 2015

- Conducted daily outpatient consultations for over 50 patients with TB/HIV.
- Provided medical care and support to patients, which included prescribing essential treatments such as anti-retroviral drugs.
- Conducted an analysis and authored my inaugural abstract on the survival analysis of patients with HIV.

## Grants, Awards, and Honors

### Thailand Education Hub for ASEAN Countries (THE-AC)

Thailand

FULL DOCTORAL SCHOLARSHIP

Aug 2018 - Jul 2021

- Awarded a complete three-year scholarship to pursue a Doctoral degree in Epidemiology.
- Produced a technical report and policy document to inform the Thai government on healthcare access issues for marginalized populations, and organized a dissemination meeting with local, regional, and international stakeholders to share our findings and recommendations.

### Health System Research Institute (HSRI), Thailand

Thailand

RESEARCH GRANT (GRANT NUMBER: 62-082)

Jul 2019 - Jan 2021

- Awarded to conduct research and produce policy documents on the topics of health insurance, legal status, and their effects on the health outcomes of Myanmar migrants in Thailand.

Funding amount: \$20,000 USD

### Fogarty International Center, National Institutes of Health, US

Thailand

RESEARCH GRANT (GRANT NUMBER: D43TW009522)

Jul 2019 - Jan 2021

- Awarded to conduct fieldwork for my PhD in the border area between Thailand and Myanmar.

Funding amount: \$4,000 USD

### 13th International Post Graduate Forum on Health System and Policy

Yogyakarta, Indonesia

BEST ORAL PRESENTATION AWARD

Jul 2019

### The International AIDS Society

The IAS Conferences

ABSTRACT MENTORSHIP

2016 - Present

Providing mentoring to improve the quality of abstracts and increase their chance of acceptance.

### Center for Operational Research, The Union

Myanmar

RESEARCH FELLOWSHIP

Aug 2016 - Jul 2018

Facilitating evidence-based policy changes by conducting operational research.

### The Union, MSF Luxembourg, & WHO-TDR

Sri Lanka, China, Myanmar

MENTORSHIP

Mar 2016 - Jul 2018

- Supervised over 10 participants and collaborated on more than 25 publications that have contributed to the advancement of evidence-based policy changes in South Asia through the implementation of operational research.

## Selected Publications

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Since 2016, I have authored **39 research papers**. Some highlights are listed below, with citations taken from Google Scholar on 11 October 2024. My **h-index** is **15** with total citations of 620.

For a complete list of publications, see *my Google Scholar profile*.

1. Oo, M. M., Moore, S., Gibbons, S., Adhiambo, W., Muthoga, P., Siele, N., Akolo, M., Gebrebrhan, H., Sivo, A., Ball, B. T., et al. (2023). High prevalence of vaccine-preventable anal human papillomavirus infections is associated with HIV infection among gay, bisexual, and men who have sex with men in nairobi, kenya. *Cancer Medicine*.
2. Oo, M., Liabsuetrakul, T., Boonathapat, N., Aung, H., & Pungrassami, P. (2022). Treatment success among myanmar migrants with TB in thailand. *The International Journal of Tuberculosis and Lung Disease*, 26(6), 550–557.
3. Oo, M. M., Boonathapat, N., Aung, H. K. K., Pungrassami, P., & Liabsuetrakul, T. (2021). Changes in health-related quality of life and the associated factors among myanmar migrants with tuberculosis: A cohort study. *BMC Infectious Diseases*, 21(1), 1–8.
4. Feng, N., Edwards, J. K., Owiti, P. O., Zhang, G.-M., Rueda Vallejo, Z. V., Hann, K., Zhou, S.-S., Oo, M. M., Geoffroy, E. M., Ma, C., et al. (2021). Operational research capacity building through the structured operational research training initiative (SORT-IT) in china: Implementation, outcomes and challenges. *Infectious Diseases of Poverty*, 10(1), 1–4.
5. Oo, M. M., Liabsuetrakul, T., Boonathapat, N., Aung, H. K. K., & Pungrassami, P. (2021). Association of health insurance and documentation with stigma and social support among myanmar migrants with tuberculosis before and during thailand's policy on border closure due to COVID-19: A cross-sectional study. *Journal of Racial and Ethnic Health Disparities*, 1–13.
6. Oo, M. M., Tassanakijpanich, N., Phyu, M. H., Safira, N., Kandel, S., Chumchuen, K., Zhang, L. M., Kyu, H. A., Sriwannawit, P., Bilmumad, B., et al. (2020). Coverage of tuberculosis and diabetes mellitus screening among household contacts of tuberculosis patients: A household-based cross-sectional survey from southern thailand. *BMC Public Health*, 20(1), 1–10.
7. Oo, M. M., Tun, N. A., Lin, X., & Lucero-Prisno III, D. E. (2020). COVID-19 in myanmar: Spread, actions and opportunities for peace and stability. *Journal of Global Health*, 10(2).

### Books

1. Oo, M. M. (2020). *A beginner guide to research data collection using EpiData*. Amazon Self-Publishing. <https://www.amazon.com/Beginner-Guide-Research-collection-EpiData/dp/B08F7M67QP>
2. Oo, M. M. (2023). *Principles and application of evidence-based public health practice: Chapter (16) the need for a paradigm shift to ensure adequate skilled human resources for effective public health practice*. Under Editorial Review @ Elsevier.

### R PACKAGES

1. Oo, M. M. (2020). *mStats: Medical data analysis*. <https://CRAN.R-project.org/package=mStats>
2. Oo, M. M. (2021). *u5mr: Under-five child mortality estimation*. <https://CRAN.R-project.org/package=u5mr>

## Works in progress

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1. Flow cytometry analysis and single cell transcriptome profiling of tissue resident memory t cells within the human cervical mucosa: Comparison of ectocervix and endocervix. (2024). In *Writing*.
2. Longitudinal trajectories of SARS-CoV-2 antibodies and incidence of breakthrough infections in a 2-year follow-up cohort. (2024). In *Analysis & Writing*.
3. Divergent HIV acquisition and inflammation outcomes associated with IFN- $\alpha$ 2 and IFN- $\beta$  expression in the female genital tract. (2024). In *Data Acquisition & Analysis*.
4. An extended primary dose interval of BNT162b2 transiently enhances SARS-CoV-2-specific humoral responses without impacting memory t cells. (2024). In *Paper Submission*.

## Projects

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1. *SWOP administrative data analysis*. (2023).

2. COVID-19 antibody trajectory analysis project. (2023).

## Data Science Products

### mStats: Epidemiological Data Analysis

R



R package for data management and epidemiological data analysis inspired by STATA



### usmr: Under-Five Child Mortality Estimation

R

R package for estimating under-five mortality rates using indirect methods mentioned in UN X manual and papers by Rajaratnam et al.



### MalCon

R, RMARKDOWN, GITHUB

A GitHub static webpage for Malaria Control Unit (MalCon) at Papua New Guinea Institute of Medical Research (PNGIMR)



### MalCon Dashboard

R, RMARKDOWN, AUTOMATION, CICD, ODK, FLEXDASHBOARD

An interactive dashboard for monitoring the Health Facility Survey 2021 conducted in Papua New Guinea



### Personal Budget Manager

R, SHINY, MONGODB, SHINYAPP.IO

A Shiny budget management app built with the Golem framework, free user registration, passcode authentication



### COVID-19 Antibody Trajectory App

R, SHINY, SHINYAPP.IO

A Shiny data exploratory app for the purpose of communication with stakeholders, build with the Golem framework with user authentication



### XpertMagic

R, SHINY, SHINYAPP.IO

A Shiny app to convert raw outputs from Gene Xpert machine for HPV genotypes and CTNG to tidy format, pre-specified upload data size



### Personal Webpage hosted on GitHub

R, RMARKDOWN, GITHUB



A GitHub static personal webpage



### Personal Webpage hosted on netlify

R, RMARKDOWN, BLOGDOWN, NETLIFY



- A netlify personal webpage

## Presentations

### CAHR 2023

ORAL PRESENTATION

Canada

Apr 2023

Single-Cell Transcriptomics Delineate Divergent Localizations Of Tissue-Resident memory T Cells Across The Human Cervical Mucosa

Kenya

ORAL PRESENTATION

Jan 2022

- HPV epidemiology and preliminary findings from SWOP HPV Study
- High prevalence of vaccine-preventable anal human papilloma virus infections is associated with treated HIV infection among gay, bisexual, and men who have sex with men in Nairobi, Kenya

### 14th Postgraduate Forum of Health Systems and Policy

Virtual

ORAL PRESENTATION

Dec 2020

- Health insurance and out-of-pocket expenditure from symptoms to tuberculosis diagnosis among Myanmar migrants in a border area of Thailand

### 51st Union World Conference on Lung Health

Virtual

POSTER PRESENTATION

Oct 2020

- Coverage of health insurance schemes among Myanmar migrants with tuberculosis in a border area of Thailand and its associated factors: An interim analysis

### US CDC Migration Summit

Singapore

ORAL PRESENTATION

Nov 2019

Cross-border TB referral system: a case study from Thailand

Vietnam

POSTER PRESENTATION

Nov 2019

- Tuberculosis literacy and completion of household contact investigations: A household-based survey from Southern Thailand

**Ph.D. Candidate examination** Unsuccessful treatment outcomes after oral direct-acting antivirals in people with chronic hepatitis C virus infection and its associated factors *Thailand*

ORAL PRESENTATION

Feb 2019

- Unsuccessful treatment outcomes after oral direct-acting antivirals in people with chronic hepatitis C virus infection and its associated factors

## Teaching

**Swiss Tropical and Public Health Institute**

Basel, Switzerland

INVITED SPEAKER

Oct 2021

**Global Public Service Academies Program (USA)** Shared a personal account of migration and health at the border area.

Mae Sot, Thailand

INSTRUCTOR

Oct 2019 - Feb 2020

- Delivered two lectures on the topic of migration and public health with a focus on tuberculosis control, to high school students from Japan, Australia, Canada, and the United States.

**University of Community Health**

Myanmar/Burma

INVITED LECTURER

Feb 2019

**SORT-IT course** Conducted a two-day training workshop on the application of R for medical statistics.

Sri Lanka, China, Myanmar

MENTOR

Mar 2016 - Jul 2018

- Provided mentorship to more than 20 international participants.
- Taught data management and applied statistics.
- Created and delivered a lecture on the subject of Effective Research Communication through Infographics.

## Services & Outreach

**Academic Editor:** PLoS One (2022 - Present)

**Ad Hoc Reviewer:** 50+ Verified Reviews in International peer-reviewed journals (2016 - Present) • PLoS One (2016 - Present) • BMC Health Service Research (2016 - Present) • Public Health Action (2016 - Present) • Global Health Research and Policy (2016 - Present) • Journal of Health Research (2016 - Present) • AIDS Research and Human Retroviruses (2016 - Present) • African Journal of AIDS Research (2016 - Present) • International Journal of STD & AIDS (2016 - Present)

**Affiliate:** Prince of Songkla University (2018 - 21)**Editorial Board:** Public Health Challenges (2021 - Present)

**Member:** National Technical Working Group (Malaria) (2021 - 22) • PNGIMR Research Network (2021 - 22) • SORT-IT OR Network, Myanmar Society of Epidemiology (MSE), Myanmar Medical Association (MMA) (2016 - Present)

**Mentor:** The International AIDS Society Conferences (2016 - Present)**Myanmar R User Group (Monthly Meetup):** Virtual (2022 - Present)**R for Researchers (Monthly Meetup):** University of Manitoba (2022 - Present)**Reviewer:** Rady Faculty of Health Sciences Graduate Studentship Program (2022)

## Skills

**Development:** Version Control (Git) • Automation & CI/CD (Travis CI, GitHub Action) • Web Hosting (Netlify, GitHub) • Shiny app (Golem framework)

**Language:** Burmese (Native) • Lisu (Native) • English (C2) • Chinese (A2) • Thai (A2) • French (A1) • Tok Pisin (A1) • Swahili (A1)

**Markup Languages:** HTML • CSS • Markdown • Rmarkdown • YAML**Programming Languages:** R • Python • SQL • JAVA • JavaScript • BASH**Research:** Systematic Review • Epidemiology in TB (Mahidol University, 2019) • Lab Training in TB Microbiology

(Mahidol University, 2019) • Cohort study design and analysis • Epidemiology in Public Health Practice Specialization (Johns Hopkins Bloomberg School of Public Health, 2020)

**Statistics and Data Science:** Longitudinal Data Analysis (GEE, Mixed Models) • Causal Inference (SEM, DAG) • Meta-analysis • Epidemiological Methods • Child mortality Estimation • Statistical Modelling • Egocentric Network Analysis • Survey Methods • The Data Scientist's Toolbox (The Johns Hopkins University)

**Text Editors:** Rstudio • Visual Studio Code • Vim

**Communication:** Dashboard Design (R, Shiny, Flexdashboard) • Reproducible Research (Rmarkdown) • data visualization (ggplot2, arcGIS, qGIS) • peer-reviewed publications (journal, conference)

## Online Tutorials

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1. Create Publication-Ready Tables using gtsummary
2. R Webinars
3. Statistics & Public Health Webinars
4. Git & GitHub Basics
5. Making infographics using MS PowerPoint
6. Data entry using EpiData Manager & EntryClient
7. Introduction to R and RStudio
8. Statistics with R - ENGLISH Version
9. Statistics with R - MYANMAR Version

## Charting the Course: Reflecting on My Journey Thus Far

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This figure is created using the packages, rnaturalearth, sf, sfnetworks, emojiFont, and ggplot2.

## References

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DEPUTY HEAD OF UNIT & PROFESSOR OF EPIDEMIOLOGY

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## Note

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This document is written in `rmarkdown` and generated using `vitae` package and `awesome-cv` template. All the source code behind this CV is available on this [GitHub repo](#).