Exploring the Surveillance System and Epidemiology of Dengue Hemorrhagic Fever in Myanmar

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Outline

• Overview of Myanmar and Yangon UPH
• PHDL Benter Fellowship and Exchange
• Internship Activities and Trips
  • Yangon Regional Health Department
  • Ministry of Health, Central Epidemiological Unit (CEU) and Vector Borne Disease Control Unit (VBDC)
• DHF Surveillance System and Yearly Trends
• Plans for the Future
Myanmar Profile

Population: 56,320,000

Border countries: Thailand, China, Bangladesh, India, Laos

Language: Myanmar Language

Climate: southwest monsoon June-Sept with humid, rainy summers; scant rainfall, lower humidity Dec-April

Physician density: 0.61 per 1,000 pop.

Hospital bed density: 0.6 beds per 1,000

Figure 1. Population Pyramid Burma. CIA World Factbook retrieved 17 Sept 2015 from https://www.cia.gov/library/publications/the-world-factbook/graphics/population/BM_popgraph%202014.bmp

Figure 2. Map of Myanmar. Retrieved 17 Sept 2015 from http://static.newworldencyclopedia.org/9/9f/Subdivisionsmyanmar.png
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PHDL Introductory Presentation
PHDL International Fellows Program

- Dr. Win Aye Hlaing to participate in PHDL workshops at University of Pittsburgh Spring 2016
Project Goals

- Gain an understanding of public health data surveillance systems in Myanmar, specifically for vector-borne diseases.

- Analyze historical patterns of dengue hemorrhagic fever by state/region.
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Yangon Regional Health Department

- Daily record from each hospital
- Reporting Hospitals, Township, Address, Number of Patients
Ministry of Health, CEU and VBDC Unit, Naypyitaw

Emergency Operation Center

Fogging Machine
Lewe Township DHF Field Control

- *Aedes aegypti* larvae elimination
- Insecticide fogging
- Search of all water containers
Other Trips & Events

- National Health Laboratory, Yangon
- Dengue Health Forum
- World No Tobacco Day, UPH
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Data Reporting System

HMIS Monthly Report

Sub Rural Health Center

Station Health Unit/RHC

TSP; Health Office/TMO-VBDC focal Person

State/Regional Health Office

Department of Medical Service

VBDC Monthly Report

VHV INGOs

Feedback

Department of Public Health (Central VBDC)

Feedback

JICA Central Surveillance System

- Japan International Cooperation Agency provided training on data management
- Electronic patient record form: state, hospital, year/month, name, age, sex, address, admission & discharge date, disease grade, diagnosis, condition
- Collect data daily by phone from every health facility (mostly hospitals)
- Electronic system only at MOH VBDC, not at state/regional level
DHF Incidence in Myanmar 1970-2014

Number of Reported Cases and Case Fatality Rate of DHF, Myanmar, 2000-2014

The graph shows the number of reported cases and case fatality rate (CFR) of DHF in Myanmar from 2000 to 2014. The x-axis represents the years from 2000 to 2015, while the y-axis on the left measures the number of cases (n) ranging from 0 to 25,000. The y-axis on the right measures the CFR (%) ranging from 0 to 1.4.

The bar chart indicates a fluctuation in the number of cases over the years, with a peak in 2010. The line graph, indicated by a red line, shows the trend of the case fatality rate, which decreases significantly after 2010.

The data suggests a significant reduction in both the number of cases and the case fatality rate after 2010, indicating effective control measures and improved healthcare in Myanmar.
# Barriers & Challenges

<table>
<thead>
<tr>
<th>Category</th>
<th>Issues</th>
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<tr>
<td>Political</td>
<td>Confidentiality of data, Bureaucratic obstacles</td>
</tr>
<tr>
<td>Technical/Infrastructural</td>
<td>Power outages, Internet connection, Data quality</td>
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<td><strong>Time</strong></td>
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Future Plans & Goals

• Further analysis of Myanmar DHF data
  • Spatial and temporal patterns
  • Seasonal trends
  • GIS mapping

• Epi in Action! Poster Presentation and Master’s Essay on fellowship experience

• Return to Myanmar!
Thank you!