

# Identifying accurate methods of assessing blood pressure and health information by lay volunteers in the Philippines: Adapting a Canadian Cardiometabolic Health Program to LMICs

This study evaluated two elements of the Community Health Assessment Program in the Philippines (CHAP-P) study:

Phase 1) the most appropriate local method for assessing blood pressure  
Phase 2) the most appropriate local method for collecting CHAP-P session participant information



## Phase 1

### Gold Standard of BP Measurement:

Manual reading by 2 experts using a BP mercury device



### Blood Pressure Methods tested against Gold Standard:

1. Automated Devices
  - a. Omron HEM-7130
  - b. Microlife 3QA1
  - c. WatchBP Office Target
2. Manual BP reading



## Automated Device Descriptions

### Single-Reading Home Device

Omron HEM-7130  
Microlife 3QA1



### Multiple-Reading Office Device

WatchBP Office Target

## Correlation with Gold Standard ( $r$ )

WatchBP Office Target  
 $r = 0.84$



Omron HEM-7130  
 $r = 0.80$



Microlife 3QA1  
 $r = 0.70$



Manual reading  
 $r = 0.59$

## Phase 2

### Methods used to collect participant information:

1. Tablet
2. Cell Phone
3. Paper Form

## Participants



16 Lay Health Workers collected the data

388 CHAP-P session participants



### Method

### Advantages

### Barriers

#### Tablet



- Easy to use
- Fast data entry
- Large font

- Difficult to edit

#### Cell Phone



- Automatic calculations
- Touch screen

- Smaller than tablets
- Lack of device knowledge

#### Paper Form



- Easy to use
- Came with a guide

- Manual calculations
- More data entry errors

## Important Takeaways

- 1) The WatchBP Office Target provided the most accurate BP reading
- 2) Tablet was the preferred method for data collection

