Ecomore 2 Philippines

Database and decision-support update
Steering Committee meeting January 2019

Activities

- Needs analysis
- Configuration of the system
  - Geography, forms and data entry process
- Geolocalisation of historical cases and cluster site selection
- Historical data import
  - Case surveillance, vaccination, entomological surveillance
- Training for RITM/DoH

Needs analysis

- Objective is to understand...
  - The technical requirements of their data systems
  - The determinants of data use (technical, institutional, behavioural factors)
- Focused on Lipa City Health Officials
- Info acquired through email/phone communication and face-to-face
  - Technical aspects of data collection and processing (what, who, when, how)
  - How is data used? (reports, meetings, decision-making)

Needs analysis – data sources
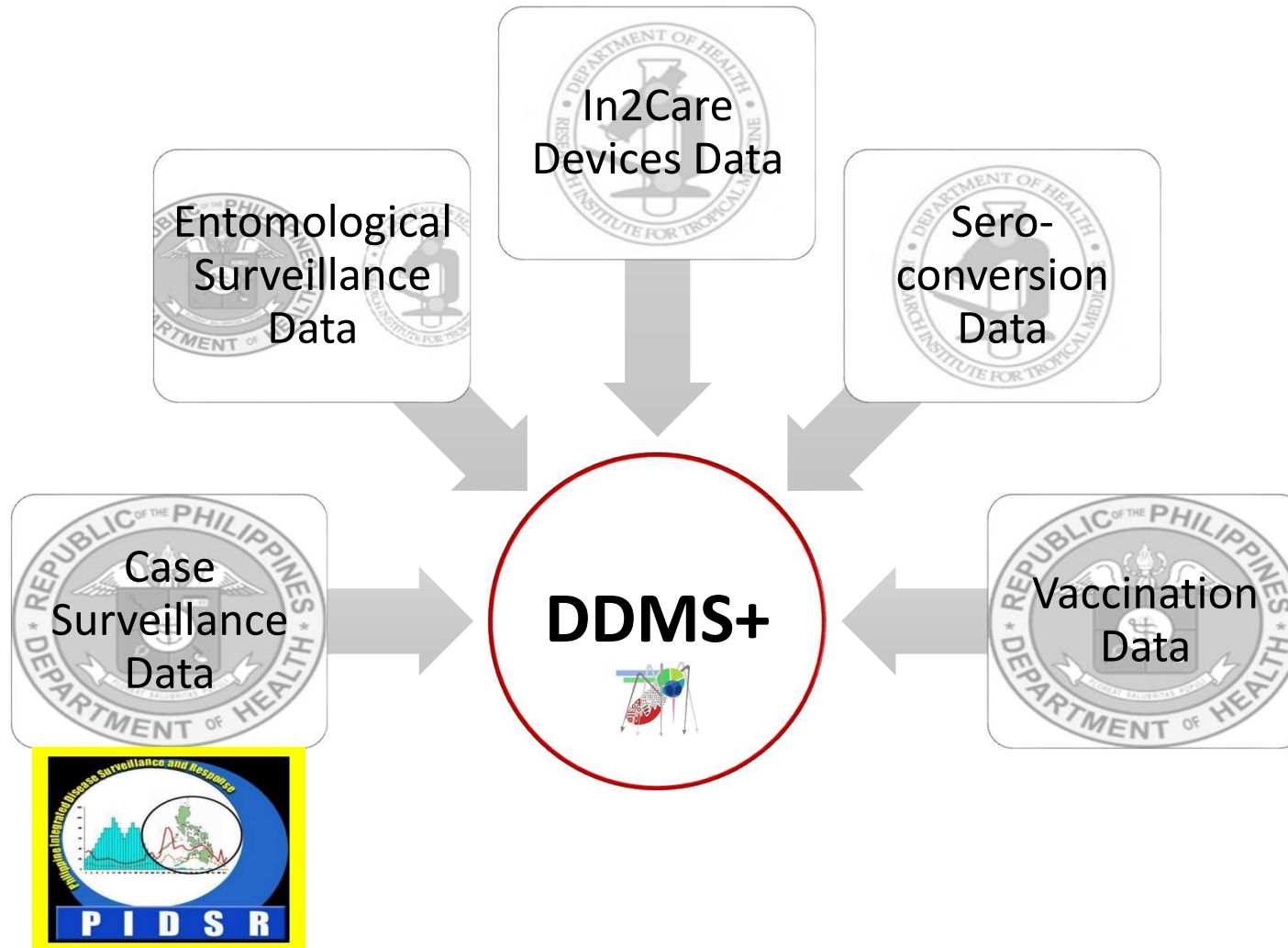
Entomological Surveillance

Form 1 (left)

NATIONAL DENGUE PREVENTION AND CONTROL PROGRAM
AEDES LARVAL / PUPAL SUMMARY FORM

Date : _____ Prevailing Weather Condition _____
Name of Barangay : _____ Purok/Sitio: _____
Name of School/Public Building : _____
Municipality/City : _____
Province/Region : _____

1. Survey Results :

A. Total No. of houses surveyed _____
B. No. of houses (+) for *Aedes* larvae/pupae _____
C. Total No. of containers inspected _____
D. No. of containers (+) for *Aedes* larvae/pupae _____
E. No. of persons who slept in the house the night before the survey _____
F. No. of *Aedes* pupae identified _____

2. Larval / Pupal Indices :

G. House Index(HI) = (B/A x 100) _____
H. Container Index(CI) = (D/C x 100) _____
I. Breteau Index(BI) = (D/A x 100) _____
J. Pupae per Person Index (PPI) = (F/E x 100) _____

3. Larvae / Pupae Identified :

	Larvae		Pupae	
	No.	%	No.	%
K. Aedes aegypti				
L. Aedes albopictus				
M. Other species				
TOTAL				

4. Analysis/Interpretation :

Dengue sensitive/high risk : HI $\geq$ 5% and/or BI $\geq$ 20 ; PPI $\geq$ 1%
Dengue low risk : HI < 5% and/or BI < 20 ; PPI < 1%

5. Findings/Observations

_____
_____
_____
_____
_____

6. Actions Taken

_____
_____
_____
_____

7. Recommendations

_____
_____
_____
_____

Form 2 (right)

NATIONAL DENGUE PREVENTION AND CONTROL PROGRAM
DENGUE ENTOMOLOGICAL SURVEY
QUESTIONAIRE

House No. _____
Municipality/City : _____ Name of School, If Applicable : _____
Head of the Family :
Age : _____ Sex : _____ Status : _____ Purok/Sitio : _____
Occupation : _____ Barangay : _____
No. of person in the household who slept the night before the survey : _____

I. Building Structure : (Please Check)

_____ Concrete _____ Shanty _____ No. of rooms
_____ Semi -Concrete _____ Single storey _____ Screened
_____ Light/wooden _____ 2 or more storeys _____ Unscreened

II. Types of water containers present.

A. INDOOR CONTAINERS	NO. OF CONTAINERS		TOTAL	NO. OF CONTAINERS (+) FOR LARVA/PUPA	RESULTS/SPECIES	
	WITH COVER	WITHOUT COVER			NO. OF LARVAE	NO. OF PUPAE
1. Jar						
2. Jug/pitcher						
3. Drum						
4. Tin can						
5. Flower vase						
6. Bottle						
7. Ant trap						
8. Dish Drain Board						
9. Others, specify						
9a.						
9b.						
B. OUTDOOR CONTAINERS						
1. Jar						
2. Jug/pitcher						
3. Drum						
4. Tin can						
5. Flower vase						
6. Bottle						
7. Tire						
8. Ant trap						
9. Others, specify						
9a.						
9b.						
9c.						
9d.						
C. NATURAL CONTAINERS						
1. Plant axils						
2. Tree holes						
3. Ground/rock holes						
4. Coco shells						
5. Bamboo stumps						
6. Others, Specify						
6.a.						
6.b.						
6.c						
Total						

Surveyed by : _____
Date : _____

Needs analysis

- Process slower than anticipated!
- Next steps
    - National Stakeholders meeting 8 Feb 2019
    - Interviews with Lipa City Officials to better understand data use
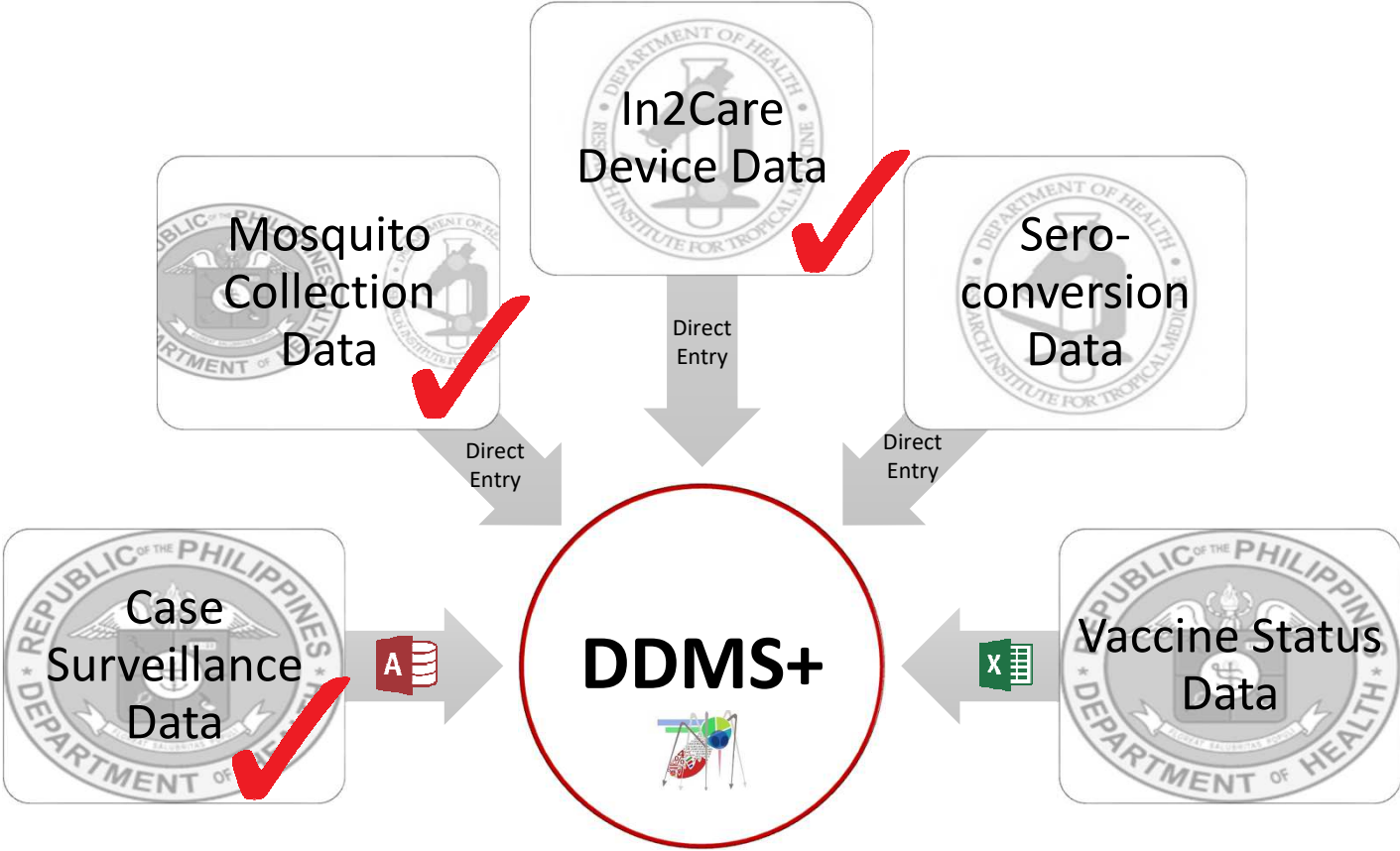   - Identify gaps that the DDMS+ could fill

Configuration of the system

- Defining…
  - geography
  - forms required, data fields, data validation rules
  - data entry procedures

Geography

Lipa City

Forms/dataset creation

Forms/dataset creation

In2Care Mosquito Trap

* Trap ID

* Event

* Date of Event

* Operator

Search: Create

	Trap ID	Date of Event	Operator

1-0 / 0

Export Excel template

Export to Mobile

Import Excel file

Forms/dataset creation

Enter immatures by container type

* Geo entity
BAR_04009
Poblacion Barangay 7 (Barangay) - BAR_04009

* Start date
01/01/2019

* End date
09/01/2019

* Premises type
Residential premises

* Species
Aedes aegypti

Go

* Collection ID
12345

Comments

* Total number of premises examined

Total number of premises with larvae

Total number of premises with pupae

Total number of premises with immatures

Total size of premises in hectares

Total number of inhabitants

Container type	# containers	# with water	# destroyed	# treated with larvicide	# with immatures	# with larvae	# with pupae	# larvae collected	# pupae collected
Bucket (5-20 liters)									
Cement cistern (>200 liters)									
Cement trough (20-40 liters)									
Drum (200 liters)									
Flower pot									
Large container (5-20 liters)									
Large earthen jar (40-60 liters)									
Small container (<5 liters)									
Swimming pool									
Tire									
Vase									
Water tank (>200 liters)									

Save

Configuration – Data entry process

Configuration – Data entry process

Saliva Assay Data Flow
Using mobile data entry

Data Flow:

Sample Flow:

Paper forms imported by DDMS+ admin
alternative to mobile devices

DDMS+

Participant Recruitment
Form
(with barcode of first saliva vial)

Sero-conversion Form
(Sent to and inputted by DDMS+ admin)

Saliva Sample Collection Form
(Records if sample was successfully collected or not. If not,
why? Records drop-outs)

Recruitment
at House

Initial Saliva Sample

RITM
Laboratory

Follow-up Saliva
Samples

School

- Barcode codes contain unique but random number. Barcodes may be generated using free software, requires more investigation. Barcodes can be printed on regular paper and attached to saliva container with clear tape.
- Before recruitment, barcodes randomly applied to tubes. A tube is presented to recruited participant, barcode is scanned using mobile device and recorded on participant recruitment form. This becomes participant's study ID.
- Further barcodes are made for participants' Study IDs only and applied to follow-up tubes. Tubes organised by school and by class. Tubes may also have participant name on a seperate sticker to be removed after saliva sample is deposited.
- RITM's lab will need to be supplied with a barcode scanner. We need to confirm that they would be able to scan barcodes and integrate it into their workflow.

Geolocalisation

Physical Mapping
Barangay Captains provided with printed shapefiles of their Barangay. Will draw Puroks

Digitisation
Voltaire, GIS expert will digitise drawings to shapefiles

Case Location
Historical cases will be located to Purok level

Dengue Hotspot Analysis
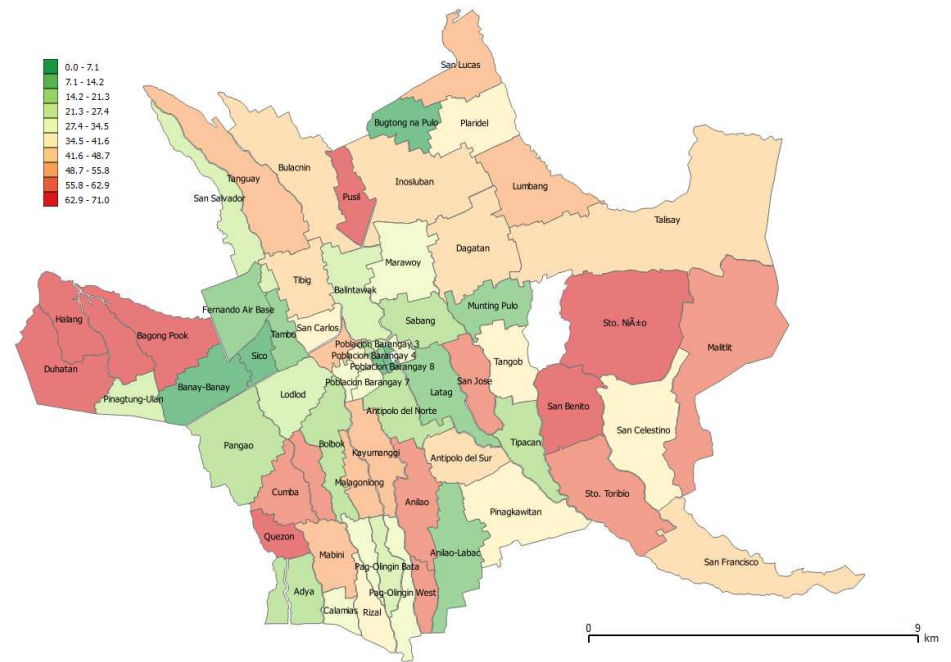Clusters will be stratified according to historical dengue data

Geolocalisation – barangay selection criteria

1. Target population (children 6-16) density
2. Historical dengue incidence 2012-2017
3. Variation in dengue incidence 2012-2017

Lipa City

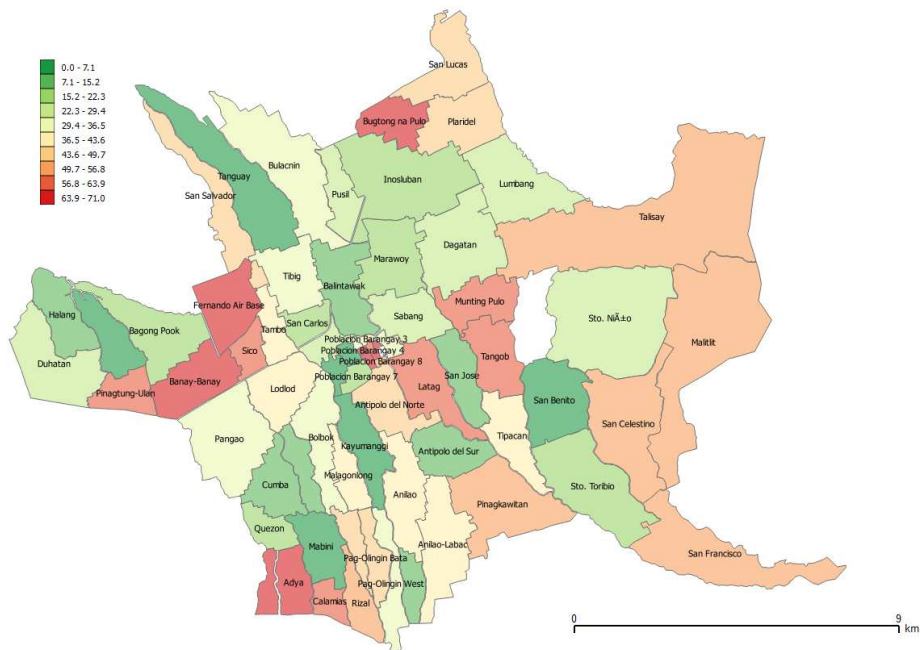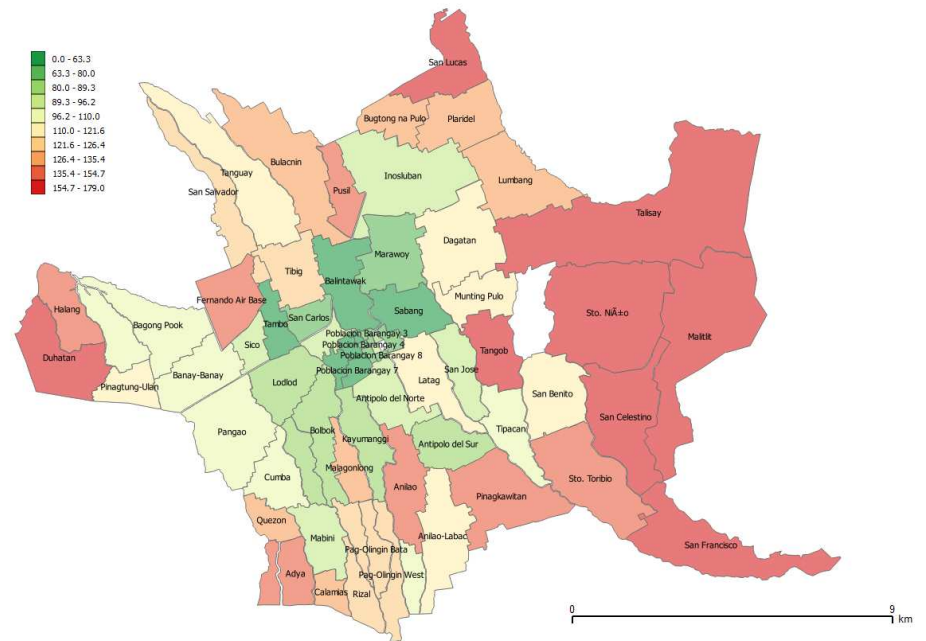# Geolocalisation – barangay selection criteria
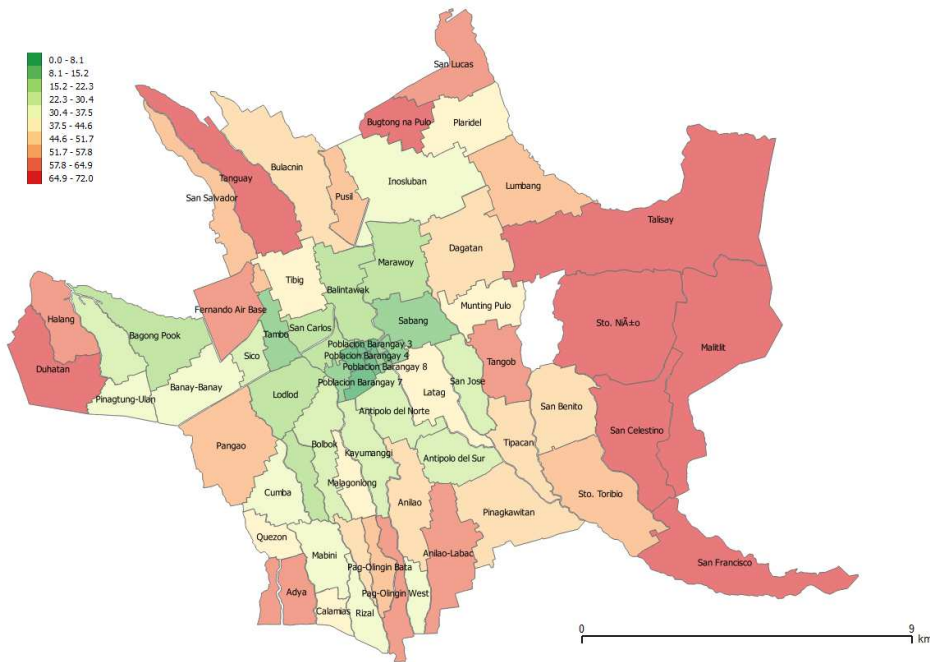
Target population density

Average annual incidence

Geolocalisation – barangay selection criteria
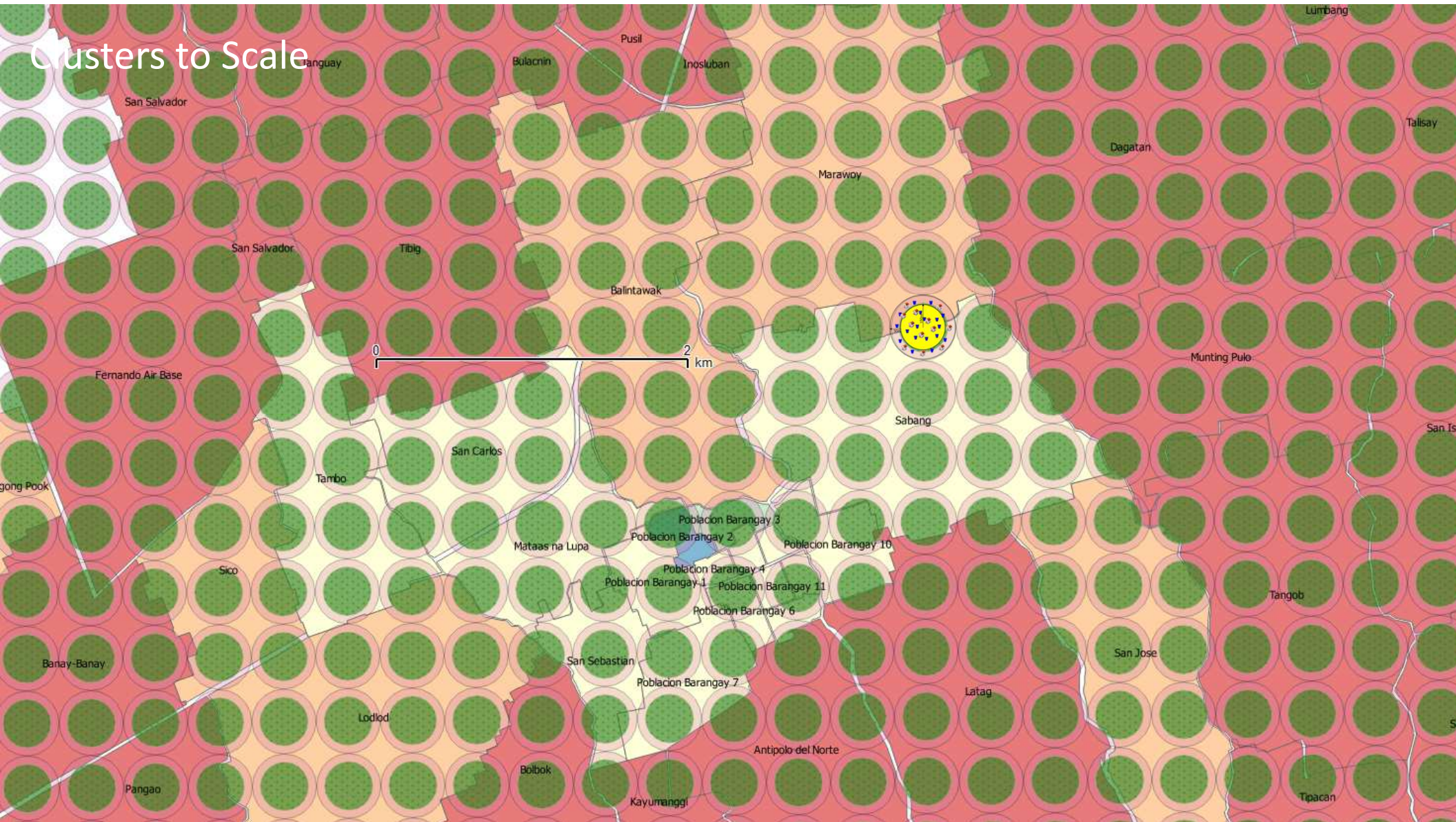

Standard deviation of incidence

Sum of all rankings
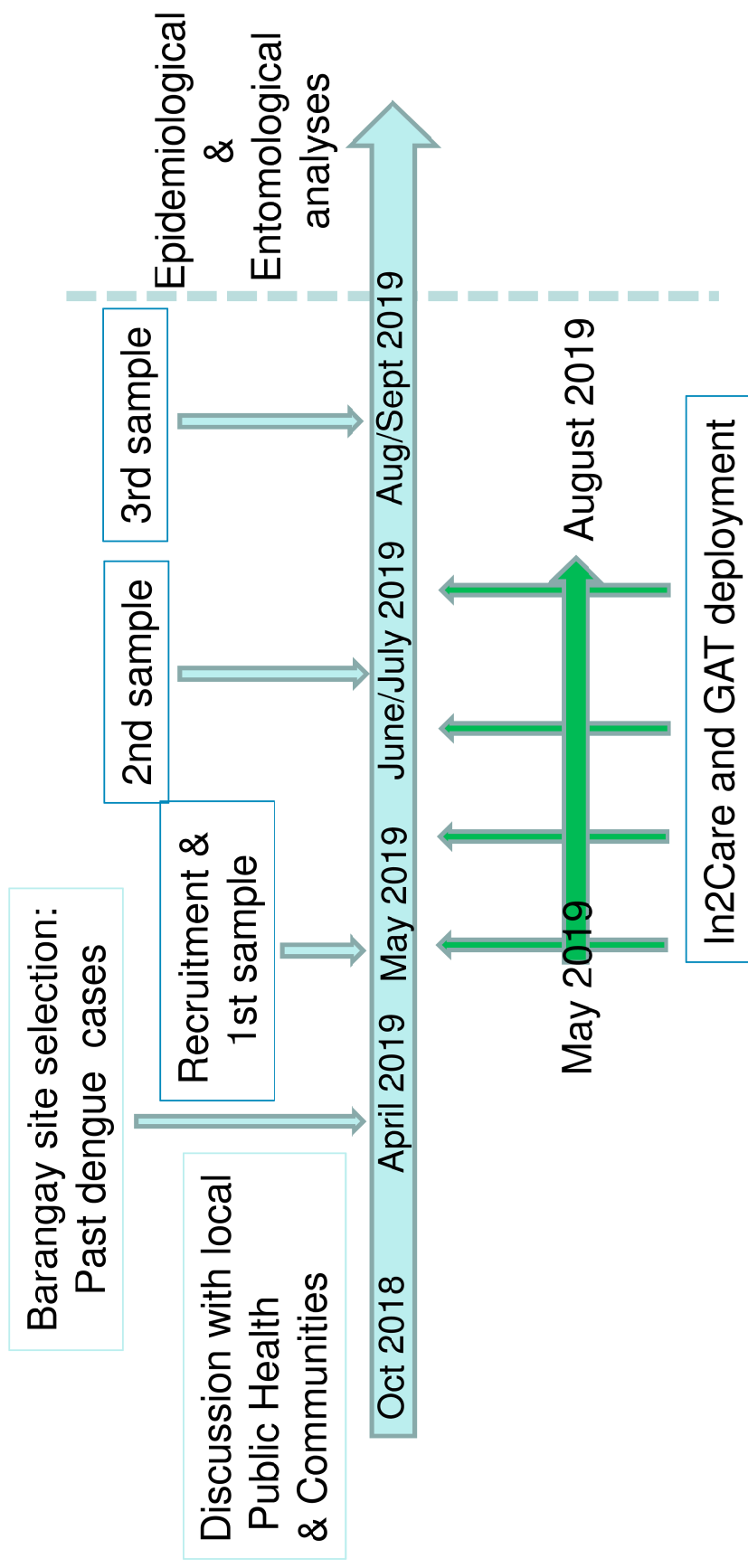
Cluster Structure

Clusters to Scale

Next steps

- Complete needs analysis for Lipa City
  - Work with Lipa City to define gaps and expectations
- Historical data import
  - To be completed once purok boundaries mapped and cases assigned to puroks – before end February
- Training of RITM/DoH staff
  - To be completed before end of April

Thank you!

Schedule – 1st year of intervention

Discussion with local Public Health & Communities

Barangay site selection: Past dengue cases

Recruitment & 1st sample

2nd sample

3rd sample

Epidemiological & Entomological analyses

Oct 2018 | April 2019 | May 2019 | June/July 2019 | Aug/Sept 2019

May 2019 | August 2019

In2Care and GAT deployment

Lipa City

Estimated number of Target Population per cluster