



Pacific
Community
Communauté
du Pacifique

Emerging Infectious Diseases

The Pacific picture

Presented by

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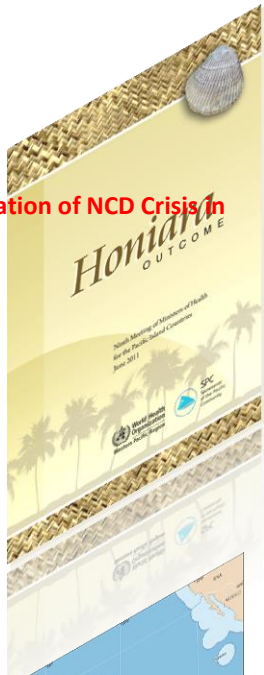
Pacific Community (SPC)

Outline

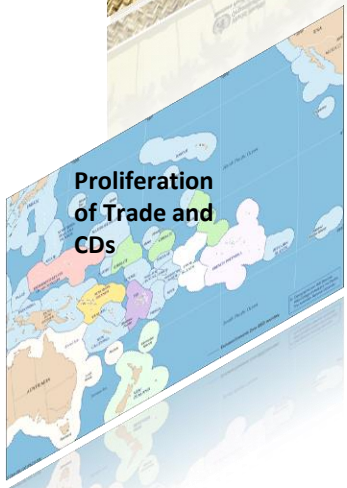
- ❖ **Drivers of emerging infectious diseases in the Pacific**
- ❖ **Current trends**
 - **Arbovirus infections**
 - **Measles**
 - **Conjunctivitis**
 - **Rotavirus**
- ❖ **Regional response**
- ❖ **Challenges and Opportunities in responding to emerging infectious diseases in the Pacific**
- ❖ **Summary**

Drivers of emerging infectious diseases in the Pacific

Declaration of NCD Crisis in 2011



Proliferation of Trade and CDs



Rising sea level Polynesia



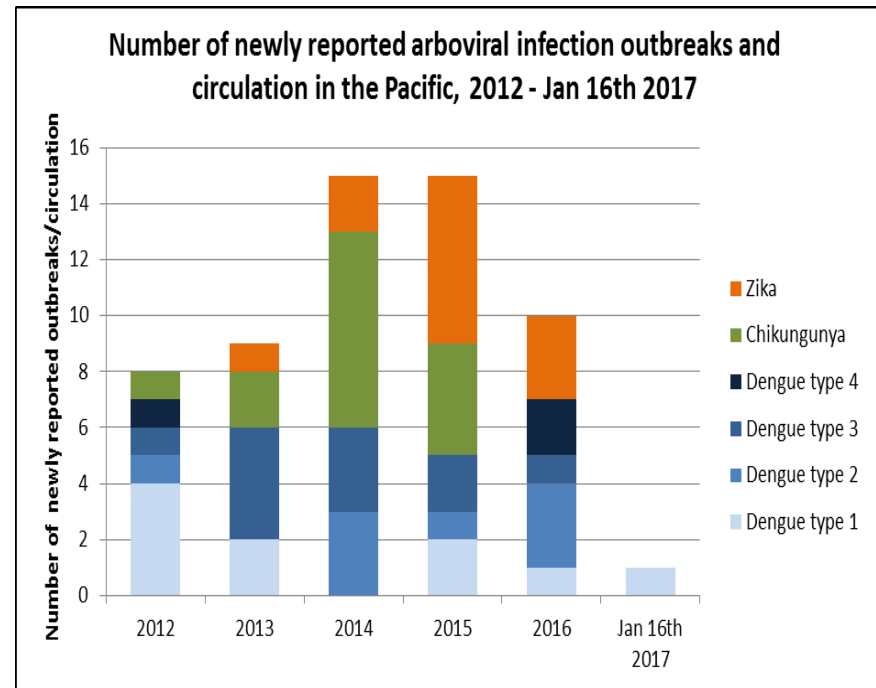
- ❖ Human demographics and behaviour – increasing population size and ageing (~10M), overcrowding, weakened immune systems due to NCDs, poverty, economic development and land use
- ❖ International travel and mass gatherings
- ❖ Climate change
- ❖ Breakdown of public health measures

Current trends

Newly reported arbovirus infection outbreaks and circulation in the Pacific, January 2012 to 16th

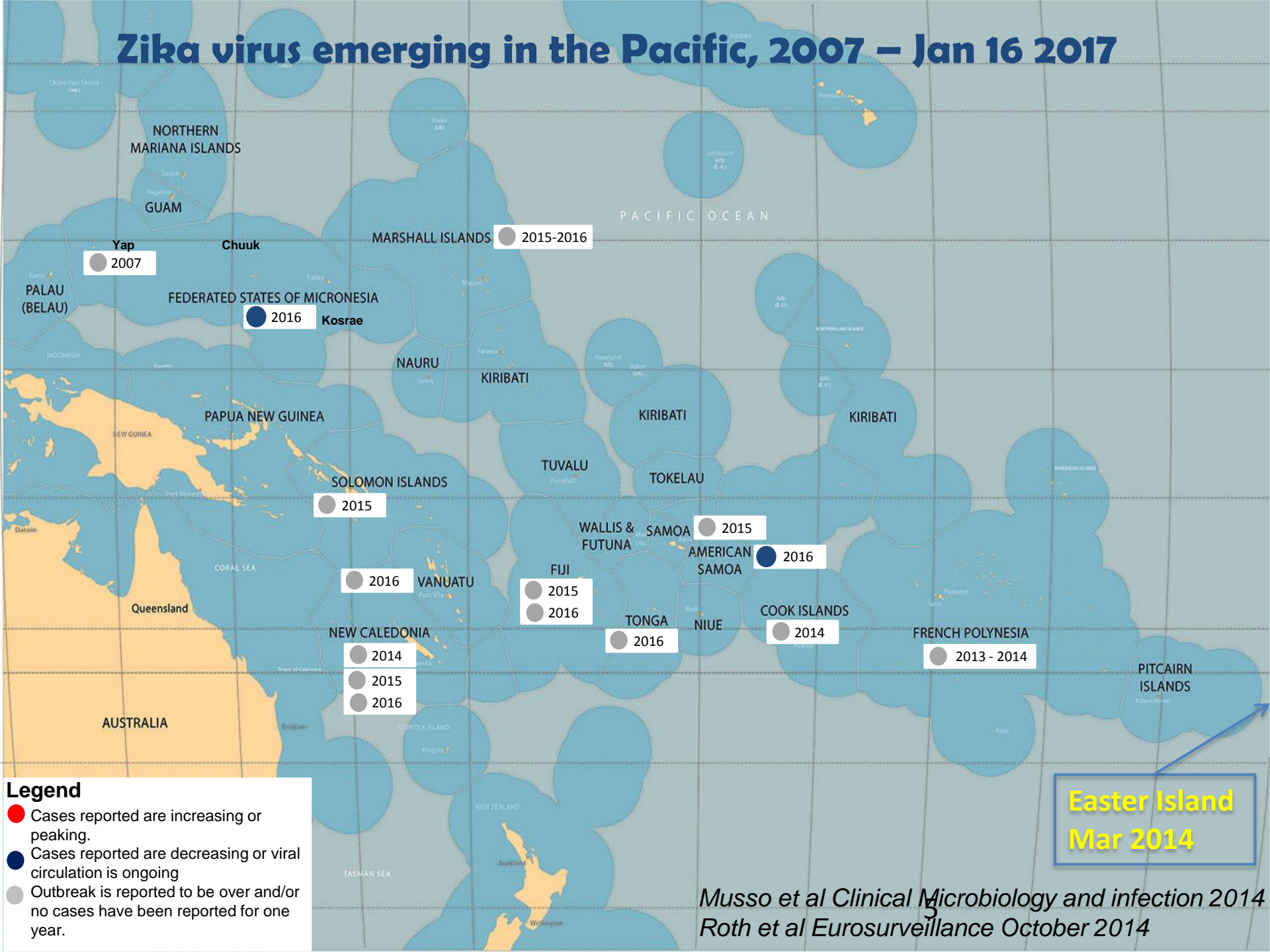
January 2017

- ❖ Total of **58** newly reported arbovirus outbreaks recorded in the Pacific between January 2012 and January 16th 2017
- ❖ Total number of newly reported **dengue outbreaks** was **32**: DENV1- 10, DENV2- 8, DENV3-11 and DENV4-3
- ❖ Total number of newly reported **Zika virus** outbreaks was **12** and **Chikungunya** was **14**



Note: An outbreak is considered an outbreak when reported as such, and new circulation of virus if there has been no event with the same virus reported during one year previously

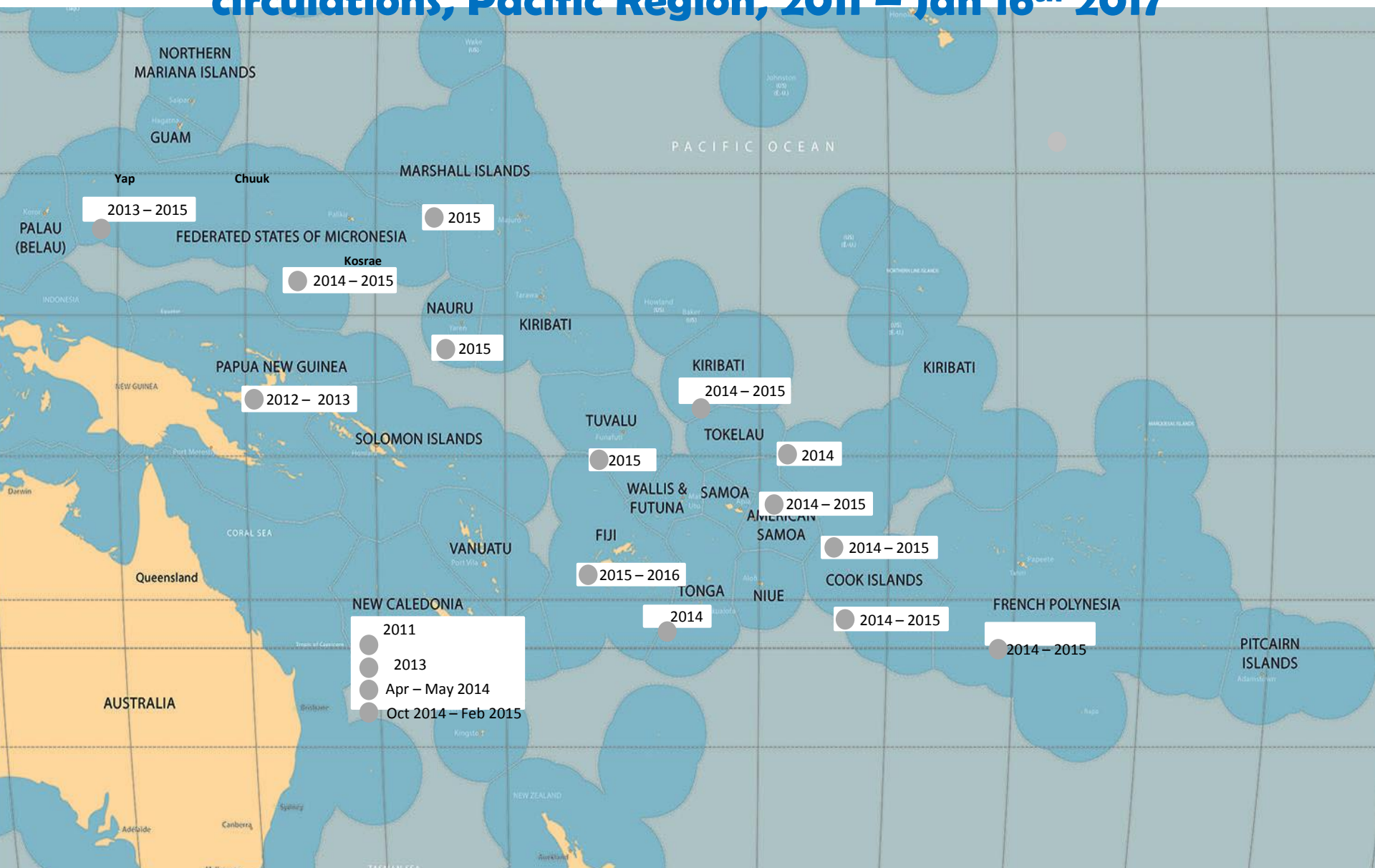
Zika virus emerging in the Pacific, 2007 – Jan 16 2017



**Easter Island
Mar 2014**

Musso et al *Clinical Microbiology and infection* 2014
Roth et al *Eurosurveillance* October 2014

Map of reported chikungunya infection outbreaks or virus circulations, Pacific Region, 2011 – Jan 16th 2017



Legend

- Cases reported are increasing or peaking.
- Cases reported are decreasing or viral circulation is ongoing
- Outbreak is reported to be over and/or no cases have been reported for one year

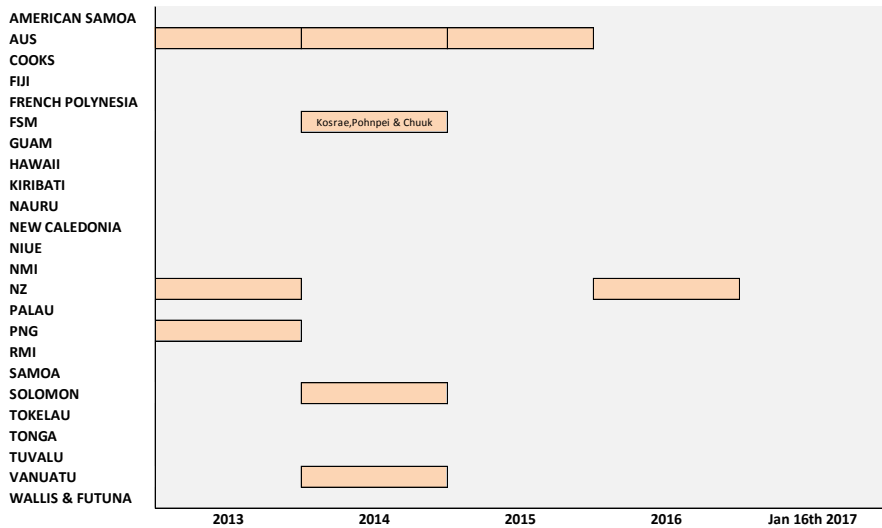


SPC
Secretariat
of the Pacific
Community

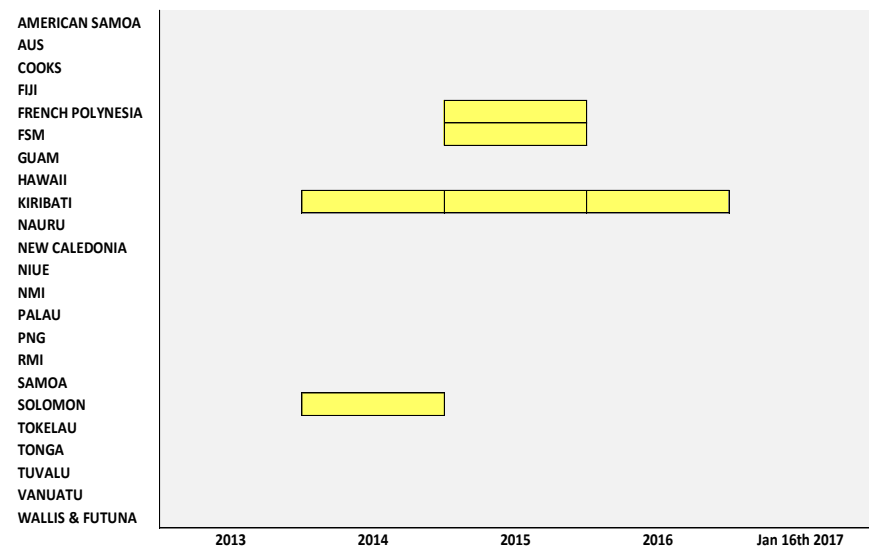
for the Pacific Public
Health Surveillance
Network (PPHSN)

Measles, Rotavirus and Conjunctivitis outbreaks in the Pacific

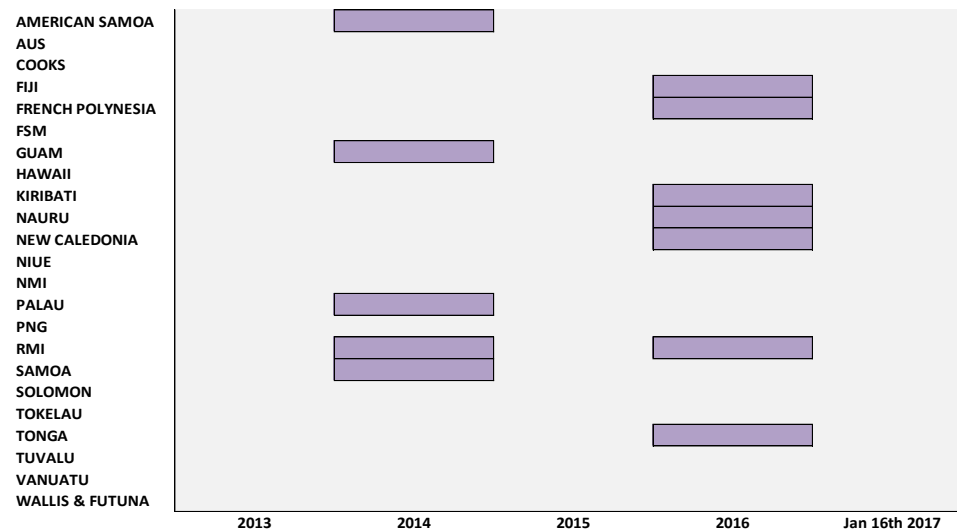
Newly reported measles outbreaks in the Pacific, 2013 - Jan 16th 2017



Newly reported rotavirus outbreaks in the Pacific, 2013 - Jan 16th 2017



Newly reported conjunctivitis outbreaks in the Pacific, 2013 - Jan 16th 2017



A total of **12** newly reported conjunctivitis outbreaks have been recorded between 2013 to October 2016



Regional responses

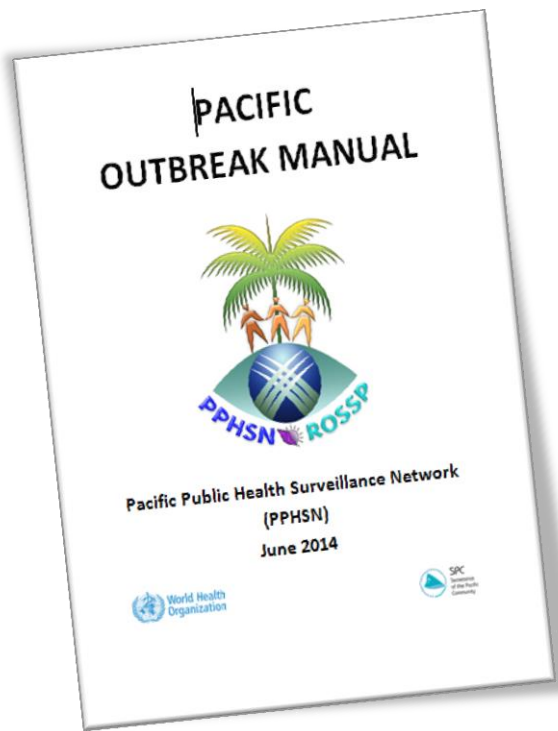


PPHSN is now 20 years old!

❖ Enhancing surveillance and response via the Pacific Public Health Surveillance Network (**PPHSN**)

❖ Support for prevention and control measure guidance

❖ Scaling up capacity in epidemiology and operational research (**DDM/SHIP**)



Data for Decision-making(DDM) training in Vanuatu 2016

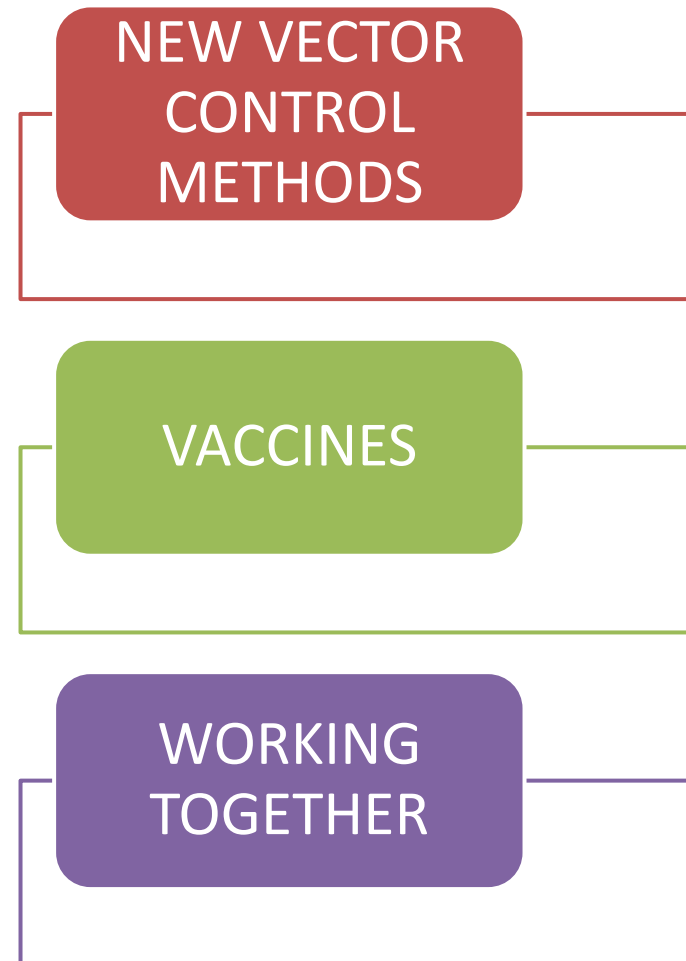
PPHSN Services	Operation Purpose
Pacific Syndromic Surveillance System(PSS)	Timely detection of outbreaks
PacNet	Alert and communication
LabNet	Verification and identification
EpiNet	Outbreak investigation and response
PICNet	Infection Prevention and Control

Challenges and Opportunities in responding to emerging infectious diseases in the Pacific

Challenges

- ❖ Co-circulation and concurrent arbovirus outbreaks
- ❖ Diagnostic challenge with arboviruses
- ❖ Inadequate vector control measures
- ❖ Gaps in surveillance and response
- ❖ Paucity of evidence to inform public health interventions

Opportunities



Summary

- ❖ Emerging infectious diseases do not respect borders and therefore not only calls for a local approach but also a regional approach to these public health challenges
- ❖ The calamities of arbovirus or vector-borne diseases is a concern and one that requires operational research and evidence to inform public health intervention programmes
- ❖ PPHSN plays a pivotal role in the strengthening of surveillance and response to emerging diseases in the region and needs appropriate resourcing
- ❖ Support for health adaptations to climate-sensitive emerging diseases should be escalated given the increasing impact of climate change on the health of the Pacific Island people

With contributions from **Christelle Lepers, Shakti Gounder, Paul White, Yvan Souares, Adam Roth and Damian Hoy**

**Research, Evidence and Information Programme
Public Health Division, SPC**

**Did you know that
SPC is now 70
years old?**

Acknowledgement



- ❖ We acknowledge the immense contributions by all 22 Pacific Island countries and territories in the production of the weekly Pacific Syndromic Surveillance reports and the weekly Epidemic Intelligence Map on PacNet
- ❖ Additionally to the PPHSN partners for their support in the regional response to emerging infectious diseases including WHO, CDC, PIHOA, Hunter New England, FNU, Queensland Health, KSC Outbreak Surveillance(ESR) and all level 2 and level 3 reference laboratories for outbreak-prone diseases in the region
- ❖ Our development partners who have resourced the work of PPHSN including MFAT, DFAT, KfW(German), USAID (via CDC grants) and the Pacific French Funds
- ❖ Last but not the least my heartfelt thanks to Michael, Jane and Connie for the funding and logistical support in getting me here