

# ROTARIANS AGAINST MALARIA PAPUA NEW GUINEA

## Chasing Malaria In PNG

July 2015

Tim Freeman



## BACKGROUND

- Historically Papua New Guinea has one of the highest burdens of malaria outside of Africa.
- PNG has annually been reporting about 1.7 million cases annually plus about 600 deaths. Annual incidence rates about 300 per thousand people
- One of the first published works on the efficacy of treated nets was published by IMR (Institute of Medical Research) in 1987 from Madang together with a paper from Tanzania.



## BACKGROUND (2)

- Results of IMR and Tanzanian papers resulted in nets being supplied to PNG but generally in small quantities by NGOs such as RAM.
- RAM (Rotarians Against Malaria) started life in 1997 as a project of the Port Moresby branch of the Rotary Club.
- From 1997, based on an initial donation of nets from AUSAID and NDOH, RAM bought and sold nets to the private sector on a revolving fund basis supplying about 40,000 nets a year.



## BACKGROUND (3)



- In 1993, PNG was awarded a grant for malaria through the Global Fund Round 3. During the Round 3 interventions, RAM supplied the LLINs for the programme. Distribution was carried out by the National Department of Health (NDOH).
- NDOH delivered about 2.3 million nets throughout the country covering about 80% of the population.
- RAM supplied the nets for NDOH to district level and provincial health staff distributed to household level.

## BACKGROUND (4)

- NDOH had many difficulties including:
  - Nets only enough for 80% of the population distributed at one net for 2.5 people which caused a lot of problems.
  - NDOH has difficulties with the quick transfer of funds from central level to allow implementation to take place.
  - Reporting at provincial level was generally very poor for both programme and financial reports.



## BACKGROUND (5)

- In 2009 RAM asked to coordinate LLIN programme which is carried out jointly between RAM and provincial health authorities.
- RAM does procurement and logistics. RAM and provincial health authorities carry out joint planning and implementations.
- RAM has three teams of officers who work closely with provincial health
- RAM has brought quick transfer of funds to the programme and a consistent methodology in terms of implementation and consistent financial and programmatic reporting.



## BACKGROUND (6)



- In the last five years a total of about 7 million LLINs have been distributed (6.1 million LLINs to Household Level and 900,00 LLINs to Vulnerable Groups).
- Nets have been distributed to all 89 districts in all 22 provinces.
- By the end of 2015 all provinces except for Southern Highlands, Hela and Enga will have received nets twice from RAM and three times including PHA distributions in Round 3. SHP will be done early in 2016 and Enga in 2017.

## BACKGROUND (7)

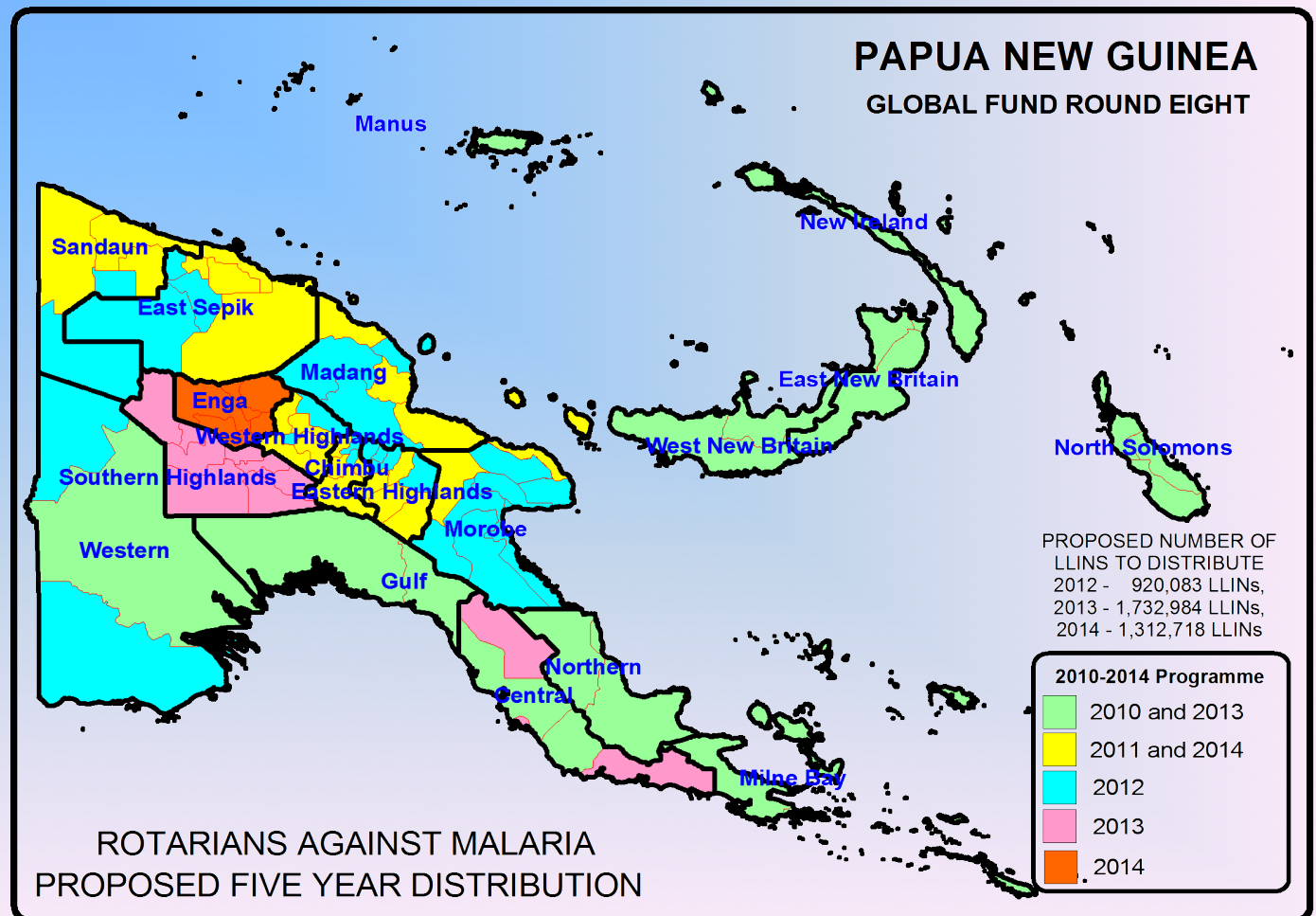


- Impact on malaria has been massive. By 2011:
- Clinical malaria incidence has fallen by as much as 70% following a distribution by nets in a district.
- Prevalence of malaria has fallen by 75% in some regions.
- People have been generally very happy with the programme.



# RESULTS

RAM Has Distributed Nets In All 22 Provinces And 89 Districts To Date



## RESULTS (2)

### Distribution Of LLINs To Household Level

Period	Dates	Districts	Provinces	Nets Delivered
Phase Two	Nov 09 - Oct 11	50 Districts	18 Provinces	1,890,448
Year 3	Nov 11 - Sep 12	27 Districts	10 Provinces	832,671
Year 4	Oct 12 - Sep 13	28 Districts	12 Provinces	1,210,391
Year 5	Oct 13 - Sep 14	23 Districts	11 Provinces	1,374,791
Q21	Oct - Dec 14	Okapa, Lufa, Madang, Angoram, Maprik, Yangoru Saussi, Wewak, Aitape Lumi, Nuku and Vanimo Green	EHP, Madang, East Sepik and Sandaun	454,806
Q22	Jan - Mar 15	Bulolo, Finschafen, Kabwum, Nawaeb, Jimi and Mount Hagen	Morobe and Western Highlands	113,119
Q1 NFM	Apr - Jun 15	Kunidawa Gemobgl, Sinasina Yonggomugl, Daulo, Unggai Benna, Kainantu, Middle Ramu, Sumkar, Finschafen, Huon	Chimbu, Eastern Highlands, Morobe and Madang	194,558
<b>Total No Cost Extension</b>				<b>567,925</b>
<b>New Funding Model</b>				<b>194,558</b>
<b>Overall Total Phase One and Phase Two And NFM</b>				<b>6,070,784</b>

# RESULTS (3)

## Distribution Of LLINs To Vulnerable Groups

Totals	Antenatal	Schools	Prisons	Others	Totals
<b>Phase One</b>	208,602	43,242	4,656	5,158	261,658
<b>Year Three</b>	160,992	7,030	0	3,552	171,574
<b>Year Four</b>	92,597	52,365	4,253	3,031	152,246
<b>Year Five</b>	134,979	23,834	0	3,301	162,114
Oct-Dec 14 (Q21)	56,033	0	0	200	56,233
Jan-Mar 15 (Q22)	8,711	400	0	0	9,111
Apr-Jun 15 (Q1 NFM)	76,400	0	0	100	76,500
<b>Total PH 2</b>	<b>453,312</b>	<b>83,629</b>	<b>4,253</b>	<b>10,084</b>	<b>551,278</b>
<b>Total NFM</b>	<b>76,400</b>	<b>0</b>	<b>0</b>	<b>100</b>	<b>76,500</b>
<b>Total Prog</b>	<b>738,314</b>	<b>126,871</b>	<b>8,909</b>	<b>15,342</b>	<b>889,436</b>

## RESULTS (4)

### Distribution Of LLINs To Vulnerable Groups

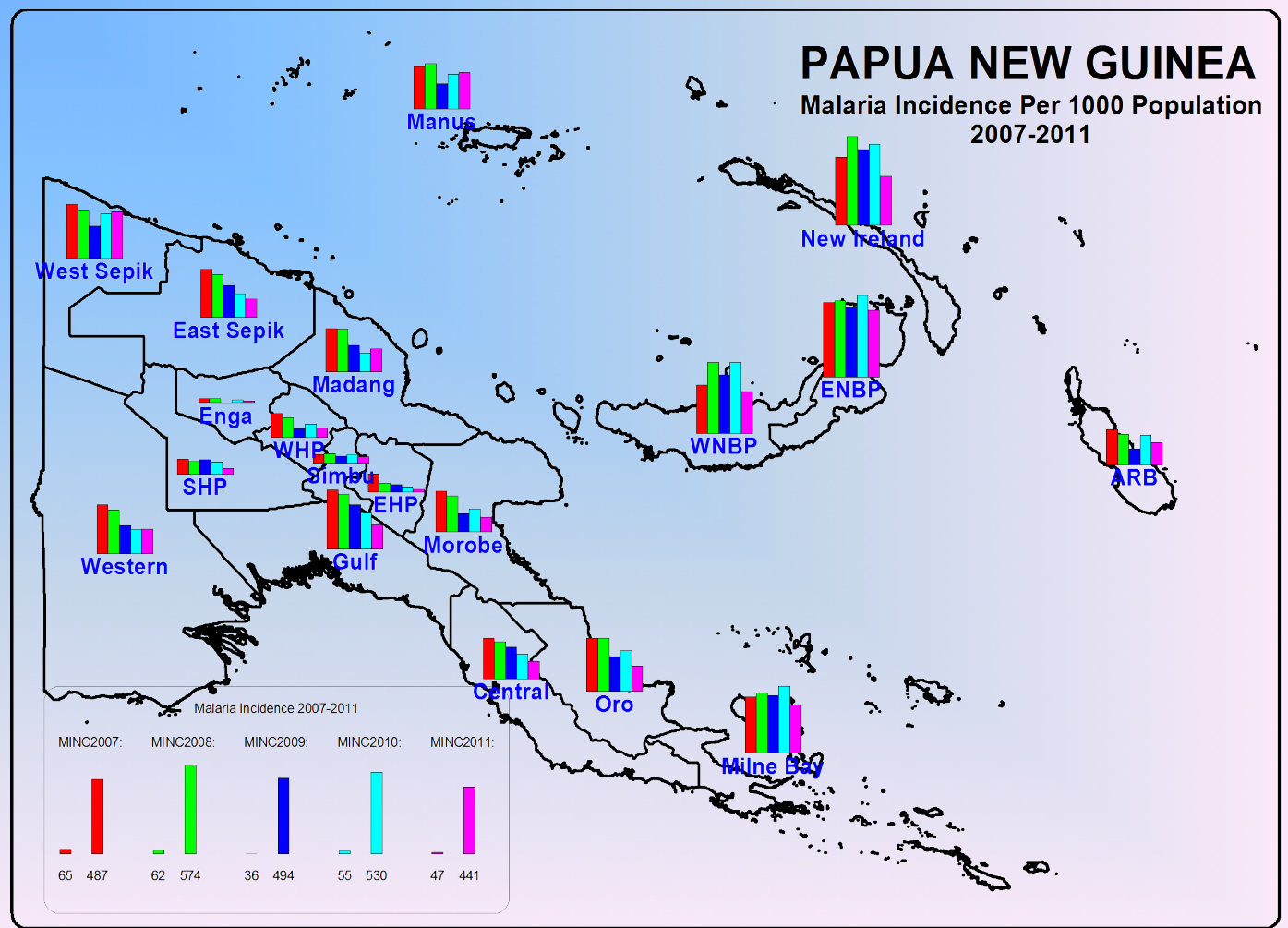
Distributions To Vulnerable Groups Go To The Following

- 80% Antenatal women through Health Facilities
- 17% Boarding Schools
- 1% Prisons
- People living with HIV/AIDS
- Other specials groups such as emergencies and Birth Kits (opposite Kula Baby Kits run by RAWCs in Milne Bay.



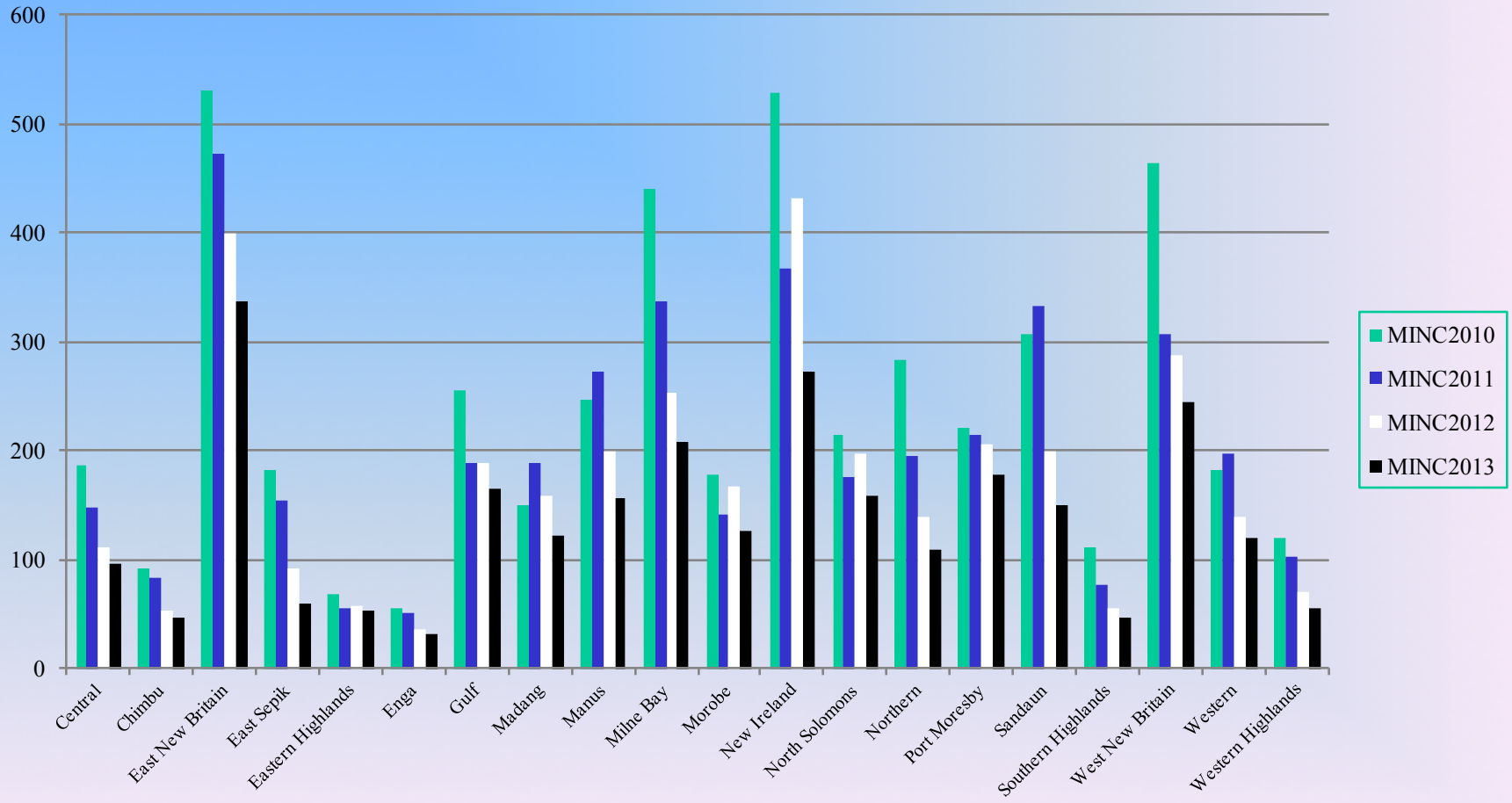
## Impact Of The Programme

Malaria is reducing in many places where nets have been distributed. Also indicated an impact against filariasis.

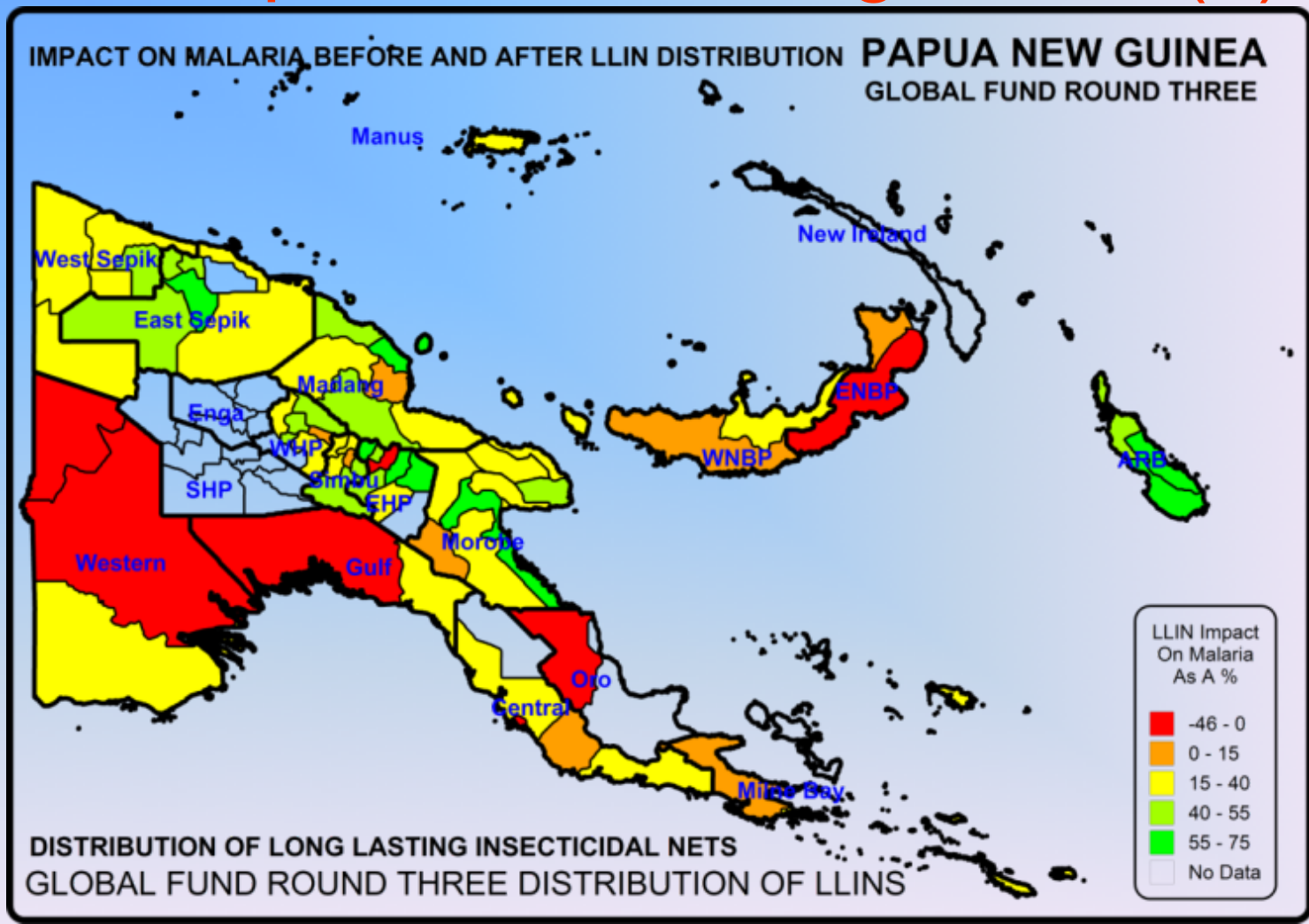


## Impact Of The Programme (2)

**PNG Malaria Incidence 2010-2013**

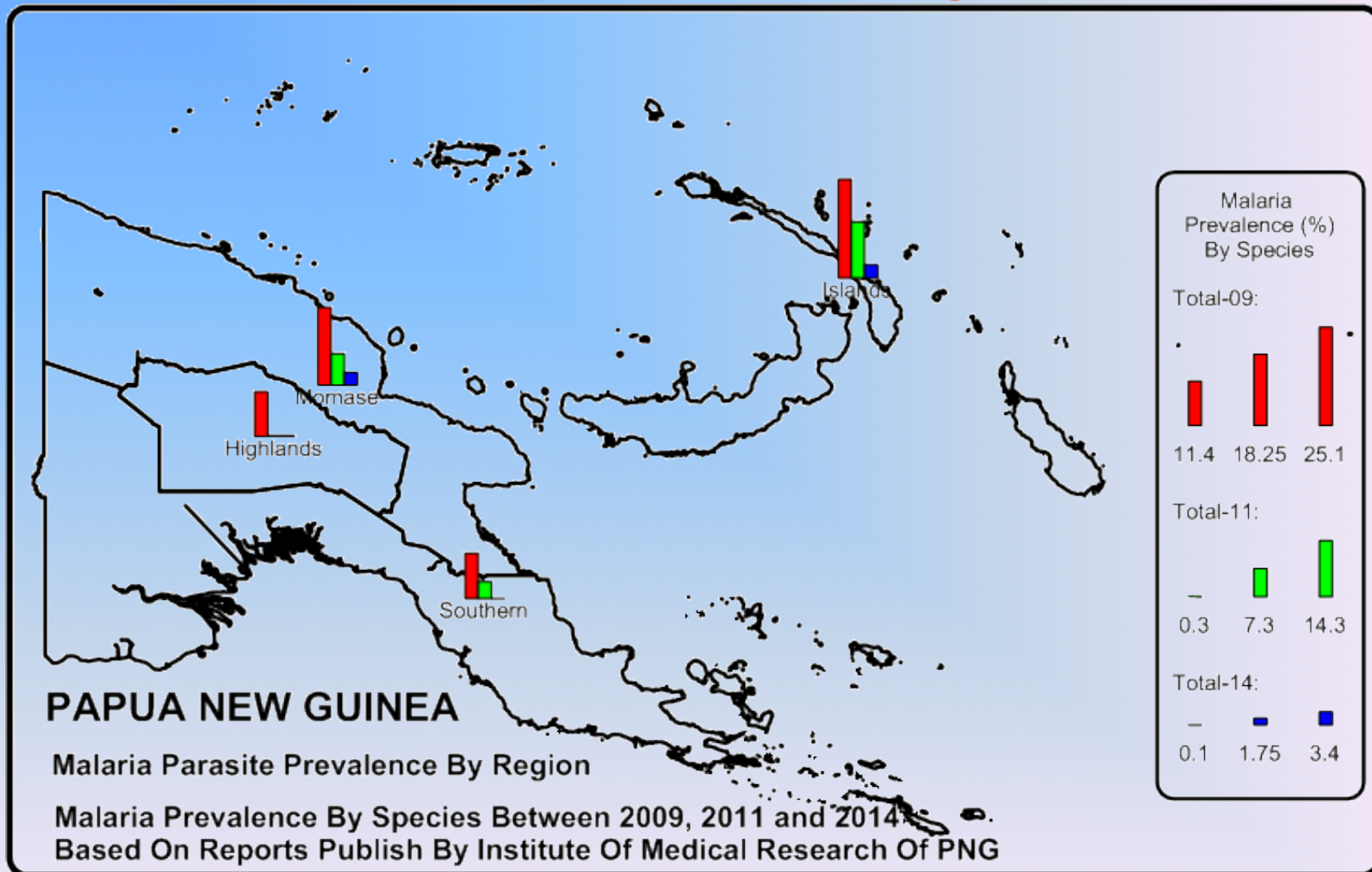


## Impact Of The Programme (3)



Malaria is reduced in most places where nets have been distributed.

## Impact Of The Programme



Malaria Prevalence Reduced From 2009 To 2014 By More Than 90% In Highlands And Southern Region and 80% In Momase And Niugini Islands



## Cost Of The Programme Average Cost Per Net Per Province

Nets (To Cover Country)	Actual Total Cost	Cost Per Net Delivered (Kina)	Cost Per Net Delivered (US\$)	HR Cost (%)	Car Hire Cost (%)	Fuel Cost (%)	Aircraft Hire (%)	Boat (%)	Other Costs (%)
3,640,260	13,049,973	3.78	1.57	35.27	30.23	12.34	7.40	8.28	7.53

- Biggest cost is human resources, car hire and fuel.
- These costs are only for the delivery of nets from province to household.
- Do not include cost of the net or transport to province which is about US\$3.50 per net.
- Therefore delivered cost from factory to household is about US\$5.10.
- This cost still does not cover administrative costs which bring the cost up to about US\$6.17.

## POSITIVE ACHIEVEMENTS



- Have reached practically all villages in areas covered through some villages not reached first time around.
- Villages originally missed out in Kerema (Landslide), Kikori (moving villages), New Ireland (refuse survey), ARB (restricted areas) Goilala and Enga (Tribal Fights).
- Have worked well to finish only one month behind schedule to Complete Five Programme only six weeks behind schedule despite starting three months late.

## POSITIVE ACHIEVEMENTS (2)

- Have had no serious incidents where staff have been seriously injured or died despite difficult conditions. Minor accidents include air crash (Kikori), boats capsizing (Kerema), tribal fight (Madang) and numerous small car accidents.

Had no serious loss of money in the field except small amounts through theft and accidents such as when a boat capsized.





## DIFFICULTIES

### Climatic And Social

- Weather – too much rain in many cases and in some cases not enough rain resulting in dry rivers stopping entry into some areas.
- Geography – landslides, difficult terrain and no infra structure.
- Human factors – Tribal fights and in some areas refusing surveys. Teams often associated with the Anti Christ resulting in initial difficult receptions.
- Planning – provincial staff not always knowing their areas – e.g. Teptep in Madang resulting in not the correct number of nets being taken to the right location. Goilala nets going to wrong place.

## DIFFICULTIES

### Programmatic

- Poor unreliable private sector providers.
- Reconciling nets – theft, data entry, poor stock keeping, poor verification.
- Theft of nets from Provincial Health Offices
- Reconciling funds and verification of payments made in very remote areas.
- Misuse of vehicles:
  - Using vehicles for personal issues.
  - Not utilising vehicles in the most efficient way.
- RAM Officers not always using the most efficient way to carry out a job.
- Alcohol problems

## SOME DIFFICULTIES



## Logistic Problems



## PNG Roads

Menyamy District





## Other Pictures



## THE FUTURE

- PNG has had its funding from the Global Fund reduced so therefore RAM cannot continue to distribute nets to all households in PNG programme.
- PNG had two choices, prioritise a few provinces or change LLIN strategy.
- After discussions, it is now agreed with the GF that PNG will continue with a national LLIN programme but all areas which are reasonably accessible or are urban and have low malaria will now have only Under Five campaigns.
- Areas above 2000m will not receive nets.
- However, present funding now allows household distribution to occur in most highly endemic malarial areas throughout PNG.

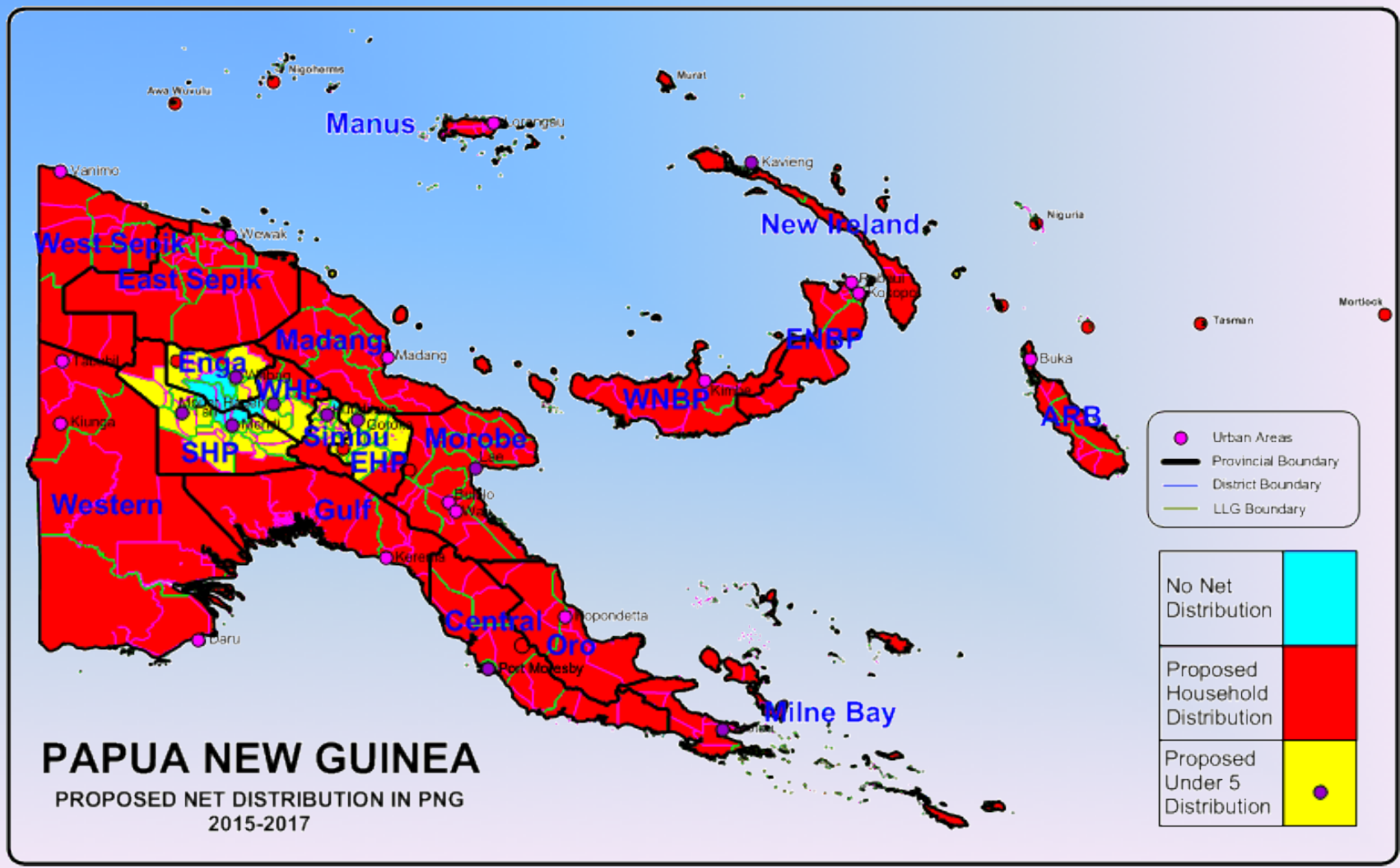


## THE FUTURE (2)

This strategy is devised in order that if an Under Fives LLIN Strategy is not sufficient to keep malaria in control, any future outbreak will occur in more easily accessible parts of the country.

# PNG - MALARIA LLIN PROGRAMME

## THE FUTURE (3)



## THE FUTURE (4)

### Regional Coordinators

- Antenatal Delivery of nets over the last five years marred with reconciliation difficulties . Stock records at provinces awful and no supervision at clinic level.
- Of 540,000 nets sent out to provinces only 200,000 accounted for through receipts.
- Regional coordinators now will work with provinces to improve stock records and delivery of nets to health centres directly.
- Regional Coordinators will also travel with RDTs and ACTs to replace where stock outs occurs and assisting provinces with Health Information Issues

## WHAT DOES THIS MEAN

- Under Fives make up about 14% of the population.
- Each under five will receive a Extra Large Net under which three adults or four children can sleep.
- This means that while only 14% of the population receive nets theoretically 42% of people will have access to sleeping under a net.
- Hopefully this is sufficient to control malaria. However, it does mean that families without children will not receive nets.

## WHAT DOES THIS MEAN (2)

- Under Five Campaigns are like Supplementary Immunization Campaigns. They must be done quickly.
- Each time a child receives a net, their finger will be painted with indelible ink like that of voter's ink which will last for one week. This means that in any given district, all distribution must be done in one week.
- RAM cannot do this alone – we will need all health staff to implement this at the same time. This means increased coordination between RAM and Provincial Health Authorities.

## WHAT DOES THIS MEAN (3)

- Distributions Points will be fixed and mobile. This has to be planned in advance and everyone needs to work to a plan.
- RAM will request all vehicles from District Offices to be available for this programme.
- RAM officers will come to provinces at least one month in advance and work closely with provinces to make exact plans.
- During this period, micro-plans for each health centre will be made in terms of fixed and mobile distribution points for each clinic.
- This will need to be jointly implemented with both RAM, provincial and district health staff.



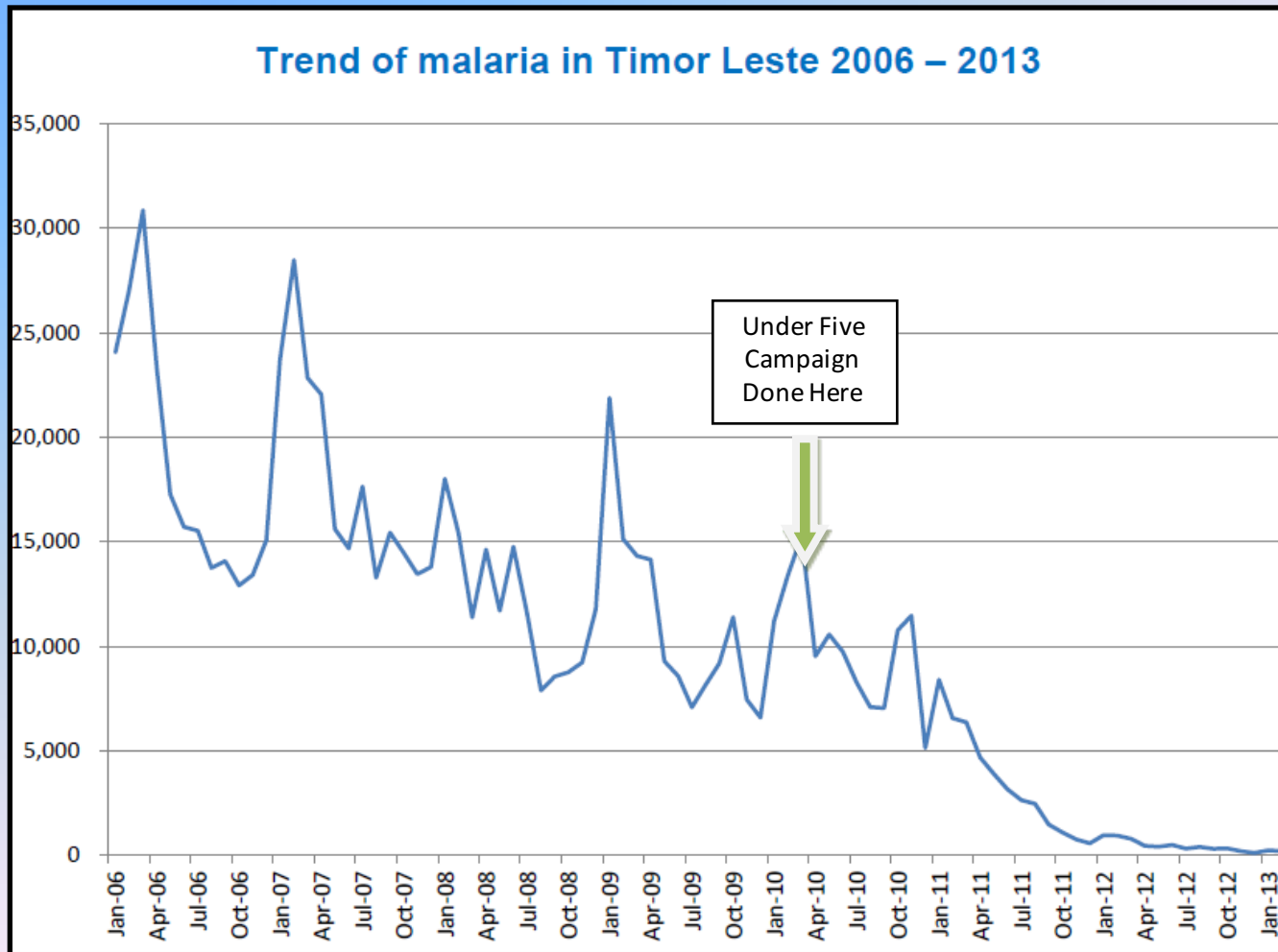
## EAST TIMOR

### Impact Of Under Five Campaigns

- The malaria programme in East Timor supports the use of Under Five.
- Distribution of 151, 711 Long Lasting Insecticide treated Nets to children under 5 years of age covering more than 90% of the children under 5 years in the country in 2010
- There was a reduction in malaria incidence from 220 per 1000 population in 2006 to 0.9 per 1000 population in 2013.
- Prevalence of Malaria parasite infection 0.02% in 2013

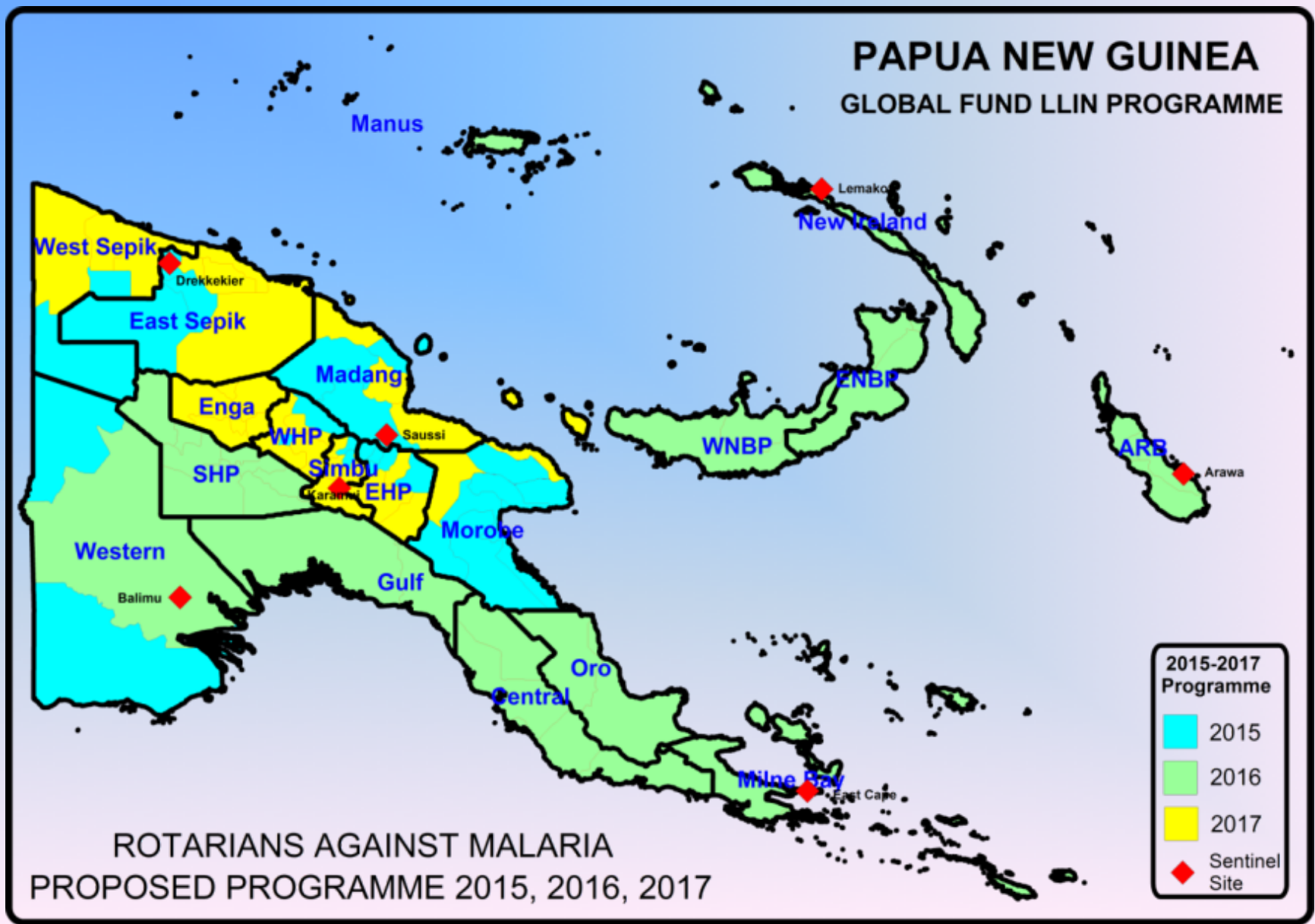
## EAST TIMOR

### Impact Of Under Five Campaigns (2)



Taken From Presentation Of Program Manager Of Timor Leste At RAM Meeting In Australia in 2014

## Next Steps



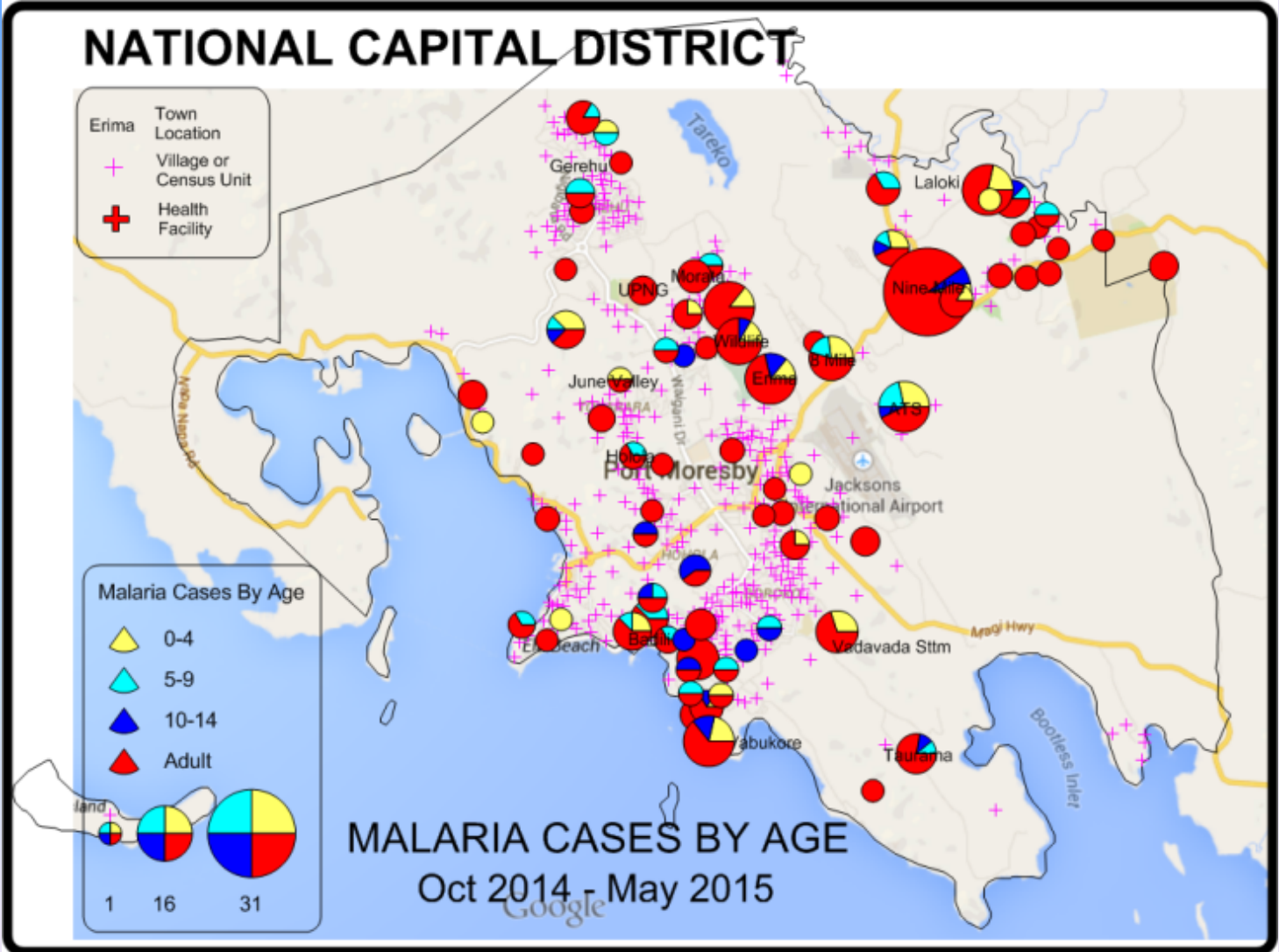
## Next Steps (2)

RAM has recently introduced two new programmes.

- In NCD and Central Province there is a pilot programme called “Chasing Malaria” – nets are being given to RDT positive cases of malaria and all data regarding the patients movements in the last three weeks prior to the RDT is being recorded in order to work out where malaria is being transmitted so this can be mapped.
- Most important change is adding a column to RDT recording sheet showing where patient has been in the last three weeks.
- RAM has recently launched a private sector programme shortly to make nets available in many shops around the country. Target is at least one shop in each district selling nets.

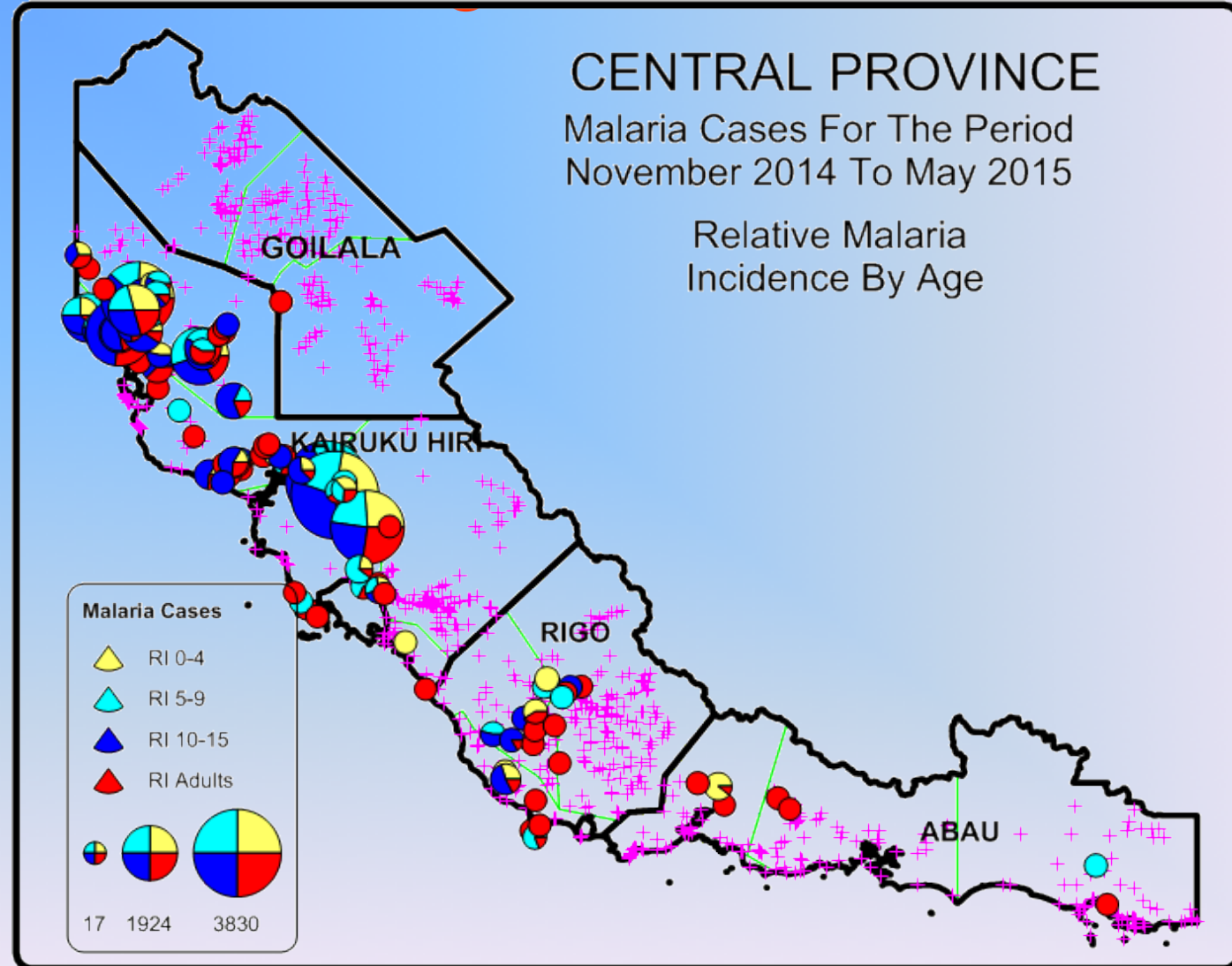


## Chasing Malaria Results



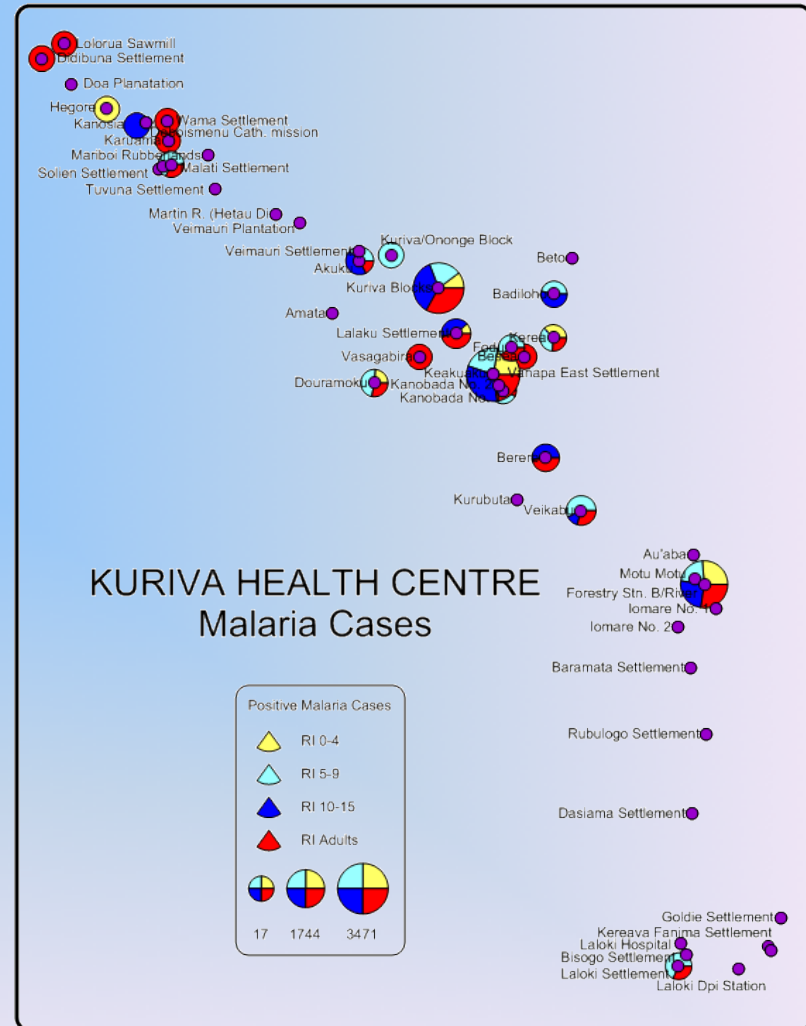
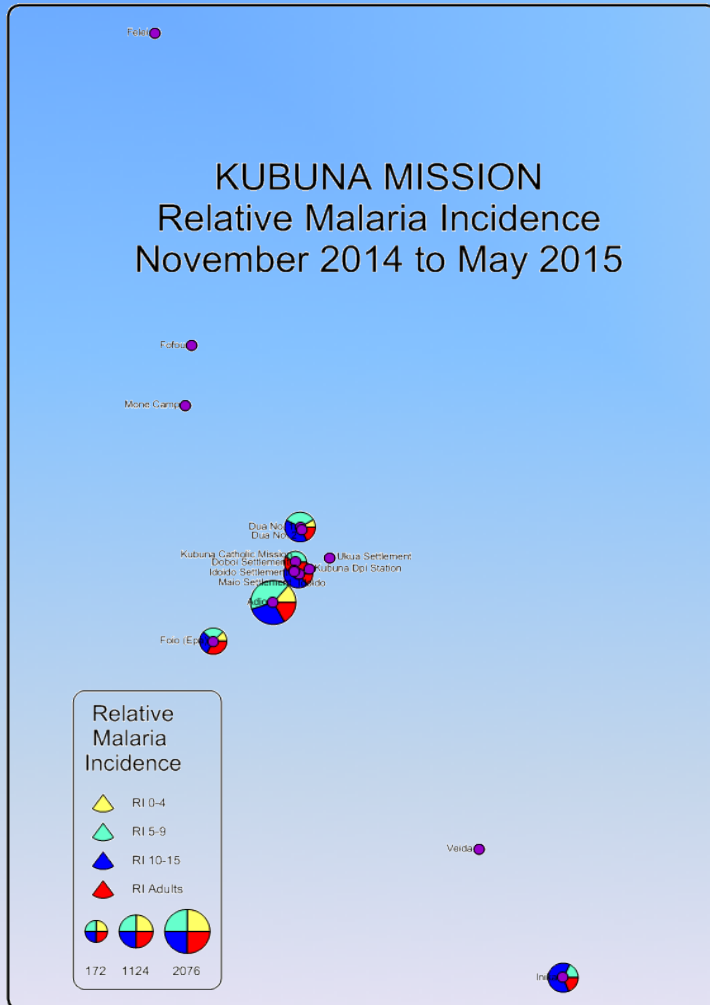
Initial Data From Chasing Malaria Project Showing Malaria Cases  
Malaria Cases By Age In Port Moresby

## Chasing Malaria Results - 2



Data From Chasing Malaria Project Showing Relative Malaria Incidence Recorded In Central Province

## Chasing Malaria Results - 3

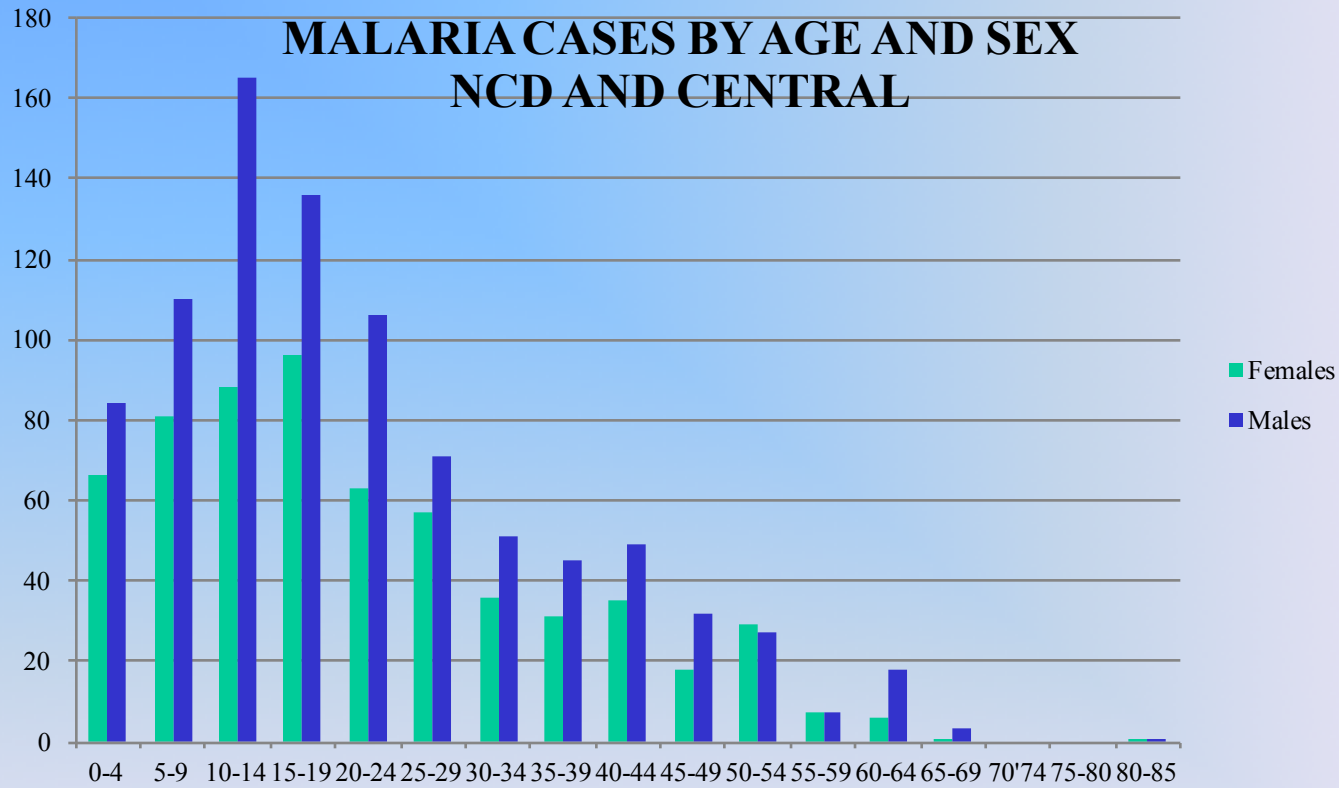


Data From Chasing Malaria Project Showing Relative Malaria Incidence Recorded In Kubuna and Kuriva Clinics In Central Province



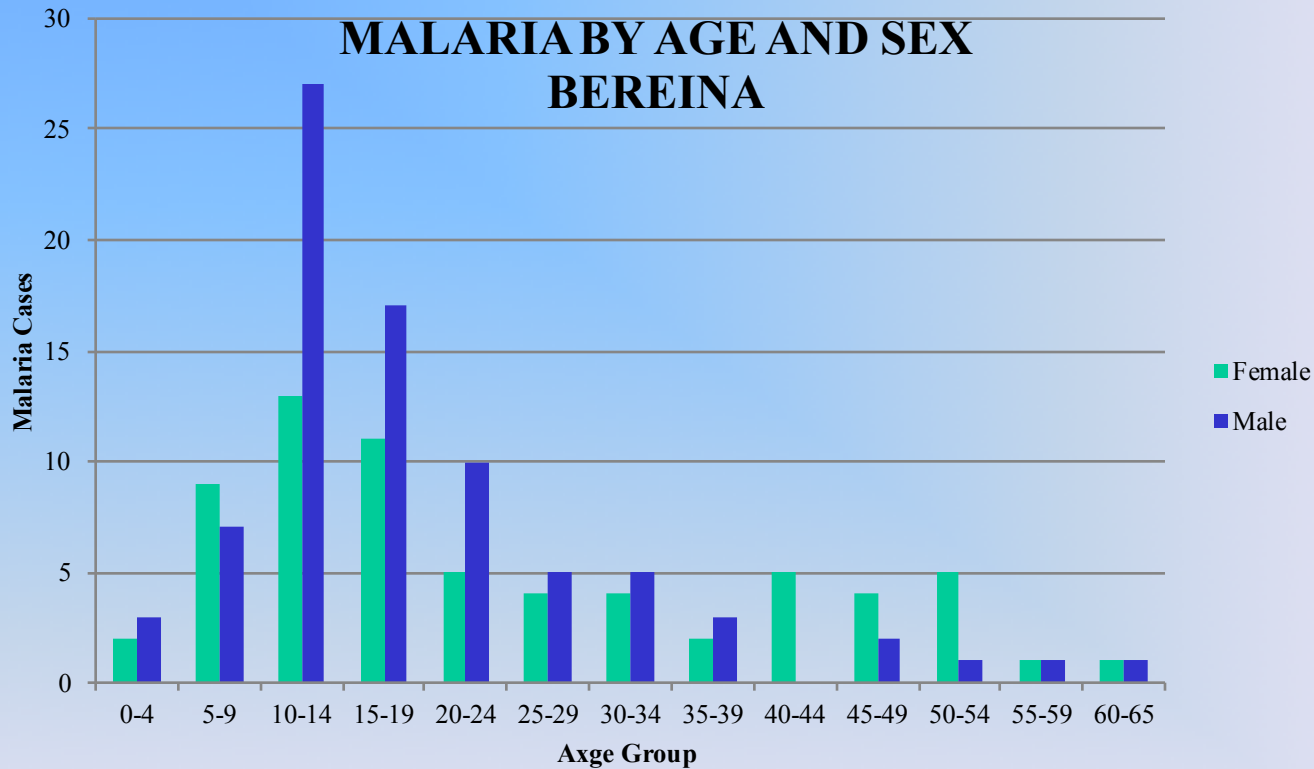
# PNG - MALARIA LLIN PROGRAMME

## Chasing Malaria Results - 4



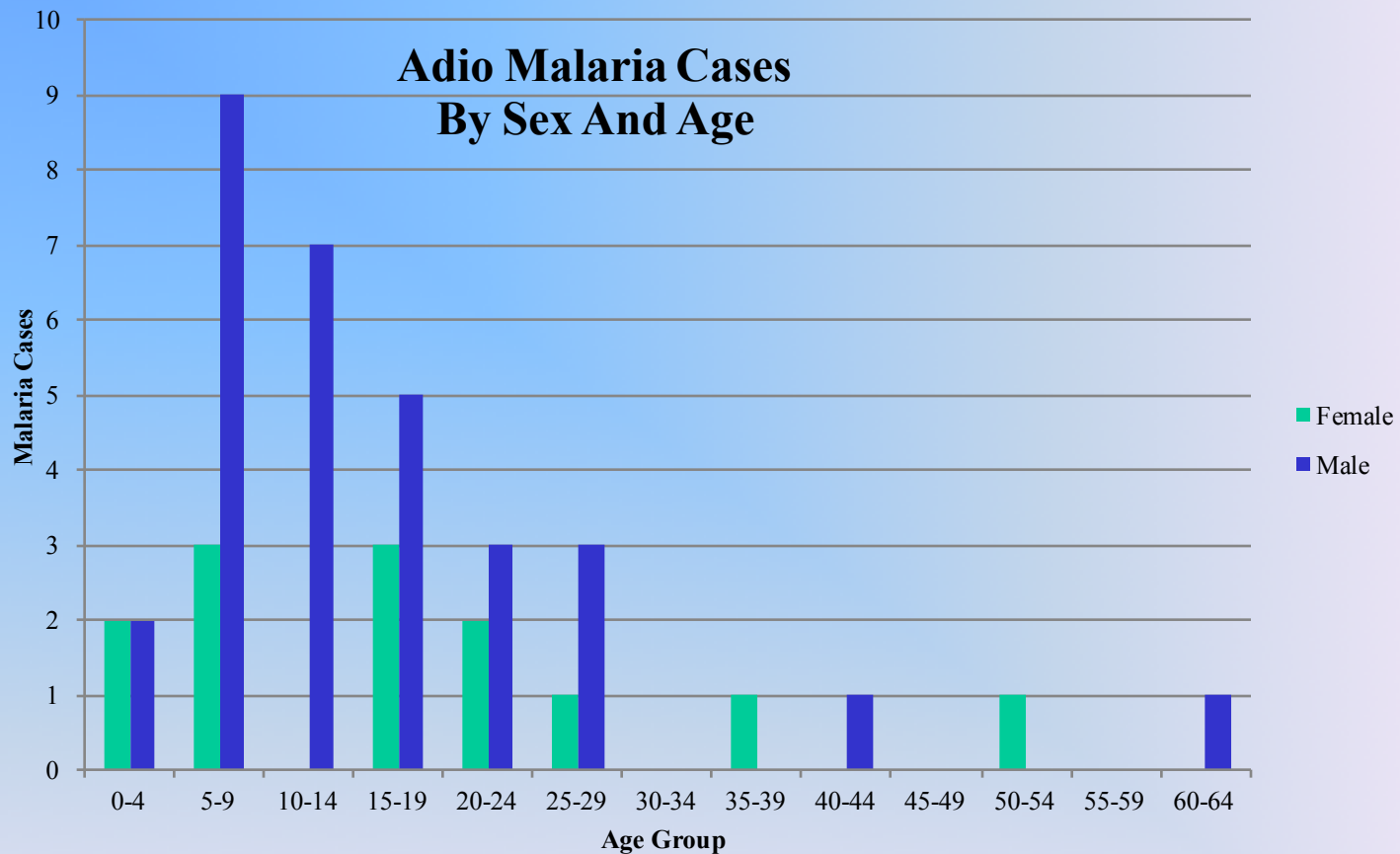
Data From Chasing Malaria Project Showing Relative Malaria Cases By Age And Sex In Central Province And NCD

## Chasing Malaria Results - 5



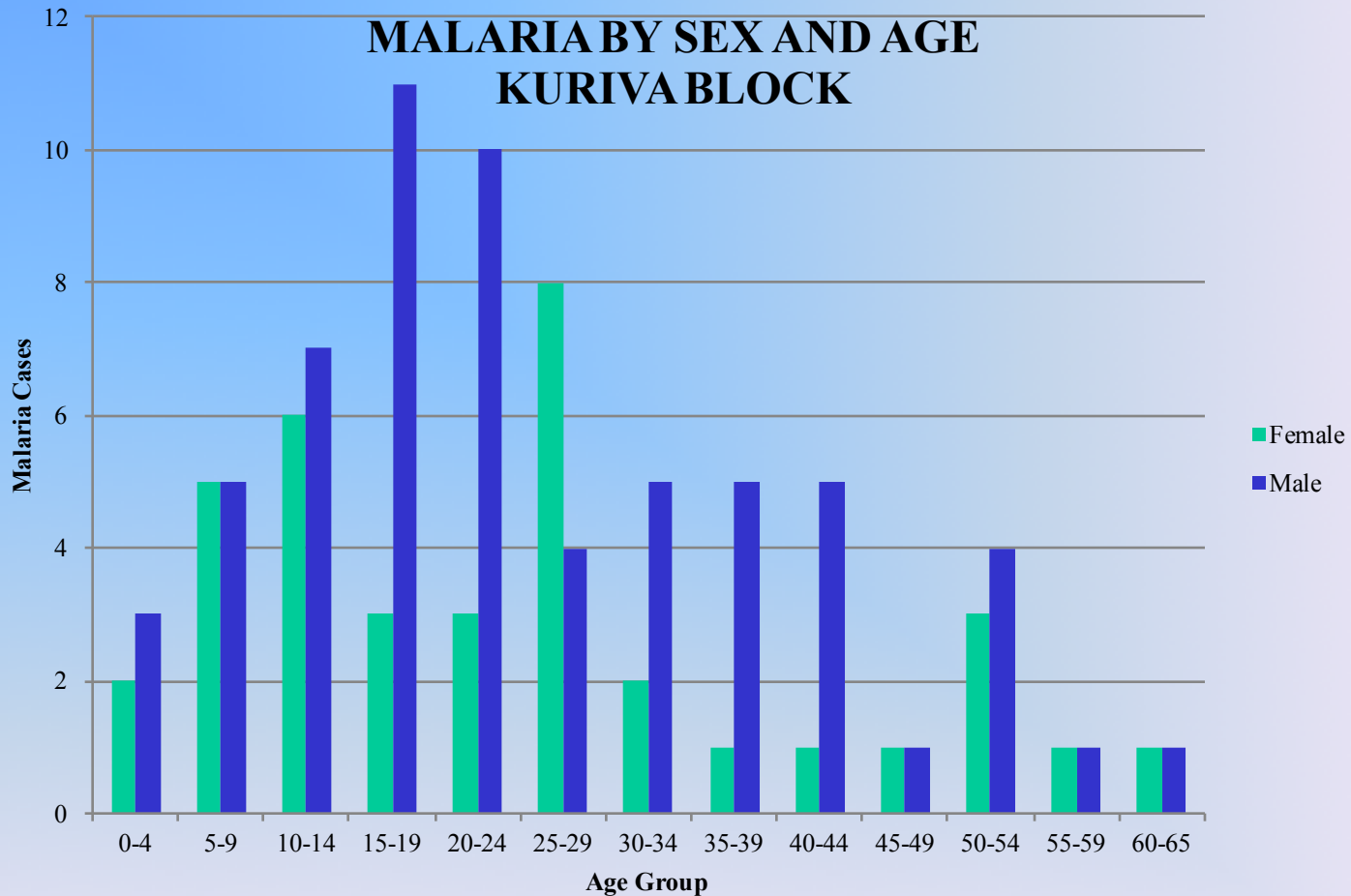
Data From Chasing Malaria Project Showing Relative Malaria Cases By Age And Sex In Bereina Central Province

## Chasing Malaria Results - 6



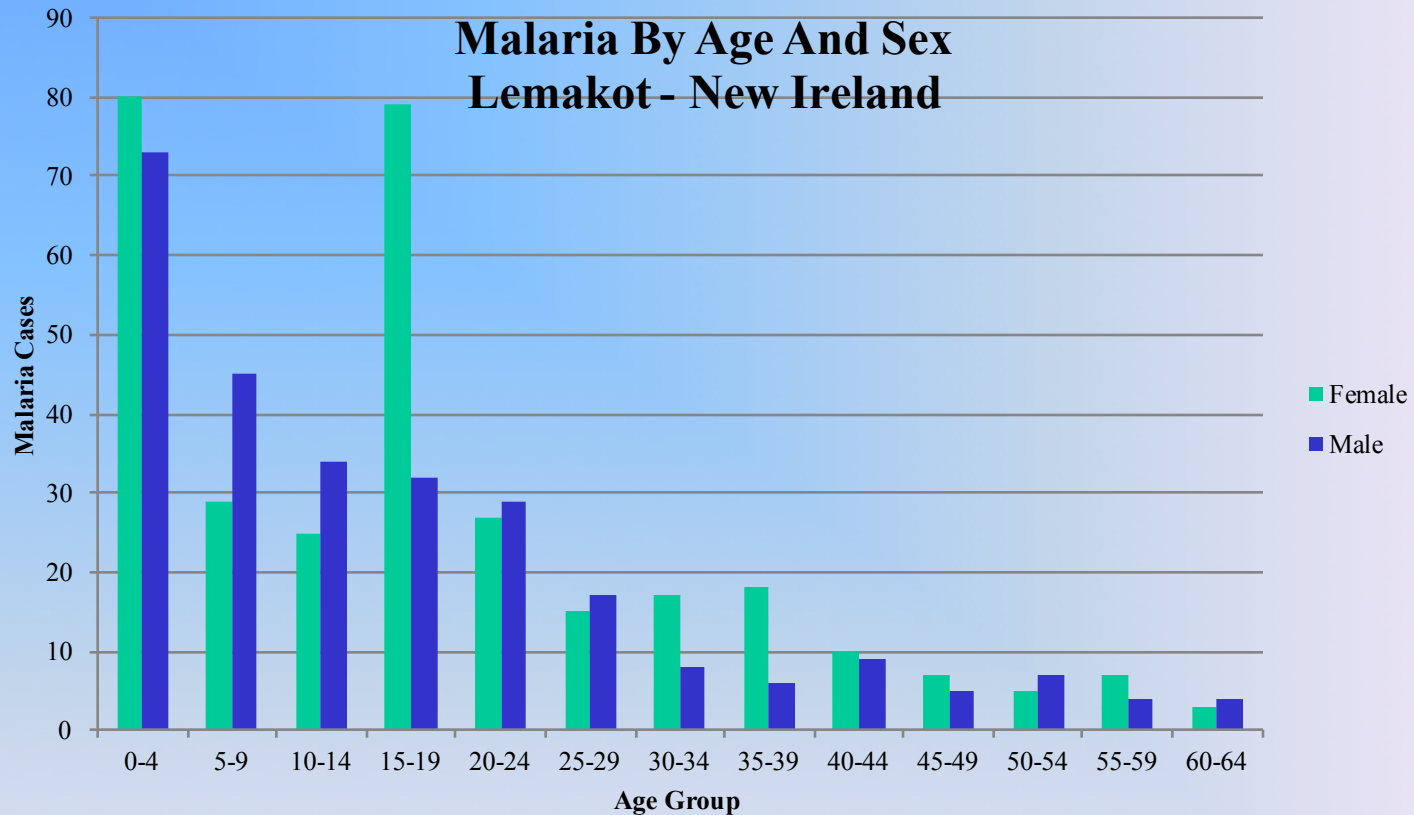
Data From Chasing Malaria Project Showing Relative Malaria Cases By Age And Sex In Adio Central Province. Worst Malaria Village In Central.

## Chasing Malaria Results - 7



Data From Chasing Malaria Project Showing Relative Malaria Cases By Age And Sex In Kurive Central Province. Worst Malaria Village In Central.

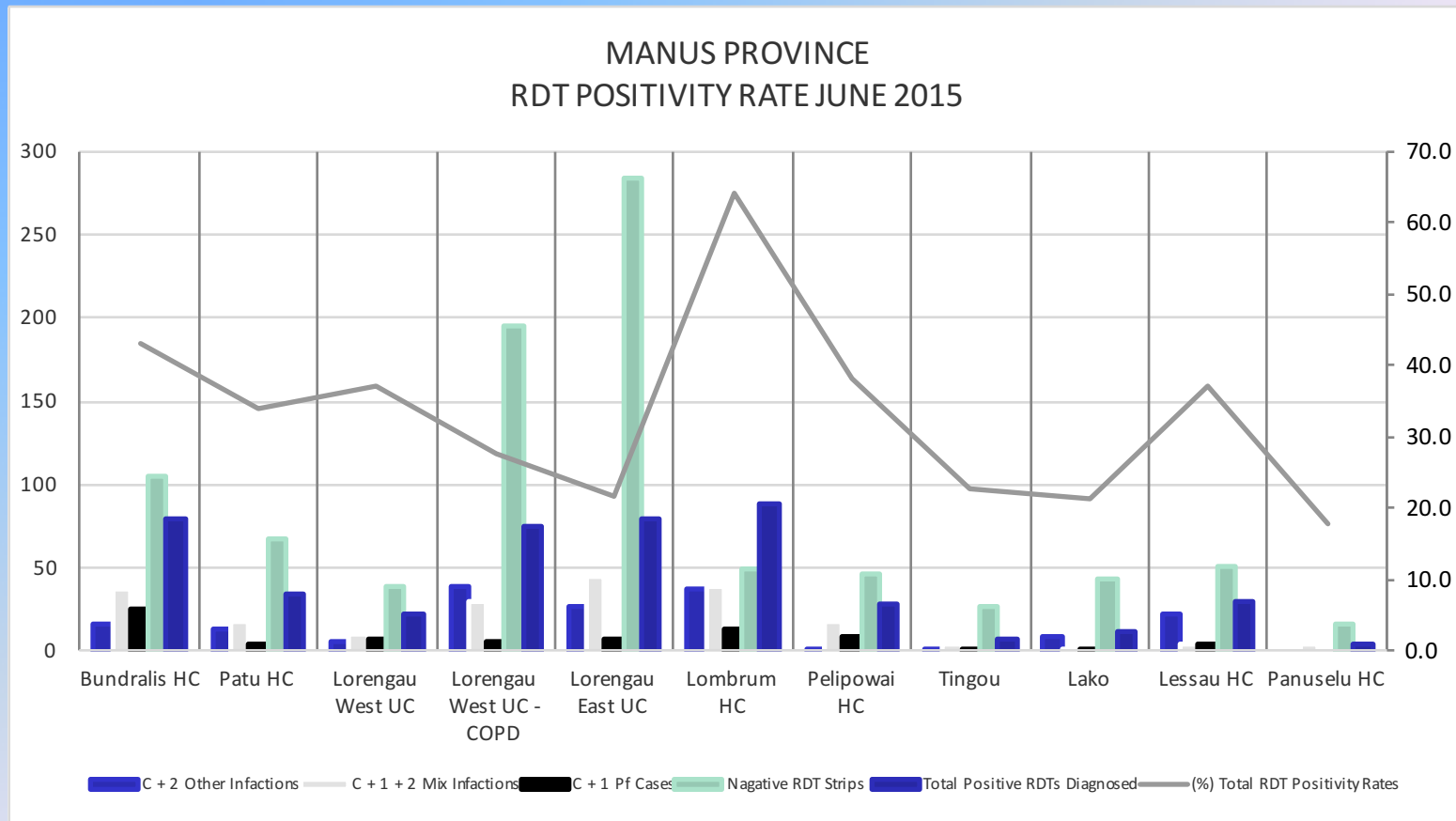
## Chasing Malaria Results - 8



Data From Chasing Malaria Project Showing Relative Malaria Cases By Age And Sex In Lemakot New Ireland

# PNG - MALARIA LLIN PROGRAMME

## Chasing Malaria Results - 9



Data From Regional Coordinators In Manus Island

## Private Sector Initiate

- There are 33 outlets selling nets in Port Moresby at this time but most of them are centrally located.
- Total revenues have been 77,000 Kina with about 57 bales of nets sold and almost 2,000 Mosbar .
- Even with excluding traditional sales to companies such as Brian Bell, the project is presently raising enough revenue to cover the costs of the project to date.
- Mosbar has also been targeted at rural villages with malaria problems as identified by the Chasing Malaria Programme. Follow up surveys showed that the Mosbar has been very popular with the villagers and works well. A few nets also sold directly in villages.
- Adverts now developed to advertise nets and Mosbar throughout the country.



02/11/2011

## The Realities Of Distributing Nets In PMG



# PNG - MALARIA LLIN PROGRAMME

Yumi  
Rausim  
Malaria



Thank You Very Much  
Tenk Yu Tru  
Tanikiu Bada Herea

