

# UNIVERSAL COVERAGE OF LLINs IN VANUATU PROGRAMME

with the financial support of the Global Fund



*Empowered lives.  
Resilient nations.*

# RESULTS REPORT 2015-2017

**MAY 2018**



The views expressed in this publication are those of the authors and do not necessarily represent those of the United Nations, including UNDP, or UN Member States.

UNDP partners with people at all levels of society to help build nations that can withstand crisis, and drive and sustain the kind of growth that improves the quality of life for everyone. On the ground in more than 170 countries and territories, we offer global perspective and local insight to help empower lives and build resilient nations.

This document was supported by UNDP under the Universal Coverage of LLINs in Vanuatu Programme.

Copyright © UNDP 2018

United Nations Development Programme  
Pacific Office in Fiji  
Level 2, Kadavu House  
414 Victoria Parade  
Suva, Fiji  
Tel: +679 331 2018  
Fax: +679 330 1718  
Email: [registry.fj@undp.org](mailto:registry.fj@undp.org)  
Website: <http://www.pacific.undp.org/>

Design: Ian Mungall

Cover photo: Ferdinand Strobel/UNDP.

# SUMMARY

According to the World Health Organization (WHO), nearly half of the world's population is at risk of malaria. While the vast majority of cases and deaths are in sub-Saharan Africa, malaria is also a public health threat in the Western Pacific region. In Vanuatu, malaria has historically been one of the leading causes of ill health, and the entire population is at risk of infection.

Vanuatu is a predominantly rural archipelago of 83 islands, of which 68 are inhabited, and is divided into six provinces: Torba, Sanma, Penama, Malampa, Shefa, and Tafea. Sustained efforts by the Ministry of Health's National Malaria Programme – guided by the National Malaria Plan 2015-2020 as well as the WHO Regional Action Framework for Malaria 2016-2020 and the WHO Global Technical Strategy for Malaria 2016-2020 – over the past several years have seen significant reduction in malaria prevalence. This has been accomplished through strengthening and improving access to diagnostic tests, improving access to effective treatment, achieving high coverage of long-lasting insecticidal bed nets (LLINs), engaging with communities and with technical support from key partners.

As a result of the efforts, malaria-related deaths have nearly been completely eliminated and the annual parasite incidence (API) fell from 74 per 1,000 in 2003 to 9 per 1,000 in 2013. However, unexpected increases in national API rates from 1.6 in 2015 to 6.8 in 2016, mainly as a result of increases in the high burden provinces of Malampa and Samna, and reductions in funding from the primary donors<sup>1</sup> indicate challenges still remain and an adjusted strategy may be needed to achieve national goals of eliminating malaria by 2025.<sup>2</sup>

The Universal Coverage of LLINs in Vanuatu Programme was initiated to support the National Malaria Programme by providing replacement LLINs to all households and strengthening monitoring and supervision. The programme operated from July 2015 to December 2017 with the financial support of the Global Fund through a \$2.6 million grant (grant number: QMJ-M-UNDP). The United Nations Development Programme

Programme details	
Programme title:	Universal Coverage of Long-Lasting Insecticidal Nets in Vanuatu
Global Fund grant number:	QMJ-M-UNDP
Duration:	July 2015 – December 2017
Principal recipient:	UNDP Pacific Office in Fiji
Sub-recipients	Ministry of Health of Vanuatu
Geographic coverage:	Vanuatu
Budget:	\$2.657 million

(UNDP) served as Principal Recipient (PR) and the Ministry of Health of Vanuatu was the sole sub-recipient of the grant, with WHO providing technical assistance.

The main goals of the programme were to distribute over 220,000 LLINs to households and schools by the end of 2017 and to build capacity of the health sector to ensure long-term sustainability, including strengthening financial and risk management, procurement systems for health commodities, monitoring and evaluation, training and health governance mechanisms. The programme provided salaries support and capacity building to eight National Malaria Programme staff.

Key objectives of the programme included:

- To achieve zero local transmission of malaria in one province (Tafea), reduce the API rate to 3.5 per 1,000 nationally and maintain zero confirmed deaths from malaria by the end of 2017.
- Promote universal access to quality assured malaria diagnosis and treatment through capacity building of health staff, reducing stock outs and developing robust monitoring and evaluation tools.
- Strengthen malaria surveillance systems to become core interventions, and specifically establish elimination-capable malaria surveillance systems by the end of 2017.

<sup>1</sup> In addition to the support provided by the Global Fund, the National Malaria Programme receives funding from the Vanuatu Government and the Australian Government through the Department of Foreign Affairs and Trade (DFAT), and technical assistance from WHO.

<sup>2</sup> Dr Kevin Palmer (forthcoming). Vanuatu Malaria Programme Review: Desk Review by Thematic Area.

## Programme performance highlights, 2015-2017



**237,944**

bed nets were distributed in Vanuatu exceeding distribution targets of 222,870

**Malaria eliminated**

in the province of Tafea in 2017

**Zero**

malaria related deaths in Vanuatu

# KEY RESULTS

## Ministry of Health of Vanuatu

### Major achievements:

- Distributed 237,944 LLINs (out of a targeted 222,870) through mass campaigns in all six provinces, namely Malampi, Penama, Sanma, Shefa, Tafea and Torba.
- Recorded zero inpatient malaria deaths during the 2015-2017 project period.
- Significant progress was achieved towards malaria elimination in the country. The province of Tafea was declared malaria-free in 2017 and sizeable progress towards elimination was made in three other provinces (Penama, Shefa and Torba) with cases projected to drop below 20 in the next three to four years.
- Strengthened capacity of national procurement and supply chain management through the renovation of the National Bednet Storage Centre and provision of IT equipment and tablets for the LLIN distribution teams to improve recording and reporting.
- Supported development of a comprehensive desk review of the National Malaria Programme that provided recommendations and informed the design of the next phase of the programme.
- Obtained Global Fund support to implement a pilot project in 2018 using G6PD tests that will enable health workers to determine G6PD status and administer primaquine to treat cases of P. vivax malaria in alignment with the national treatment guidelines.
- Technical support by WHO in Vanuatu to the Ministry of Health to support the development of the national malaria guidelines and standard operating procedures (SOPs), the national malaria action plan, the LLIN stratification plan and the malaria elimination tracking module.
- Technical support by WHO in Vanuatu to UNDP and the National Malaria Programme on the development, negotiation and finalization of grant making documents for the 2018-2020 grant cycle including the Programme Continuation Request, the Performance Framework and responses to the Technical Review Panel.
- Enhanced the capacity of the National Malaria Programme to reach remote areas affected by malaria and provide timely diagnostics and treatment to patients through the procurement of three boats and engines for the provinces of Torba and Sanma provinces.

### Budget vs. actual

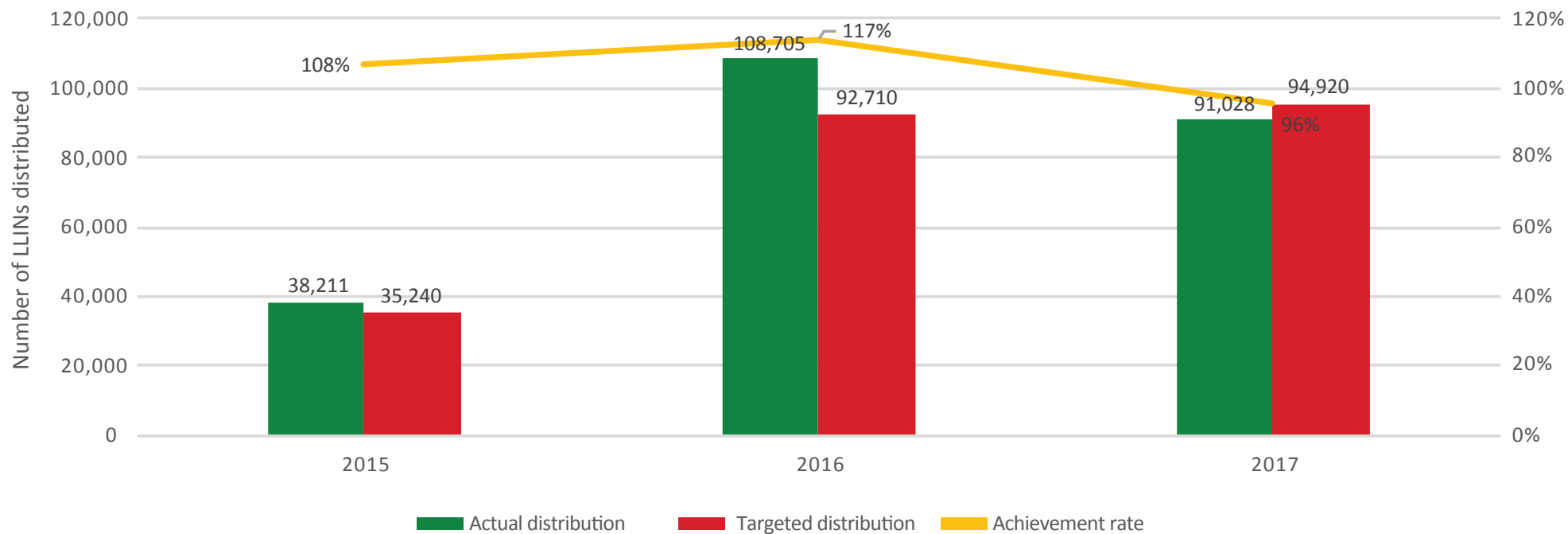
SR	2015		2016		2017		2015-2017	
	Allocation	Actual	Allocation	Actual	Allocation	Actual	Allocation	Actual
Ministry of Health	\$149,182.00		\$380,351.62	\$325,687.28	\$728,774.72	\$322,159.37	\$1,258,308.34	\$647,846.65

### Procurement

Classification	2016	2017	Total
Capacity Development & Building		\$33,313.00	\$33,313.00
Furniture & Fittings		\$10,793.48	\$10,793.48
IT Equipments & Printer	\$20,862.72	\$84,343.85	\$105,206.57
Medical Equipments		\$46,707.85	\$46,707.85
Other Items		\$18,482.59	\$18,482.59
Motor Vehicles, Boats & Engines	\$22,418.97	\$34,926.58	\$57,345.55
LLIN Quality Assurance		\$10,393.73	\$10,393.73
Infrastructure & Maintenance		\$56,406.99	\$56,406.99
Bednets	\$203,456.00	\$271,593.20	\$475,049.20
<b>Total</b>	<b>\$246,737.69</b>	<b>\$566,961.27</b>	<b>\$813,698.96</b>

## Performance against key programme indicators

### Number of long-lasting insecticidal nets distributed to at-risk populations through mass campaigns



Note:  
The malaria programme did not report against any outcome indicators in the last three years as the malaria indicator survey that was intended to capture outcome level data was not carried out.



From 2015 to 2017, a total of 237,944 long-lasting insecticide treated bednets were distributed in communities throughout Vanuatu, with instructions also provided by health workers on how to properly use them.

# PROGRAMMING HIGHLIGHTS

The malaria programme achieved substantial results over its 2015-2017 duration, most notably the success of zero confirmed malaria-related deaths. The results were a collective effort by the Ministry of Health, UNDP and WHO. In 2015, for the first time in the 15 year-long lifespan of the Global Fund-supported malaria programme, the grant was awarded an A1 grant rating. The rating, the highest that can be assigned by the Global Fund, is the result of years of hard work and commitment from all partners involved. Below are some key activities from the programme.

## Providing universal coverage of LLINs to all households

One of the most effective ways of preventing the spread of malaria is for people living in malaria-endemic regions to sleep under mosquito nets – more specifically long-lasting insecticide treated bednets. The National Malaria Programme in cooperation with its partners, including UNDP and the Global Fund, are continuing to make significant strides towards effectively controlling malaria and full elimination. An essential part of this, as outlined in the National Malaria Strategic Plan, is to maintain universal coverage of bednets as well as provide universal access to accurate diagnosis and effective treatment. Four provinces have been chosen for efforts to eliminate malaria altogether: Penama, Shefa, Tafea and Torba. In these provinces, the control efforts are augmented with the addition of enhanced surveillance and rapid responses to cases that are identified.

To support the goals of universal bednet coverage, the Universal Coverage of LLINs in Vanuatu Programme set out an ambitious target of distributing 222,870 bednets throughout the country. By the end of 2017, a total of 237,944 were distributed, overachieving the initial target by over 15,000. This was accomplished despite encountering some unexpected challenges, such as disruptions caused by the eruption of Ambae volcano and evacuation of people to other islands. While the National Malaria Programme managed to reorganize teams to resume operation, distribution in zone 8 in North Pentecost was not fully completed. The difficulties of reaching the sometimes remote island communities for distribution of bednets and with health services are illustrated well in a short film produced by UNDP (see text box on page 7).

As a result of the comprehensive approach, the province of Tafea was declared malaria-free in 2017 and sizeable progress towards elimination was made in the three other provinces.

## Building the capacity of the health sector to ensure long-term sustainability

In order to ensure universal access to assured diagnosis and treatment, there is a need to improve capacity of health workers, put in place more robust monitoring and evaluation tools and end stocks out of life saving medicines. Several key activities were implemented by the programme with the technical assistance of WHO to achieve these goals.

A national 'Operational Guideline for Malaria Surveillance and Control in Vanuatu' was developed, which featured strategies and standard operating procedures for malaria control in all epidemiological settings – from burden reduction to elimination to prevention of reintroduction. Training was subsequently provided for all national malaria staff at a Malaria Surveillance and Control workshop in November 2017. The standard operating procedures were revised for all case detection methods being employed, including passive case detection, reactive case detection and pro-active case detection. Other related activities included development of new data collection forms for use during case and foci investigation. On-site technical assistance was provided by WHO to provincial health workers through refresher trainings, one of which took place in September 2017 in Torba Province where training was provided on malaria elimination case investigation and assistance with health facility supervisory visits.

One of the aims of the malaria programme is to explore innovative and sustainable approaches to improve LLIN distribution with less resources. In the past, LLINs in Vanuatu were distributed using the health system involving nurses and other community health workers, however this caused an interruption to other basic medical health services delivery. A new approach was devised to utilize the Area Council Secretaries of the 72 area councils in Vanuatu. The first batch of Area Council Secretaries has now been trained to take a leading role in the LLIN distribution in their respective zones. As a result, significant savings has been achieved and reprogrammed to finance community projects, such as installation of water tanks for aid posts and schools; rehabilitation of community halls and aid posts; and materials to improve sanitation in communities.

Procuring health commodities and other products as well as strengthening overall procurement systems was a priority for the programme to reduce stock outs and

(continued on page 8)





### Tafea province of Vanuatu recognized for achieving malaria-free status

On 17 November 2017, the province of Tafea was recognized for its achievement of eradicating malaria in an award ceremony organized by the Government of Vanuatu. The elimination of malaria incidence in Tafea marks a great success of the malaria programme of the Ministry of Health, accomplished in collaboration with donors and development partners including UNDP, the Global Fund, DFAT and WHO. The efforts demonstrate the success of partnerships that the Government of Vanuatu has engaged in to address vector borne diseases, as well as other health issues affecting the well-being and livelihoods of the populations, particularly those living in rural areas of the country. The people of Tafea province as a whole have benefited from the malaria programme and the elimination of the disease is expected to open new opportunities for healthy living and economic development in the future. It has been a multi-decade intervention, with numerous partners involved (including DFAT, JICA, Rotary, UNICEF, SPC and the Global Fund) since the early 1980s. The first large scale distribution of long-lasting insecticidal nets to control malaria on the island of Tanna was introduced in 1992.

[Read more](#)



### Film documents anti malaria bed net campaign in Vanuatu

The film Sikirine documents the work of the Universal Coverage of LLINs in Vanuatu Programme to reduce the harmful impact of malaria in Vanuatu. The film follows a group of health care workers of the Vanuatu Ministry of Health as they carry out a campaign to distribute life-saving long-lasting insecticide treated nets in Torba Province in November 2016. Malaria has historically been one of the leading causes of ill health in Vanuatu, however sustained efforts over the last several years have seen significant reduction in malaria prevalence. The programme seeks to ensure each household is equipped with at least one long-lasting insecticide treated net and all children under 5 years and pregnant women sleep under nets.

[Watch the video](#)

facilitate better health services provision. In 2017/18, renovations were made to the national bednet warehouse to create a more reliable facility to store the products before they are distributed. To improve data recording and reporting, information technology and tablet computers were procured for the LLIN distribution teams. At the request of the National Malaria Programme, the programme procured a Polymerase chain reaction (PCR) laboratory. Other key products and services that were procured included lab equipment and furniture, larvicides, bednets, solar power generators, boats and engines, office equipment and printers.

In response to an urgent need in October 2017 due to the erupting Manaro volcano and the evacuations of the population of Ambae to Pentecost, Maewo, Santo and Malekula, the programme procured eight outboard motor engines and one boat to the Ministry of Health of Vanuatu ([read more](#)). The boats are to be used to ensure effective health surveillance for the displaced populations, and also contribute on an ongoing basis to preventing possible disease outbreaks and improvements to health service delivery in remote communities in Sanma and Torba provinces.

### **Strengthening surveillance systems and health information**

In alignment with the Regional Action Framework for Malaria Control and Elimination in the Western Pacific 2016-2020, the programme specifically included strengthening surveillance as a core intervention. The programme sought to prioritize surveillance systems that support elimination efforts and that will help to inform investigation and responses to block secondary transmission and reintroduction of malaria cases.

The programme provided support for ongoing monitoring of eco-epidemiological-based micro risk stratification (the varying malaria risk that exists between households and villages) to better guide control and elimination interventions. A 'Malaria Outbreak Investigation and Response' strategy for high burden provinces was developed, along with new data collection forms and SOPs. These were put into action when WHO conducted an outbreak investigation and response at two health zones in Sanma Province in 2017 where high numbers of malaria cases were reported. Seven health facilities and six villages were visited, which comprised 50 percent of all malaria cases reported that year in the province. The results were used to strengthen malaria efforts going forward in these locations.

Malaria was integrated into the web-based District Health Information System 2 (DHIS2) as part of the Ministry of Health's approach to aligning programme database systems onto one common platform with the goal of improving ability to monitor, analyze,



The programme supported substantial renovations of the National Bednet Storage Center in 2017-18.



A view from inside the newly renovated National Bednet Storage Center.

report and use data to inform actions at the provincial and national levels. The database generates national and provincial 'dashboards' that will facilitate easy and rapid access by provincial staff to view and analyze key National Malaria Programme indicators. Additionally, it will strengthen health facility monitoring and reporting and improve evidence-based decision making at the provincial and national level. WHO organized orientation workshops with all relevant staff on the database, including a one-day malaria surveillance workshop in Tafea Province in November 2017 for all malaria staff to build capacity in using the new DHIS2 event based database for routine operational decision making.

In addition, the programme collaborated with the National Malaria Programme to revise and update the bednet database to more accurately measure the two key indicators: bednet coverage and proportion of the targeted population being protected.

National monitoring systems were also strengthened through inclusion of malaria-related questions into the National Household Survey, which is expected to be carried out in 2018 subject to funding availability.

In the first phase of a comprehensive review of the National Malaria Programme that is being undertaken, a desk review was conducted to provide background information for the review team and come up with preliminary findings that the team will validate, further expand on and make recommendations about. The review found that Vanuatu was on track to achieve its goal of malaria elimination by 2026. It predicted that Torba, Penama and Shefa provinces would join Tafea in declaring themselves malaria-free within the next three to four years. Problems were identified with the response in Malampa and Sanma provinces, namely a lack of coverage of LLINs and stock-outs of rapid diagnostic tests due to operational difficulties, but it is expected that once rectified, these provinces will also progress towards malaria elimination. The major challenges highlighted were a lack of human resources, reduction in funding from partner organizations, failure to get funds to the field, and the long-standing issues around the use of primaquine for treating *P. vivax* infections.



The programme's efforts to reduce malaria are improving the well-being of the people of Vanuatu, including those living in the most remote island communities.



Long-lasting insecticide treated bednets, such as the one visible in this photo, are a proven method to prevent malaria.

# SUMMARY TABLES

## Financials

### By intervention

Intervention	2015	2016	2017	Total 2015-2017
Long-lasting insecticidal nets (LLIN) - Mass campaign	\$19,427.39	\$677,590.55	\$778,155.07	\$1,475,173.01
Surveys			\$264,377.35	\$264,377.35
Analysis, review and transparency	\$1,496.87	\$31,676.65	\$14,999.49	\$48,173.01
Policy, planning, coordination and management of national disease control programmes	\$31,229.99	\$40,438.24	\$767.44	\$72,435.67
Grant management	\$24,574.02	\$189,688.80	\$317,808.95	\$532,071.77
<b>Total</b>	<b>\$76,728.27</b>	<b>\$939,394.24</b>	<b>\$1,376,108.30</b>	<b>\$2,392,230.81</b>

### By thematic area

Thematic area	2015	2016	2017	Total 2015-2017
Vector control	\$19,427.39	\$677,590.55	\$778,155.07	\$1,475,173.01
RSSH: Health management information systems and M&E	\$1,496.87	\$31,676.65	\$279,376.84	\$312,550.36
Programme management	\$55,804.01	\$230,127.04	\$318,576.39	\$604,507.44
<b>Total</b>	<b>\$76,728.27</b>	<b>\$939,394.24</b>	<b>\$1,376,108.30</b>	<b>\$2,392,230.81</b>

### By implementing entity

Thematic area	2015	2016	2017	Total 2015-2017
United Nations Development Programme	\$76,728.27	\$586,706.96	\$841,285.92	\$1,504,721.15
Ministry of Health Vanuatu		\$352,687.28	\$322,159.38	\$674,846.66
World Health Organization			\$212,663.00	\$212,663.00
<b>Total</b>	<b>\$76,728.27</b>	<b>\$939,394.24</b>	<b>\$1,376,108.30</b>	<b>\$2,392,230.81</b>

### By cost input

Thematic area	2015	2016	2017	Total 2015-2017
1. Human Resources (HR)	\$47,147.13	\$179,979.12	\$204,797.24	\$431,923.49
2. Travel related costs (TRC)	\$14,100.77	\$31,676.74	\$279,376.84	\$325,154.35
3. External Professional services (EPS)			\$13,390.01	\$13,390.01
4. Health Products - Pharmaceutical Products (HPPP)				
5. Health Products - Non-Pharmaceuticals (HPNP)	\$8,119.86	\$242,571.13	\$281,986.93	\$532,677.92
6. Health Products - Equipment (HPE)				
7. Procurement and Supply-Chain Management costs (PSM)	\$533.17	\$403,578.58	\$411,379.80	\$815,491.55
8. Infrastructure (INF)			\$1,680.73	\$1,680.73
9. Non-health equipment (NHP)			\$79,973.88	\$79,973.88
10. Communication Material and Publications (CMP)		\$783.98	\$8,275.93	\$9,059.91
11. Programme Administration costs (PA)	\$6,827.61	\$80,804.69	\$95,246.94	\$182,879.24
12. Living support to client/ target population (LSCTP)				
13. Payment for Results				
<b>Total</b>	<b>\$76,728.54</b>	<b>\$939,394.24</b>	<b>\$1,376,108.30</b>	<b>\$2,392,231.08</b>

## Procurement

Items	Year	Classification	Cost, US\$
PermaNet 2.0 Rect. 100d. 190x180x150, LC2 Pink	2016	Bednets	\$66,123.00
PermaNet 2.0 Rect. 100d. 160x180x150, LC4 Light Blue	2016	Bednets	\$119,198.00
PermaNet 2.0 Rect. 100d. 130x180x150, LC6 Light Green	2016	Bednets	\$18,135.00
Canon Image Runner Advance C3330 - Printer/Photocopy Machine (including cassette reading)	2016	IT Equipments & Printer	\$4,347.24
HP ProDesk 400 - HP Desktop	2016	IT Equipments & Printer	\$ 3,809.58
HP 25vx LED Blacklit Monitor	2016	IT Equipments & Printer	\$1,097.70
HP ProBook 450 G2 Notebook PC	2016	IT Equipments & Printer	\$7,119.68
Samsung Galaxy Tab 3Lite	2016	IT Equipments & Printer	\$2,027.52
Biometric ID Equipment - Electronic access control and time attendance system for Vanuatu	2016	IT Equipments & Printer	\$2,461.00
6.5 m Fibre Boats	2016	Motor Vehicles, Boats & Engines	\$12,573.97
Boat engines 40 HP x 4 & 15 HP x 2	2016	Motor Vehicles, Boats & Engines	\$9,845.00
PermaNet 2.0 Rect. 100d. 130x180x150, LC6 Light Green	2017	Bednets	\$25,188.80
PermaNet 2.0 Rect. 100d. 160x180x150, LC4 Light Blue	2017	Bednets	\$149,212.80
PermaNet 2.0 Rect. 100d. 190x180x150, LC2 Pink	2017	Bednets	\$56,715.00
PermaNet 2.0 Rect. 100d. 190x180x150, LC2 White	2017	Bednets	\$40,476.60
Consultant to support the planning and implementation of G6PD Pilot Project	2017	Capacity Development & Building	\$16,305.00
Consultant to perform Malaria Programme review, desk top review	2017	Capacity Development & Building	\$17,008.00
Malaria PCR Lab Furniture	2017	Furniture & Fittings	\$10,793.48
National Bednet Storage Center (renovation of George Pomidou Hospital for storage of Bednets)	2017	Infrastructure & Maintenance	\$56,406.99
IT equipments - Laptops & Computers	2017	IT Equipments & Printer	\$81,156.35
G6PD RDT	2017	IT Equipments & Printer	\$3,187.50
LLIN bednet operational research - Chemical Assay in Lab	2017	LLIN Quality Assurance	\$10,393.73
Malaria PCR Lab Equipment	2017	Medical Equipments	\$46,707.85
Boat engines 40 HP x 4 & 15 HP x 2	2017	Motor Vehicles, Boats & Engines	\$16,780.24
6.5 m Fibre Boats x 2	2017	Motor Vehicles, Boats & Engines	\$18,146.34
Larvicides (200 kg) - pyriproxyfen or S-methoprene	2017	Other Items	\$12,300.00
Solar power generators X8	2017	Other Items	\$1,618.80
Office equipment and Printer	2017	Other Items	\$4,563.79
<b>Total Cost of Non Health Product Distributed</b>			<b>\$813,698.96</b>

UNDP would like to thank the Ministry of Health, national and provincial Malaria Programme staff, the National Laboratory Division, Central Medical Stores and WHO Vanuatu. Without these important partnerships, the achievements noted in this report would not have been possible.



---

**CONTACT US**

UNDP Pacific Office  
Level 2, Kadavu House 414 Victoria Parade  
Suva, Fiji  
Phone: +679 331 2018  
Email: [globalfund.pacific@undp.org](mailto:globalfund.pacific@undp.org)

**FOLLOW US ON:**

 [@GlobalFundPacific](https://twitter.com/GlobalFundPacific)

**SUBSCRIBE TO OUR MAILING LIST:**

 <http://eepurl.com/cARtel>