About the Cover:

The Hagahai tribe, a recently contacted group of semi-nomadic hunter-horticulturalists living in the fringe highlands of Madang Province, and one of the most isolated groups of people in Papua New Guinea, has been reached by the Madang Provincial Health Authority for polio vaccination. The team travelled by road for hours and flew by helicopter to give life-saving polio vaccines to every child.

Photo by: WHO/R. Taukarai
PAPUA NEW GUINEA
POLIO OUTBREAK RESPONSE
2018
<table>
<thead>
<tr>
<th>TABLE OF CONTENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>A Dedication to the Front-line Polio Heroes of Papua New Guinea ........................................</td>
</tr>
<tr>
<td>Polio Outbreak Response in Papua New Guinea 2018: Summary .....................................................</td>
</tr>
<tr>
<td><strong>Polio Cases in Papua New Guinea</strong></td>
</tr>
<tr>
<td>• The Human Face of Polio in Papua New Guinea ............................................................................</td>
</tr>
<tr>
<td>• Confirmed Polio Cases in Papua New Guinea in 2018 ..................................................................</td>
</tr>
<tr>
<td><strong>Incident Management</strong></td>
</tr>
<tr>
<td>• Polio Outbreak Incident Management System ............................................................................</td>
</tr>
<tr>
<td>• National Emergency Operations Centre: Connecting People for Coordinated Polio Outbreak Response</td>
</tr>
<tr>
<td>• Provincial Emergency Operations Centres: Empowering Local Authorities in Field Operations ..........</td>
</tr>
<tr>
<td>• Managing Information for Decision, Action and Dissemination ....................................................</td>
</tr>
<tr>
<td><strong>Polio Vaccination</strong></td>
</tr>
<tr>
<td>• Polio Vaccination Coverage in Papua New Guinea 2018 ................................................................</td>
</tr>
<tr>
<td>• Integrating Vitamin A in the Polio Campaign in Papua New Guinea ............................................</td>
</tr>
<tr>
<td>• Rapid Convenience Monitoring: Looking for Missed Unvaccinated Children ..................................</td>
</tr>
<tr>
<td><strong>Surveillance</strong></td>
</tr>
<tr>
<td>• Identifying Polio Cases: Surveillance System for Acute Flaccid Paralysis ....................................</td>
</tr>
<tr>
<td>• Testing the Environment for the Poliovirus ..................................................................................</td>
</tr>
<tr>
<td>• Laboratory Testing of Poliovirus ..................................................................................................</td>
</tr>
<tr>
<td><strong>Communications</strong></td>
</tr>
<tr>
<td>• Communicating Risk of Polio: Being First, Frequent and Factual ...................................................</td>
</tr>
<tr>
<td>• Social Mobilization and Community Engagement on Polio ............................................................</td>
</tr>
<tr>
<td>• World Polio Day 2018 in Papua New Guinea ................................................................................</td>
</tr>
<tr>
<td><strong>Polio Vaccines and Logistics</strong> ........................................................................................................</td>
</tr>
<tr>
<td><strong>Reaching Every Child</strong></td>
</tr>
<tr>
<td>• Polio Heroes: Reaching Every Child ...............................................................................................</td>
</tr>
<tr>
<td>• Reaching the Hagahai Tribe in the Mountains of Madang ...............................................................</td>
</tr>
<tr>
<td>• Bougainville Health Community Volunteer Network: An Exemplary Practice of Mobilizing Community-Based Health Workforce .........................................................</td>
</tr>
<tr>
<td>• Women on the Front-lines of the Polio Outbreak Response .............................................................</td>
</tr>
<tr>
<td><strong>Preventing Polio from Crossing Borders</strong> ........................................................................................</td>
</tr>
<tr>
<td><strong>Human Resources for Polio Outbreak Response</strong> ...........................................................................</td>
</tr>
<tr>
<td><strong>Empowering the Government System for Financial Management for Polio Outbreak Response</strong> ..........</td>
</tr>
<tr>
<td><strong>Donor Contributions</strong> ....................................................................................................................</td>
</tr>
<tr>
<td><strong>Polio Outbreak Response Assessment (OBRA) Mission</strong> ...................................................................</td>
</tr>
<tr>
<td><strong>Way Forward in 2019</strong> ....................................................................................................................</td>
</tr>
<tr>
<td><strong>Polio Outbreak Response in Papua New Guinea 2018: PROVINCIAL PROFILES</strong> ...............................</td>
</tr>
</tbody>
</table>
The polio outbreak response in Papua New Guinea is led by the National Department of Health, with support from the partners in the Global Polio Eradication Initiative (including the World Health Organization, Rotary International, UNICEF, the US Centers for Disease Control and Prevention, and the Bill & Melinda Gates Foundation), EasyJet, National Philanthropic Trust, UN Foundation and the Governments of Australia, Canada, Papua New Guinea, the Republic of Korea, the United Kingdom of Great Britain and Northern Ireland, and the United States of America (through the United States Agency for International Development).

The outbreak response operations have been made possible through the tireless commitment, dedication and hard work of the thousands of front-line polio heroes who braved challenges to protect every child from polio.
Papua New Guinea confirmed a polio outbreak on 22 June 2018 after 18 polio-free years. On the same day, the Government notified the World Health Organization (WHO) as required under the International Health Regulations, or IHR (2005). On 26 June, the outbreak was declared a national emergency and the National Emergency Operations Centre (NEOC) was activated a day later.

A comprehensive outbreak response plan was implemented, focussing on three components: (1) supplementary immunization activities; (2) enhanced surveillance; and (3) communication and social mobilization. The response operation is led by the National Department of Health (NDOH), with technical support from WHO, the United Nations Children’s Fund (UNICEF), United States Centers for Disease Control and Prevention (US-CDC) and other partners.

The overall management of the outbreak is coordinated at the NEOC, co-chaired by NDOH and WHO. Provincial emergency operation centres (EOCs) were also established in all 22 provinces, using the same incident management system. These EOCs ensure effective planning, implementation, reporting and mid-course corrections in the response strategies.

Since the confirmation of the outbreak, five rounds of polio vaccination campaigns have been conducted in 2018: two national immunization campaigns for children under 15 years old and three subnational campaigns for high-risk provinces.

- First round vaccinated 303,907 children under 5 years old in the three provinces of Morobe, Madang and Eastern Highlands. The campaign was held 16-29 July 2018.
POLIO OUTBREAK RESPONSE IN PAPUA NEW GUINEA 2018: SUMMARY

- Second round vaccinated 690,953 children under 5 years old in the nine provinces of Morobe, Madang, Eastern Highlands, Western Highlands, Southern Highlands, Jiwaka, Enga, Chimbu and Hela. The campaign was held 20 August to 9 September 2018.

- Third round was the first nationwide campaign covering 22 provinces. There were 3,141,102 children under 15 years old vaccinated. The campaign was held 24 September to 14 October 2018.

- Fourth round was another nationwide campaign, with 3,292,125 children under 15 years old vaccinated. The campaign was held on 5–18 November 2018.

- The fifth round was held in selected high-risk districts in five provinces of Enga, Central, National Capital District, East Sepik and Gulf covering 432,661 children under 15 years old. The campaign was held 26 November to 22 December 2018.

By the end of 2018, there have been 26 confirmed polio cases (19 males and seven females) affecting children in nine provinces. In addition, seven of the 27 environmental samples from the National Capital District and Morobe tested positive for poliovirus: Gerehu (3); Waigani (3) and Joyce Bay (1).

Communication and social mobilization have been a key tool in creating demand for vaccination. A multi-media approach was used, maximizing both traditional media (newspapers, TV, radio, posters, flyers, loud hailers), social media engagement (Facebook, text messaging) and interpersonal communication through the health workers and church organizations. Regular media conferences were held to ensure the public is regularly informed.

Throughout the response in 2018, more than 130 international polio experts from WHO, UNICEF and US-CDC have been deployed to the country, the majority of them serving as technical advisers to the provincial EOCs. These experts supported outbreak management, surveillance, immunization, risk communication, social mobilization, cold chain and vaccine management, health operations and logistics, finance, administration and other roles. A travel advisory on polio vaccination has been issued as required under IHR (2005).

A system was put in place to rapidly detect and identify cases of polio through enhanced surveillance for acute flaccid paralysis (AFP).

Polio vaccination was integrated with Vitamin A supplements for children 6–59 months during the national campaign in November. In some schools in Port Moresby, the polio vaccine was integrated with the human papillomavirus vaccination for girls.

In addition, public health measures between Papua New Guinea and neighbouring
Indonesia have been agreed in a cross-border meeting in September 2018.

An independent group of international experts conducted a Polio Outbreak Response Assessment (OBRA) in the first week of December. The OBRA is usually conducted after at least three months since confirmation of the outbreak. The team visited six provinces (Eastern Highlands, East Sepik, West New Britain, Morobe, Central and National Capital District) to assess the quality of the outbreak response and assist in improving the quality of the immunization, sensitivity of surveillance and effectiveness of communication and social mobilization. The results of the OBRA fed into the planning for the 2019 phase of the outbreak response.

The cost of the outbreak response in 2018 was US$ 18 million, against which the Government has committed approximately US$ 2.2 million (PNG Kina 6.7 million).

Financial support for the outbreak response was provided by the Bill & Melinda Gates Foundation, Rotary International, EasyJet, National Philanthropic Trust, UN Foundation and by the Governments of Australia, Canada, Papua New Guinea, the Republic of Korea, the United Kingdom of Great Britain and Northern Ireland, and the United States of America (through USAID). The Global Polio Eradication Initiative (GPEI), in partnership with the Government, continues to work with donors to secure the urgently required outbreak response funding.
CHRONOLOGY OF
POLIO OUTBREAK RESPONSE
IN PAPUA NEW GUINEA (2018)

22 June
Papua New Guinea confirmed a polio outbreak

25 June
Papua New Guinea notified WHO under the International Health Regulations IHR (2005)

26 June
National emergency was declared by the Government of Papua New Guinea

1 July
Surveillance and communication activities were enhanced in all provinces

3 July
Polio outbreak was designated as Emergency Grade 3 by WHO HQ and GPEI

20 Aug–9 Sep
SECOND polio vaccination covering 9 provinces: Morobe, Madang, Jiwaka, Eastern Highlands, Western Highlands, Southern Highlands, Enga, Chimbu and Hela

16–29 July
FIRST polio vaccination covering 3 provinces: Morobe, Madang and Eastern Highlands

24 Sep–14 Oct
THIRD polio vaccination covering ALL provinces of Papua New Guinea

13 September
Papua New Guinea and Indonesia agreed on cross-border measures to prevent spread of polio

17 Sep–12 Oct
Surveillance and communication activities were enhanced in all provinces

29 Oct–18 Nov
FOURTH polio vaccination covering ALL provinces of Papua New Guinea

29 Nov–20 Dec
FIFTH polio vaccination covering high risk districts in 5 provinces of Enga, Gulf, Central, East Sepik and National Capital District

3–7 Dec
Independent group of international experts conducted Polio Outbreak Response Assessment (OBRA) in Papua New Guinea

As of 30 December, total number of polio cases in Papua New Guinea: 26
Since the declaration of the polio outbreak in June 2018, there have been 26 confirmed polio cases affecting children from nine provinces. Five children and their families told us their stories.

Gafo woke up early one morning in April with aching legs. Excited to play with his friends, the 6-year-old boy ignored the pain, until he fell as he tried to get out of bed. His legs were so weak he could barely move. Over the next two days, the pain got worse, even with his mother’s constant massaging. After a series of tests, polio was confirmed as the cause of Gafo’s paralysis.

Gafo’s parents understand that his paralysis has no cure, but they are determined to minimize his difficulty in moving with regular therapy from his new friend, Dr Winnie Sadua at Angau Memorial General Hospital.

His parents feel that Gafo has been instrumental in raising awareness of polio in Papua New Guinea. His plight paved the way for more children trooping to vaccination sites when the Government launched mass polio vaccinations as part of the outbreak response.

“My son may not have the normal life we prayed for, but he will always be an exceptional boy,” said Gafo’s mother Soya. “What happened to my son has increased awareness of polio and many mothers are having their children vaccinated, saving these children from lifelong paralysis.”

Morobe Provincial Polio Response Coordinator, Mr Micah Yawing, echoed the sentiment: “This boy is a gift to the children of Papua New Guinea. Because of him, we are able to vaccinate and protect many children in Morobe Province. If it wasn’t for this kid, we probably still wouldn’t know that we have an outbreak on our hands. I hope that we can find the support he needs, especially for his education.”

In early September, Gafo was unable to walk. He had to be carried everywhere. Now with help from the Morobe Provincial Health Office and Angau Memorial General Hospital, Gafo receives regular check-ups and therapy. He still cannot run. But he has developed a unique gait, moving rapidly to keep up with his friends and his sister Sola.

Next year, Gafo will start school. The thought lights him up with excitement: “I want to become a doctor, giving injections to children and making them feel better when they are sick.” His parents hope that, with support from the Government and others, Gafo will receive a good education so that his dreams can come true.

This story has been extracted from a report on the first 100 days of the polio response in Papua New Guinea, published in September 2018.
Four-year-old Marla Gee has much bigger responsibilities than any other child her age. Ever since her mother passed away, she has taken on the task of caring for her 2-year-old brother while their father works in his coffee garden. On an ordinary day, she cooks kaukau (sweet potato) in a small pot for her family’s meals, washes clothes in the river and attends to the needs of her brother.

In late August 2018, Marla Gee woke up unable to walk and both her legs were paralyzed. After days of being in pain, her uncle who is a village councilor, reported her condition to the Provincial Health Authority. Upon investigation and laboratory tests, Marla Gee was confirmed to have polio in mid-September.

When we visited Marla Gee in Jiwaka in early November, she just finished washing clothes and cooking for her brother. In fact, the stones in the hauskuk (kitchen) were still hot, with ambers slightly burning, ready to be rekindled if need be for their next meal which remained uncertain depending on what her father brings from the farm. She is set to play with Ana, her 3-year-old best friend in the village.

Marla Gee is in tremendous and constant pain and she walks with a stick. Polio has made her a sad child and she cries most times. She did not know what polio was, aside from the fact that it made her life much more difficult. And in the midst of pain, Marla still carries the heavy weight of her responsibilities which are way beyond her years.

“I stopped dreaming for my son”, Antonette said when we sat down with her for a chat. “When my son George was diagnosed with polio, I know there is no more future for him”.

Three-year-old George is the first child diagnosed with polio in a little town of Terapo in the Gulf Province. He first had fever and muscle pain in late August. When the health worker Melanie who visits their village noticed the limp when he walked, he was brought to Kerema Hospital. George had paralysis in his right leg and was later confirmed positive for polio.

George’s family lives in a community where they take care of each other. He may walk and run with a limp, but his friends have continued playing with him and support him whenever he falls. Seeing this acceptance from the community encourages Antonette to remain hopeful about her son’s future.
Five-year-old Thyron lives in a crowded settlement in Port Moresby where most of his days are spent playing with friends. As they do not own a television, Thyron crosses over to his neighbour’s house to watch his favourite cartoon show with his friends. His sisters call him home whenever it is time for dinner.

When Thyron was confirmed positive for polio in early August 2018, his life changed. His friends stopped playing with him, he was no longer allowed by the neighbour to watch television, and his sisters even refused to eat or come near him. The social stigma and rejection proved to be more painful than polio itself.

Thyron’s mother heard about the polio outbreak when it was declared in June. However, she did not expect it would come to her home and would bring tremendous pain to her youngest child. With community dialogue, Thyron’s friends have started to play with him once again, and his mother has been proactively convincing other mothers to get their children vaccinated.

Liona Kenos is barely 2 years old – but her face lights up every time someone takes her photograph. She giggled when she learned how to take “selfie” photos and saw her face on a cellphone screen.

As a very active and cheerful girl, Liona loves running around her backyard. But her movement became limited when she had weakness in both her legs in early August. Thinking it was malaria, Liona’s parents brought her to the hospital in Goroka where she was confined for a week. After a month, her parents were informed that Liona tested positive for polio.

Liona now walks with a limp, but she does not allow polio to slow her down. She continues to be adventurous, but now with much difficulty. Her father Rensha worries that Liona’s one leg will be bent or shorter than the other. Her right leg goes sideways, and she pulls and drags it when she walks.

Liona did not complete her routine immunizations as their family changed residence multiple times since she was born – much to the regret of her parents.
Since the announcement of the polio outbreak in Papua New Guinea in June 2018, there have been 26 confirmed polio cases (19 males and seven females) affecting children in nine provinces:

<table>
<thead>
<tr>
<th>Province</th>
<th>Number of Polio Cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eastern Highlands Province</td>
<td>6</td>
</tr>
<tr>
<td>Enga</td>
<td>5</td>
</tr>
<tr>
<td>East Sepik</td>
<td>4</td>
</tr>
<tr>
<td>Morobe</td>
<td>3</td>
</tr>
<tr>
<td>Madang</td>
<td>3</td>
</tr>
<tr>
<td>Jiwaka</td>
<td>2</td>
</tr>
<tr>
<td>Southern Highlands Province</td>
<td>1</td>
</tr>
<tr>
<td>National Capital District</td>
<td>1</td>
</tr>
<tr>
<td>Gulf</td>
<td>1</td>
</tr>
</tbody>
</table>

In addition, out of the 27 environmental samples tested for poliovirus from the National Capital District and Morobe, seven tested positive for the poliovirus: Gerehu (3); Waigani (3) and Joyce Bay (1).
The overall management of the polio outbreak response is led by the Government of Papua New Guinea, through the National Department of Health at the national level and the Provincial Health Authorities/Offices at the provincial level. The World Health Organization (WHO) and United Nations Children’s Fund (UNICEF) provide technical and financial support to the response operations.
The National Emergency Operations Centre (NEOC) was activated on 27 June 2018, a day after the Public Health Emergency was declared. The National EOC serves as the nerve center that connects and supports the functionality of the provincial EOCs. It connects people and expertise to deliver the key functions in the Incident Management System (IMS).

The NEOC serves as command-and-control mechanism critical in managing the polio response at the strategic, technical and operational levels.

With support from WHO, all 22 provinces of Papua New Guinea have established EOCs to serve as hub for structured and coordinated response activities. The provincial EOCs are linked to the National EOC based in Port Moresby.
PROVINCIAL EMERGENCY OPERATIONS CENTRES: EMPOWERING LOCAL AUTHORITIES IN FIELD OPERATIONS

“The EOCs were instrumental in the success of the polio campaign. The EOCs ensured effective planning, monitoring, reporting and made mid-course corrections in the campaign strategies.”

Feedback from the Provinces Campaign Review Meeting, 10 August 2018

At the Helm of Government Leadership in the Papua New Guinea Polio Outbreak Response: Dr Sibauk Vivaldo Bieb

Since the start of the polio outbreak response in June 2018, Dr Bieb has been leading a huge group of national and international polio experts in the day-to-day management of the response operation as the National Outbreak Response Coordinator. A medical doctor by profession, Dr Bieb is the Executive Manager for Public Health at the National Department of Health. A strong advocate of professionalism, commitment, innovation and teamwork, Dr Bieb leads by example and implements strategies that are evidence-based and people-centred.

“In the midst of the polio emergency, Papua New Guinea implemented innovative approaches in such tight schedules. The EOCs at the national and provincial levels mobilized more than 12,000 polio workers and worked together to vaccinate our children against polio. The job of the EOC is not yet done – more work and challenges are ahead of us until our country becomes polio-free again”

The NEOC is co-chaired by WHO-GPEI, represented by Mr Keith Feldon.
The National EOC receives reports from multiple sources on a daily basis. Key sources of information are the provincial EOCs, technical team leaders, surveillance officers, health workers, stakeholders, media organizations and the general public. Key updates are synthesized for presentation in daily morning meetings and are used in decision-making, risk assessment, agreement on action points and for dissemination to the partners and the public.

Weekly situation reports are issued to summarize highlights of the polio response operations. Since the start of the outbreak, 29 internal situation reports have been produced in 2018. These reports have been circulated to the senior management and technical teams for use in risk assessment and decision-making and have also become the basis for the development of external communication products such as media releases, web updates and social media posts.

**Information Sources**
- Provincial Emergency Operations Centres
- Surveillance officers
- Hospitals, health facilities and health workers
- Doctors and clinicians
- Laboratories
- Social mobilizers and vaccinators
- Local non governmental organizations (NGOs)
- Media monitoring results
- Inquiries from the public

**National Emergency Operation Centre in Port Moresby**

*Collates the information on a daily basis for:*
- Decision-making on issues
- Management of operations (financing and deployment of personnel, supplies and materials)
- Policy guidance such as issuance of advisories
- Development of communication products

**Situation Reports**
- 29 internal situation reports issued – distributed to all levels of the implementing organizations

**Communication Products**
- Media releases, media conferences, partner updates, web products, social media posts, etc.
- Documentation of activities and progress
Five rounds of the polio vaccination campaign were organized in 2018 in response to the polio outbreak. Two nationwide campaigns covering 3.2 million children were conducted in October and November while three subnational campaigns were carried out in July, August and December.

By the end of 2018, the polio vaccination coverage in the country reached 97%, with majority of the provinces achieving remarkable improvements in coverage compared to before the commencement of the outbreak emergency response.

Below is the summary of children vaccinated per every round of the campaign.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Morobe</td>
<td>126 312</td>
<td>128 439</td>
<td>309 188</td>
<td>314 106</td>
<td></td>
</tr>
<tr>
<td>Madang</td>
<td>82 705</td>
<td>94 270</td>
<td>249 730</td>
<td>245 958</td>
<td></td>
</tr>
<tr>
<td>Eastern Highlands</td>
<td>94 890</td>
<td>97 062</td>
<td>250 659</td>
<td>276 573</td>
<td></td>
</tr>
<tr>
<td>Western Highlands</td>
<td>57 875</td>
<td>155 692</td>
<td></td>
<td>160 323</td>
<td></td>
</tr>
<tr>
<td>Southern Highlands</td>
<td>89 505</td>
<td>200 659</td>
<td></td>
<td>218 244</td>
<td></td>
</tr>
<tr>
<td>Jiwaka</td>
<td>55 464</td>
<td>156 859</td>
<td></td>
<td>167 126</td>
<td></td>
</tr>
<tr>
<td>Enga</td>
<td>72 492</td>
<td>162 034</td>
<td></td>
<td>174 770</td>
<td>59 683</td>
</tr>
<tr>
<td>Chimbu</td>
<td>53 897</td>
<td>127 048</td>
<td></td>
<td>145 053</td>
<td></td>
</tr>
<tr>
<td>Hela</td>
<td>41 949</td>
<td>108 178</td>
<td></td>
<td>107 178</td>
<td></td>
</tr>
<tr>
<td>Bougainville</td>
<td>117 937</td>
<td>125 916</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Central</td>
<td>122 839</td>
<td>126 470</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>East New Britain</td>
<td>140 805</td>
<td>144 829</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>East Sepik</td>
<td>192 797</td>
<td>196 871</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gulf</td>
<td>63 502</td>
<td>67 105</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Manus</td>
<td>23 691</td>
<td>26 754</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Milne Bay</td>
<td>129 432</td>
<td>132 338</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>National Capital District</td>
<td>181 285</td>
<td>178 587</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>New Ireland</td>
<td>75 574</td>
<td>69 332</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oro</td>
<td>78 796</td>
<td>90 339</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>West New Britain</td>
<td>117 463</td>
<td>122 091</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>West Sepik</td>
<td>104 117</td>
<td>114 286</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Western</td>
<td>72 825</td>
<td>87 876</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total number of children vaccinated</td>
<td>303 907</td>
<td>690 953</td>
<td>3 141 102</td>
<td>3 292 125</td>
<td>432 661</td>
</tr>
</tbody>
</table>

* covers <20 years old
Polio vaccination coverage for children under 15 years by province
(24 September–14 October 2018)

Polio vaccination coverage for children under 15 years by province
(29 October–18 November 2018)

In some provinces, there were more children vaccinated than the target population due to migration, and constant movement of people in urban areas and transit communities.
In addition to polio vaccine, children 6–59 months were given Vitamin A supplement during the first nationwide campaign in October 2018. Vitamin A protects children from severe measles complications, night blindness and gastrointestinal disorder. Vitamin A also boosts children’s immunity.

Vitamin A coverage for children 6–59 months by province

In some provinces, there were more children who received Vitamin A supplement than the target population due to migration, and constant movement of people in urban areas and transit communities.
A key strategy of the polio vaccination campaign in Papua New Guinea was the conduct of rapid convenience monitoring (RCM) that finds unvaccinated children missed by the vaccination teams. RCM is conducted by independent monitors who come to communities and visit houses, schools and transit points such as markets, bus stations, boat stations, churches and congregations focusing on high-risk areas to identify missed children as well as missed areas, if any.

The RCM provides information on the quality of the campaign in the form of “percent of missed children” in each district, each province and at the national level. This monitoring provides specific information on where the missed children are located, which is immediately actionable for the provincial health authorities in the form of conducting a “mop-up” house-to-house vaccination activity by teams in the specific village or urban locality or school in a district.

The RCM results for the two rounds of the nationwide campaigns in 2018 are summarized below.

**Percentage missed children during RCM activities**

<table>
<thead>
<tr>
<th>House-to-house RCM</th>
<th>School-based RCM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percentage of children missed</td>
<td></td>
</tr>
<tr>
<td>&gt;20%</td>
<td>&gt;20%</td>
</tr>
<tr>
<td>10–20%</td>
<td>10–20%</td>
</tr>
<tr>
<td>&lt;10%</td>
<td>&lt;10%</td>
</tr>
</tbody>
</table>

PAPUA NEW GUINEA POLIO OUTBREAK RESPONSE 2018
IDENTIFYING POLIO CASES: SURVEILLANCE SYSTEM FOR ACUTE FLACCID PARALYSIS

One of the key interventions for outbreak response is to put in place a system for enhanced surveillance for acute flaccid paralysis (AFP) or “suspected polio cases”. Surveillance officers, graduates of the field epidemiology training programme (FETP), pediatricians, clinicians and surveillance focal persons have been trained to identify and investigate AFP cases in the field, collect stool specimens for laboratory testing, actively search for cases and conduct medical record reviews.

In 2018, there were 310 reported AFP cases. Of these AFP cases, Papua New Guinea had confirmed a total of 26 cases of polio by the end of December 2018 affecting nine provinces: Eastern Highlands (6), Enga (5), East Sepik (4), Morobe (3), Madang (3), Jiwaka (2), Southern Highlands (1), National Capital District (1), Gulf (1).
To supplement AFP surveillance system, a team from NDOH and WHO is also monitoring poliovirus in human populations.

Out of the 27 environmental samples tested for poliovirus since the start of the outbreak, from the National Capital District and Morobe, seven tested positive: Gerehu (3), Waigani (3) and Joyce Bay (1).

The Central Public Health Laboratory (CPHL) surveillance unit, the WHO-accredited National Reference Laboratory based in Port Moresby, assists in sending environmental samples (sewage) to the Philippines for polio culture.

Papua New Guinea is the fourth country in the Western Pacific Region to establish environmental surveillance. To build capacity in-county, WHO conducted laboratory training with participants from CPHL and Angau General Memorial Hospital laboratory, in Manila, Philippines on 24–26 September 2018.

**Papua New Guinea: Environmental Surveillance**

<table>
<thead>
<tr>
<th>COLLECTION SITE</th>
<th>Epi-Week of sample collection 2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gerehu Sewer Lagoon</td>
<td></td>
</tr>
<tr>
<td>Waigani Sewer</td>
<td></td>
</tr>
<tr>
<td>Joyce Bay Sewerage</td>
<td></td>
</tr>
<tr>
<td>Lae Main Treatment Plant</td>
<td></td>
</tr>
<tr>
<td>Tarka Sewage Lagoon</td>
<td></td>
</tr>
</tbody>
</table>

- Red: Positive for VDPV1
- Green: Negative environmental isolate for VDPV1
LABORATORY TESTING OF POLIOVIRUS

For every case of AFP, stool specimens are collected at the provincial level and shipped to the CPHL surveillance unit, the WHO-accredited National Reference Laboratory based in Port Moresby.

CPHL ensures that the stool samples collected by clinicians around Papua New Guinea are properly labelled, packed and shipped to the Victorian Infectious Diseases Reference Laboratory (VIDRL), a WHO Polio Regional Reference Laboratory located at the Doherty Institute, Melbourne, Australia.

More than 743 stool samples have been received at the Doherty Institute from AFP cases and contacts of AFP cases from the time the polio outbreak was declared in Papua New Guinea in June until the end of December 2018. It usually takes 14 days for the laboratory to test the samples they receive.

Once the poliovirus is confirmed, further genetic analysis is made at the US-CDC.
COMMUNICATING RISK OF POLIO: BEING FIRST, FREQUENT AND FACTUAL

Trust building and driving demand for vaccination were the key outcomes of the risk communication response for the polio outbreak in Papua New Guinea. A multi-platform approach was used to engage with the public across audiences – maximizing both traditional media (radio, television, posters, flyers), social media (Facebook, WhatsApp, text messaging) and interpersonal communication with polio workers (messaging by health workers).

Media was actively involved in disseminating information about vaccination. WHO supported NDOH in putting in place a system to engage with media, with spokespersons identified at the national and provincial levels. As part of the outbreak response in 2018, there were 12 press conferences and two media orientations held to provide the media with in-depth information on polio and reporting the news.

Rumours and occasional reports of misinformation and stigmatization of children with polio were immediately addressed in various platforms.
The polio outbreak brought renewed challenges in protecting children from polio and interrupting circulation of the poliovirus. UNICEF supported the vaccination campaigns by deploying 14 international polio experts, including to the most affected provinces.

UNICEF also supported an extensive social mobilization, communication and advocacy programme for the polio outbreak response. Some 110,500 posters, 140,000 flyers, 1,750 banners, 1,550 loud hailers and 40,000 leaflets were distributed in communities to build awareness about polio vaccination.

WHO supported NDOH in the development of posters, radio announcements and infographics that were used at the start of the outbreak response in July 2018. WHO printed 5,000 posters for use in the three provinces where the campaign began: Eastern Highlands, Madang and Morobe. In addition, 5,000 posters and flyers to support the efforts of surveillance officers in identifying polio cases were developed for use in all health facilities.

The eight international communication-for-development consultants who were recruited for the response provided support to the provincial EOCs in the implementation of social mobilization activities, held more than 25 advocacy events and conducted over 1,500 “sensitization” activities across the country. Over 2,000 health workers and community health volunteers were trained in polio outbreak response campaign communication and encouraged to support the nationwide campaign. To build community awareness, UNICEF worked with Digicel Telecommunication, which donated SMS “blasts” that reached some 500,000 people. Prior to and during the campaigns, WHO and UNICEF supported the development of polio “jingles” for radio that announced the dates of the campaign rounds in all national and most regional stations.
Polio social mobilization and advocacy activities succeeded in engaging a wide range of stakeholders and actors at the national and provincial levels, including various church and tribal leaders, teachers, ward councillors, private-sector representatives, NGOs, telecommunications companies, and youth and women groups. Mapping of the main stakeholders was conducted in the most at-risk provinces to ensure their engagement in the second phase of the response in 2019. Focus group discussions and other social data were gathered to ensure evidence-based, communication-for-development programming for the second phase of the polio response.

Collecting social data using Global Social Data Collection tools was an important part of the communication plan. Collected data helped partners to better understand parents’ concerns about polio immunization, as well as to identify some of the behavioural trends in the communities. UNICEF facilitated collection of social data during the 2018 polio campaign and analysed it to design the 2019 Polio Outbreak Response Communication Strategy for Papua New Guinea.
In 2018, the Global Polio Eradication Initiative marked its 30th year. While the world saw the lowest case count of wild polio in history in 2017, transmission has continued into 2018 and challenges in reaching children with the vaccine remain in some countries.

As Papua New Guinea is in the middle of a polio outbreak, World Polio Day was marked with series of activities to further increase awareness on the risk of polio and what can people do to mitigate the risk. Some of the activities held from 24 to 28 October 2018, included the following:

- Children’s painting exhibit at Vision City Mall showcasing the work of the students from Waigani Primary School and Wards Strip Demo School. These paintings were children’s interpretation of how the country can be polio-free again.

- Media conference to increase awareness on polio and announce coverage of the nationwide campaign.

- Polio Vaccination at the mall.

Vaccinating more than 3.2 million children below 15 years with two drops of polio vaccine is a milestone achievement in the history of Papua New Guinea.

In support of the successful polio outbreak response campaigns, UNICEF procured and distributed 10.3 million doses of bi-valent Oral Polio Vaccine (bOPV). During the preparation and implementation of the campaigns, UNICEF provided support to the Government in building capacity and ensuring bottom-up micro-planning, effective vaccine and logistics distribution and management, and the conduct of polio immunization outreach across the country.

To ensure proper storage and handling of vaccines, installation of over 50 new refrigerators, walk-in cold rooms at the national store, procurement and distribution of 250 vaccine carriers, and the repair of over 20 faulty vaccine refrigerators were fast tracked.

Finger markers, supplies and other materials were also distributed to the provinces for use in the campaign.
Front-line polio workers in Papua New Guinea spent long hours in the field, took small boats to cross rivers and seas, navigated mountains for days and flew in helicopters in order reach every child and protect them from polio.

Many provinces used helicopters to carry polio workers, vaccines and other supplies to mountainous and hard-to-reach districts. Health workers stayed in those districts for days, walked long distances to reach mountainous villages, conducted house-to-house vaccinations, and then waited for the helicopter to come back to pick them up.

At the border of Sepik and Enga Provinces, James Malken of Wewak Provincial Health Authority navigates down a slippery hill in an effort to reach the community of Awari, Maramuni, one of the remotest and most inaccessible areas in Papua New Guinea.
Polio vaccinations in Papua New Guinea were done by polio heroes through various strategies:

- fixed sites (aid posts, health centres, hospitals and market posts)
- mobile sessions (house-to-house and roadside services)
- outreach activities (travelling to hard-to-reach areas by walking, taking a boat or chopper and staying for days and weeks in the villages to vaccinate children)
- special sessions in markets, bus stops, beach areas, churches and other community gatherings
In mid-November 2018, a team from the Madang Provincial Health Authority travelled by road for hours and flew in by helicopter for more than an hour to reach the Hagahai tribe, one of the most isolated ethnic groups in Papua New Guinea. The tribe which lives in the fringe highlands of Madang Province and only established outside contact in the 1980s, is only accessible by helicopter.

The Madang team sent vaccines and vaccinators to the village to ensure that children in the Hagahai community get vaccinated against polio, and to ensure that no one is left behind wherever they are.
The Bougainville Healthy Community Programme Initiative is a 15-year-old programme that was organized at the time of leprosy and is funded by New Zealand.

The volunteer network has been integrated into the National Department of Health and have been mobilized for all health-related issues, including polio.

The volunteers live in the community – embedded in community structures and highly respected.

In 2018, there were 3180 highly trained members who serve as mobilizers/vaccinators/surveillance officers.

This community-based health workforce is the key driver for high vaccination coverage in the Bougainville and is considered one of the success factors for the province.
Women take key responsibilities in the polio outbreak response in Papua New Guinea. There are women immunization programme managers, surveillance officers, vaccinators, social mobilizers, communication specialists, logisticians and finance managers. They deliver key services that contribute to the successful implementation of the response operations in the country.

Dr Fiona Kupe
Paediatric Specialist Medical Officer, Gerehu General Hospital
National Capital District

Fiona is a medical doctor and takes multiple responsibilities in the polio outbreak response in the capital city of Papua New Guinea. She ensures children in Port Moresby are vaccinated against polio, that the surveillance system is functional to detect and identify any case of polio, and that the community is aware of the risk of polio and parents are mobilized to take action and vaccinate their children.

Particia Mitiel Gahanao
Provincial Emergency Operations Centre
Morobe Province

“Since we started the polio campaign in July, I usually come to work as early as 4:00 in the morning to supervise the polio teams that will be deployed to the field, manage the vaccine distribution to districts and health facilities, and monitor logistics and cold chain. At the end of the day, we stay up late to summarize the reports from the vaccination teams and send back to the provincial and national EOCs. On most days, I also travel to the field to monitor the campaign. We spend long hours and it can be tiring, but we draw inspiration that these sacrifices are all for the children of Morobe and the country.”

Melanie Serei
Community Health Worker, Terapo
Gulf Province

Melanie Serei is a health worker in a small village of Terapo in Kerema, Gulf Province. She periodically conducts house-to-house checks on the health status of the children in the village. When she noticed paralysis in one of the children, she convinced the parents to have the child tested. After the child was confirmed for polio, Melanie conducted regular follow-up on the child and explained to the community the risk of polio. Most days, Melanie is accompanied by her dog during her walks in the community.

Zerah Lauwo
Financial Controller, Health Services Improvement Programme (HSIP)
NDOH Papua New Guinea

Papua New Guinea manages millions of dollars of external and national funding for the polio outbreak response. At the forefront managing these funds is Zerah Luwo, a financial controller from NDOH–HSIP. Zerah ensures that polio funds reach the provinces and are disbursed all the way to the health-facility level. Zerah also guides the provincial counterparts in accountable and responsible use and reporting of the funds received.
Representatives from Papua New Guinea and Indonesia agreed on cross-border measures to prevent the spread of polio, measles, rubella and other vaccine-preventable diseases between two countries during their meeting on 13 September in Port Moresby.

The cross-border meeting aimed to enhance coordination and collaboration between countries and strengthen surveillance across the border through regular exchange of surveillance and immunization information.

Travel advisories on polio vaccination were also issued, especially as part of preparedness for the November 2018 Asia-Pacific Economic Cooperation meeting.

“The meeting was critical as Indonesia is our strategic neighbour. The collaboration between our countries will enable us to jointly protect both our citizens from infectious diseases. Working together ensures our public health measures are coordinated as per recommendations of the International Health Regulations.”

Dr Sibauk Vivaldo Bieb
Acting Deputy Secretary and National Polio Response Coordinator of NDOH Papua New Guinea
In 2018, more than 130 international polio workers from WHO, UNICEF and US-CDC were deployed to Papua New Guinea, covering the following areas of expertise: coordination, outbreak management, surveillance, immunization, risk communication, vaccine management, communication for development, health operations and logistics, finance, administration and others.

Most of these experts stayed for short-term assignments as emergency deployments. However, more than 30 were deployed long-term to provincial EOCs as advisers and provided key functions at the national EOC.

National experts and administrative staff at the WHO country office in Papua New Guinea continue to provide day-to-day logistical and administrative support such as transport, procurement, etc.
Papua New Guinea received a significant amount of financial support from international partners for the polio outbreak response. At the forefront of managing these resources is the Health Services Improvement Programme (HSIP), an approach to the management of development partner funds in the health sector. HSIP operates from NDOH and uses Government-led processes and mechanisms that are robust, accountable, of high standard, and capable of directing all resources (both Government and development partners) to improving health services in Papua New Guinea.

In 2018, the HSIP mechanism managed more than 40 million Kina (about US$ 12.5 million) received from WHO, UNICEF and the Government for the polio outbreak response. Based on the provincial micro-plans, budgets were transferred from the HSIP Parent Trust Account (HSIP TA) to the provincial HSIP Subsidiary Trust Accounts. The HSIP officers in the provinces processed the payments to the district level and then to all the health facilities.

The polio outbreak response stretched the very small HSIP team – there were daily pressures to ensure that money was available to the health facilities in every round of the campaign. The efficient delivery of these services showed that the existing Government system for financial management is sufficiently robust and is considered one of the success factors of the response.
In 2018, the total estimated budget for the Papua New Guinea Polio Outbreak Response Plan was US$ 18 million, against which the Government committed approximately US$ 2.2 million (PNG Kina 6.7 million), releasing PNG Kina 2 million for the first and second rounds of the vaccination campaign.

Financial support for the outbreak response was provided by the Bill & Melinda Gates Foundation, Rotary International, EasyJet, the National Philanthropic Trust, the UN Foundation and by the Governments of Australia, Canada, Papua New Guinea, the Republic of Korea, the United Kingdom of Great Britain and Northern Ireland, and the United States of America (through the United States Agency for International Development).

The Global Polio Eradication Initiative, spearheaded by national governments, WHO, Rotary International, US CDC and UNICEF, will continue to work with donors to secure the urgently required outbreak response funding for 2019.
An independent group of international experts visited Papua New Guinea from 3 to 7 December 2018 to conduct the Polio Outbreak Response Assessment (OBRA). OBRA is usually conducted at least three months after confirmation of an outbreak. It is intended to assess the quality of outbreak response, to assist in improving quality of the supplementary immunization activities (SIAs) and sensitivity of surveillance, in an effort to interrupt virus transmission.

The OBRA team visited six provinces during the mission and interacted with national and provincial teams in gathering evidence for the assessment and developing recommendations. The overall conclusions of OBRA included:

- The Papua New Guinea national and international polio partnership has been very successful in rapidly initiating and closely coordinating wide-ranging activities to respond to the polio outbreak in the country.
- OBRA acknowledged the great fundraising effort for Papua New Guinea; it is urgent that this level of support is maintained through Phase 2 of the outbreak response.
- The surveillance results (most recent virus and environment samples as 6 November 2018) indicate that transmission is ongoing and that even stronger efforts are needed to improve the quality of SIAs, which still miss too many children.
- Further increases in surveillance sensitivity are required to reliably monitor the impact of SIAs, as well as progress towards interrupting transmission.
The National Department of Health, with support from WHO, UNICEF and other partners in GPEI, has set the following priorities for 2019:

- Stop the transmission of poliovirus by implementing three high-quality polio vaccination campaigns in the first six months of the year.
- Rapidly improve measles vaccine coverage in children under 5 years by an innovative combination of measles-rubella vaccine and polio vaccine in the June round of the vaccination campaign.
- Strengthen routine immunization delivery across the country by leveraging on the polio campaign and the declaration of the Government of Papua New Guinea of 2019 as the Year of Immunization.
- Focus in the second half of the year on enhancing surveillance and establishing a sensitive surveillance system for vaccine-preventable diseases.

February–March 2019
National Immunization
(polio and routine immunization)

April 2019
National Immunization
(polio, Vitamin A and routine immunization)

June 2019
National Immunization
(polio, measles-rubella and routine immunization)

WHO Regional Director for the Western Pacific, Dr Takeshi Kasai, reaffirmed WHO’s continuing commitment and support to Papua New Guinea in ending polio in the country and in strengthening routine immunization during his meeting with the Prime Minister Hon. Peter O’Neil. Dr Kasai also launched the second phase of the response operations in Eastern Highlands Province and helped vaccinate children in Lufa District.

Karin Hulshof, UNICEF Regional Director for East Asia and the Pacific, gives polio vaccine to a child on a visit to a school in Topa, Mendi, Southern Highlands Province in March 2019. @Kate Holt/Photo UNICEF/2019/Kate Holt

There were more children vaccinated than the target population due to migration, and constant movement of people in urban areas and transit communities.
PAPUA NEW GUINEA POLIO OUTBREAK RESPONSE 2018: SOUTHERN HIGHLANDS

1 confirmed case
3 rounds of polio campaign
404 polio workers

Number of children vaccinated

<table>
<thead>
<tr>
<th>Round 1</th>
<th>Rounds 2 &amp; 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>89,369</td>
<td>239,382</td>
</tr>
</tbody>
</table>

Vaccinated

<table>
<thead>
<tr>
<th>ROUNDS</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>89,505 (100%)</td>
</tr>
<tr>
<td>2</td>
<td>200,651 (84%)</td>
</tr>
<tr>
<td>3</td>
<td>218,244 (91%)</td>
</tr>
</tbody>
</table>

Target

<table>
<thead>
<tr>
<th>ROUNDS</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>89,369</td>
</tr>
<tr>
<td>2</td>
<td>239,382</td>
</tr>
<tr>
<td>3</td>
<td>239,382</td>
</tr>
</tbody>
</table>

LEGEND:
- Vaccinated
- Target

Estimated cost for the province

<table>
<thead>
<tr>
<th>Estimated cost for the province</th>
<th>International funding received from WHO and UNICEF</th>
<th>National and local funding</th>
<th>Oil search supported chopper transportation for vaccines and vaccinators</th>
</tr>
</thead>
<tbody>
<tr>
<td>PGK 2,484,846</td>
<td>WHO: PGK 2,365,646</td>
<td>UNICEF: PGK 119,200</td>
<td></td>
</tr>
</tbody>
</table>

Target population

<table>
<thead>
<tr>
<th>ROUNDS</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>89,369</td>
</tr>
<tr>
<td>2</td>
<td>239,382</td>
</tr>
<tr>
<td>3</td>
<td>239,382</td>
</tr>
</tbody>
</table>

Target population

<table>
<thead>
<tr>
<th>ROUNDS</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>89,369</td>
</tr>
<tr>
<td>2</td>
<td>239,382</td>
</tr>
<tr>
<td>3</td>
<td>239,382</td>
</tr>
</tbody>
</table>

20 Aug–9 Sep, 1–14 Oct, 5–18 Nov

International funding received from WHO and UNICEF

<table>
<thead>
<tr>
<th>International funding received from WHO and UNICEF</th>
<th>National and local funding</th>
<th>Oil search supported chopper transportation for vaccines and vaccinators</th>
</tr>
</thead>
<tbody>
<tr>
<td>WHO: PGK 2,365,646</td>
<td>UNICEF: PGK 119,200</td>
<td></td>
</tr>
</tbody>
</table>

PGK 2,484,846

Oil search supported chopper transportation for vaccines and vaccinators
PAPUA NEW GUINEA POLIO OUTBREAK RESPONSE 2018: WESTERN HIGHLANDS

0 confirmed case
3 rounds of polio campaign
764 polio workers

Round 1: 63,553
Rounds 2 & 3: 170,232

Target population

LEGEND:
- Vaccinated
- Target

Number of children vaccinated

- < 5 years old
- < 15 years old

<table>
<thead>
<tr>
<th>Rounds</th>
<th>20 Aug–9 Sep</th>
<th>1–14 Oct</th>
<th>5–18 Nov</th>
</tr>
</thead>
<tbody>
<tr>
<td>Round 1</td>
<td>57,875 (91%)</td>
<td>155,692 (91%)</td>
<td>160,323 (94%)</td>
</tr>
</tbody>
</table>

Estimated cost for the province
PGK 1,886,811

International funding received from WHO and UNICEF

WHO: PGK 1,777,211
UNICEF: PGK 109,600
PAPUA NEW GUINEA POLIO OUTBREAK RESPONSE 2018: CHIMBU

0 confirmed case
3 rounds of polio campaign
66,869 Round 1
179,113 Rounds 2 & 3 target population
472 polio workers

Vaccination by round:
- Round 1: 53,897 (81%) vaccinated, 127,048 (71%) target population
- Round 2: 145,053 (81%) vaccinated

Number of children vaccinated:
- < 5 years old: Round 1: 53,897 (81%), Round 2: 127,048 (71%), Round 3: 145,053 (81%)
- < 15 years old: Round 1: 127,048 (71%), Round 2 & 3: 272,061 (81%)

Estimated cost for the province:
- International funding received from WHO and UNICEF: PGK 2,156,518
- WHO: PGK 1,583,913
- UNICEF: PGK 114,400

National and local funding:
- National: PGK 302,205
- Local: PGK 156,000 from the Health Functional and MP Grants
PAPUA NEW GUINEA POLIO OUTBREAK RESPONSE 2018: ENGA

- **5 confirmed cases**
- **4 rounds of polio campaign**
- **492 polio workers**

### Vaccination Campaign Targets

<table>
<thead>
<tr>
<th>Rounds</th>
<th>Target Population</th>
<th>Vaccinated</th>
<th>Coverage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>20 Aug–9 Sep &lt; 5 years old</td>
<td>72,492</td>
<td>94%</td>
</tr>
<tr>
<td>2</td>
<td>1–14 Oct &lt; 15 years old</td>
<td>162,034</td>
<td>78%</td>
</tr>
<tr>
<td>3</td>
<td>5–18 Nov &lt; 15 years old</td>
<td>174,770</td>
<td>84%</td>
</tr>
<tr>
<td>4</td>
<td>26 Nov–22 Dec &lt; 15 years old</td>
<td>59,683</td>
<td>98%</td>
</tr>
</tbody>
</table>

### Estimated Cost for the Province

<table>
<thead>
<tr>
<th>Source</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>International funding</td>
<td></td>
</tr>
<tr>
<td>WHO</td>
<td>PGK 1,988,477</td>
</tr>
<tr>
<td>UNICEF</td>
<td>PGK 104,800</td>
</tr>
<tr>
<td>National and local</td>
<td></td>
</tr>
<tr>
<td>National</td>
<td>PGK 263,726</td>
</tr>
<tr>
<td>Local</td>
<td>PGK 200,000</td>
</tr>
</tbody>
</table>

*Remarks: *National funding includes PGK 200,000 from Provincial Government for chopper transportation of vaccines and vaccinators.
## Papua New Guinea Polio Outbreak Response 2018: HeLa

### Key Figures
- **0** confirmed case
- **3** rounds of polio campaign
- **107,178** (96%) vaccinated
- **428** polio workers

### Vaccination Rounds

<table>
<thead>
<tr>
<th>Round</th>
<th>Target Population</th>
<th>Vaccinated</th>
<th>Coverage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>42,188</td>
<td>41,949</td>
<td>99%</td>
</tr>
<tr>
<td>2</td>
<td>113,005</td>
<td>108,178</td>
<td>96%</td>
</tr>
<tr>
<td>3</td>
<td>113,005</td>
<td>107,178</td>
<td>95%</td>
</tr>
</tbody>
</table>

### Number of Children Vaccinated

<table>
<thead>
<tr>
<th>Round</th>
<th>&lt; 5 years old</th>
<th>&lt; 15 years old</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>20 Aug–9 Sep</td>
<td>41,949 (99%)</td>
</tr>
<tr>
<td>2</td>
<td>1–14 Oct</td>
<td>108,178 (96%)</td>
</tr>
<tr>
<td>3</td>
<td>5–18 Nov</td>
<td>107,178 (95%)</td>
</tr>
</tbody>
</table>

### Estimated Cost for the Province

<table>
<thead>
<tr>
<th>Category</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Estimated cost for the province</td>
<td>PGK 1,792,360</td>
</tr>
<tr>
<td>International funding</td>
<td></td>
</tr>
<tr>
<td>WHO</td>
<td>PGK 1,694,760</td>
</tr>
<tr>
<td>UNICEF</td>
<td>PGK 97,600</td>
</tr>
<tr>
<td>National and local funding</td>
<td></td>
</tr>
<tr>
<td>Oil search supported</td>
<td></td>
</tr>
<tr>
<td>in transporting vaccines and</td>
<td></td>
</tr>
<tr>
<td>vaccinators by chopper</td>
<td></td>
</tr>
</tbody>
</table>

---

*Note: The information above is a summary and may not include all details from the document.*
PAPUA NEW GUINEA POLIO OUTBREAK RESPONSE 2018:

JIWAKA

2 confirmed cases

3 rounds of polio campaign

Round 1 Rounds 2 & 3

71 271 190 905
target population

344 polio workers

Number of children vaccinated

<table>
<thead>
<tr>
<th>Rounds</th>
<th>20 Aug–9 Sep</th>
<th>1–14 Oct</th>
<th>5–18 Nov</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 5 years old</td>
<td>55 464 (78%)</td>
<td>156 859 (82%)</td>
<td>167 126 (88%)</td>
</tr>
<tr>
<td>&lt; 15 years old</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

LEGEND:
- Vaccinated
- Target

Estimated cost for the province

PGK 2 120 800

International funding received from WHO and UNICEF

WHO: PGK 1 613 227
UNICEF: PGK 85 600

National and local funding

National: PGK 341 973
Local: PGK 80 000+

Full time vehicles from the Provincial Government for monitoring and supervision of campaign.

PAPUA NEW GUINEA POLIO OUTBREAK RESPONSE 2018
PAPUA NEW GUINEA POLIO OUTBREAK RESPONSE 2018: MOROBE

3 confirmed cases
4 rounds of polio campaign
1336 polio workers

Rounds 1 & 2  Rounds 3 & 4
108 671 291 082

Vaccinated
Target

LEGEND:

- Vaccinated
- Target

16–29 Jul 20 Aug–9 Sep 1–14 Oct 5–18 Nov

< 5 years old < 15 years old

Number of children vaccinated

There were more children vaccinated than the target population due to migration, and constant movement of people in urban areas and transit communities.

<table>
<thead>
<tr>
<th>Estimated cost for the province</th>
<th>International funding received from WHO and UNICEF</th>
<th>WHO: PGK 3 503 525</th>
<th>UNICEF: PGK 171 100</th>
</tr>
</thead>
<tbody>
<tr>
<td>PGK 4 079 619</td>
<td>National and local funding</td>
<td>NDOH: PGK 404 994</td>
<td>Morobe Gov: PGK 653 348</td>
</tr>
</tbody>
</table>

(hiring of vehicles, chopper and plane and for allowances of polio workers)
PAPUA NEW GUINEA
POLIO OUTBREAK RESPONSE 2018:
MADANG

3 confirmed cases

4 rounds of polio campaign

880 polio workers

Rounds 1 & 2: 83,532 rounds
Rounds 3 & 4: 223,747 rounds

Vaccinated
Target

249,730 (112%)
245,958 (110%)

82,705
94,270

94,270
82,705

250,000
200,000
150,000
100,000
50,000
0

LEGEND:
- Vaccinated
- Target

Number of children vaccinated

< 5 years old
16–29 Jul
20 Aug–9 Sep
1–14 Oct
5–18 Nov

< 15 years old

249,730 (112%)
245,958 (110%)

There were more children vaccinated than the target population due to migration, and constant movement of people in urban areas and transit communities.

Estimated cost for the province

PGK 2,960,368

International funding received from WHO and UNICEF

WHO: PGK 2,813,268
UNICEF: PGK 147,100

National and local funding

Madang Provincial Administration and NGOs and local partners such as Yandra Mines, Binatang Research, Red Cross, Lutheran Church, Ramu Sugar, Marie Stopes, Rotary and Creative Self Help Care supported social mobilization and local transportation.
PAPUA NEW GUINEA POLIO OUTBREAK RESPONSE 2018: WEST SEPIK

Number of children vaccinated under 15 years old

There were more children vaccinated than the target population due to migration, and constant movement of people in urban areas and transit communities.

Estimated cost for the province

PGK 1 112 078

International funding received from WHO and UNICEF

<table>
<thead>
<tr>
<th>WHO:</th>
<th>PGK 1 035 178</th>
</tr>
</thead>
<tbody>
<tr>
<td>UNICEF:</td>
<td>PGK 76 900</td>
</tr>
</tbody>
</table>

LEGEND:
- **Vaccinated**
- **Target**
**PAPUA NEW GUINEA POLIO OUTBREAK RESPONSE 2018: EAST SEPIK**

4 confirmed cases

3 rounds of polio campaign

736 polio workers

**LEGEND:**
- **Vaccinated**
- **Target**

<table>
<thead>
<tr>
<th>Rounds</th>
<th>Number of children vaccinated</th>
<th>&lt; 15 years old</th>
<th>&lt; 20 years old</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>192,797 (96%)</td>
<td>192,797</td>
<td>57,867</td>
</tr>
<tr>
<td>2</td>
<td>196,871 (98%)</td>
<td>196,871</td>
<td>57,867</td>
</tr>
<tr>
<td>3</td>
<td>56,260 (97%)</td>
<td>56,260</td>
<td>56,260</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Estimated cost for the province</th>
<th>International funding received from WHO and UNICEF</th>
<th>National and local funding</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PGK 2,619,653</strong></td>
<td>WHO: PGK 1,693,425</td>
<td>National: PGK 192,388</td>
</tr>
<tr>
<td></td>
<td>UNICEF: PGK 99,400</td>
<td>Local: PGK 472,840</td>
</tr>
<tr>
<td></td>
<td></td>
<td>PGK 26,600</td>
</tr>
<tr>
<td></td>
<td></td>
<td>PGK 135,000</td>
</tr>
</tbody>
</table>

**PAPUA NEW GUINEA POLIO OUTBREAK RESPONSE 2018**
PAPUA NEW GUINEA POLIO OUTBREAK RESPONSE 2018: NATIONAL CAPITAL DISTRICT

**1** confirmed case

**3** rounds of polio campaign

**172,030** target population

**400** polio workers

Number of children vaccinated under 15 years old

There were more children vaccinated than the target population due to migration, and constant movement of people in urban areas and transit communities.

**Estimated cost for the province**

<table>
<thead>
<tr>
<th></th>
<th>International funding received from WHO and UNICEF</th>
<th>WHO:</th>
<th>UNICEF:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PGK 2,167,768</strong></td>
<td></td>
<td>PGK 2,106,068</td>
<td>PGK 61,700</td>
</tr>
</tbody>
</table>

LEGEND:
- Vaccinated
- Target
PAPUA NEW GUINEA POLIO OUTBREAK RESPONSE 2018:
CENTRAL

0 confirmed case
3 rounds of polio campaign
646 polio workers

Number of children vaccinated under 15 years old

<table>
<thead>
<tr>
<th>Rounds</th>
<th>Vaccinated</th>
<th>Target</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>122 839</td>
<td>129 242</td>
<td>95</td>
</tr>
<tr>
<td>2</td>
<td>126 470</td>
<td>129 242</td>
<td>98</td>
</tr>
<tr>
<td>3</td>
<td>113 072</td>
<td>129 242</td>
<td>95</td>
</tr>
</tbody>
</table>

LEGEND:
- Red: Vaccinated
- Pink: Target

Estimated cost for the province
PGK 2 446 617

International funding received from WHO and UNICEF
WHO: PGK 1 567 376
UNICEF: PGK 99 000

National and local funding
National: PGK 171 606
Local: PGK 587 635
for purchase of vaccine refrigerators and hiring of chopper
NGO: PGK 21 000
contribution from Save the Children

PAPUA NEW GUINEA POLIO OUTBREAK RESPONSE 2018
PAPUA NEW GUINEA POLIO OUTBREAK RESPONSE 2018:
GULF

1 confirmed case
3 rounds of polio campaign
Rounds 1 & 2: 76,326 target population
Round 3: 47,170 target population
300 polio workers

Number of children vaccinated under 15 years old

<table>
<thead>
<tr>
<th>Rounds</th>
<th>Vaccinated</th>
<th>Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>63,502 (83%)</td>
<td>76,326</td>
</tr>
<tr>
<td>2</td>
<td>67,105 (88%)</td>
<td>76,326</td>
</tr>
<tr>
<td>3</td>
<td>41,912 (89%)</td>
<td>47,170</td>
</tr>
</tbody>
</table>

LEGEND:
- Vaccinated
- Target

Estimated cost for the province

<table>
<thead>
<tr>
<th>Estimated cost for the province</th>
<th>International funding received from WHO and UNICEF</th>
</tr>
</thead>
<tbody>
<tr>
<td>PGK 1,378,115</td>
<td>WHO: PGK 918,815</td>
</tr>
<tr>
<td></td>
<td>UNICEF: PGK 59,300</td>
</tr>
</tbody>
</table>

National and local funding

<table>
<thead>
<tr>
<th>National and local funding</th>
<th>PGK 400,000</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>from Provincial Administration</td>
</tr>
<tr>
<td></td>
<td>Oil Search supported chopper</td>
</tr>
<tr>
<td></td>
<td>transportation of vaccines and</td>
</tr>
<tr>
<td></td>
<td>vaccinators</td>
</tr>
</tbody>
</table>
PAPUA NEW GUINEA POLIO OUTBREAK RESPONSE 2018: ORO

0 confirmed case
2 rounds of polio campaign
86 798 target population
434 polio workers

Number of children vaccinated under 15 years old

<table>
<thead>
<tr>
<th>Round</th>
<th>Vaccinated</th>
<th>Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>78 796 (91%)</td>
<td>86 798</td>
</tr>
<tr>
<td>2</td>
<td>90 339 (104%)</td>
<td>86 798</td>
</tr>
</tbody>
</table>

There were more children vaccinated than the target population due to migration, and constant movement of people in urban areas and transit communities.

**Estimated cost for the province**

<table>
<thead>
<tr>
<th></th>
<th>International funding received from WHO and UNICEF</th>
<th>WHO:</th>
<th>UNICEF:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>PGK 831 566</td>
<td>PGK 738 266</td>
<td>PGK 43 300</td>
</tr>
</tbody>
</table>

**National and local funding**

|                        | PGK 50 000 from Sohe district parliament members for hard-to-reach areas in Sohe district |
PAPUA NEW GUINEA POLIO OUTBREAK RESPONSE 2018: MILNE BAY

0 confirmed case
2 rounds of polio campaign
123,523 target population
570 polio workers

Number of children vaccinated under 15 years old

There were more children vaccinated than the target population due to migration, and constant movement of people in urban areas and transit communities.

Estimated cost for the province
PGK 1,308,489

International funding received from WHO and UNICEF
WHO: PGK 1,026,789
UNICEF: PGK 81,700

National and local funding
PGK 200,000 from Provincial Health Authority
PAPUA NEW GUINEA POLIO OUTBREAK RESPONSE 2018: WESTERN

0 confirmed case

2 rounds of polio campaign

89,947 target population

288 polio workers

Number of children vaccinated under 15 years old

Estimated cost for the province
PGK 830,021

International funding received from WHO and UNICEF

WHO-GPEI: PGK 748,321
UNICEF: PGK 81,700
PAPUA NEW GUINEA POLIO OUTBREAK RESPONSE 2018: BOUGAINVILLE

0 confirmed case
2 rounds of polio campaign
116,987 target population
192 polio workers

Number of children vaccinated under 15 years old

There were more children vaccinated than the target population due to migration, and constant movement of people in urban areas and transit communities.

Estimated cost for the province

<table>
<thead>
<tr>
<th>International funding received from WHO and UNICEF</th>
<th>WHO: PGK 995,917</th>
<th>UNICEF: PGK 72,100</th>
</tr>
</thead>
<tbody>
<tr>
<td>National and local funding</td>
<td>PGK 78,000</td>
<td></td>
</tr>
</tbody>
</table>

Contributions from Bougainville Healthy Communities Program Volunteers and D4H1
0 confirmed case

2 rounds of polio campaign

158,429 target population (under 15 years old)

380 polio workers

Number of children vaccinated under 15 years old

<table>
<thead>
<tr>
<th>Rounds</th>
<th>1–14 Oct</th>
<th>5–18 Nov</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>140,805</td>
<td>144,829</td>
</tr>
<tr>
<td></td>
<td>(89%)</td>
<td>(91%)</td>
</tr>
</tbody>
</table>

LEGEND:
- Red: Vaccinated
- Orange: Target

Estimated cost for the province:

<table>
<thead>
<tr>
<th>Estimated cost</th>
<th>International funding received from WHO and UNICEF</th>
<th>National and local funding</th>
</tr>
</thead>
<tbody>
<tr>
<td>PGK 1,475,501</td>
<td>WHO: PGK 1,308,201, UNICEF: PGK 67,300</td>
<td>PGK 100,000 from DSIP for Pomio District</td>
</tr>
</tbody>
</table>
0 confirmed case

2 rounds of polio campaign

27,982 target population

80 polio workers

Number of children vaccinated under 15 years old

1–14 Oct

23,691 (85%)

5–18 Nov

26,754 (96%)

LEGEND:
- Vaccinated
- Target

Estimated cost for the province
PGK 270,447

International funding received from WHO and UNICEF

WHO: PGK 238,347
UNICEF: PGK 32,100
PAPUA NEW GUINEA POLIO OUTBREAK RESPONSE 2018: NEW IRELAND

0 confirmed case
2 rounds of polio campaign
99,721 target population
292 polio workers

Number of children vaccinated under 15 years old

Legend:
- Vaccinated
- Target

Estimated cost for the province
PGK 992,196

International funding received from WHO and UNICEF
- WHO: PGK 824,896
- UNICEF: PGK 67,300

National and local funding
- PGK 100,000 from Natanai District MP
0 confirmed case
2 rounds of polio campaign
124,851 target population
336 polio workers

Number of children vaccinated under 15 years old

<table>
<thead>
<tr>
<th>Rounds</th>
<th>1–14 Oct</th>
<th>117,463 (94%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>5–18 Nov</td>
<td>122,091 (98%)</td>
</tr>
</tbody>
</table>

Estimated cost for the province
PGK 1,094,145

International funding received from WHO and UNICEF
WHO: PGK 1,030,045
UNICEF: PGK 64,100