

Papua New Guinea

World Vision

Health and human wellbeing



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Video chapters online

1. Papua New Guinea: a country profile	(3' 20'')
2. HIV and AIDS in PNG	(3' 51'')
3. Nutrition: child and maternal health in PNG	(5' 02'')
4. Tuberculosis in PNG	(3' 47'')
5. Water-based diseases in PNG	(3' 03'')

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Papua New Guinea: human wellbeing

Unit scenario

“Geographies of human wellbeing focuses on investigating global, national and local differences in human wellbeing between places. This unit examines the different concepts and measures of human wellbeing, and the causes of global differences in these measures between countries ... They explore programs designed to reduce the gap between differences in wellbeing.”

This unit is a case study using an enquiry-based approach to explore human wellbeing, health and disease in Papua New Guinea. It invites students to work in small groups with the following scenario:

- “You are workers with an Australian aid and development non-government organisation (NGO) and have been invited to work with the PNG Government to help improve health outcomes for the people of PNG. Before starting your research, spend time brainstorming all you know about Papua New Guinea and make a list of questions to guide your research. Make sure these questions address social, economic and environmental issues.”

Skills: observing, questioning and planning

- “Watch the PNG country profile video without audio. What further questions does this raise about life in PNG and the health issues facing the people of PNG? Watch the PNG country profile with audio and read the PNG country profile. State your hypothesis regarding patterns, impacts and efforts to address health issues in PNG.”
- “Watch the other video chapters on **HIV and AIDS, Nutrition, Tuberculosis** and **Water-based diseases** – and read the documentation on these topics. Undertake further research and collect data. Watch the AusAID in PNG video below.”

https://www.youtube.com/v/p6JvlzTMK5E?version=3&f=videos&app=youtube_gdata&rel=0

Skills: collecting, recording, evaluating and representing

- “Analyse the data to make generalisations and propose explanations for patterns and predict outcomes. You may need to confirm, reject and/or modify your hypothesis. What is being done and what could be done by groups, NGOs and governments to limit the impact of these diseases on development?”

Skills: interpreting, analysing and concluding

- “Make a series of recommendations to improve the health and human wellbeing of people in PNG – and communicate your recommendations to the PNG and Australian governments. Propose individual and collective action in response to this challenge, taking account of environmental, economic and social considerations; and explain the predicted outcomes and consequences of your proposal.”

Skills: communicating, reflecting and responding

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Water-based diseases in PNG

Unsafe drinking water, inadequate sanitation and poor hygiene are a dangerous combination for the health of people living in poor communities. Water-related diseases such as diarrhoea, typhoid, malaria and cholera are major causes of illness and death. People with low immunity, such as malnourished children or people living with HIV, are at greater risk of death if infected.

Cholera

Cholera is an acute diarrhoeal infection caused by the intake of food or water contaminated with the bacterium *Vibrio cholera*. The bacteria live in water, particularly brackish water and estuaries.

What are the symptoms?

Cholera is an extremely virulent disease that can kill within hours. Symptoms include watery and persistent diarrhoea with severe dehydration. The bacteria can remain present in an infected person's faeces for 7-14 days after infection and are passed back into the environment, potentially infecting other people.

What is the prevalence?

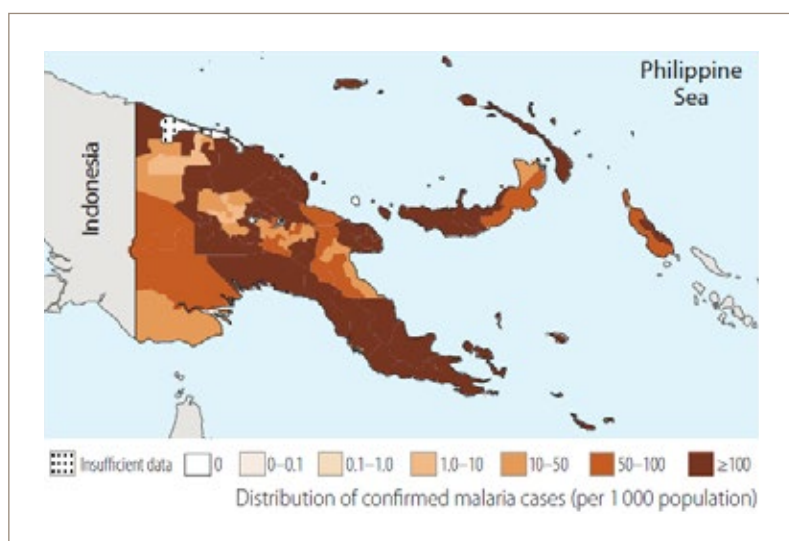
Every year around the world, there are an estimated 3-5 million cholera cases and 100,000-120,000 deaths. In 2009, PNG experienced its first outbreak of cholera. By 2011, 15,000 people had been infected and over 500 had died (WHO, 2012).

Malaria

Malaria is most often found in tropical equatorial regions and is caused by parasites transmitted to people through the bites of infected mosquitoes. These infected mosquitoes lay their larvae and breed in still or stagnant water.

What are the symptoms?

Malaria symptoms typically include fever and headache, which in severe cases can progress to coma or death. Malaria is an entirely preventable and treatable disease. Using insecticide-treated mosquito nets, spraying insecticides and taking anti-malarial tablets can stop its spread.



Source: WHO World Malaria Report 2012

What is the prevalence?

In 2010, there were an estimated 219 million cases of malaria and 660,000 deaths around the world. In PNG, malaria was the leading cause of all outpatient hospital visits, the fourth leading cause of hospital admissions and the third leading cause of death in 2008. The disease is endemic in every PNG province. On average, 1.65 million suspected cases of malaria are seen at healthcare facilities across PNG every year. The mortality rate for those affected by malaria in 2008 was estimated at 9.7 for every 100 000 people (WHO, 2012).

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Water-based diseases in PNG

Diarrhoea

Diarrhoea is defined as the passing of three or more loose or liquid stools per day. It is usually a symptom of an infection in the intestinal tract, which can be caused by a variety of bacterial, viral and parasitic organisms. Infection is spread through contaminated food or drinking water, or from person-to-person as a result of poor hygiene. Each episode deprives children of important nutrition.

What are the symptoms?

Diarrhoea can last several days and leave the body without the water and salts necessary for survival. Most people who die from diarrhoea actually die from severe dehydration and fluid loss through liquid stools, vomit, sweat and urine. Interventions to prevent diarrhoea, including safe drinking water, use of improved sanitation and hand washing with soap, can reduce disease risk. Diarrhoea can be treated by drinking a solution of clean water, sugar and salt plus zinc tablets.



Clean drinking water helps to prevent the spread of water-based diseases.

What is the prevalence?

Diarrhoeal disease is the second leading cause of death in children under five years old, and is responsible for killing around 760,000 children every year. Worldwide, 780 million people lack access to improved drinking water and 2.5 billion lack improved sanitation. In PNG, the incidence of diarrhoea among children under six years is 13.3 percent.

Additional reading

- Search for fact sheets on each of these diseases at who.int/mediacentre/factsheets/en/
- * **WATCH** the Water-based diseases in PNG video (3' 03") at worldvision.com.au/schoolresources

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Responding to water-based diseases in PNG

Cholera

Most people with cholera can be treated by using oral rehydration salts to combat diarrhoea, and severely dehydrated patients can be treated with intravenous fluids. The challenge is ensuring people can access treatment quickly, particularly when they live in remote areas or with limited access to healthcare¹³.

The main goal in responding to cholera is to limit the extent of an outbreak. The best ways to limit transmission and ensure long-term protection are improving access to safe drinking water and sanitation facilities, and promoting good hygiene behaviours.

Since 2009, when the cholera outbreak occurred in PNG, many organisations have been working to support local health authorities.

- The WHO provided technical and logistical support, including medical specialists, monitoring the spread of the disease, providing health information and water and sanitation engineering¹⁴.
- AusAID initially provided \$1.7 million between September 2009 and July 2010 for medical supplies and staff to treat cholera patients. Later in 2010, additional funding, medical supplies and staff were also provided to help contain the outbreak¹⁵.
- World Vision ran cholera prevention education sessions with at-risk communities. To improve access to clean water and sanitation, rain catchment tanks were installed and toilets constructed in partnership with communities.

Malaria

Prevention of malaria is addressed through the identification of stagnant water sources, and the use of insecticide-treated bed nets. Infected mosquitoes mostly bite people between dusk and dawn. The nets protect people against bites while they are sleeping and can be effective for 3-5 years.

“The world's first trial of insecticide treated mosquito nets [was] in Papua New Guinea in 1986”¹⁶. In PNG, the National Department of Health in partnership with the Rotarians Against Malaria have distributed over 5.5 million nets. Health surveys showed that between 2009 and 2011 the incidence of malaria infections decreased, which was linked to the use of bed nets.

Challenges for the ongoing use of insecticide-treated nets include ensuring people continue to use the nets and use them correctly. Funding the replacement of nets as they reach the end of their effectiveness is also a sustainability issue.



Insecticide-treated bed nets help to protect against malaria.

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Responding to water-based diseases in PNG

Diarrhoea

Using clean water and practising good hygiene behaviours when drinking, cooking, eating, and cleaning are important for preventing diarrhoea. Interventions may include providing access to safe drinking water, building improved sanitation facilities, and running community education workshops about personal and food hygiene. Challenges include cultural taboos about talking openly about sanitation and lack of knowledge about contamination, health and how diseases can be spread.

In Madang Province, Wari, a villager whose daughter had been badly affected by diarrhoea, remembers, “World Vision came to us and made awareness about how to wash our hands, and how to wash our plates and dishes, and to keep our places clean.”

Delma, from another village, remembers, “In the past we had to walk three or four hours up and back down the mountain to get our water. It was very hard walking back with the water. It is heavy and sometimes we would fall over and spill the water. Our children were often sick with diarrhoea.”

World Vision worked with Delma’s community to install a gravity-fed water supply system with access via a tap in the village. The village created a committee to manage and maintain the water system and each month they collect 1 kina (approximately 44 cents) from each household to pay for repairs. Delma noted that with the new water supply the children aren’t as sick as before.

Additional reading

- Papua New Guinea: Cholera outbreak slows
irinnews.org/report/88817/papua-new-guinea-cholera-outbreak-slows
- Bed net indifference threatens PNG progress on malaria
irinnews.org/report/97481/bednet-indifference-threatens-png-progress-on-malaria
- Community takes control of their water supply
wvi.org/papua-new-guinea/article/community-takes-control-their-water-supply
- * **WATCH** David Bridie and George Telek: A Public Health Announcement video (0’ 48”) at
worldvision.com.au/schoolresources



A Ventilated Improved Pit (VIP) toilet.



The water tap installed in Delma’s village.