In Indonesia, almost half of the country's population of 250 million live in malaria-endemic areas. Pregnant women are particularly vulnerable as pregnancy reduces a woman’s immunity to malaria, making her more susceptible to malaria infection and increasing the risk of poor pregnancy outcomes. Severe anaemia; low birth weight; preterm delivery and perinatal deaths are recognised as the adverse outcomes of malaria in pregnancy and these contribute to the high maternal and infant deaths in malaria endemic areas.

In 2010, a group of committed Papuan-based doctors and researchers formed YPKMP - Yayasan Pengembangan Kesehatan dan Masyarakat Papua (Papuan Health and Community Development Foundation). YPKMP is governed by a board of members of the local civil society based in Timika and Jayapura and supported by world-class academic institutions including the Menzies School of Health Research.

Menzies’ research program involves a wide range of community and hospital-based projects with a focus on evaluating new and affordable combination treatments for malaria, improving our understanding and treatment of severe malaria and improving tuberculosis treatment outcomes. It has resulted in:

- a 30 per cent reduction in malaria and deaths including perinatal mortality in Timika
- Indonesia being the first country to adopt DHA-piperaquine as a first-line treatment of uncomplicated malaria for all species of malaria
- Indonesia being a key partner, informing the optimal therapy for severe malaria (artesunate) which is now used as the first-line treatment for severe malaria in most Asian and African countries
- YPKMP was appointed by the World Health Organization (WHO) to run severe malaria training courses for health service professionals internationally.

Papua is one of the poorest and most remote provinces in Indonesia and maternal and infant mortality remains alarmingly high. Malaria is endemic in this area and recognised as one of the leading causes of maternal and infant mortality. Treating malaria during pregnancy is complicated and the emergence of antimalarial drug resistance has made the disease even more difficult to treat.

Dr Jeanne Rini Poespoprodjo is renowned in the world of malaria research. A senior paediatrician at RSUD, a large public hospital in Timika, Dr Poespoprodjo has spent the last 10 years researching the epidemiology of malaria and strategies for its treatment and prevention. Her work has highlighted the importance of malaria treatment in both pregnancy and infancy.

Led by Dr Poespoprodjo, YPKMP has a proven track record in informing policy change at district, provincial, national and international levels. Its success has been due to its local community engagement that ensures the optimal implementation of healthcare interventions. However, there remains a critical need to provide on-going training and employment of local health workers to sustain both their capacity and that of the research centre to ensure that the significant impact already achieved can be maintained.

“She looked like a sick three-year-old clinging to her Mum’s arm. When the fever subsided, she would sit up and play with some shells with her dirty fingers. Except that she was not three-years-old. She was five, and her haemoglobin was 6 g/dl (normal range for this age is 11.5 g/dl – 13.5 g/dl). Once she was discharged from the hospital, she would run and play like any other kid, but she’d never be the same as the healthy ones. She would always look smaller than her age, would not have enough immunity to defend herself from various infectious diseases, might not have the capacity to finish primary school if given the opportunity and very likely would not grow into a healthy young woman with the bright future that she deserved.

She was not alone. There are lots of other young children with haemoglobin levels far below the lower limit of normal range. Severe anaemia in children is not uncommon in Timika. Malaria plays a big role here. If we can find a better way to treat malaria in pregnancy and babies through research and be able to educate and treat the mothers and their babies, we will have much better outcomes.

Every single improvement counts. These children deserve to have a better future.”

Dr Jeanne Rini Poespoprodjo
The personnel necessary to support Dr Poespoprodjo’s work includes:

- A program manager, laboratory manager, laboratory assistant, field researcher (community liaison), and three operational staff including an administration manager. Additional costs, including training and education and a component of core operational and maintenance costs, complete the budget.

The potential for providing substantially better health outcomes and creating a better future for mothers, their babies and children – starting now – and future generations is enormous. Ten years of groundbreaking work has already occurred and Menzies is confident that further significant gains can be achieved with the support of additional partners.

Over a five-year period it is expected that the success of the Papuan Maternal and Child Health Hub will act as a case study for the establishment of other similar centres in Indonesia as well as internationally.