

# Basil Hetzel: vanquishing iodine deficiency disorders

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The story of Basil Hetzel's fight against IDD begins in 1964, in the highland villages of Papua New Guinea. A medical scientist with an interest in thyroid disorders, Hetzel had been invited by the country's Public Health Department to investigate the goiter and cretinism that was prevalent in the mountain communities.



Witnessing the situation firsthand, Hetzel remembers, was unsettling: "I was astounded to see the severity of the problem." Cretinism had been described in Europe from the Middle Ages but it had declined in the 19th century. Now it was being reported not only in Papua New Guinea but also in mountainous regions in other countries, including India and China, and doubt remained as to whether it was related to iodine deficiency. It had recently been shown in Papua New Guinea that an injection of iodized oil could prevent goiter, but it was not clear if iodine deficiency was actually present, Hetzel recalls.

Studies by his group working with the Papua New Guinea Public Health Department confirmed that there was indeed substantial iodine deficiency and that it could be treated for up to 5 years by one dose of iodized oil. "We were able to demonstrate very severe iodine deficiency under the conditions in the mountains in New Guinea, where high rainfall leached the soil of iodine", he says.

In 1966, an intervention trial was undertaken in which families were alternately given injections of iodized oil or saline, and then followed up for the next 3 years. "This critical [follow-up] phase was undertaken double-blind with great skill and dedication by Peter Pharoah, an experienced Papua New Guinea medical officer who was seconded to this work by the Public Health Department at my request", Hetzel wrote. After the trial was complete, there was no doubt that giving iodized oil before pregnancy prevented mental disability. Soon after, an iodized oil injection campaign that covered about 120 000 people was undertaken for the people in the mountains of Papua New Guinea.

For Hetzel, addressing iodine deficiency became a passion. He led efforts to establish animal models of the condition, and helped reconceptualize the effect of iodine deficiency from goiter to brain damage, as part of a group of disorders that could be prevented by tackling iodine deficiency. On the world stage, Hetzel became a key figure in setting up ICCIDD.

Hetzel's dedication to establishing these programs and his groundbreaking research on iodine deficiency has led to many awards, including the Pollin Prize in Pediatric Research, the Prince Mahidol Prize, and the Companion of the Order of Australia. On awarding him the Pollin Prize, the then President of New York-Presbyterian Hospital Herbert

Pardes described how "Dr Hetzel has helped protect an estimated 80 million newborns from needless brain damage – a major public health triumph comparable to the campaigns to eliminate smallpox and polio."

"There is no doubt that he is an extraordinary person and one of the great figures in Australian medicine in the 20th century", agrees Professor Creswell Eastman of Westmead Private Hospital in Sydney. In Eastman's eyes, one of Hetzel's great attributes is his ability to influence those in power. "This is what sets him apart from many of his senior colleagues who have performed great work but were unable to translate that into worthwhile outcomes."

**For his part, Hetzel puts much of his success down to chance. "I've been very fortunate to have congenial opportunities at the right time", he says. "I've been very, very fortunate. You've got to be lucky."**