

## **Andrew Dent Student Scholarship Report – Alyce Wilson**

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In April this year, I spent 4 weeks in the Pacific island nation of Samoa for my medical elective. Samoa gained independence from New Zealand in 1962, however it continues to heavily rely on New Zealand and other countries, such as, Australia, Japan and China for aid. Samoa is made of 2 main islands – Upolo and Savaii and a number of smaller islands. Upolo is the busier and more populated island on which the capital Apia is based. Tupua Tamasese Meaole (TTM) is a large tertiary hospital located in Apia and offers a range of speciality services – obstetrics and gynaecology, paediatrics, anaesthetics, general surgery and orthopaedics and ophthalmology. The hospital can only carry out basic radiology and laboratory tests. More complex tests are sent to New Zealand for analysis.

Originally I was hoping to undertake my elective with the internal medicine team and focus on learning about the diabetes prevention and management in Samoa given the very high prevalence of diabetes. However, I ended up joining the paediatric team due to the high number of students already associated with the internal medicine team. Joining the paediatrics team ended up being an amazing opportunity and I was very fortunate to have



such a welcoming and skilful team to learn from. Our team was made up of a consultant, two registrars, two interns and myself and another medical student (Hok Lim) from the University of Melbourne. Our consultant, Dr Farrah, was a fantastic doctor and teacher. Born and schooled in Samoa, Dr Farrah went on to study undergraduate medicine and completed subsequent training in Papua New Guinea and then returned with her husband (a Obstetrician and Gynaecologist) to work in Samoa as a paediatrician. She has worked as a paediatrician in Apia for more than 30 years and created strong links with the children's hospital in Auckland, New Zealand.

During my time with the paediatrics team, I was able to observe a number of conditions which are uncommon in Australia such as typhoid fever and rheumatic heart disease. Chest infections are very common; particularly bronchiolitis and community acquired pneumonia. One case that was quite significant for me in particular was a 2 month old baby boy born with congenital hypothyroidism also known as cretinism due to maternal iodine deficiency. Prior to my elective in Samoa, I had completed a 2 month internship with the non-

communicable disease department at the World Health Organisation in Geneva, Switzerland. My project had involved looking into balancing public health policies around salt reduction and iodine optimisation. Salt is commonly used as a vehicle for iodine fortification through universal salt iodisation campaigns. However there is a



need to balance these campaigns so that health messages around salt reduction do not negatively affect iodine levels. After having recently intensively researched the importance of optimum maternal iodine intake to prevent the development of iodine deficiency disorders in offspring, I was shocked to see the most extreme form of iodine deficiency, cretinism, occurring in Samoa. Seeing this case lead me and Hok to investigate further into what public health work was occurring to optimise maternal iodine deficiency and also what investigations were available to enable early detection of congenital hypothyroid cases. After speaking with the ministry of health, the paediatrics team and experts abroad we discovered the following:

- Samoa doesn't have a universal salt iodisation program and it is unlikely that the population is achieving optimum iodine nutrition.
- Iodine levels in Samoa are anecdotally considered to be low especially among women of child-bearing age – WHO is currently conducting the 'STEPS' survey which includes a section covering iodine nutrition and involves a 24 hour urine collection from a sample of women of child-bearing age to gain more information on iodine deficiency rates.
- In Australia the Guthrie Heel Prick test is used to pick up cases of congenital hypothyroidism early however in Samoa this test is not conducted. Infants in Samoa with hypothyroidism are picked up much later when developmental delays etc start show.
- New Zealand is already working with other countries in the Pacific, such as Fiji, to introduce the Guthrie Heel Prick test at a low cost and could easily assist Samoa to do so as well.
- If neonates are treated with thyroxine within 2 weeks of birth, intellectual impairment can be significantly mitigated (Paediatrics Handbook 8<sup>th</sup> edition, Royal Children's Hospital), hence it is important that cases are picked up early

There are number of ways in which Samoa could optimise population iodine levels and prevent the occurrence of iodine deficiency disorders. Firstly looking at introducing a universal salt iodisation programme would ensure women of child bearing age achieve adequate iodine intake. Secondly, introducing the Guthrie Heel Prick test to initially look for hypothyroidism in neonates (and potentially test for other conditions in the future) would enable cases to be picked up early and treatment started. We are continuing to work with Dr Farrah, TTM hospital and the Ministry of Health to look into these options.

Undertaking my elective in Samoa was a unique and amazing experience. Having the opportunity to work in an under resourced hospital in a developing country gave me an insight into the major health issues affecting Samoa and similarly the ways in which the health system and government both support and hinder improvements in healthcare. I feel that during my elective I was able to build rapport and trust with the health workers and local community and plan to return to Samoa to work as a doctor in the future.

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