

Using mobile phone-based data collection in Oceania

Population-based prevalence surveys for trachoma were carried out in the Solomon Islands, Vanuatu, Fiji and Kiribati to guide interventions for trachoma in the region. The role of this study was to integrate conjunctival and capillary blood specimen collection with national programme activities to assess the relationship between infection and clinical signs of disease in this area. In total, approximately 40,000



people were surveyed in this project, and many more were included in programmatic work beyond the reach of the research study.

At the time, support to the national programmes was being provided by the Global Trachoma Mapping Project, which had developed its own ODK-based smartphone data collection system. This provided the opportunity to

easily integrate additional questions to the national programme data collection at short notice, including barcode scanning sample ID recording. One early challenge with this method of data collection was that staff living in remote areas where smartphones are less readily available were not familiar with the android interface and consequently found it difficult to enter data at the pace required to complete the survey on time; this was mitigated by a dedicated data recorder training programme.

During the survey, the four countries being surveyed had a combined population of approximately 1.8 million people living on approximately 500 islands. The islands are spread over a sea area of almost 5 million km², double the area of Algeria, the largest country in Africa. It was necessary to travel regularly by boat, often for hours at a time, to reach very remote islands. Additionally, these countries are surrounded by ocean and are affected by the southern Trade Winds, so the weather is hot, humid and very unpredictable. Heavy rain downpours are common. At first, we invested in waterproof cases for mobile equipment, but after it failed in particularly bad weather, we switched to waterproof phones.

Electricity to charge phones was seldom available in the very remote locations, therefore, we added solar chargers and batteries to our kits lists to give an alternative option for charging. We also carried additional funds to pay for access to privately owned solar panels. This gave us the chance to continue collecting data electronically even in very remote, tropical settings.



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