Five years of ADI Integrated Rural Health Patrols in New Ireland, PNG

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Abstract

Australian Doctors International (ADI), with New Ireland Provincial Health and Kavieng Hospital in New Ireland, PNG, have provided outreach services to remote rural areas since 2011, to deal with the needs of a rapidly growing population in maternal and child health, communicable and lifestyle disease. Integrated Health Patrols combining local allied health expertise with ADI Patrol Doctors deliver one patrol per month to local government areas; two-thirds of the population are more than 4 hours' travel from Kavieng Hospital. In addition to eye, dental, physiotherapy, sexual and reproductive health, medical care and community health education, the patrol supports rural health workers with training and organisational input to build on local health services in line with government health goals.

Integrated Health Patrol achievements over the 2011-2015 period include a total 69 patrols (711 days on patrol), with over 220 New Ireland health centre, aid post or village visits, 13,762 patients seen by ADI Patrol Doctors (63% in remote/very remote locations) and 90,161 services delivered by allied health patrol professionals, at a cost of approximately PGK22 (AU$10) per patient seen, over 2,220 teaching hours with rural staff, and over 80% of rural staff attending ADI in-service workshops.

ADI engaged an external evaluator to review the first 5 years of the patrol program. Successful outcomes include strategies to address identified gaps. First, yearly patrols to multiple sites in each local government area increase limited rural access to health services, including where aid posts have closed. Second, training and other patrol team input, including Local Health Managers when available, increases levels of supervision and support for remote health workers. Third, high maternal health needs are addressed by focused on-the-job and in-service health worker training and Patrol Midwife, MCH and Family Planning Officers. Fourth, government priority areas of tuberculosis, diabetes, malaria and respiratory infections are addressed by inclusion of Disease Control and Community Education officers on patrol, and focused health worker training provision. Fifth, the partnership model between ADI and Provincial Health not only builds in two-way knowledge exchange opportunities, but facilitates long-term ownership and sustainability across a financial and human resource foundation.

This unique model of rural health service provision has the advantages of cooperative partnerships focused on government goals, a flexible team approach delivered cost-effectively to community doorsteps, and a reporting system whereby patrol data is used to inform future planning of health services and workforce training. The integrated patrol model has potential application in other PNG provinces and the Asia Pacific region. A staged handover is planned by 2021 wherein local partners are enabled to take over aspects of patrol and in-service programs currently managed by ADI.

Introduction

Australian Doctors International (ADI) is an Australian not-for-profit organisation that has partnered with New Ireland Provincial Health and Kavieng Hospital in New Ireland, Papua New Guinea, since 2011, to provide outreach services to remote rural areas, to address the needs of a rapidly growing population in maternal and child health, communicable and lifestyle disease.

Much of the content of this paper is Dr Klara Henderson's work, carried out in 2016 for the 5-year review of ADI's New Ireland partnership program.[1]

In addition, Dr Bronwen Morrison tells the story of the program from the perspective of a volunteer patrol doctor, having worked on rural health patrols and in-service training programs in New Ireland Province from January to July 2016.

Overview

PNG's strong macroeconomic performance based on natural resource exports results in its description as a "lower-middle-income" country, but this status is being translated slowly into effective public financial management, service delivery, improved standard of living and life expectancy, with large gaps still existing in health services to the rural majority.[2] PNG has the lowest ranking in the Western Pacific in a number of health and human development indicators.[3] Rural primary health services in New Ireland are currently provided by a mix of national and provincial health departments, locally based companies and church-based and secular international non-government organisations.

ADI began work in New Ireland on the invitation of its Governor Sir Julius Chan, who had heard of ADI's work in Western Province PNG. Sir Julius is himself from the remote island group of Tanga to the east of New Ireland, and knows first-hand the challenges of rural health care. He was keen to enhance health service provision to his province, which has a population of over 200,000[4], living mostly in rural or remote areas, including off-shore islands one day's travel from the provincial capital of Kavieng.

ADI's integrated rural health patrol program consists of health care delivered remotely, plus professional development for front line rural health workers. ADI's aim is to help address New Ireland's current needs in rural health care, while strengthening our local partners' capacity for future service provision.

Important outcomes of the ADI program in its first 5 years in New Ireland are:

- reaching rural and remote communities—where 63% live more than 4 hours from the two government hospitals in Kavieng and Namatanai districts
- meeting health care needs—malaria, TB, maternal and child health, dental and eye
- provision of 142 service days per year
- enabling 80% of provincial health workers to attend an in-service training
- providing health worker training in areas that address health priorities and fill knowledge gaps.

Reaching rural and remote communities

PNG has an estimated 58 doctors per million population[5], most of whom work in hospitals. There are two government hospitals in New Ireland: a general hospital in the capital Kavieng, and a district hospital in Namatanai. The service gap in rural and remote areas is partly filled by solo or small teams of community-based midwives, nurses and health workers with 2-4 years' training. New Ireland barely meets its quota of health professionals under the most austere workforce model of 1 health worker to 438 head of population[6], with the current figure at around 1 health worker to 405 New Irelanders, more than half of these working in the provincial capital. Half of rural health centres operate at a ratio of 1 health worker to 1000 population or higher. Diagnostic and treatment options are limited by

scarce resources and ageing infrastructure, a third of aid posts are permanently or temporarily closed due to lack of staff, and health problems that cannot be prevented or treated by what is currently available in rural communities pose a great challenge.

ADI's integrated rural health patrol presents a solution to this problem. It costs the program around 22 kina (less than AUD10) per person seen by a doctor on patrol, and services are offered free of charge. On the other hand, transport costs alone average K100 for individuals to travel to a hospital from a remote area.

Where we aim to meet a broad number of health needs

Each patrol team includes a mix of local allied health staff, usually including eye and dental staff, a physiotherapist, sexual health and family planning services, an infectious disease control officer, and ideally a local midwife or doctor, in addition to ADI's volunteer patrol doctor.

The patrol is a one-stop shop where patients can have their vison checked and obtain glasses or cataract surgery referrals in conjunction with the Fred Hollows Foundation, be tested for HIV, anaemia, diabetes, hypertension, malaria, TB and/or weight problems, get some reliable information on family planning and have a contraceptive implant inserted, have their teeth checked and if necessary removed, have their chronic back and knee problems reviewed by a physio and exercises given, be linked in with the Catholic-run Callan Disability Services in cases of hearing loss, stroke or child cerebral palsy, follow up on treatment for TB patients, and see a doctor for treatment of specific medical problems. The team also offered cervical screening up until 2015, when Australian Aid funding was withdrawn for the PNG Pap smear program. ADI is now facilitating discussion on new models of affordable screening for the province and how to fund this, as cervical cancer is in the top 2 women's cancers in New Ireland (Namatanai District Hospital admission records, 2014-16), and eminently preventable.

We average 142 service days per year

Patrols visit one location for 1 to 2 days depending on the size of the population. Clinics are usually based at health centres and aid posts, but are sometimes held in community settings some distance from the nearest aid post to facilitate access for those more remote communities, or where an aid post has closed due to lack of staff.

Patrols are on average 8 clinical days long, but can last up to 2 weeks including travel days. The ADI doctor often sees 30-40 patients per day while on patrol, and allied health staff screen and treat around 7 times that number, including school screening visits.

Patrol staff are sourced from Provincial Health, Kavieng Hospital and District Health. Hospital staff are rostered and released from their core roles to attend patrol. Patrols depart monthly, allowing regular staff two weeks back in town to report, prepare and undertake other duties between trips.

The mix of staff is capped by the capacity of cars and boats (about 12 staff). All but one specific local government area requires boat travel in addition to car travel from Kavieng, due to road conditions on the New Ireland mainland and large populations on other islands. At this stage, air travel is not financially viable for the patrol team, except where sponsored by local mining companies.

The innovation of the patrol is in the integration of the allied team and increased opportunities for complementary diagnosis, treatment, management and education—the whole is greater than its parts.

Why we provide training

Capacity-building and training support of rural health staff is a core function of ADI's New Ireland program. One brief patrol visit per year is not enough to sustain the ongoing health needs of remote communities, and local health workers try to meet this need during the rest of the year with minimal contact with colleagues. As one patrol doctor visiting Lipek Sub-Health Centre said, *"There are currently inadequate staffing numbers and skill level to deal with the patient load"*.[1]

ADI supports the isolated New Ireland rural health workforce by providing training on key topics, both during patrols and at week-long in-service programs.

80% of all New Ireland rural and remote health workers have attended an in-service training in the past 3 years, and ADI has trained 190 health workers (out of total rural pool of 235) over the 2013-15 period.

Clinical health workers/ community health workers (54%) or nursing officers (32%) make up the bulk of participants. Most are from rural government-based health centres (56%), followed by rural church-based centres (38%), a sizeable percentage of New Ireland's health care facilities.

Training is on topics that address health priorities and fill knowledge gaps

TB, malaria and maternal health are the perennial favourite topics for training sessions—all are complex areas where knowledge needs to be updated frequently. Health workers were most concerned about being able to handle difficult deliveries in their small and under-resourced health centres, as there is no easy way to transfer labouring women to hospital, except for the few health centres on the main highway with a working ambulance and fuel. Training has also focused on primary and secondary prevention of maternal and infant deaths through family planning, anaemia diagnosis and treatment, and comprehensive antenatal and postnatal care, including early referrals for high risk patients.

Management of TB in a community is a complex public health issue and is the responsibility of local health staff. Linking rural staff with disease control staff in in training sessions, and providing training in lab techniques for diagnosis, complex recording and reporting procedures, management of DOTS, referral of MDR-TB, and associated services such as HIV testing are crucial to limiting spread of TB.

Child Protection and Family Violence topics have more recently been included in training for both rural staff and patrol officers.

In addition, patrol doctors work in tandem with local health staff during patrol visits. They see the more challenging patients together, and so there is the opportunity for the health worker to learn on-the-job with their own patients, and to practise skills and techniques such as taking a good history, examination of systems, taking a manual blood pressure, monitoring paediatric weights, testing for blood sugar, haemoglobin or malaria, using the standard treatment manuals, drug and other treatments such as plastering, ear syringing, and in which situations referrals (the last resort), are crucial. Patrol doctors also conduct after-hours training sessions with workers at each health centre, on topics most relevant to their needs. Over 2,200 training hours were provided by ADI patrol doctors during the first five years of the program.[1]

Rural nursing staff are also supported in maintaining the level of professional development necessary to keep their registration active, which would otherwise be difficult from a rural location with little other province-based training available.

ADI is out on the frontline with a unique model that focuses on partnership and 'boots on the ground' training and treatment

ADI, working with the New Ireland government, has a unique model that works. The model depends on maintaining a strategic partnership with provincial health services and the referral hospital in Kavieng, but importantly puts the focus on having a physical presence in rural and remote areas to support those most isolated populations and the staff who work with them.

The program was implemented with co-funding from local industry and, importantly the Provincial Government. ADI is supported by DFAT and private donors.

ADI's model is value for money. The average cost per examination conducted by ADI doctors is 22 kina (~AUD10). Costs are kept down because of the use of local provincial health staff travelling with an experienced Australian doctor volunteer, and local supplier relationships and support. Local expenses include transport (including fuel and driver/skipper wages), accommodation and food, and local patrol staff travel allowances.

ADI's New Ireland program has been successful largely because of its flexibility, adaptability and early responsiveness. Provincial, local health managers and hospital directors receive reports on every patrol, including patrol data and outcomes, with advice on solutions to identified health problems in each local government area. Each patrol team takes on relevant information from previous year's reports to improve service delivery, including preparation of focused training materials for local staff, extra medicines and equipment, and other practical support such as reprinting and distribution of the latest Standard Treatment Manuals (PNG's clinical guidelines for health staff).

Over time, ADI and local patrol team staff have developed strong and trusted relationships with rural health centre staff, the communities they support and other provincial stakeholders, and are constantly being asked to do more—to visit more rural aid posts, schools and communities, to provide more services for longer timeframes, to undertake provincial health work such as rural health facility surveys, to train more health staff, including students at the provincial school for community health workers, to include staff from other health-related NGOs on the patrol team. The increasing demand on the ADI program is as much a sign of its success as any other indicator.

What next?

ADI's New Ireland program evaluation covered operations from 2011-15, and focused on how the integrated patrol program had been assisting New Ireland to meet PNG National Department of Health key priority areas. These priorities included strengthening health systems and partnerships, improving service delivery to rural areas, and addressing specific health outcomes such as maternal and child health, communicable diseases and promotion of healthy lifestyles.[7]

Evaluation recommendations for New Ireland health patrols include:

- Continuing to expand the mix of staff on patrol, within vehicle limitations.

An example is Maternal and Child Health (MCH) staff, which were not regularly included on patrol, as the various local health partners conduct their own immunisation patrols and MCH clinics. However, some remote areas were not receiving regular immunisations due to problems with cold chain and transport. Anir Islands had no immunisations for three years prior to the 2016 patrol, so vaccines were taken on patrol and the nursing officer-in-charge was given assistance to trouble-shoot supply, refrigeration and broader issues of community health leadership. Intensive training on monitoring child growth was also given at Silur Health Centre and other locations where there were many outpatient and inpatient child malnutrition presentations. Inclusion of an MCH officer in future patrols will provide further focused preventative and training services.

- Focusing on maternal and child health and communicable diseases as a priority.

Emergency skills such as dealing with poor neonatal respiratory effort or post-partum haemorrhage in remote settings, and topics such as monitoring and treatment of malaria and TB, need regular updates, and both in-service and on-the-job training have focused on these since the program review. Rural staff have indicated their appreciation, e.g. “Felt confident on the newborn resuscitation”, and patrol reports noted an increase in use of partograms and misoprostol during delivery over the last 2 years.[1] More regular inclusion of the Disease Control Officer on patrol from 2016 is addressing noted gaps in infectious disease management in rural New Ireland.

- Ensuring clinical supervision and professional development opportunities for staff on patrol.

Local health managers encounter difficulties in their responsibilities supervising rural health centre staff, including funds to visit remote centres, and basic training in management and upskilling of staff. ADI patrols have endeavoured to include local health managers on the patrol team, with increasing success over the last 6 years. However, health managers’ training needs are also not currently being met, and it has been recommended that ADI in-service sessions be provided for this local management group, with the new supervisor training program to start in 2017.

Local patrol staff training needs are also being addressed with the successful introduction of two patrol in-service sessions in 2016.

- A continued emphasis with Provincial Health on the benefits and feasibility of reaching rural and remote villages.

ADI patrols provide health services free of charge, and eye glasses at cost price, to the least advantaged of New Ireland’s population, around a third of whom live on less than US$1.25 per day.[5] Despite PNG’s national policy of free primary health care provision[8], increasing pressure is being placed on New Ireland’s church-run and government health centres to charge patient fees, to pay for facility maintenance, supply of equipment, medicines and ambulance service and, in some cases, even health worker salaries. It is hoped that with the merger of New Ireland Provincial Health and the nationally-funded Kavieng Hospital to produce the new Provincial Health Authority in 2016, streamlining of services will produce health savings and enable strengthening of rural services without reintroducing end-user charges.

ADI aims to transition the New Ireland program to the full financial and operational management of New Ireland’s recently formed Provincial Health Authority over the next 5-10 years. This transition will include slowly increasing patrol participation of local PNG doctors from Kavieng Hospital, and reducing reliance on volunteer ADI doctors, in addition to passing financial and operational management of the current ADI patrol to a position within the Provincial Health Authority under the

purview of a proposed Outreach Committee, while ensuring that emphasis on rural workforce training and development is maintained under the current New Ireland Health Education Committee.[1]

Other review recommendations relate to the broader scope of ADI's programs in PNG. ADI plans to expand the health patrol model into other provinces at their invitation—to West New Britain in 2017, and with a redesign of Western Province patrols in North Fly in 2017. Considerations in program expansion include careful establishment of partnerships in new settings to ensure program success. Learning points from New Ireland's achievements will also help strengthen the current ADI program in PNG's Western Province.

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Presenter

Dr Bronwen Morrison (FRACGP MBBS (Hons) BA Grad Dip Writing) is a general practitioner based on the Central Coast of New South Wales, Australia, with an interest in public health, rural and tropical medicine, and women's, youth and mental health. She worked in human resources, teaching and training prior to her career change to medicine. Bronwen is also President of PAIGA, a small not-for-profit organisation supporting development work in the Papua New Guinea Highlands. She spent six months of 2016 volunteering as patrol doctor for Australian Doctors International in the beautiful province of New Ireland, Papua New Guinea, travelling with a local allied health team and delivering health worker training and clinical services to remote communities.