



A new model of clinical placement in the Solomon Islands

Janie Smith, Peter Jones, James Fink

Bond University, QLD

Abstract

Introduction: Electives and selectives in developing countries are an important part of students learning experiences. During 2013 Bond University on the Gold Coast in Australia piloted final year undergraduate medical student placements (n=33) at Kira Kira Hospital, on Makira Island in the Solomon Islands. The placement was evaluated that year.

Methodology: A scoping study was undertaken in 2012. The evaluation included: a desktop review, semi-structured interviews with participating Bond and Kira Kira staff, and community members (n=16), undertaking an electronic survey (n=18) and a focus group with participating students (n=9), and the development of a written report with recommendations.

Results: The evaluation found that this was an extremely valuable, personally safe, clinically fascinating, and professionally life changing student experience, which was greatly appreciated by, and contributes to, the local Kira Kira community. The greatest strength of the program was the peer mentoring and supervisor model – whereby 4 students worked in pairs supported by nurses, the doctor and local community. The main challenges were the supervision arrangements and available resources.

Conclusion: Placements in developing countries can be career highlights for all students. This placement now has a solid foundation, is philosophically sound and provides multidisciplinary Australian students with a great experience, but leaves a long term legacy to the community as a result.

Introduction

Medical students undertaking electives in developing countries has increased over the past decade (Cooke, 2011; Law, Worley, & Langham, 2013). Many of these placements are undertaken by one student at a time who often organises it themselves (Al-Samarrai, 2011). In Australia 53% of graduate entry medical students and 35% of high school entry students undertake an international placement during their education (Law et al., 2013). These experiences are viewed as an important part of students learning experiences, where they often get to see fascinating medicine and tropical and communicable diseases that they never would in their own first world countries, as well as having a professional and personal experience that may change their life or future career path (Cooke, 2011; Radstone, 2005). There is however little evidence regarding the impact these placements have on addressing the local community's health care needs and the contribution they make in communities where resources are already stretched (Cooke, 2011; Lumb & Murdoch-Eaton, 2014; Radstone, 2005).

About the Solomons

The population of Solomon Islands is over 565,000 but its total Gross Domestic Product (GDP) per person is less than 2% of Australia's per capita GDP (DFAT, 2014). The Solomon Islands are ranked "low" on the Human Development Index (HDI) (United Nations, 2014a), which is on par with many of the nations in Sub-Saharan Africa and is a long way to achieving the Millennium Development Goals as they pertain to health (United Nations, 2014b). In 2006, the Solomon Islands were considered the poorest of the Pacific island nations and one where Australia has made substantial support via AUSTaide (DFAT, 2014).

The Solomons also suffers serious medical recruitment and retention problems with only an estimated 100 doctors for a population of 565,000, of whom 75% work in The National Referral Hospital in the capital Honiara. Most doctors outside Honiara work in solo or two doctor hospitals.

In 2012, Bond University medical school decided to explore opportunities for innovative elective placements, for its final year undergraduate medical students, in the Solomon Islands in the Pacific.

That year two of the authors undertook initial trips to the Solomon Islands to determine the appropriateness and feasibility of ongoing medical student placements there. Following discussions and agreement with the Permanent Secretary of Health for the Solomon Islands, they visited and decided, with the Ministry of Health, to make the provincial hospital in Kirakira the focus for rotations, due to its proximity to Australia. The objective was twofold in that this community would be the focus and vehicle by which students would obtain experience in a developing world community; and where the students would be making a contribution to health care by their near continuous presence in the community.

About Kirakira hospital

Kirakira is a small very remote community of 3,500 people and is the provincial capital of Makira Ulawa province, with a population of 40,000 people. The population base is Indigenous. Kira Kira is a very impoverished community with no formal governance structure, poor infrastructure and a consequently, the expected range of public health issues.

Kirakira Hospital is a small 30 bed community based hospital. Its outpatient area serves as a triage and treatment point for urgent and emergency care, and sees approximately 10,000 patients per year. There is an operating theatre, and separate mens, womens, childrens, tuberculosis and maternity wards. The hospital has very limited diagnostic services, but a reasonably well stocked pharmacy. On average there are 3-4 admissions, 1-2 deliveries and 1-2 minor operating theatre procedures daily; and several evacuations to Honiara weekly. There is a plethora of fascinating medicine for students to explore, with the main diseases being communicable tropical diseases – malaria, dengue, TB, as well as pneumonia; and the most common cause of trauma requiring admission to hospital being injuries due to falls from coconut trees. The patients that present for care will often have been brought by their family after trekking for two or three days to see the doctor (Wikipedia, 2014).

In 2013 the hospital was staffed by a single Solomon Islands doctor and 30 highly skilled nurses; who also support 16 very remote nurse run clinics across Makira Island. These nurse run remote clinics are accessible only by boat or on foot that takes several days of walking across mountainous jungle terrain. These remote nurses work as sole practitioners and they refer complicated cases on to Kirakira hospital. There is a mobile phone service in the township of Kirakira, but no coverage in any of the remote communities.

During 2013 the solo doctor, who provided medical support for the entire population of Makira Island, which included providing outreach clinics in remote areas, attending meetings in Honiara as well as a medical administration role; was also responsible for some of the medical supervision of the students. He resigned in October that year and was not replaced until March 2014.

About the Kirakira placement

During 2013, 33 final year medical students were electively placed for four weeks to support the local delivery of health care at Kirakira hospital. This is approximately one third of the graduating class, which provided a near continuous presence on the Island from mid-January to November 2013. Each group of four students were accompanied by an Australian based supervisor (either Bond Faculty or associated clinical staff) to orient and teach students during their first week of placement. Flights and accommodation were organised by the University and students made a financial contribution towards some of the expenses associated with this rotation. Students undertook a preliminary briefing education session and were provided with learning guides and a procedural logbook. A formal evaluation of the placement was conducted in the second half of 2013 to determine the activities of the placement, its perceived value to the students and the community, and its sustainability for the future.

Methodology

A scoping study was undertaken during 2012 by Bond staff. This included community and political engagement, logistics, finding suitable accommodation, coordinating travel, budget, student negotiation, supervision arrangements, significant administrative arrangements, insurance, immunisation, as well as the educational and orientation planning for the placement.

In June 2013 the placement evaluation commenced and was completed in November 2013. The evaluation included undertaking: a desktop review, semi-structured interviews with participating Bond and Kira Kira staff, and community members (n=16); a focus group with participating students (n=9) and an student survey on the electronic platform Survey Monkey, which received a 69% response rate (n=18). Students were asked in the survey to rate their level of agreement with 34 statements about aspects of their placement on a 5 point Likert scale 1=strongly disagree, 5= strongly agree, and mean scores were reported. The qualitative comments underwent thematic analysis. Interviews were recorded and hand written notes were also taken. Data from the interviews, survey and focus groups were triangulated and were synthesised into a written report with recommendations to Faculty in November 2013 (Smith, 2013). Ethics approval was gained through Bond University Research Ethics Committee protocol number RO 1712.

Findings

The evaluation found that this was an extremely valuable and personally safe placement experience for students, who reportedly developed clinical skills and acumen, cross-cultural communication and teamwork skills, and who greatly enjoyed the experience as well as learning a lot about themselves. The experience was so positive for some students it changed their future career path, wanting to now work in the developing world.

The placement has confirmed and reinforced in my mind that the 3rd world is where I want to work (FG).

Local hospital staff and community members reported that the students had made a big impact on the community, having improved the capacity of the hospital, raised the quality of care of patients, as well as the overall standards of nursing care.

We really appreciate the student presence, they are more like an MO...they also help the nurses to maintain a standard of care and we (the nurses) are very cautious about making a mistake when the students are here (I-9).

Students were viewed as 'really smart', respectful and team players who were valued by the community and local staff; and their work was seen as making a significant contribution to the local community through an exchange of experience.

We have learnt a lot from them...it is an exchange of experience...we share and they appreciate our experience (I-13)

Their presence has also contributed to the local economy through their accommodation, food and recreational activities, as well as the community wanting to see these placements leaving a legacy.

They have made a big impact on a small community, having white man around; they play sports with the kids and bring them small toys the community really appreciate that....I would like to see a legacy from all this work (I-15).

What did the students think?

There were 9 female and 7 male respondents to the electronic survey (n=18); of whom two skipped this question. Over half 54% were aged between 18-24 years and two were over 35 years. All had only undertaken one placement at Kira Kira.

Students thought the objectives of their placement had been well met. They were able to: discuss the typical medical problems facing people of the Solomon Islands (M: 4.33), compare the quality of life and burden of disease (M: 4.17) and discuss health promotion and public health issues compared with the Solomon Islands and Australia (M: 4.17). However students felt less able to apply evidence-based practice in the resource poor clinical environment on Makira Island (M: 3.22). Students thought the administrative arrangements were very well coordinated (M=4.31); the accommodation was very suitable (M=4.44); the verbal briefing (M=3.72) and the written information prepared them for the placement (M=3.65). They would have liked more information about: Pidgin language, what to take, the types of medication available, and the costs of non-academic activities such as boat trips prior to leaving.

Clinically student respondents (n=18) perceived that they could communicate OK with their patients (M: 3.61), they were confident in taking a history and performing a clinical examination (M: 4.12) and they were able to suggest appropriate treatments, given the limited diagnostic and medical surgical management at Kira Kira (M: 4.0). Respondents (n=18) also believed they had very good opportunities to perform procedures on their patients (M: 4.44), and they felt relatively confident to undertake these procedures (M: 3.72). Respondents agreed that at times they felt out of their depth clinically (M: 3.94) and at times they felt at risk of doing harm to their patients (M: 3.17). They reported good exposure and hands on experience in obstetrics and paediatrics, and opportunities to perform procedures that were not possible in Australia, as strength.

Having many opportunities to perform procedures not possible in Australia due to lack of clinicians in Makira (R-15).

Exposure to, and hands on experience in obstetrics and paediatrics (R-5).

Professionally respondents very much enjoyed working in a cross cultural multidisciplinary team (M: 4.5); felt confident working in the cross cultural environment (M: 4.28); they learnt a lot about themselves during the placement (M: 4.38) and believed the work they performed was useful to the community (M: 4.28). It was clear that students tried to learn the language and had a genuine affection for the local community.

Learning the language so as to be able to communicate to the beautiful island people and children (R-3).

We visited a local school and conducted some health promotion talks. The principal was very grateful for this saying that even being exposed to doctors visiting gives the children motivation to study harder (R-15).

Respondents (n=16) indicated that the support Bond University offered was OK-Good (M: 3.81), but they would have liked more clinical support (M: 3.75). They (n=16) generally perceived that the level of clinical supervision was OK (M: 3.13), however five disagreed or strongly disagreed that that supervision met their needs. This was a major challenge for the students and for Bond during these placements. The following comments highlight these issues:

An Australian doctor present to guide care...I feel I didn't learn much in terms of clinical knowledge without the expert opinion to confirm or deny our own clinical impression (R-10).

Students need regular direct supervision by a medical officer (R-14).

Respondents (n=16) indicated they did not have sufficient opportunity to raise their issues and concerns in the post placement debriefing experiences (M: 2.83). They asked for opportunities for personal as well as professional debriefing sessions, as well as telephoned sessions weekly during the rotation. This issue was addressed during 2014 and a mobile phone was provided for students to use to call their clinical supervisor in Australia. Many students used it daily, some weekly.

One on one debriefing upon return, at least an hour to be offered, also a private phone call weekly to touch base with mental health as it's an isolated place and people respond differently to cultural isolation (R-3).

It was clear that the resources provided did not meet the student's needs (M: 2.69), specifically lack of internet access for Skyping supervisors and educators, information and resources and guidelines. Suggested improvements included: Solomon's specific medical resources in the form of textbooks or diagnosis/management guidelines; improved internet access and perhaps basic student medical kits/equipment for the care of patients.

Resources specific to Solomon Island/PNG health i.e. books you can buy from the government as guidelines; some are in the Kira Kira hospital but cannot be removed from the premises. Would be a good guide for students so we know what drugs are available to prescribe and the management of common conditions (R-6).

Internet access at the guesthouse and the hospital would be fantastic (R-19).

Procedural kits for students – cannula, catheters, speculums etc. (R-7)

On a personal level student respondents (n=16) strongly agreed they enjoyed living in the remote community (M: 4.31), working and socialising with the other students (M:4.25) and very importantly, they felt safe in the community (M: 4.31). Students clearly enjoyed the personal aspect of the placement as well as the professional, particularly the culture, the people, feeling welcome and social events:

Living and experiencing a different culture and country (R-15).

Feeling welcomed by the community (invitations to play soccer, visit local school and village etc) (R-14).

Weekend trips to the islands (R-14); Travelling on the weekends to sight-see (R-7).

Respondents listed the three best things (n=46 responses) about the Kira Kira placement, which were common themed. The best thing was the clinical / professional experience (n=18), followed the people /community (n=10), professional autonomy (n=6), recreational (n=6), teamwork (n=6).

Being exposed to medical conditions which are not common in Australia (R18).

Opportunity to gain experience in a place close to, but a world away from urban Australia (R-6).

Creating relationships with the nursing staff and doctor, hostel owners and extended community (R-7).

Opportunity to see our own patients and make/suggest the management of their conditions more so than we usually get the chance to do in Australia (R-5).

Exploring the surrounding bountiful paradise islands in the sun on the reef, on the weekends, generating tourism income (R-3).

The peer mentoring and supervision model

Over the course of the year it became apparent that it was not possible for the solo doctor, with the range of responsibilities that the position entailed, to offer continuous supervision for the students on placement. Initially there was such concern about the unreliable and inconsistent hospital supervision that consideration was given to stopping the placement because of fear that the placement was not sustainable and placed students, and the patients they were treating, at risk. It became clear that if we required the same level of medical supervision of students in such a remote setting that the placement could not continue.

Following feedback from students several improvements were made to allow the placement to continue despite the challenges. A key way we addressed the concern of inadequate supervision at the hospital we developed a 'peer mentoring and supervision model', which turned out to be the strength of the program. The model was not so much 'what the students' do' but the 'way in which they do it'. Each morning the students worked in rotating pairs, within their scope of practice, and completed a ward round of all patients in the hospital under the supervision of the senior hospital nurse or the medical practitioner. In the afternoon students would attend either the medical or nurse run outpatient clinics or assist with any minor procedures in the operating theatre or delivery suite. Due to limited resources and the inability to undertake many basic investigations (e.g. LFTs, U&Es, radiology and pathology services) students had to use their hands and clinical acumen to jointly make their clinical decisions.

This is a very valuable experience for students they work with a degree of autonomy and they get challenged by things that push their knowledge and skills...they are no longer in a passive role they are diagnosing and managing patients (I-1).

Twice a day the student pairs met together and discussed what they thought the provisional diagnosis, based on their clinical assessment. They then jointly negotiated a management plan, in consultation with hospital staff and using the resources available. Students also worked in pairs as first on-call for any afterhour's emergencies and also used the mobile phone provided by the

University to seek advice, guidance or support from the Australian clinicians as required. Students would admit all the new patients into hospital, undertake minor procedures such as inserting IVs, prescribing, plastering, suturing and write in the patients' medical files of each patient.

Several students also participated in community visits, immunization, school screening and health promotion activities and most undertook 3-4 deliveries per rotation.

I feel like the Solomons elective was a very beneficial experience and has strengthened my clinical skills as a future doctor. Supervision was an issue that arose and one point however I feel as though we were able to handle the patients with our own clinical knowledge and management and the assistance of the head nurse and nurses and who are very experienced. ...I believe that we truly had a positive impact on the hospital by being there, and in many circumstances the patients received better care than if we weren't there (R-15).

This peer mentoring and supervision model could not be found in the literature, which mostly describes mentoring, and buddy systems or group processes as part of social work activities. Yet the model is part of the platform for the placements clinical success.

Discussion

There are many positives to this final year placement, which are more than just clinical experience. Students found the placement personally, professionally, environmentally, clinically and culturally enticing, as well as personally safe and for some a life changing experience. It was clear that the local staff and community saw the students as making a great contribution to its health care needs and were keen for the program to continue.

Eight key features of this student placement were identified as key to its success:

- the peer mentoring and supervision model
- sending four students together rather than one ad hoc
- having safe suitable accommodation for 4 students at one time
- providing a continuous presence in the community for 36 weeks per annum
- having the placement organised by the university rather than the student
- having a central community person to communicate with and good community support
- having a lot of goodwill from the local medical and nursing staff, the supervisors and the community
- being willing to have a go, with good Faculty support.

There was however a number of significant challenges of the placement – sustainable supervision arrangements, preparation and debriefing processes, as well as resources – not to mention dealing with an earthquake, cyclones and tsunami alerts. This program continued to evolve through 2013 and now 2014 to address some of the limitations to this placement. Numerous processes were put into place by the University throughout 2014 to ensure students were more prepared and were more supported at a distance. The positive impact and reassurance provided by the peer mentoring model was the basis by which the team was able to convince the University that this placement should continue and be expanded in 2014.

By the end of 2014 over 60 final year medical students will have undertaken a placement at Kirakira Hospital. These students have also formed a charity called, "IUMETOGEDA" which is pidgin English for 'Let's work together', they have raised several thousand dollars for Kira Kira (iunitugeda, 2014) . It is now a university wide experience with the addition of students from other faculties including the Doctor of Physiotherapy, Public Health Nutrition, Sustainable Development and Masters of Project Management students working together to support the local community in Kira Kira (Wikipedia, 2014).

The legacy now will be to see if we can have a lasting partnership and develop a unique campus for health professional education that makes an impact on health outcomes for the local community.

Practice points

1. The peer to peer mentoring and supervision model provides a method of student supervision that could be replicated in other resource poor countries.
2. International student placements in third world countries can be sustainable and contribute to the health care of the community.
3. Universities should consider multidisciplinary placements to build capacity of the workforce in remote third world communities.

References

Al-Samarrai, T. (2011). Adrift in Africa: A US medical resident on an elective abroad. *Health Affairs, March*(30:3), 525-528.

Cooke, M. (2011). Medical students in developing countries: Some benefits for sure but a mixture of risks. *J Gen Intern Med, 26*(5), 462-463.

DFAT. (2014). *Solomon Islands: Fact sheet* Canberra: Australian Government, <http://www.dfat.gov.au/geo/fs/solo.pdf>.

iumitugeda. (2014). Iumi Tugeda, . Retrieved 6th June, 2014

Law, I., Worley, P., & Langham, F. (2013). International medical electives undertaken by Australian medical students: current trends and future directions. *MJA, 198*, 324-326.

Lumb, A., & Murdoch-Eaton, D. (2014). Electives in undergraduate medical education: AMEE Guide No 88. *Medical Teacher, 1-16*.

Radstone, S. (2005). Practising on the poor? Healthcare workers' beliefs about the role of medical students during their elective. *Journal of medical ethics, 31*, 109-110.

Smith, J. D. (2013) An evaluation of the 5th year placement program at Kira Kira Hospital on Makira Island, Solomon Islands. Gold Coast: Faculty of Health Sciences and Medicine.

United Nations. (2014a). Human Development Index. Retrieved 20.8.14, 2014

United Nations. (2014b). Millennium Development Goals. Retrieved 20.6.14, 2014

Wikipedia. (2014). Kirakira. Retrieved 3rd June, 2014

Presenter

Janie Dade Smith has lived most of her life in rural and remote Australia. She is now Associate Professor (Medical Education) and Academic Lead, for the *Faculty of Health Science and Medicine at Bond University*. She previously ran a national company—*RhED Consulting Pty Ltd*—where she undertook consultancies for health departments, universities, professional colleges, government and not for profit organisations. Janie is the author of the very successful text *Australia's Rural and Remote Health: A social justice perspective*, which is used by many Australian universities and organisations. Janie is the President of *CRANApplus*—the peak body for remote health in Australia.