

The SSave Grant

Symbion Hospital Services and Sanofi Volunteer Engagement Grant

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Final Report – 12 month project (August 2011 – July 2012)

The contribution of an Australian Clinical Pharmacist in the developing and developed world



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- A. Volunteer internship at World Health Organisation, Geneva, Switzerland – (May – July, 2012)



Travelling each day in a three-wheeler 'tuk-tuk' to work in Sri Lanka

Part 1 - Helping to introduce Clinical Pharmacy to Sri Lanka

A. Original plan for Sri Lanka

The original plan for this project utilised links established via groups who had previously undertaken similar projects in Sri Lanka, though for a shorter period of time.

Dr Ian and Judith Coombes, together with their team of Clinical Pharmacists from Brisbane travelled to Sri Lanka in 2010 for approximately 8 weeks, focusing on teaching Clinical Pharmacy modules for the first time to Bachelor of Pharmacy candidates at University of Sri Jayewardenapura and Peradeniya University.

Their experience helped to shape and direct the first two objectives of the original plan for the project listed below

Dr Thushara Ranasinghe undertook a project in 2010 with the Burnet Institute (Melbourne), as a visiting Medical Officer from the Ministry of Health in Sri Lanka. He assisted with introducing contacts working within the WHO Colombo and University of Colombo who were seeking to develop a national formulary similar to the British National Formulary or the Australian Medicines Handbook.

Objectives

- To continue clinical pharmacy and pharmaco-therapeutics training for lecturers at Sri Jayewardenapura University (USJ) and Peradeniya University
- Clinical Pharmacy lecturing at Sri Jayewardenapura University and Peradeniya University
- Development of Sri Lankan Medicines Formulary Reference at WHO/University of Colombo

B. Introduction to Sri Lanka (August – November, 2011)

On arrival in Sri Lanka, the first priority was setting up a place to live in close proximity to at least one place of work – University of Sri Jayewardenapura. The chosen accommodation was a simple 1.5 bedroom apartment with kitchenette and living area. This was a short 20min ‘three-wheeler’ ride from the university.

My initial role at the university involved assistance with setting up the OSCEs (Objective Structured Clinical Examination), for teaching material that had already been conducted in the semester.

This was followed by teaching the Introductory Clinical Pharmacy module to the new group of students commencing their final year of the degree. The introductory module included and expanded on previously taught material which focused on:

- Introduction to Clinical Pharmacy
- Medication History Interviews
- Medication reviews (clinical reviews and therapeutic drug monitoring)
- Medical terminology
- Evidence Based Medicine
- Clinically significant drug interactions
- Communication
- Medication Safety
- Providing medicine information to patients
- Providing Information to Health Professionals

I also conducted a short series of lectures specifically requested by the department on Toxicology and Hospital Drug Management.

This last lecture topic was challenging at the time as I had not had previous exposure to the Sri Lankan Hospital Pharmacy system. To address this gap, I organised a visit to the local hospital to understand how their system was set up and co-ordinated. This was an eye-opening experience, to say the least. Hospital pharmacists are largely consumed with medicine supply issues. With no computers available to them, they spend a significant portion of the day transferring balances and counts of stock from books, and ensuring that the wards and dispensaries have verifiable quantities of stock. There are no clinical roles for pharmacists available in the current system.

Teaching the Introductory Clinical Pharmacy Module at Sri Jayewardenapura University was a rewarding experience thanks to the lovely students and junior staff. They went out of their way to make me feel welcome.



The lovely students in my class at University of Sri Jayewardenapura University

In October 2011 I travelled to Peradeniya (3.5 hour train ride inland towards Kandy) to teach the same introductory block of lectures to the University of Peradeniya students. The lectures were the same as those delivered to the Sri Jayewardenapura University students, however it was taught over an intensive 4 day block. The cooler climate, welcoming students and very supportive senior staff meant that although it was an intensive teaching period, it was very enjoyable.

The Sri Lankan National Formulary (or Medicines Handbook) was not progressing at a pace that I was satisfied with. I specifically requested for a local pharmacist to be employed for me to train and work with. This was essential to ensure sustainability of the formulary. As can be appreciated, this is a huge task that is normally put together by teams of people and I was not willing to take it on if there was no guarantee that someone would be able to continue the work of maintaining, editing, reviewing and updating the formulary.

My contribution consisted of arranging all registered drugs contained in the Sri Lanka Drug Index (2010) into chapters and identifying if there was a monograph available in the AMH or BNF that would be of assistance. Surprisingly there were many medicines that were registered in Sri Lanka that were not available in either standard reference.

Unfortunately no funding for a pharmacist could be assured from the Ministry of Health, which meant that no recruitment was conducted.

C. A change in direction and focus

In late November/early December I commenced work on a project proposal idea in collaboration with Dr Ian Coombes and Judith Coombes. This idea involved collaboration with the South Asian Clinical Toxicology Research Collaboration (SATRC) – in particular Prof. Andrew Dawson.

The idea was based on the premise that although Sri Lanka was producing capable pharmacy graduates with skills and knowledge in Clinical Pharmacy, these graduates were being severely under-utilised. The lack of utilisation was in spite of opportunities that had become increasingly apparent on hospital visits conducted by all members of the research team.

In December 2011 I put together a research proposal and ethics application for submission – which included valuable input from the Coombes Brisbane team of pharmacists. This was submitted to Colombo North Teaching Hospital Ethics Committee and submitted just before Christmas.

The project was titled: **The impact on the quality use of medicines of adding clinical pharmacists to a medical team in a Sri Lankan teaching hospital**

The objectives came in two main parts:

- Year 1: Identify opportunities for a Sri Lankan pharmacist to improve the quality use of medicines. This could involve identifying patients that have a poor understanding of

their medicines via medication history interviews, identifying medicine related problems with drugs charts or prescriptions etc.

- Year 2: Perform interventions which seek to address the opportunities for improved quality use of medicines. This would include joining the medical team rounds, counselling patients on discharge from hospital etc.

After Christmas we received ethics approval and this opened the gates for a brand new focus area for the next half of my year in Sri Lanka.

Due to the inability to be in multiple places at once, I decided that I would resign from my role at University of Sri Jayewardenapura in order to allow focus on this new project. It was clear that successful implementation and significant results in this project would achieve more long term improvement in the field of Clinical Pharmacy in Sri Lanka

D. Three major focus areas for the next five months

- i. Teaching Clinical Pharmacy at University of Peradeniya**
- ii. Needs assessment for a National Drug Information Centre**
- iii. Clinical Pharmacist research project – Colombo North Teaching Hospital**

From December 2011, my focus turned to the above three areas which will be discussed in turn.

i. Teaching Clinical Pharmacy at University of Peradeniya

I visited Peradeniya again 3 more times over the next 5 months. Each visit varied from 1-2 week blocks. The teaching was intensive but extremely rewarding. As I had already taught the introductory Clinical Pharmacy module in October 2011, the focus of these visits was to teach the therapeutic areas in the most *practical* and *interactive* manner possible. Group classes consisted of about 20-40 students (depending on whether both or single year levels were attending). Therefore, lectures were often followed by tutorials which were aiming to allow the students to practice the skills learnt in October (medication history interviews, medication reviews, therapeutic drug monitoring, patient counselling etc).

Clinical and therapeutic areas taught included the following and many more:

- Endocrinology
- Cardiology
- Gastroenterology
- Infectious Diseases
- Neurology
- Psych
- Dermatology
- Respiratory

As well as teaching, I also supervised the final year students on their hospital visits. This was a 4 hour round trip by bus to a very hot part of the country. The visits included identifying appropriate patients, and supervising students while they conducted the medication history interview and medication review. Students were then required to present their patient (observing confidentiality requirements) to the group and discuss medicine related problems that had been identified.



Teaching at Peradeniya



Supervising clinical placements at Kurunegala Hospital

ii. Needs assessment for a National Drug Information Centre

Although the Sri Lankan Medicines Formulary arm of the project had not taken off as expected, it did sprout interest from the Government Medical Officers Association (GMOA) of Sri Lanka. The GMOA has a similar role to that of the (Australian Medical Association) AMA in Australia.

The GMOA were particularly interested in establishing the first National Drug Information Centre which would service health professionals and members of the public. The GMOA believed that the first step was to assess the likelihood that such a service would be used. I suggested a survey which would be similar to a needs assessment. It would identify where people currently go to find information about medicines, and identify if they would utilise such a service. It also hoped to identify what would stop users from calling (barriers).

The need for an independent and unbiased source of drug information is quite substantial in Sri Lanka. The pharmaceutical industry representatives are essentially the main source of information in addition to knowledge shared by experts in that particular clinical area. However, there are limitations to both these sources of drug information.

Thanks to a generous donor in Melbourne, I was able to take across \$700 worth of brand new texts and references for the Drug Information Centre.

iii. Clinical Pharmacist research project – Colombo North Teaching Hospital

After completing the project proposal and ethics submission described in part C above, achievements over the next few months included:

- Advertising for a Pharmacist (who had taken part in the Clinical Pharmacy modules created by the Australian team of pharmacists)
- Co-ordinating and conducting job interviews, creation of position descriptions, employment under SACTRC
- Creation of data collection sheets, standard operating procedures and overall daily methodology
- On the job training of the Clinical Pharmacist, including examining patient data and in depth case study discussion
- Scrutinising, reviewing and fine-tuning the project method such that measurable and meaningful results would be obtained.
- Conducted staff survey on the perceived benefits or concerns of introducing a clinical pharmacy service to the ward based health care team
- Assisting with the day-to-day implementation of activities of the project, including troubleshooting any problems that may have appeared.
- Liaising with the Principal Investigators and supervisors established in Sri Lanka

These tasks were supported by the Coombes team in Brisbane who acted as a crucial group of editors and reviewers for the documents created and also participated in the interviews and fortnightly review meetings via Skype.



Sri Lanka's first Clinical Pharmacist – at Colombo North Teaching Hospital



Conducting a medication history interview

The Therapeutic Guidelines must also be acknowledged for the generous donation of online access to their invaluable references. These kinds of guidelines are not readily available in Sri

Lanka, so access to the eTG was exceptionally useful for the pharmacist recruited for Year 1 of the study.

E. Current status

After leaving Sri Lanka, I wrote the two sets of Clinical Pharmacy exams and answers for University of Peradeniya.

I am continuing to pursue the Ministry of Health to follow through with their promise to fund the Drug Information Centre.

The Coombes team in Brisbane and myself are continuing to support Sri Lanka's first Clinical Pharmacist in her research role via fortnightly Skype meetings. Cathy Lynch and Nimali Peters also visited the pharmacist in August to assist with and see first-hand how the project was progressing. This visit was also enabled with thanks to the SSave Grant.

Later this year, we will be looking at evaluating the data collected from the first year of the study and help establish what the interventional year will entail as well as recruit the second pharmacist for the project.

Part 2 - Volunteer internship at World Health Organisation, Geneva, Switzerland

Part 2 of my 12 months away turned out to be an unexpected surprise.

An internship position with the WHO was an opportunity I had heard about as a pharmacy student, but never actively pursued as I thought it was well out of my reach. However, while in Sri Lanka I applied for the internship in Geneva as I believed that the timing was right and that I would never know if this dream would be a possibility unless I tried.

In March I received confirmation that my application had been successful and that I could commence the 12 week internship on May 3. Although this meant that my time in Sri Lanka would be slightly shorter than expected it did mean that I would be able to continue working on aspects of my focus areas in Sri Lanka, but from Geneva.

The major focus of my work in Geneva centred on national Essential Medicines Lists (EMLs), National Reimbursement Medicine Lists (NRMLs) and the selection of medicines for these lists. This was part of a larger project called the Pharmaceutical Country Profile Project. The detail of this larger scale project can be found at:

http://www.who.int/medicines/areas/coordination/coordination_assessment/en/index1.htm
↓

A sub-analysis contained in my report analysed the selection of antibacterial medicines on the EMLs and NRMLs. This was an arduous task, however has already sprouted discussion with academics in the field to pursue further examination and publication of these results. The end users of this report were the Expert Committee for Selection of Essential Medicines for the WHO as well as Selection Committees for individual member states who look to the WHO for guidance on selection and rational use of medicines.

My experience in the preceding nine months in Sri Lanka provided incredibly useful insight into the reality of EMLs in developing countries.



Outside the main building at WHO, Geneva



Outside the UNAIDS building at WHO, Geneva

Conclusion

Summary of achievements:

- Taught the current 3rd and 4th Pharmacy students at University of Peradeniya the entire Clinical Pharmacy module
- Supervised their clinical placements
- Recruited and trained Sri Lanka's first Clinical Pharmacist
- Developed all data collection tools and methodology for the first project in Sri Lanka to examine the opportunities for pharmacists to impact quality use of medicines (supported by SACTRC and the Coombes team of Brisbane pharmacists)
- Assisted with the preliminary work requested by senior public health experts in Sri Lanka surrounding a National Formulary as well as a National Drug Information Centre

Summary of personal gains:

- Insight into the challenges and struggles faced by pharmacists and health professionals in developing countries
- Understanding of the cultural challenges that exist in these settings
- An appreciation for the difference in the perceived capacity and potential contribution of a pharmacist held by other health professionals in Sri Lanka
- Understanding of the rewards of teaching students who truly appreciate the time and effort put into teaching them
- Trust in my own knowledge and skill set
- An appreciation for the fact that not all well intended projects in developing countries will succeed. Some will and others will not – however none are a waste of time. The failures are just as crucial as the successes as long as they are used as a learning tool for improvement in the next phase.

I would like to take this opportunity to thank the Symbion Hospital Services and Sanofi Volunteer Engagement Grant Committee for supporting me on this amazing, life-changing experience. I feel that I have both contributed and gained from my time in Sri Lanka and Geneva. I whole heartedly encourage all young pharmacists who want to take some time to share their energy, passion and knowledge with resource poor countries to apply for this grant and take up this challenging and rewarding opportunity



Myself (left) and Thushani Guruge (right) – Thushani is the Pharmacist currently working on the project at Colombo North Teaching Hospital



Top performers in the OSCEs (Observed Structured Clinical Examinations) at Peradeniya University 2012