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PRELIMINARY REPORT

Rural medical education: five medical students spend a year in rural Port Lincoln, Australia

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ABSTRACT

Context: The University of Adelaide and the University of South Australia established the Spencer Gulf Rural Health School (SGRHS) as a joint venture to facilitate rural health professional education and research. Annually a cohort of medical students from the University of Adelaide volunteer and are placed in various SGRHS 'learning centres' throughout rural South Australia for the 5th year of their medical training.

Issues: This article addresses the issues encountered in one of these 'learning centres' in Port Lincoln, rural South Australia. The challenge was to integrate five students into a general medical practice and the local hospital and to provide high quality medical education for the academic year.

Lessons learned: Medical practice, student and university requirements were identified and a range of strategies implemented to address these. To date, four groups of medical students have successfully completed their rural academic year in Port Lincoln since 2003. The local systems have evolved to allow five students to integrate into the practice and hospital using a range of teaching and learning methods and resources.

Key words: Australia, general practice, rural medical education, undergraduate.

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Context

The Spencer Gulf Rural Health School (SGRHS) is a joint venture of the University of Adelaide and the University of South Australia. The SGRHS manages the University of Adelaide's Rural Clinical School (RCS) and Rural Undergraduate Support and Coordination contracts, funded as part of the Australian Federal Government's Rural Health Strategy to provide medical student education in rural locations[1]. A requirement of the RCS funding is that 25% of Australian-origin medical students at each medical school spend one year of their clinical training in a rural location.

Flinders University established the Parallel Rural Community Curriculum (PRCC) in rural South Australia from 1997. They have subsequently demonstrated that medical students can learn the traditional medical disciplines[2] in an integrated education mode in a rural community[3]. The University of New South Wales subsequently established a patient-centred community curriculum in rural Wagga, New South Wales, where medical students follow individual patients through the necessary sequence of medical practitioners and health services throughout the course of an illness[4,5]. The evidence from these programs convinced medical schools that this was a credible method of medical education. The federal government demonstrated their confidence by investing heavily in the RCS program.

The SGRHS decided to use a modified 'Flinders model', basing students in five rural South Australian towns: Whyalla, Port Augusta, Kadina, Clare and Port Lincoln. The PRCC model places one, two or occasionally three students in a general practice. However, in order to meet its student targets, SGRHS needed to base up to five students in each practice. This article describes how SGRHS met this challenge and the lessons learned in the process, using the Port Lincoln experience as a case study.

Location

Port Lincoln is a busy regional centre with a population of approximately 14 500. It is located at the tip of the Eyre Peninsula and is 660 km by road, or 45 min by air, from Adelaide, the South Australian state capital. The major primary industries are agriculture, fishing and aquaculture. Port Lincoln is experiencing significant economic growth and development.

At the time there were three general practice clinics in Port Lincoln, one large group practice (the Investigator Clinic) and two smaller clinics employing 1-2 GPs each. There is an accredited regional 50 bed hospital and two resident medical specialists (a general surgeon and a general physician). The hospital is also serviced by visiting medical specialists from Adelaide who provide a range of services. The hospital does not employ resident medical staff. All GPs have admitting rights and clinical privileges and together they provide accident and emergency, obstetric, anaesthetic, surgical and general medical care to patients in the hospital setting. There is a local Indigenous population of approximately 1000 people, served by the Port Lincoln Aboriginal Health Service (PLAHS).

The Investigator Clinic is a privately owned medical practice staffed by 11 GPs, and nursing and administration staff. The practice provides to the community GP consulting, an onsite emergency service (nurse triaged), a treatment room, asthma clinics, immunisation clinics and a pathology collection service. The practice is also involved in clinical trials, trains GP registrars and provides medical services to the adjacent PLAHS. The local Eyre Peninsula Division of General Practice (EPDGP) coordinates continuing professional education.

2003 Pilot program

In 2003, a group of ten 5th year medical students volunteered for a pilot program for 26 weeks of the 36 week academic year in SGRHS. These volunteer students were

interviewed to ensure they understood the implications of the rural program. Initially students were brought together for a 2 week orientation program to cover core content for a year of rural practice. Groups of two students spent 6 weeks in each of four rural learning centres, with an additional 10 weeks in Adelaide hospitals. The four learning centres in the SGRHS provided a different focus on medical education:

- human reproductive health at rural Port Pirie
- paediatrics and child health at Port Augusta
- an integrated program in rural procedural general practice at Port Lincoln
- rotation to a small rural practice.

Issues

Curriculum delivery

The curriculum is determined by the Curriculum Committee of the medical school in Adelaide, who determined that the 5th year of the undergraduate program was the appropriate year for students to be placed in the RCS. The SGRHS was required to deliver the same curriculum as in urban Adelaide but was permitted to integrate the learning of subject areas. As with the other emerging RCS in Australia, the onus was on the individual RCS to convince the medical school and the potential students that it was able to deliver the curriculum to an equivalent standard as the urban clinical schools.

Lessons Learned

Curriculum delivery

From 2004 onwards, students are spending most of the year in one town, learning in an integrated fashion. Port Lincoln is allocated five 5th year medical students who are based in the Investigator Clinic for the academic year but rotate to other rural learning centres twice per year (in 6 week blocks) for paediatrics and human reproductive health. One of the authors, a Port Lincoln GP (SB), was employed as a clinical lecturer with responsibility for overseeing curriculum delivery for the students and coordinating their placements.

In 2003, students were overwhelmed by the excess of learning opportunities encountered. They were seeing a large number of patients in quick succession and were unable to take in all the clinical learning available to them. In 2004, the clinical consulting load for students was reduced to half days only to prevent overload and provide an appropriate balance of consulting, lecture attendance, study time and leisure time.

When asked to supervise five students, the clinic GPs were wary about whether they could provide enough medical experience. The solution was to develop a rotating roster system for the students. An overall roster plan for the year is developed, initially providing a framework that ensure all students are spending equal amounts of clinical time in the practice and in other clinical settings. The students are rostered to consult with the visiting gynaecologists, orthopaedic specialist, dermatologist, ear nose and throat specialist and radiologist. The students' time in general practice is also pre-arranged so they spend time with all the GPs and become involved in their particular medical interests. Clinical tutorials are provided by SB each week and are based on the curriculum and student needs. Tutorials are 'hands on' or theoretical. This tutorial format continues today and opportunistic learning experiences occur regularly.

The local resources that enable delivery of the curriculum are listed (Table 1).

The SGRHS provides a 'teach the teacher' workshop for GPs based on the 'Teaching on the Run' model[6]. This workshop, initiated in Port Lincoln in 2002, ensures that all GPs are given practical, specific and consistent information about student learning. It is conducted each year and now includes clinicians from the other seven sites with SGRHS medical student places. Innovations in medical education and evolution within SGRHS's program are brought to the attention of the clinicians at these workshops.

Table 1: Learning clinical skills in Port Lincoln

Subject	Curriculum	Implementation
Human reproductive health (HRH)	Antenatal care Intrapartum care Post partum care	One 6 week core block away at specialist HRH placement. One week in five in PL including 'on call' role. Birth rate approx. 270 per year†. Rostered to consult and operate with visiting gynaecologist.
Anaesthesia	Pre operative management Induction and management of the anaesthetised patient. Perioperative management Post-operative management	One week in five in operating room rostered with anaesthetist in PL - approx 1500 cases per year†. Rostered to endoscopy and minor procedures – approx 2300 per year†.
Geriatrics	Assessment, diagnosis and management of older patients	Exposure in aged care facility. Long case and rehabilitation case presentation. Video conference tutorials (weekly).
Paediatrics and child health	Assessment, diagnosis and management of paediatric clients Primary health care	One 6 week core block away at specialist placement. Regular exposure to paediatric cases in general practice and acute setting.
General practice	Assessment, management and evaluation of all aspects of client care in the general practice setting Primary health care Independent and supervised consultations Accident and emergency procedural skills Triage, assessment and evaluation Resuscitation	Rostered for 12 weeks in general practice setting in PL with variety of GPs. IC manages approx. 2000 patients per week. One week in five in PL; 24 hour shifts including 'on call' role. Approx. 8100 presentations annually in 2004/2005†.

PL, Port Lincoln. IC, Investigator Clinic.
†Data from the Port Lincoln Health Services *Annual Report 2004-2005*.

The Faculty of Health Science at the University of Adelaide is engaged in the program and the Curriculum Committee has visited Port Lincoln. Their initial caution was replaced by enthusiasm for rural medical education once they heard from the students and saw the program in action. One of the Port Lincoln-based authors has become a member of the Year 4/5 Course Committee, and is involved with research into rural-based workforce planning. Her fractional commitment has increased to allow her to provide clinical teaching and assume an academic role within the faculty.

Practice logistics

Students were rostered with two or three of the GPs within any 6 week period. This was done to allow the students to be part of the continuity of care of individual patients but also to expose students to multiple GP consulting/ teaching styles and a variety of clinical presentations. Due to GP or student absence, students sometimes feel they have little clinical time with particular GPs. This reflects the unpredictable nature of rural general practice. The GPs have become active teachers, seeking out students to show them interesting cases. Gaps in a student's knowledge or personal or emotional problems are readily apparent when they spend time one-on-one with experienced clinicians.

Appropriate signage inside and outside the clinic advises clients that the practice is a teaching practice. Patients are given two opportunities to decline to have a student present during their consultation. The GPs are remunerated through

the Practice Incentive Payment system for time spent with students.

Student learning resources

A room in the redeveloped Investigator Clinic is rented by SGRHS and equipped for student use (eg providing IT and other resources). Students now have their own area for study time, independent consultation, confidential discussions with the GP and accessing information from the internet.

A videoconferencing system was installed in 2003 but did not become fully functional until the beginning of 2005[7]. This system allows Adelaide-based medical lectures to be videoconferenced to Port Lincoln in real time and is also used for dedicated tutorials among the rural students throughout SGRHS. There are still some issues with lecturers not always adapting their lecture style to suit distance delivery.

Social issues

In 2003, one of the authors was employed as the student coordinator for the Port Lincoln learning centre. Students are provided with fully furnished accommodation which SGRHS has purchased or rented near the Port Lincoln Hospital. The student coordinator manages the learning centre, provides logistic support for the medical and other health professional students and liaises closely with the academic staff. An orientation package facilitates student integration into the health service and community. Students are introduced to members of various sporting and professional bodies, health services staff, the EPDGP staff and are given information relating to community activities and groups.

The majority of the students give up paid employment and city-based accommodation to undertake the rural program. In 2003, the SGRHS evaluators identified students' financial insecurity as a major negative aspect of the rural program, and a weekly living allowance of $100 is now provided, in addition to accommodation and travel expenses.

Capital works funding from the Department of Health and Ageing allowed the development of a new campus building in Port Lincoln Hospital grounds to accommodate staff and students, and to provide a base for education and research. This building was officially opened on 1 February 2007.

Conclusion

The Investigator Clinic in Port Lincoln has been able to provide clinical learning for five medical students since 2004. Now in its fourth year, the program's educational effectiveness depends on a group of committed GP teachers, a hospital that is supportive and a local GP salaried to provide education. A student coordinator manages the students' social needs, including orientation, accommodation, timetabling, travel and a living allowance.

The Port Lincoln experience has allowed SGRHS to replicate this model in rural Clare and Kadina (from 2004), Whyalla (2004 and 2005) and Port Augusta (from 2006). The increasing number of medical students in Australia will place pressure on clinical learning sites. Rural general practice remains an ideal site to learn clinical skills. The ability to teach multiple students at once will contribute to the educational demands of this next generation of medical students.

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improvement of the program in response to student feedback.

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