The SWAG:

Integrating Rural Medical Curriculum Placements into the Community using the Internet

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Abstract

Medical students in the first two years of the five year curriculum of the Monash University Faculty of Medicine undertake three weeks of residential placements in rural areas. The School of Rural Health is responsible for organising these placements, and is encouraging health workers and other people in these communities to become actively involved in the content and delivery of the residential placements. The School has established a web-based portal with multiple entry points to enable efficient and cost effective communication for and between all the geographically disparate groups involved in the placements – academics, students, rural health workers and rural communities.

Introduction

The new five year undergraduate medical curriculum of the Faculty of Medicine, Nursing and Health Sciences at Monash University commenced in 2002. The curriculum provides medical students with an opportunity to become involved with rural communities and rural culture beginning in the first year of their course. This is achieved through residential placements conducted at various sites throughout rural Victoria organised by the Monash University School of Rural Health (SRH). In both first and second year, more than 200 students undertake the rural placements.

The placements have been developed in response to the emerging view in medical education circles that there is intrinsic value in placing undergraduate students in rural communities for extended periods of time as it provides an excellent opportunity for students to learn clinical medicine as well as the discipline of rural health[i]. There is in Australia, as in many other countries, a significant shortage of medical practitioners in rural areas[ii]. One aim of this rural placement program is to improve the chance of medical graduates choosing to work in a rural area, as there is evidence that a positive exposure to rural health in undergraduate years can increase recruitment to rural areas after graduation[iii].

A key issue is coordinating the flow of information in an efficient and cost effective manner between students, Faculty, rural health workers and the rural host communities. The key strategy the School is adopting to address this issue is establishing a web-based portal, known as the SWAG. The portal has multiple entry points for each of the above geographically disparate groups involved in the placements.

The portal offers health professionals and other community members in rural towns the opportunity to contribute to the placement content and process, in particular to provide students with accurate and contemporary information on placement locations. It is hoped that this approach will enhance the students'

rural exposure by giving them the opportunity, in association with other linked databases, to research a wide range of data relevant to the area that they will be visiting and therefore be well prepared to undertake activities to meet the learning objectives for their placement.

The Placement

The rural placements build on knowledge, understanding and skills developed by students throughout their coursework, and extend their understanding of the nature of rural medical practice reflected in the importance of place, rural diversity, and the health services and facilities available in a rural location. The placement also provides a foundation for the study of rural health in later years.

The residential placements are undertaken at a number of rural sites across Victoria. These sites will include Mildura, Echuca, Swan Hill, Bendigo, Trafalgar, Inverloch, Bairnsdale, Colac and Corowa, which are spread across a geographical area similar in size to that of the United Kingdom. Please consult Figure 1 for site locations.

There is considerable variation across the sites in population, climate and geography, although all have access to within the town areas to a good range of telecommunications services including dialup Internet services and GSM mobile services. The students also have access to a wide range of primary and secondary care health service providers at the locations. A brief description of each of the placement communities follows.

- Mildura (population 24,000) is 550km from Melbourne, and is a semi-arid remote area on the margins of desert country. It is the only town in this group to have hybrid fibre cable services available. The major industries in Mildura are grape and fruit growing, although it is becoming a popular tourist destination.

- Swan Hill (population 22,500), about 320km north of Melbourne, has a similar climate and primary industry base to Mildura, although it is less geographically remote. Both Swan Hill and Mildura are serviced mainly by primary care practitioners, and small secondary care hospitals.

- The city of Bendigo is a major provincial centre 160km north from Melbourne, with a population of 82,000. Bendigo has a wide range of secondary and primary industries, and has a large number of specialist medical practitioners in addition to primary care practitioners. The city has a large hospital (over 200 beds), and provides high-level secondary care services.

- Echuca (population 12,000) is 210km north from Melbourne. It is a growing tourist town, which has a small hospital and medical services are provided mainly by primary care practitioners.

- The town of Corowa (population of 4,500) is 365 km northeast from Melbourne. The town is at the heart of a region with thriving wine growing and other primary industries. The region is serviced mainly by primary care

practitioners, although there are specialist services available at nearby large centres that have secondary care hospitals.

- Colac (population 13,000) is 160km southwest from Melbourne, and is located in a rich diary region. Once again, primary care practitioners provide most health services, and the town has a small hospital.

- Inverloch is locates in South Gippsland. This town (population 2100) is located on the coast 145km southeast from Melbourne. Fishing is one of many primary industries for the town, in addition to being a popular tourist resort. The town relies on primary care practitioners for access to core health services.

- Traralgon is a major regional centre in West Gippsland, with a population of 24,000, but is part of a region with a total population of over 75,000 within a 30km radius. The main industries of the area, which is 165km east from Melbourne, are open cut coal mining for electricity generation, dairy cattle and tourism. The region is serviced by a new and well-equipped secondary hospital, in addition to a wide range of primary and secondary care providers.

- Finally, Bairnsdale (population 11,000) is 370 km east from Melbourne. Bairnsdale is the gateway to the alpine and forestry regions of Eastern Victoria. Timber logging is one of the main primary industries, and the town is a gateway to a number of small popular tourist resorts. Primary care providers provide most health care.
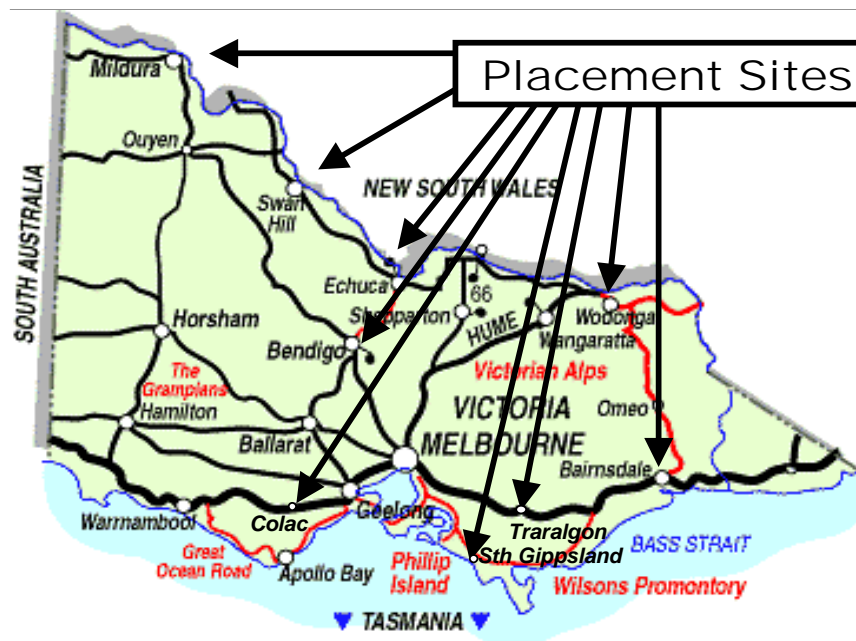

Figure 1: Rural residential placement locations.

The involvement of local health workers and community groups is essential to the success of the placements. Local health workers and primary producers have a key role in introducing students to what is the context of life and health in rural and remote areas. These are people who will be a primary educational resource for the students. The challenge for SRH is to develop and maintain a mutually beneficial relationship with rural people in and around the locations where students are located to ensure the success and replication of this ambitious program for future classes of students. The SWAG will be a key tool in helping to build and maintain such relationships.

Using the Internet to Support the Rural Residential Placements

The content, context and organisation of the rural residential placements are diverse and complex. They draw content from a range of disciplines, practitioners, issues and topics. Over two hundred students in each of first and second year are placed in rural locations throughout Victoria. Given the diversity of materials to be covered and the extent to which students are dispersed, delivering and accessing essential information in a uniform manner could be problematic.

In order to provide students, teaching staff and communities with the resources they need, we have developed an interactive and user friendly website. This resource has come to be known as the SWAG and includes:

- Background and resource material
- Placement details – campsites, towns, local community resources
- Term details
- Study materials
- Assessment advice
- Discussion forums – asynchronous and synchronous
- Links to other learning resources relevant to the rural health placements
- Local teaching and tutor details

The SWAG uses web-based portal technologies and is seen as an important tool for enhancing the integration of medical undergraduate rural residential placements across the Faculty, the student body, rural health workers and most importantly the rural communities who support the placements

This approach using the Internet to establish an integrated resource for supporting medical undergraduate education has not been reported in the open literature to date. Broudo and Walsh[iv] describe the use of WebCT to support rural based medical and dentistry students in rural areas of British Columbia in Canada. WebCT is a good platform for interaction between students and staff, as well as the on-line delivery of course materials. However, access to WebCT at Monash University is limited to staff and students of the University only. This precludes the desired broader interaction between staff and students with \hrural based health professionals and the key contact persons in the rural communities. SWAG offers open access to all key

For students, the SWAG is the primary point at which they access all the information that is relevant to the rural placement. The School database that holds placement details for the student portal has been linked with the Faculty student database. This enables the School to provide each student with information that is specific for their individual placement in real time. For many of the students the rural placements will be one of their first experiences of life outside of a metropolitan setting. As it is one of the aims of the placement to encourage students to consider rural practice, it is important that students feel well prepared for and supported while on placement. The SWAG is seen as key tool in achieving this goal.

For staff and tutors, the SWAG gives them information on the sites they will be teaching at, including details of the students attending. In addition, staff have the opportunity to participate in online discussion groups with students and also maintain interaction with other staff members responsible for teaching and learning during the placement. The SWAG will also be developed to allow staff to upload relevant teaching material to the site, and maintain real time information on the activities relevant to the placements.

For rural health workers and rural communities, SWAG provides the opportunity to make a direct and valuable contribution to the process and outcomes of the student placements Through the site, rural community members have the opportunity to learn about what it that is the School is doing in their local area, as well as what is happening in other areas across the state. Through its discussion forums, the site also allows community members to communicate with students. This provides them with the opportunity to welcome students into their communities and has the potential to allow for the development of ongoing relationships.

Virtually all rural health workers within the placement communities have Internet access. Indeed, access to the Internet in rural communities in Australia is rising rapidly. According to an Australian Bureau of Statistics report, in November 2000, 44% of adult workers in rural areas of Australia had Internet access at work or home, compared with 52% in metropolitan areas.[v] However, a significant limitation experienced by rural internet users is that, with the exception of Mildura, connection speeds are typically less than 56K. This has been taken into account in the design of the SWAG, with the use of small graphic images and files that do not limit effective access for those users who have relatively slow connection speeds. For students, however, connection speed to the Internet is not a critical issue as they can access SWAG over the University network or through other venues with high speed connections such as Internet cafes. Most suburbs of Melbourne also have access to either cable or ADSL Internet connections.

The effectiveness of the SWAG site will be evaluated in a number of ways including:

- Monitor hits to the site
- Student comments
- Teacher, tutor and community evaluation

SWAG was available online for the 2002 rural residential placement, however there were delays in development which had a significant effect in reducing the time that the site was functional prior to the placement. The site was well received by staff and student, and the Faculty is closely monitoring the implementation of SWAG as a potential model for online communication with and information dissemination to students.

Summary & Conclusion

The rural placements allow students to experience the provision of health services in a multi-disciplinary community-based setting. The placements provide a challenging and rewarding clinical experience for students, as well as initiating their understanding and knowledge of rural health, rural practice and rural health services. The placement is designed to be a positive learning experience for the communities as well as the students. There is a strong emphasis on involving local communities in teaching. Local coordinators assist in planning and facilitating teaching placements, and the long term aim is to implement teaching in such a way that the community also benefits. The School of Rural Health believes that this approach, focused on clinical skills and community participation, will develop into long-term partnerships between the School and the communities, and be to the benefit of both.

The SWAG, by allowing all stakeholders in the placement process access via the Internet, will be a critical tool in ensuring the effective integration of the placement into the community context. It appears to be a unique and innovative approach to solving the problem of allowing all key stakeholders in the rural health placements at Monash University to communicate effectively with each other despite their geographical location, and access to the resources Required for making the placements a success from the perspectrive of each stakeholder.

References

[i] Worley PS, Prideaux DJ, Strasser RP, Silagy CA, Magarey JA. (2000). Why we should teach undergraduate medical students in rural communities. *Medical Journal of Australia,* 19;172(12):615-7.

[ii] Australian Medical Workforce Benchmarks (1996). Australian Medical Workforce Advisory Committee and Australian Institute of Health and Welfare. *AMWAC Report 1996.1.*

[iii] Rabinowitz HK, Diamond JJ, Markham FW, Hazelwood CE. (1999). A program to increase the number of family physicians in rural and underserved areas: impact after 22 years. *JAMA* 281(3):255-60

[iv] Broudo M, Walsh C. (2002) MEDICOL: online learning in medicine and dentistry. *Academic Medicine.* 77(9):926-7

[v] Use of the Internet by Householders, Australia (2000). Australian Bureau of Statistics. Publication number 8147.