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PROJECT REPORT

Echidna: a Web-based community information database to assist students undertaking rural clinical placements

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ABSTRACT

The number of health-sciences students who spend time training in rural areas is increasing. Students undertaking rural placements have identified the need to be fully informed about the rural areas in which they are to be placed. To address this need, Echidna, a Web-based database containing rural-community information has been developed. The website brings fragmented information together in one easily navigable location for quick and accurate searching. Information provided in the website includes demographic data, health and community services information and relevant links. This paper examines the history of Echidna's development, data inclusion and data maintenance issues and discusses how students from medicine, nursing and other health disciplines, as well as other health professionals and organisations benefit from the resource.

Key words: community information, informatics, student placement, undergraduate education, WWW

Introduction

Many students in the health field undertake placements in rural and remote areas of Australia. As well as enhancing the student's education, such placements may increase the number of graduates who choose to settle and practice in a rural area[1,2].

While a rural placement offers an interesting and rewarding experience for health-sciences students[3-5], many students have been given little information about the rural community prior to undertaking their placement, and some are responsible for obtaining all the information relevant to their placement prior to its commencement[1].

Echidna: health services profiles for Victorian rural regions

The use of Internet technology with up-to-date information offers students an inexpensive and highly accessible source of information. 'Echidna: health services profiles for Victorian rural regions', developed by Monash University School of Rural Health (MRH), is an example of a World Wide Web-based resource for students who undertake rural clinical placements[6]. Echidna is freely available to be used as a model by other institutions in other regions as a way to support their rural-placement students.

Anecdotal evidence suggests that the level of support students receive prior to rural clinical placements varies, as does the amount of encouragement they are given to learn about the rural community they will be visiting. Two key strategies that assist students make the transition from classroom to their rural placements have been identified as: the student (i) making an effort to become involved socially in the rural community; and (ii) obtaining as much information as possible about the town or region[3]. Making information about rural communities accessible to students about to commence their rural placements encourages realistic expectations and a positive experience. A realistic perception of the physical and professional isolation of the rural setting has been identified as a key issue for rural recruitment[7].

The most accurate way to research a community is to go there, but in most cases this is impractical and unnecessary. An alternative was devised in 1994, when the Medical College of Georgia, USA, created an Office of Recruitment and Retention. This office organised community fairs to bring rural community information (eg on practice opportunities, community resources, hospitals and other support services) to the students without the students having to travel to the rural areas[8]. A Web-based database such as Echidna is an 'electronic fair' where information about a rural community can be accessed in student's own time prior to their placement, with no travel necessary between localities.

The Web provides an ideal means for communication and students are generally comfortable in using it as a learning tool[9]. Student access to the Web at universities is now well-resourced and freely available, allowing students flexible, time-saving access to current data. However, until recently, there was a significant gap in the information available on the Web about potential rural training and work locations in Victoria. Available information was fragmented, hard to find and in many cases unreliable or out of date.

Development of Echidna

The development of the Echidna website was a way of addressing the need for centralised community information. In early 1994, as part of the General Practice Rural Incentives Program in Australia, the Monash University Centre for Rural Health (now known as the Monash University School of Rural Health) developed community health profiles for approximately 130 Victorian rural localities. This database consisted of a single page of information covering locality, population and basic health-services. Until the conclusion of the program in late 1997, most of the data was collected on a town-by-town basis;

however, this was not sustainable due to the heavy maintenance load.

In response to an identified student and other-user need for this type of database, further development began in late 1998. The database was expanded to cover all of rural Victoria, enabling the user to build a complete picture of a specific community and its surroundings. Key data sources and data tables were identified. A number of geographic 'levels' were put together on a town-by-town basis. These included urban centres or localities (UCL) as defined by the Australian Bureau of Statistics (ABS), postcodes, Statistical Local Area (SLA), Local Government Area (LGA), Division of General Practice and Health Region. Demographic data from ABS, and health-services contact and location data from the electronic Yellow Pages (non-residential telephone directory) were added.

To discuss further development of the database, a workshop of approximately 40 invited individuals (both data providers and potential users) followed. A relatively simple stand-alone Microsoft Access database prototype demonstrated how information could be presented and how the user could search the data tables.

As a result, a Web-based version of the database was made publicly available and, in September 2000, user feedback was gathered from approximately 50 Monash University nursing students. These 50 students received instructions about accessing information from Echidna, prior to their rural clinical placements. Encouraging feedback included:

- Echidna…was absolutely fantastic. It had a few flaws but on the whole was a wonderful database of information.
- Echidna has a great layout and easy to follow.
- Echidna, I liked a lot. Very easy to navigate, and I had no problem finding information.

Individuals have also provided voluntary feedback during Echidna's development. This was either to suggest where extended information would be useful, or to discuss the navigation and reporting tools within the website. Subsequently, a second stage was completed in late 2001, taking into account many of these suggestions. This has now become known as the Monash University Echidna website, and can be accessed on:
http://www.med.monash.edu.au/mrh/resources/echidna

Data issues

There are two broad types of data sets held in Echidna:

1. Those that are stable or consistent, for example towns or localities and all associated geographical levels, and demographic data from ABS (updated every 5 years).
2. Those that may change regularly over short periods of time, for example organisation locality and contact information, or external Web links.

As Echidna has developed, the data sources have gradually become more stringent and reliable. Initially, much of the services' contact information was extracted from the electronic Yellow Pages. While this was a good starting point and provided a template to work from, it proved inadequate for Echidna's needs, because it has been found necessary to look at each data set on an individual basis, rather than trying to retrieve the information from just one data source. For example, the most reliable information about hospitals is from the Victorian Department of Human Services and, for schools, the Victorian Education Department. General Practice organisations are more complicated, but the first point of call is the Divisions of General Practice. The Web-base allows the user to link to external data sources, for example tourist information which is covered extremely well by many organisations. Local Government shires' or cities' websites generally provide useful information.

Companies or semi-government bodies, such as ABS, collect and publish large amounts of demographic and population data. Care must be taken about the amount of these data republished on a website like Echidna, due to commercial

and copyright factors. Although Echidna users would benefit from having ABS data freely available, the associated costs are prohibitive. Reorganisation of basic Echidna community profiles to any user-defined locality has been found an acceptable alternative.

Website usage

The usage of Echidna has remained relatively steady since May 2001. Daily usage varies between 5 and 15 visits per day, or more than 200 visitors per month. There is a usage drop in the period November to February when universities are in recess. Approximately 50% of the visits to the website are made by university students, while the remainder of visits are made by a mix of education providers, researchers, government staff and private businesses. The feedback from users indicates that they are very comfortable using Echidna as a search tool for community information, and that students have found it an invaluable tool in their preparation for rural placements.

A number of other organisations and individuals, not necessarily directly involved with students, use or promote the website: university staff involved in research and education (for information for projects and educational programs); the Department of Human Services (who provide hospital data to the website) and other rural-health policy makers (to confirm the validity of community information for planning); and small health services (for verifying local information and demographics for community grant submissions and projects).

Rural Workforce Agency of Victoria (RWAV) and most Divisions of General Practice are regular Echidna users. Other health-professional organisations use Echidna to assist their members research information about rural communities. Some examples of this type of use include:

- Recently graduated students who have not yet decided where to practice.
- Established health professionals looking for a professional or social change.
- Interstate or overseas-trained health professionals wanting to research a community before they commit to relocating.

Future development and maintenance

A possible extension of the website is to increase student involvement by making available personal accounts of rural-placement experience in different communities, including local photographs. This would also provide a way to validate information already available on the site. A closer link to the Rural Undergraduate Medical Placement System (RUMPS) database software is planned. This will enhance both the management and allocation of rural student placements.

A potential additional source of users is secondary students, because promotions run by the Victorian Universities Rural Health Consortium (VURHC), such as 'A great career where you live', encourage young people to learn about health careers in rural areas.

Funding for the development of Echidna has ended, however MRH is committed to maintaining updated information on the website and encouraging usage. Minimal outlay is required to purchase updated data, and time provision has been made for this and site maintenance. Improvements to the site, such as the introduction of new data sets, will continue as needed.

Conclusion

Victorian students are beginning their rural clinical placements more informed than ever before, due to the development of the Web-based community information database, Echidna. The resource is freely available on the Web, and will continue to be monitored and updated. By using the Echidna website, student expectations of their placement are realistic, leading to greater satisfaction in placements than was previously the case. This contributes to the overall aim of assisting students to make their graduate career in a rural setting, part of the overall solution to

supplying communities in rural and remote locations with adequate numbers of health professionals.

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