Looking after health care in the bush

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LOOKING AFTER health care in rural Australia involves providing adequate services to meet the urgent and non-urgent needs of rural patients in a timely, cost-effective and safe manner. The very provision of these services requires an appropriate workforce and facilities in rural areas. This provides challenges for clinicians, administrators and medical educators.

While preventive medicine has made some significant gains globally in reducing the need for acute care and hospitalisation in some areas of medicine such as infectious disease and asthma, these demands have been replaced by an increase in trauma, chronic disease and mental illness[1] which, with an ageing population, eventually means presentations at an older age which can require hospitalisation.

Rural patients have always had to deal with a relative undersupply of health practitioners. Rural people have coped valiantly with this. The legendary stoicism of rural people has been shown by Schrapnel[2] and Davies to be a prominent feature of the rural personality. This both allowed them to cope with lack of services and to suffer in silence while their health status fell below the Australian average.[3] Rural Australians use fewer Medicare services and see the doctor less per annum than the Australian average.

Measures to address this

The issues of rural health care were first addressed in the 1970s by the Country Towns Country Doctors Conference.[4] In 1979 the Medical Board of Queensland appointed the Thompson Committee to enquire into the future training needs for medical practice, especially rural practice, in Queensland. The Thompson Report,[5] published in 1981, led to the radical changes in medical courses in Australia over the past 20 years. In the early 1980s, inspired by WWAMI (University of Washington School of Medicine is a regional medical school resource for Washington state, Wyoming, Alaska, Montana and Idaho — the WWAMI states) and the work of Rosenblatt and Muscovice in the United States,[6] and fired by industrial disputes in New South Wales and Queensland, Rural Doctors Associations were established and moved to address these issues through better terms and conditions and better education. In 1991 the First National Rural Health Conference was held in Toowoomba and the national rural health strategy proposed.

From this and subsequent decisions came a raft of government policies, listed below:

Educational programs

- High school student recruitment
- Rural Australia Medical Undergraduate Scholarship (RAMUS)
- Rural Undergraduate Support Committee (RUSC) 25% rural origin medical student target
- National Rural Health Network of rural student clubs
- John Flynn Scholarship Scheme (JFSS)
- Rural Clinical Schools/University Departments of Rural Health
- Rural Medical Bonded (RMB) Scholars (100pa)
- Bonded Medical Places (BMP) (500pa)
- Rural scholarships including state bonded scholarships and cadetship schemes

Interns

Rural and Remote Area Placement Program/Prevocational General Practice Placement Program

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Registrars

- Australian General Practice Training — Regionalised through Regional Training Providers
- General Practice Registrars Rural Incentives Payments Scheme
- Enhanced Rural Training Framework
- Rural generalist pathway (Qld)

Rural doctors

- Rural and Remote Procedural General Practitioners Program
- Practice Incentives Program incentives including Procedural Medicine incentives
- Retention grants

Communities

- Multipurpose Health Service
- Regional Health Service

Effectiveness of existing programs

These policies have been effective in creating interest in and support for rural practice. Recruitment and exposure programs such as RAMUS (providing scholarships to students of rural origin), JFSS (providing exposure to rural practice) and RMB/BMP scholarships providing extra funded places for medical students, have been heavily subscribed. There are now 574 students in the RMB scheme including those in their early postgraduate years.

Under the RUSC initiatives, universities agreed to targets of 25% recruitment from rural areas. As a result of this, recruitment from rural areas into medical school has increased markedly over the years[3] with rural areas approaching the recruitment levels of urban areas. The Rural Clinical Schools initiative has been focussed on 25% of students spending half their clinical years embedded in rural and regional practice. Rural clinical schools have been established Australia-wide and have resulted in a significant number of students spending up to half of their medical course in rural areas.

Under Professor Ken Donald's guidance, the University of Queensland (UQ) Rural Clinical School was started at two sites, Toowoomba and Rockhampton. Although initially the students needed to be balloted to these places, the positive experience of students attracted future students, with expansion to five sites, adding Bundaberg, Hervey Bay and Roma. Over 100 students annually complete their third and/or fourth clinical years at these sites. The academic performance of these students in exit score for these years shows no statistically significant differences from those at urban campuses.[7] In addition, the students from the rural clinical school show a preference for rural internships.[8]

In response to RUSC initiatives, the UQ school established rural intakes, formed the Trophiq rural student club and formalised the Rural Medicine Rotation as one of the five third-year rotations and subsequently as a discipline. Evaluations of student intentions before and after the rotation have shown a marked trend towards an intention to pursue a career in rural or remote practice after this rotation.[9]

General Practice Education and Training (GPET) data indicate that in the 2007 intake, UQ was one of the most highly represented intakes to the Australian GP Training Program, contributing over 20% of the applicants. (Personal communication; Rodger Coote, General Manager Information and Program Support, General Practice Education and Training Limited, Canberra, 2007.) General practice intakes have increased over recent years both through the GPET and Remote Vocational Training Stream program. There has been a recent increase in the number of local graduates undertaking GP training and an increase in those undertaking the rural pathway.

Rural practice exposure in the first postgraduate year has been provided by the Prevocational General Practice Placements Program, formerly the Rural and Remote Area Placement Program, and the increasing number of students graduating in coming years has prompted state governments and postgraduate medical education committees to encourage increased utilisation of this program.

The recognition of the Australian College of Rural and Remote Medicine to provide vocational training for rural general practice has provided an

increased interest in rural practice and second pathway to vocationally recognised general practice.

Skills retention programs such as the GP procedural medicine program have shown a halt of the decline in proceduralists[10] and a significant uptake of professional development among this group of doctors with obstetrics, anaesthetics, surgery or emergency medicine skills. Other significant programs include rural retention and Practice Incentives Programs and the recent significant increase in medical student intake numbers from 1200 to over 3000.

The dark side

While these initiatives have shown promise, there are concerning trends. Between the years 2000 to 2004 the number of doctors per 100 000 population increased from 309 to 329 in major cities and from 172 to 183 in outer urban areas. In contrast, the number of doctors in outer regional areas dropped from 147 to 143, remote areas from 152 to 133 and very remote from 138 to 95.[11] There has been a reduction in proceduralists, with, for instance, NSW recording over the 10 years from 1993 to 2003 a reduction in GP obstetricians from 257 to 137, a reduction in GP anaesthetists from 128 to 101 and a reduction in obstetric units from 67 to 42.[10]

The 1990s saw reduced bed numbers nationally. Between 1992 and 2004 public hospital beds decreased by 6138 while private hospital beds increased by 5288.[12] This was accompanied by a similar policy of reducing the, mainly public, rural hospitals, with proximate hospitals closed or amalgamated to form a single area hospital within close reach of several towns. In more sparsely settled areas, the role of rural hospitals has changed with more emphasis on aged care and a reduction of theatre and obstetric facilities. In the ten years before the Review of Maternity Services in Queensland in 2004, 36 of 84 rural maternity services had closed their doors.[13]

The cost effectiveness of such service reductions has not been demonstrated, and indeed many services now run on higher budgets than before such service changes. There has been an argument for a fly-in-fly-out model for communities, but with the Royal Flying Doctor Services working to capacity, transfers still represent only 3% of admissions to rural hospitals.

There has been a reduction in graduates from Australian medical schools working in rural areas. The University of Queensland has dropped from a peak of 22 in 2002 to 6 in 2004 while NSW dropped from a peak of 21 in 1996 to 2 in 2004.[14,15] While GPET intakes are now recovering, they have suffered over some years from the substantially increased specialist intakes over that time.[16] The rural workforce is also changing with 51% of the workforce over 45 and over 50% of new entries into rural practice being female.[17] Workforce trends show a changing workforce and expectations. Feminisation and generational change have meant a shift to job sharing and part-time work. This means a greater number of doctors will be needed to meet the needs of rural areas.[18]

Putting it together

So we have here two opposing tides — one bringing workforce to rural areas and another draining it away. The increased medical school intakes are a relatively new phenomenon and will take 8 to 10 years to have a significant effect. Rural recruitment, bonded places and an increased rural interest among medical students generated by their exposure to rural medicine are producing results now and in the next few years. At the same time, rural bed stock is at an all time low, the function of rural hospitals has been degraded and the rural workforce is ageing and burnt out.

Will the tide arrive to find the mangroves have been drying for too long and will not regrow? How can we preserve these "tidal flats" until the tide arrives?

Policy options for a sustainable solution

Clearly there is a need for health professionals in rural areas.[19] A local workforce must contain an

appropriate range of skills from first aid through to emergency and procedural skills to deal with the disease burden. While options exist for fly-in-fly-out in some communities and some circumstances, the application of this to all rural communities would be impractical and inefficient. Substitution, while again effective in some circumstances such as remote nursing posts, has to be supplemented with higher level advice, support and retrieval, which is impractical on a larger scale. At a local level, substitution with staff with insufficient skills leaves the medical practitioner exposed to the heavy-duty after hours, the procedural workload leaving them at risk of burnout.

Clearly rural areas cannot easily access specialist services nor can all the more complex cases be transferred to urban centres. In the case of obstetric services, the unpredictability of birthing dates means that although some patients may be transferred, transferring all patient results in unacceptable social dislocation. There is indeed evidence that such a policy results in poorer health outcomes. Even worse, communities without obstetric facilities or with inoperative ones are sometimes required to provide emergency obstetric care.

Starfield et al have shown, through analyses at the county level, lower mortality rates where there are more primary care physicians.[20] These trained medical generalists, especially those with a broader range of rural skills, together with trained generalist nursing staff, remain the basis of an effective rural health service. To provide such a rural health system the following seem to be necessary:

- Appropriate model for each community
- An appropriately skilled generalist and supporting workforce
- Adequate facilities.

An appropriate model of care for each community

"When you have seen one rural town you have seen one rural town." The circumstances of rural communities require a variety of needs and service options. Various models are needed in rural areas, developed with local advice. Existing services need to be supported and additions developed in a complementary way. There is no "one size that fits all".

A skilled generalist workforce

The Special Services of the Australian army have a recruitment slogan "Some jobs don't take a whole army". The specialisation common in urban areas is unsustainable in the rural environment. Rural practice, be it medical or nursing, requires a workforce with an extended range of skills. Indeed this is part of the attraction of rural practice for those with a generalist bent. Students often cite the range of practice as an attractive aspect of rural practice. However, reduction in scope of practice in many rural areas has meant that students often feel that there will be insufficient opportunities for them to practice advanced generalist skills. This has been compounded by the inadequate availability of training programs and positions for vocational trainees to attain competence and confidence in the skills required for rural practice.

The Australian College of Rural and Remote Medicine program provides a 4-year training program which focuses on rurally based training and the acquisition of core skills suited to the rural environment, together with an appropriate advanced skill. Despite relatively recent recognition (2007) as of June 2007 this program had 150 registrars in training. Remote Isolated Practice for Enhanced Rural Nursing-trained nurses similarly attain a broad range of skills which suit a rural area. At present these are constrained by regulatory provisions which limit, for instance, the ability to perform x-rays.

There is a need for appropriate rural generalist guidelines. Many guidelines, often opinion based, suggest the use of new technology without evidence of its efficacy or effectiveness, even in urban areas. In rural areas such guidelines place generalist practitioners in an invidious position where the local access to technology is limited.

An adequate workforce

The coming wave of students will only adequately address the needs of the rural areas if they can be

adequately trained, accommodated and remunerated. The teaching role, if adequately supported and accommodated, increases the satisfaction and probably the retention of existing rural doctors.[21] Indeed, one of the strengths of urban specialist practice is that it is underwritten by the registrars and residents who shoulder much of the workload and prolong the active participation of the specialist, requiring less after hours or other extended time commitments. Such a workforce will be especially important in sustaining the role of the ageing rural generalist mentor workforce.

Remuneration options need to accommodate job sharing, including after hours, and to establish a sufficient gradient to to attract candidates to these positions with their extra skills and responsibilities. The possibility of a "grow your own doctor" program (pioneered by Jichi University in Japan which takes students from each prefecture on condition of return of service) might be worth considering to target rural recruitment.

Adequate infrastructure for appropriate task

Like the special services, the facilities and equipment in rural areas need to be appropriate to the task. Rural hospitals, even those doing mainly aged care, provide an ideal infrastructure for generalist care. Even at its base level, a rural hospital requires 24-hour shifts with at least two qualified staff. Unlike urban hospitals where extra workload often means the cost of extra staff, extra workload in rural hospitals can often be accommodated within existing staff establishment. With the right staff and technology, such a facility can provide a wide range of services at marginal cost and possibly at a cost advantage when travel and other costs are considered. The maintenance of birthing and, where required, theatre facilities, should be a focus of this.

Other technology also has the potential to radically improve the standard of local care. Bedside pathology including basic blood test, troponin (for myocardial infarction), INR (for warfarin therapy and snake bites), blood gases and foetal fibronectin (determines the likelihood of premature labour) should be readily available and allows patients with conditions that might otherwise require transfer to be treated locally.[22] Transfer of x-ray images using simple digital photography or digital radiography has the potential to allow patients to be more effectively treated at a local level.

Ultrasound machines allow early dating of pregnancies, identification of problem pregnancies and FAST (Focussed Assessment with Sonography for Trauma) scans in trauma, allowing better triaging of these cases. The availability of broadband Internet throughout most of rural Australia allows efficient and effective database searching by health professionals.

Conclusion

Rural health policy should be refocussed to make the most efficient and effective use of rural health facilities. The aim of rural health services should be to provide maximum benefit to the community by providing to the maximum possible extent local generalist services that meet the needs of that community in a safe and effective manner. This can be achieved by maximising the use of local facilities with trained generalists and an appropriate range of facilities and equipment.

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