The future of the GP procedural workforce in rural Victoria

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Abstract
The rural GP procedural workforce is declining. In recognition of the vital role these doctors play, governments have invested heavily in procedural training pathways. To complement these policy mechanisms, Health Workforce Australia has commissioned a study seeking to investigate the factors expected to influence future demand of the procedural-obstetric workforce in rural Victoria. A survey of n=502 GP proceduralists in rural Victoria was conducted to build a cohort profile and explore the anticipated demand for this workforce over the next five years.

Introduction
Many rural communities rely upon the general practitioner (GP) to provide emergency care services, deliver babies and perform surgical and anaesthetic procedures. However, the rural GP proceduralist is an ageing cohort, many of whom are approaching retirement, and the number providing these services is declining. In Victoria, the research indicates that one of the procedural skill-sets in shortage is the GP-obstetrician, who can perform a range of obstetrics, anaesthetics and surgical procedural skills.

In recognition of this potential workforce shortage, governments are currently developing and investing in training pathways to provide incentives and opportunities for rural procedural work. Up to this point in time, most of the literature and associated policy initiatives have focused on supply-side responses to addressing procedural workforce issues – namely through boosting training places. However, in order to build a more complete perspective of the planning landscape, other factors which may impact future workforce must also be considered: including political, industrial and social conditions which may influence workforce demand.

Objective
To help policy-makers in future workforce planning efforts, and to better match supply to the areas it is most needed, a qualitative methodology has been developed which aims to identify the future demand for GP proceduralists in rural Victoria over the next five years. Due to resourcing constraints and the lack of current data available in this area of research, the researchers have made an initial attempt at approaching the issues by focusing on procedural skills related to the delivery of magnify services; that is, obstetrics, surgery and anaesthetics.

Acknowledgments
This study has been commissioned by Health Workforce Australia (HWA) as part of their 2012-13 Strategic Research Program, and was developed under the advisory of the GP Procedural Research Steering Committee.

Ethics approval for this research has been obtained through the Royal Australian College of General Practitioners' (RACGP) National Research Ethics and Evaluation Committee (reference: NREEC 12-010).

Literature review
Prior to this project, a review of the current literature on GP proceduralists was carried out by RWAV. This revealed a set of major barriers to practice which are seen to limit the rural procedural workforce in carrying out their full scope of practice, the most consistent issues raised in the literature described as follows:

- Downgrading of clinical infrastructure and consolidation of services. Over the last few decades, the consolidation of services in rural communities has been seen to have a negative impact on the
ability of the rural GP procedural workforce to practice to full effect. It has been argued that in the process of consolidation, many smaller health services have lost the clinical infrastructure, medical equipment and support staff needed to operate birthing suites.\textsuperscript{1,2}

As a result, some GP proceduralists are finding they are no longer able to utilise their full scope of practice in the communities they service.

- **Lack of opportunity to practice procedures.** In small rural towns, doctors are less likely to be presented with the critical patient mass required for them to ‘keep their numbers up’ in practicing procedures. Not only can lack of regular practice lead to public concern over quality and safety in GP care, it can diminish the confidence of practitioners to perform their skills.\textsuperscript{3,4}

- **Working hours and lifestyle factors.** The greater on-call hours, longer day-to-day working hours, and lessened predictability involved with procedural work (beyond that which typically characterises rural GP work) create an unattractive set of working conditions to potential procedural practitioners.

This is particularly noticeable amongst younger doctors; Gen Y have different value sets, lifestyle choices, needs and motivations from their predecessors, and this needs to be acknowledged in order to make rural work a feasible option.\textsuperscript{5,6,7}

- **Availability of supporting/complementary workforce.** As with the downgrading of infrastructure, even if a GP obstetrician is available for work in a rural health service, they will be unable to offer their full scope of practice without supporting workforce. Depending on the level of maternity care provided, this may mean anaesthetists, surgeons, consulting specialist obstetricians, nurses or midwives are needed in order to deliver babies in a rural health service.

The Victorian Government Department of Health’s Capability Framework for Victorian Maternity and Newborn Services\textsuperscript{8} provides staffing guidelines for rural health services at each level of maternity care. For example, a Level 1 health service workforce consists of a GP who is credentialed for shared antenatal; postnatal care; a midwife; and established referral pathways to specialist obstetric care. At this level, no anaesthetist is required. At the other end of the spectrum, a Level 4 health service requires a specialist obstetrician on staff; a specialist anaesthetist or credentialed OP anaesthetist available 24 hours on call; a paediatrician on staff or GP with paediatric skills available on call; a registered midwife; and allied health professionals such as dietician, physiotherapist and social worker.

\begin{footnotesize}
\begin{enumerate}
\item Rural Doctors Association Australia (2006), Maternity Services in Rural Australia, Canberra.
\item Australian College of Rural and Remote Medicine (2002), Barriers to the Maintenance of Procedural Skills in Rural and Remote Medicine, Queensland.
\item Australian Medical Association (date unknown), Towards Training and Workplace Flexibility.
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\item Victorian Government Department of Health (2010), Capability Framework for Victorian Maternity and Newborn Services, Melbourne.
\end{enumerate}
\end{footnotesize}
Other factors affecting demand
As identified in the literature, there are a set of external factors which may affect demand for the GP procedural workforce, which may not necessarily be linked to supply. These include:

- **Alternative models of care.** The availability of alternative models of maternity care can have significant influence on demand for GP procedural services. Maternity services can be delivered by specialist obstetricians, GP obstetricians, midwives, or any combination of this workforce to achieve similar outcomes, which makes each alternate model a close substitute for the next.\(^9\)

- **Policy and infrastructure.** Through policy mechanisms, governments have the ability to change the shape of the healthcare system and its workforce for both short-term and long-range time periods, depending on the objective they aim to achieve. In recent years, a range of major policy reforms and changes to health infrastructure funding arrangements have taken place, and it is expected that the impacts of many of these will be felt by the procedural workforce (albeit to varying degrees).\(^10\)

- **Economic and population growth.** Prosperous communities with strong industry, employment prospects, and investments in infrastructure, housing and amenities, attract people to live there. The combined impact of economic growth, population booms and rising living standards all act to increase demand for service use — including health services.\(^11, 12, 12\)

- **Medical management and coordination.** Many rural health services face similar issues in recruiting and retaining the maternity workforce required for them to sustain their provision of a service. Given this commonality, there is scope to work together at the local, regional and an inter-regional levels to share resources and achieve better workforce outcomes overall.\(^13\)

**Overseas-trained doctors**
RWAV independently collects a range of GP and practice data each year through their annual Minimum Data Set. In 2012, these data showed that overseas trained doctors (OTDs) currently comprise 46 per cent of Victoria’s rural GP workforce.

This cohort — many of whom already possess procedural skills that were obtained overseas, but are not recognised by Australian equivalency standards — are ideally placed as future proceduralists; they already have the knowledge and cultural awareness obtained through domestic experience, require less supervision, and in many cases already possess the skills needed to successfully integrate into rural communities as procedural practitioners.

As part of the research methodology, an OTD survey was specifically designed in order to scope the available and potential OTD-procedural workforce, and discover whether or not there was a feasible opportunity to encourage skills accreditation and up-skilling for doctors indicating they were interest in practicing procedural medicine in Australia.

**Methodology**

**Choice of model**
Demand modelling for services such as health workforce is extremely difficult, due to the high dependence on human behaviour — which can often be unpredictable — leading to imprecise results.

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\(^10\) COAG (2009), *National Partnership Agreement on Hospital and Health Workforce Reform*, Canberra.


\(^13\) Quality Directors Australia and Boyd Health Management (2006), *Factors Affecting Recruitment and Retention of Medical Managers in Australian Hospitals*, Royal Australasian College of Medical Administrators.
While medical workforce planning is essential, it is generally deeply flawed methodologically and often wrong in the conclusions it reaches.\textsuperscript{14} In order for a model to ‘work’, it must be designed according to a set of assumptions and parameters that — while logical in theory — may not hold true in real world practice.

This is particularly relevant to quantitative demand modelling, which relies on statistical methodologies to conduct narrowly focused forecasts. It is best applied to research where a numerical outcome is sought.

HWA adopted the utilisation method of quantitative demand modelling for predicting the future supply of health workforce in their 2025 series of projections. In selecting this method, the utilisation measure was determined to be most suited to modelling a workforce comprised of a large number of specialties and sub-specialties.\textsuperscript{15} However, due to the extremely limited availability of data regarding GP proceduralists, HWA was unable model this specialty as part of the Health Workforce 2025 report:

In relation to the workforce projections in this report, it was noted that GP proceduralists—those with procedural skills such as obstetrics, anaesthetics or surgical skills—are not modelled separately. This is because of data limitations in being able to:

- accurately identify the existing size and characteristics of the workforce; and
- accurately attribute demand to the proceduralist workforce.\textsuperscript{16}

Given the restrictions of quantitative modelling at this time, our study adopted a qualitative approach to forecasting future demand, in order to effectively respond to the large number of unknown and changing factors that influence future demand for rural GP proceduralists. Qualitative demand modelling is more broad and exploratory in scope, allowing for greater flexibility when a large number of variables are unknown — as exemplified by the lack of data available currently on the rural procedural workforce. Qualitative methods are best suited for early-phase research, while more conclusive quantitative methods can be adopted at a later stage once the scope for analysis has become more defined.

Qualitative opinion is particularly important to the context of this research, where we expect that many demand-influencing variables will be revealed through stakeholder interviews and anecdotal evidence. Many of these variables are unknown, and making assumptions as to how these are defined could lead to skewed, or biased, results. It is not always possible, feasible or desirable to quantify information of this nature.

While qualitative methods have formed the basis of this report, some quantitative indicators have been included where available. These include:

- results of workforce surveys;
- demographic characteristics; and
- regional health service statistics.

These indicators have been included to establish a collection of baseline measures that can be incorporated into qualitative analysis. However, care must be taken in the interpretation of these


\textsuperscript{15} HWA (2012), \textit{Health Workforce 2025, Medical Specialties: Volume 3}.

\textsuperscript{16} HWA (2012), \textit{Health Workforce 2025, Medical Specialties: Volume 3}. (pp 101-102).
indicators; they are not to be taken as a comprehensive set of measures on which comparisons between regions, or policy decisions, should be based.

At the most basic level, these quantitative and qualitative indicators can be used to identify trends and other influencing factors which may impact on the future demand for GP procedural workforce in different communities. An illustration of how these indicators may affect demand predictions is provided in Figure 1 below.

**Figure 1 Predictions in future demand for GP proceduralist workforce**

### Geographical boundaries

In order to analyse data and report on research at a regional (rather than State) level, a consistent system of categorisation needed to be established that defined Victoria’s regional geographical boundaries.

One option for this was to base catchment areas on the eleven Rural Profile Areas used for analysis in the Victorian Department of Health’s Rural and Regional Health Plan Technical Paper. Released in December 2011, this publication provided population estimates to assist in long-range health planning, and covers factors influencing health and wellbeing such as health status, health behaviours, social and economic status. Ideally, these estimates would have been adopted for the purposes of this study. However, the projections have been attributed to a new categorisation system which does not align with traditional planning boundaries.

Given part of the target audience for this research will be regional workforce planners, aligning with the traditional departmental boundaries will provide greater utility of the research to the end-user. It will also allow the incorporation of other data sets without causing compatibility issues.

The geographical boundary system that has been chosen for this report is that of the Victorian Government Department of Human Services regional catchment areas:

- Barwon-South Western Region
- Gippsland Region
• Grampians Region
• Hume Region
• Loddon Mallee Region

A major advantage of retaining these catchments is that they maintain consistency and enable comparative analysis with a multitude of data collections.

Figure 2  Map of Victorian DHS regional catchment areas

Sources of data
Qualitative data have been collected through a combination of literature review; desktop research; consultations with rural Victorian health services, regional training providers, government bodies, professional networks and individual GP procedural practitioners; and survey.

Quantitative data have also been obtained at a regional level. The data measures selected for inclusion represent a cross-section of indicators that may influence regional workforce demand. They are by no means intended as a definitive list, and reflect only the data that was readily available and accessible to the researchers at the time of this analysis.

Particular consideration has been given to the choice of population projections to be used in this analysis, as a variety of collections are already readily available from different sources. Ideally, projected population estimates would be adopted from those contained in the Victorian Rural and Regional Health Plan Technical Paper. However, as discussed earlier, these projections are based on different regional boundaries to most data sets, and would therefore be inconsistent for the purposes of comparative analysis. Instead, this report utilises the Department of Planning and Community Development’s Victoria in Future 2012 projections, which are based on ABS 2011 population estimates and cover the period 2011 to 2051 for the whole of regional Victoria.

Survey process
The first stage of qualitative demand forecasting was conducted through a combination of survey and semi-structured interview. Through this modified form of structured interview technique, participants were asked a series of questions taken from a set list of interview prompts. This allowed for greater
flexibility and fluidity in the discussion, while still following a general structure, or ‘template’ of questions. Such a format is designed to facilitate answers that can be reliably aggregated and therefore be used to make comparisons between sample groups or time periods. In addition to these structured questions, open-ended questions were also included to explore issues of which little information was known.

The RWAV Annual Workforce and Skills Update, which surveys approximately 1600 rural Victorian GPs and has a 70% response rate, has been used to identify candidates for participation in the GP Procedural survey. In 2012, the survey included a question which asked “What procedural skills do you possess and practice?” After collating the results of data returns, candidates were categorised into one of the following cohorts who would then receive the more detailed GP Procedural Survey:

1. Cohort One: GP proceduralists currently practicing their skills (219 doctors);
2. Cohort Two: GP’s with procedural skills that are not currently being practiced (242 doctors);
3. Cohort Three: overseas-trained GP’s with procedural skills that are not currently recognised under Australian standards (41 doctors).

Each cohort of candidates received one of three versions of the GP Procedural Survey. Cohort One doctors received a comprehensive hardcopy survey seeking further information regarding their frequency, location and type of procedural practice, as well as their personal opinions regarding incentives and barriers to undertaking procedural work, experiences, and community attitudes.

Cohort Two doctors were sent a modified email survey (an abbreviated version of the survey sent to Cohort One doctors, removing non-applicable questions such as location and frequency of procedural practice). This version of the survey focused on the reasons why participants were unable/chose not to practice their procedural skill/s, as well as their future intentions to practice.

It was anticipated that Cohort Three doctors would be relatively small, and as such these doctors would be surveyed via phone to explore their reasons for not practicing procedural skills in Australia (including any regulatory, industrial or social barriers they may face). Following higher-than-expected head-count results from the RWAV survey, this cohort was instead contacted through email survey to accommodate the larger numbers.

**Interview and consultation process**

During the first phase of project research, a range of health services were consulted with via face-to-face interviews and phone. Specific comments and issues raised throughout these consultations have been built into the body of the main report, under their respective themes.

Based on survey responses and referrals from early consultation participants, individual doctors were also selected to participate in face-to-face, in-depth interviews. Interviews explored the issues identified in early desktop research, and aimed to reveal how significant these issues were in the context of the rural Victorian GP procedural workforce.
Figure 3 below illustrates the process followed in surveying the workforce of interest.

**Figure 3   Framework of survey process**

Limitations
In interpreting the results of this research, the limitations of the methodology must be considered:

- GP procedural services are carried out across a range of disciplines, including surgery, anaesthetics, and emergency medicine. For the purposes of this report, and to allow more detailed, thorough analysis, we have concentrated on the GP procedural obstetrics workforce only. Based on this reasoning, we have also limited the scope of this research to cover rural Victoria only.

- This study does not attempt to undertake a comprehensive workforce audit. Unlike a census, we have obtained a data sample of the workforce through targeted survey, and used inferential statistical methods to extrapolate these data to the greater population.

- Given the current lack of data surrounding this segment of the workforce, quantitative demand forecasting was not considered appropriate. Instead, we have established a baseline data collection and used qualitative techniques to identify the factors which are likely to influence the future demand for GP proceduralists. We recommend that the results of this work be used for further quantitative analysis at a later stage.

Findings and recommendations
The findings of this project, and associated recommendations, were provided to HWA for consideration in late March. After undergoing HWA’s internal review process, the findings of this report are likely to be announced later in the year, and may lead to further research or policy development in the area.
Bibliography


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