# Vertical integration of teaching in Australian general practice — a survey of regional training providers

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## ABSTRACT

**Objective:** To examine vertical integration of teaching and clinical training in general practice and describe practical examples being undertaken by Australian general practice regional training providers (RTPs).

**Design, setting and participants:** A qualitative study of all RTPs in Australia, mid 2010.

**Results:** All 17 RTPs in Australia responded. Eleven had developed some vertical integration initiatives. Several encouraged registrars to teach junior doctors and medical students, others encouraged general practitioner supervisors to run multilevel educational sessions, a few coordinated placements, linkages and support across their region. Three RTPs provided case studies of vertical integration.

**Conclusions:** Many RTPs in Australia use vertical integration of teaching in their training programs. RTPs with close associations with universities and rural clinical schools seem to be leading these initiatives.


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Vertical integration of teaching and clinical training in Australian general practice has been the topic of reviews[1] and several recent articles.[2-5] In the international literature, vertical integration often relates to undergraduate medical curricula.[6] However, an accepted definition in Australia is "the coordinated, purposeful, planned system of linkages and activities in the delivery of education and training throughout the continuum of the learner's stages of medical education".[1]

Although vertical integration is not new in the hospital teaching environment, it has not been part of teaching and training in Australian general practice and its implementation will require a large shift by organisations and practices. Opportunities for vertical integration can be identified in various contexts within the vocational education and training continuum:

- Within a general practice, it occurs when general practitioner supervisors are responsible for in-house training of medical students, Prevocational General Practice Placements Program (PGPPP) doctors, GP registrars, international medical graduates and new GP supervisors. Here, various integrated teaching opportunities between all learners can arise.
- At a local level, students, PGPPP doctors, GP registrars and supervisors can be involved in training workshops together.
- At regional and state levels, where universities and/or regional training providers (RTPs) coordinate placements, linkages and support across a region can help make the most of infrastructure, learning opportunities, and supervisor support and leadership.

Several issues have prompted interest in vertical integration in Australian general practice, including:

- Increased medical student intake across universities and subsequent demand for community placements.
- Interest from state health departments in general practice as a place to train junior medical officers corresponding with the shift of chronic disease management to the community.
- Federal funding for PGPPP posts — it is thought that PGPPP encourages doctors to consider general practice as a career.
- Provision of high-quality training in education for practitioners at all levels of experience, from prevocational medical officers to specialist GPs.
- Greater work satisfaction for GPs who work as educators.

The benefits of vertical integration can include:

- Providing trainees at all levels with experience in teaching — "teaching how to teach" transcends level of training, therefore this is an efficient use of education resources.
- To be able to teach requires a revision of one's own knowledge — therefore, this is a very useful exercise in continuing professional development for registrars and specialists.
- Development of intraprofessional communication skills at all levels.

In 2004, General Practice Education and Training released a vertical integration framework for regional training and education providers.[1] The Framework sought to guide and aid vertical integration initiatives in the vocational training sector. It was also intended to be "used in contract arrangements and resource allocation" and was expected to evolve and be evaluated over time.[1] Six years after its release, it is therefore timely to:

- assess what progress has been made in developing structures to support vertical integration;
- summarise the depth and breadth of initiatives across Australia, noting that, to date, only individual projects have been described in conferences and as case studies in some published articles; and
- assess the extent to which these structures and initiatives are sustainable.

## Method

All 17 RTPs in Australia were contacted in mid 2010 and asked:

- Is vertical teaching happening in your organisation or among doctors being trained by your organisation?
- Who is teaching whom? For example, advanced registrars teaching PGPPP doctors, or basic-term registrars teaching medical students.

We also contacted several rural clinical schools, departments of general practice and members of the Royal Australian College of General Practitioners (RACGP) Council to identify any initiatives that may not have been known to the RTPs. Telephone calls were followed up with emails and information entered into a database. Two of us (NPS and OF) reviewed the database and independently determined categories for all the activities listed. We then met and compared our categorisations and resolved differences by discussion. Limited quantitative analysis was undertaken because we did not ask the RTPs how many practices, supervisors, registrars, PGPPP doctors or students were involved in vertical integration.

After categorising the types of vertical integration activities being undertaken, we asked three RTPs to provide case studies to highlight innovative examples of vertical integration across Australia.

**1 Summary of examples of vertical integration of general practice education and training in RTPs in Australia**

| Informal structure | Formal structure |
|---|---|
| **Approach to vertical integration** | |
| • General support and encouragement for vertical integration | • Integration of teaching across all levels |
| **Type of training undertaken** | |
| • Registrars are exposed to a variety of teaching methods and taught basic skills | • Academic registrars are trained to teach medical students in universities (eg, clinical skills and problem-based learning)<br>• Registrars attend teacher training run by RTPs ("teaching on the run"; "skilled teacher program") |
| **Practical examples** | |
| • Registrars teach PGPPP doctors and medical students (eg, ad-hoc advice, tutorials or informal supervision)<br>• Overseas-trained doctors, PGPPP doctors and medical students are encouraged to attend educational release days for registrars | • Payments for registrars to teach others in a practice or sessions at training program offices<br>• Coordinated placements and formal arrangements for vertically integrated teaching from registrar to PGPPP doctor to students<br>• Infrastructure support for vertical integration of teaching<br>• Regular joint teaching sessions that accommodate the different curricula of students, PGPPP doctors and registrars<br>• Medical educators, supervisors and registrars deliver seminars in junior medical officer education program<br>• General practice grand rounds with supervisor registrar and student input<br>• Journal clubs run by registrars<br>• Advanced registrars involved in the General Practice Students Network or the First Wave Scholarship Program |

PGPPP = Prevocational General Practice Placements Program. RTP = regional training program. ◆

## Results

We received responses from all 17 RTPs (100%). We quantified what level of vertical integration each RTP had achieved and categorised examples of vertical integration by how formal or informal they were.

Based on their responses, six RTPs were not involved with vertical integration activities in their area, two were starting to encourage vertical integration, four were aware of vertical integration occurring in some practices (with these practices often using quite advanced models), two RTPs had developed vertical integration to a stage where they were evaluating their programs, and three were collaborating or significantly engaged with universities or rural clinical schools in supporting vertical integration models. These RTPs had incorporated vertical integration into the structure of their organisation. For example, one university in South Australia sends medical students to a country area where they can subsequently undertake intern, PGPPP and finally GP registrar training without moving and thus benefit from, and contribute to, vertically integrated teaching. Other current examples of vertical integration of general practice education and training are summarised in Box 1.

Some RTPs had sought additional funds to increase vertical integration capacity. Two RTPs commented that vertical integration would become more widespread when practices in their area had access to PGPPP doctors. There was acknowledgement that registrars were not always willing or able to teach and needed structured support to achieve good educational outcomes. It was also said that students recognised that registrar teaching was different from supervisor training, but they valued both equally.

The case studies highlighted three aspects of vertical integration that could be adopted by other RTPs. The first illustrates how the placement of PGPPP doctors into training practices had been a catalyst for vertical integration (Box 2). The second shows how contractual arrangements between an RTP and a university facilitated the integration of vertical integration into their training program (Box 3). The third highlights how training in rural and remote Australia was not a barrier to the development of a vertical integration model (Box 4).

## Discussion

We have identified that many RTPs in Australia are adopting vertical integration of general practice education and training. Many encourage practices that take registrars, PGPPP doctors and medical students to foster vertical integration of teaching, but this is not part of a formal program. Some RTPs have incorporated the concept of vertical integration into the structure of their training. RTPs with close associations with universities and rural clinical schools are leading these initiatives.

Teaching is a part of RACGP and ACRRM curriculum for registrars, so although registrars may have variable interest in teaching students,[7] it is considered by both colleges to be a key part of general practice professionalism. This does not, however, mean that all registrars will make good and enthusiastic teachers; this may partly explain why RTPs in our survey reported variability in the uptake of registrars teaching students. In hospitals, there has been the general expectation that registrars in training will teach junior doctors and students attached to their specialty area, but these registrars are rarely given formal training in teaching. To be effective teachers, GP registrars will need to recognise their own strengths and weaknesses, receive training and be given support by their GP supervisors. Supervisors will have to remain responsible for oversight of the curricula and ensure students have appropriate clinical support.

### 2 Case study 1: Adelaide to Outback General Practice Training Program

This program has been successfully involved in the Prevocational General Practice Placements Program since 2005. Tripartite training collaborations have been established to enhance the communication between the key stakeholders — the feeder hospital, the practice and the program. There is shared understanding of the requirements of the Australian Curriculum Framework for Junior Doctors and vocational training curriculum requirements outlined by the Royal Australian College of General Practitioners and the Australian College of Rural and Remote Medicine.

The program is vertically integrated at practice and RTP levels with integration of coordination, orientation, teaching and supervision. Group tutorials, in and out of practice, include medical students, prevocational doctors at different levels of training, GP registrars and GPs. The tutorials are based on a case-based learning model and the problem is resolved in layers of increasing complexity according to the expertise of the learners who each present a component of the session. This provides a rich learning environment and the opportunity to develop teaching skills. ◆

### 3 Case study 2: Coast City Country General Practice Training (CCCGPT)

In the Australian Capital Territory and south eastern New South Wales, the Australian National University Medical School has a contractual arrangement with CCCGPT to deliver registrar education in the region. This has enabled the development of a vertically integrated model across all levels.

General practitioner supervisors of students and registrars attend vertically integrated teaching workshops. Registrars and long-term rural students attend rural workshops together. Prevocational General Practice Placements Program (PGPPP) doctors and international medical graduates attend registrar workshops and registrars are involved in student and junior medical officer teaching at several levels.

Within the region, practices have been supported to develop various models of integrated teaching within the practice or within a rural town with a number of practices sharing the teaching of students and registrars together. Yearly "how to teach" workshops for registrars are run to support their practice teaching. The region holds monthly general practice grand rounds that bring all students, PGPPP doctors, registrars and supervisors together in person or online, creating a forum for teaching practices to showcase their knowledge and skills by presenting to their peers in a collegiate environment that celebrates general practice. ◆

### 4 Case study 3: Northern Territory General Practice Education (NTGPE)

NTGPE has had a vertical integration model in place since its inception. NTGPE administers the federal government Rural Undergraduate Support and Coordination (RUSC) program and the Australian College of Rural and Remote Medicine John Flynn Placement Program for the NT. Medical students from all jurisdictions are placed and supported by NTGPE. All undergo a 2-day cultural orientation program before being placed predominantly in remote and Indigenous communities. Supervision is provided by general practitioners, GP registrars, junior doctors, remote area nurses and Aboriginal health workers. The level of supervision required for the placement has been formalised into a three-tiered model. The level of supervision and who provides the supervision is determined by the learning objectives for student placement (as set by the host university), and the scope of practice involved. The Prevocational General Practice Placements Program places about 60 junior doctors in Indigenous communities each year. Contractual obligations require 100% supervision, but NTGPE has been able to negotiate some flexibility in this instance. Historically, GP registrars in advanced stages of training and those who have been individually screened have trained for one or two terms using a remote supervision model. ◆

To foster vertical integration of teaching, we believe that strong and clear communication must be established between the RTPs and local tertiary institutions, followed by clear communication with individual general practices and GP educators. This is essential to ensure that the curricula are covered to the satisfaction of both bodies. Integrated educational events, for instance, can be very challenging for GP educators who are expected to simultaneously meet the needs of different learners and organisations if curricula are not aligned.

Although from our limited survey it was apparent that RTPs with close associations with universities had been successful at adopting vertical integration, it must be recognised that the current system of funding and tender can actually work against integration because it can create competition between universities, RTPs and Divisions of General Practice. In our survey, we noted that where RTPs and universities had contractual arrangements (ie, Australian National University/CCCT [Box 2] and NTGPE [Box 3]), there appeared to be good integration across all levels of educational delivery and structural support, as judged by the depth and breadth of their vertical integration program.

Our survey had some limitations. Although we contacted all RTPs, the replies may not necessarily have been from staff with comprehensive knowledge of all past and present educational initiatives. To mitigate this problem we contacted other providers of medical education. Secondly, we relied on self-report and did not verify that the initiatives or programs existed; however, given the nature of the information being requested this seemed unnecessary. Finally, we did not quantify the number of activities or how effective those activities were. Such a survey would require more resources than were available and would have been a greater burden on RTPs to compile. We were only made aware of two RTPs that were formally evaluating their vertical integration initiatives. However, we believe that our survey is a guide to the depth and breadth of vertical integration activities currently being undertaken in Australia.

Further development of vertical integration of teaching and training would provide an opportunity for general practice to position itself as a leader in medical education for medical students. This could also be extended to include multidisciplinary teaching in large practices, with a variety of allied health professionals ("horizontal integration"), but this would require greater resources and further study to determine its viability. In both of these scenarios, there is clearly a need for improved practice infrastructure, educational support and a strong ethos for teaching among the general practice community with a focus on training in education.[8] RTPs and universities can foster this training but there must be highly skilled and motivated specialist GPs leading such developments in the community. There is a small but growing number of GPs who are taking the initiative to upskill in teaching and training, but a formalised program to help GPs meet the

educational needs of the future should be implemented. This should happen soon, because there is a "medical student tsunami" just around the corner.[9]

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## Competing interests

Nigel Stocks is a board member of the Adelaide to Outback RTP.

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