Vertical integration of teaching and clinical training in Australian general practice has been the topic of reviews1 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 a 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 all levels 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.
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, 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.
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. 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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