Quality Intern Training in Provincial City Hospitals:
Short and Long Term Benefits for Rural Health

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Intern Training and Rural Health

The main points that this paper addresses are the issues of early recruitment and training of rural health professionals, and the provision of quality rural health care at the junior level of service providers. We are focusing on the provincial city hospital as a source of each of these, and we are using medical graduates at the intern level as our example. However, what we are saying also has relevance to any health professional group whose junior members do their early postgraduate work in the hospital setting.

Until very recently, intern training could be described as the black hole of medical education. There has been a lack of standards and guidelines as to the type of training that should be provided, and while a lot of assumptions have been made, there have been no evaluations of the outcomes of the intern year. All of this has become an increasing matter of concern not just nationally, but internationally.

Finally, we have come to a time when more attention is being paid to intern training in a number of Australia states; in New South Wales and in Victoria, for example and, in the last three years, in Queensland.

In Queensland, the Postgraduate Medical Education Committee of the University of Queensland (PGMEC) has the responsibility for developing and facilitating the guidelines for intern training, and will be accrediting the hospital programs. At the same time, PGMEC has - as many of you will be aware - a major involvement in the vocational training and continuing education needs of rural medical practitioners. This paper presents a point of fusion of these two interests.

In the first part of this paper, I will be discussing some of the results of studies which we have been working on and which highlight the connections between intern training and rural health, and in particular the linkage that already occurs and has the potential to be expanded at the provincial city level. Annemarie will then focus on aspects of the provincial city hospital as an intern learning environment that can be of most benefit to rural health.

In Queensland, close to 200 medical students graduate each year. Of these, approximately two thirds go to metropolitan hospitals, in Brisbane, for their intern training, and one third to the provincial city hospitals, that is, to the secondary referral hospitals that serve the surrounding rural communities. Ambulances with rural transfer patients and air retrieval services with rural emergencies come to the relatively small referral hospitals, all of whose staff, including the interns, need to be able to rise to the occasion.

The differences between provincial city hospitals and metropolitan hospitals will be explored in more detail later on by Annemarie. Certainly, from our study of interns, they have quite different expectations of the two types of hospitals, of hands-on experience in the provincial city hospitals and more formal teaching and supervision in the metropolitan hospitals. Perhaps related to this, we also found some very real differences in the interns that go to each type of hospital, in terms of career plans and outcomes.
Two recent studies that we have worked on have, separately, provided information on this. (Tables 1 and 2)

Table 1: Plans to work in a rural area on completion of postgraduate training (P<.05)

<table>
<thead>
<tr>
<th>Hospitals</th>
<th>0 -&lt;1 year</th>
<th>1 year - indef.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Provincial City</td>
<td>42</td>
<td>58</td>
</tr>
<tr>
<td>Metropolitan</td>
<td>60</td>
<td>40</td>
</tr>
</tbody>
</table>

Intern and Rural Practice Survey - PGMEC 1990

The 1990 intern evaluation carried out by PGMEC showed that interns who went to provincial city hospitals were significantly more likely to include long-term rural practice, and in particular general practice, in their career plans than were interns at metropolitan hospitals. However, as this also shows, a substantial minority of metropolitan interns also have rural practice career plans.

Table 2: Intern year spent in a provincial city hospital (P<.005)

<table>
<thead>
<tr>
<th>Doctors</th>
<th>Provincial City</th>
<th>Metropolitan Internship</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rural</td>
<td>40</td>
<td>60</td>
</tr>
<tr>
<td>Provincial City</td>
<td>39</td>
<td>61</td>
</tr>
<tr>
<td>Metropolitan</td>
<td>17</td>
<td>83</td>
</tr>
</tbody>
</table>

Medical Services Survey of Rural and Urban Practitioners - QRPRG 1990

This is extremely interesting when considered in the context of a survey that was carried out in 1990/91, by the Queensland Rural Practice Research Group, of rural and urban doctors. This found that both rural and provincial city doctors were significantly more likely than metropolitan doctors to have spent their intern year at a provincial city than a metropolitan hospital. (Similar results applied for the following year, at the Junior House Office [JHO] level.) At the same time, this also shows that the majority of rural doctors did do a metropolitan internship.

So, while there is already evidence of associations between internship and rural practice, we should be asking whether these links can be strengthened, both in terms of recruitment for rural practice, and the initiation of suitable preparation for it. These questions have important implications as regards rural health, as further strategies to be explored in attempts to redress the gross misdistribution of doctors in Australia, with too few in the country and too many in the city. Major efforts are now being made - and some have been described in this and the previous Rural Health Conference - to address this problem at each level of education that has the potential to lead to rural practice, from rural high schools onwards. The aim is to encourage a greater interest in, and a better preparation for, rural practice. While programs to do so have been variously initiated at rural high schools, in undergraduate courses, and at the vocational training level, little attention has been paid, so far, to intern training in provincial city hospitals as another means of long term recruitment and training. If we look at the long-term career plans of interns in a little more detail [Table 3], they suggest some very worthwhile directions to be pursued.

We do need to bear in mind that this is just one year’s group of interns, and that the numbers are relatively small. Against this, however, the findings with regard to other links between early rural experience and rural career plans are very much in accord with previous research findings.
The year comparisons here are between middle-term and long-term plans for rural practice (and I should add at this point that the survey included clear definitions of what should be counted as rural, as opposed to provincial city, practice). As you can see, the big difference between provincial city and metropolitan interns was in the plans to work for an unlimited time in rural practice. These are percentage results, and a significantly higher percentage of provincial city interns planned to work long-term in the country once they had completed any postgraduate training. Furthermore, the majority of these expressly stated that this was because of the type of work involved in rural practice.

Nonetheless, the actual numbers of provincial city hospital and metropolitan hospital interns with long-term rural practice plans were not so different, and the point at issue here may be, in part, the way interns saw their intern and JHO years relating to their career development. This was quite different for provincial city and metropolitan interns. The provincial city interns were more likely to want to remain there for the immediate gains of obtaining more practical experience, rather than to describe it as part of an explicit career plan. This was in sharp contrast to the majority of metropolitan interns, who very much saw their two years in metropolitan hospitals as part of their long-term vocational training program.

What this suggests is that provincial city hospitals could be encouraged to develop and to promote what they can offer interns as the basis of a rural practice vocational training program. As Annemarie will show, this is already a part of the quality of experience that they can offer an intern - that is, the sort of training that is oriented towards the range of skills required in rural practice. Long-range preparation for rural practice is also encouraged by currently practising rural doctors. This view is summed up by this statement from one of the doctors surveyed by the Queensland Rural Practice Research Group:

*The number of training posts available in obstetrics, anaesthetics, neonatalogy, general surgery and orthopaedics should be given to interns who intend to go to rural practice.*

With vocational training units starting in a number of provincial city hospitals, there is an excellent potential for vertical streaming that can, to some extent, include the intern training program. This in turn could well be an incentive for more of those interns who are interested in long-term careers in rural practice to select a provincial city hospital with the prospect of starting their training at the intern level. And this sort of emphasis in provincial city hospitals also has the potential to promote interest in rural practice in at least some of the interns who are still uncertain about what they want to do.

From the point of view of long-term benefits to rural health, it is especially important that provincial city hospitals' intern training programs are accredited. So provincial city hospitals, especially those with more limited resources, may be assisted by the outcomes of studies such as those that will be described by Annemarie, to identify efficient strategies for providing learning environments that meet the required standards for accreditation and the maintenance of their programs.

As well as the long-term benefits to rural health of the recruitment potential of provincial city hospitals, it is important to consider the short term benefits of optimal intern training to rural health.

### Table 3: Plans to work in a rural area on completion of postgraduate training (P<.05)

<table>
<thead>
<tr>
<th>Hospital</th>
<th>1-5 years</th>
<th>&gt;5 years [indef.]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Provincial City</td>
<td>36</td>
<td>22</td>
</tr>
<tr>
<td>Metropolitan</td>
<td>32</td>
<td>8</td>
</tr>
</tbody>
</table>

Intern and Rural Practice Survey - PGMEC 1990
In the smaller-staffed provincial city hospitals, there is a perception that interns play a much more crucial and active part in the medical service that is provided - not only a more practical and applied role, but also with more responsibility. Perhaps in anticipation of this, interns entering these hospitals were more likely than were their metropolitan counterparts to want early orientation in the extent of their responsibilities, and in emergency procedures. Furthermore, they were more likely to consider that interns should delay their emergency medicine unit allocation until at least the second term of internship (Table 4).

Table 4: Those interns and medical staff who considered that the Accident and Emergency Term should be undertaken at any time from the start of the Intern year

<table>
<thead>
<tr>
<th>Hospital</th>
<th>Intern surveys January - December (P&lt;.01) %</th>
<th>(P&lt;.07) %</th>
<th>Medical staff survey (P&lt;.001) %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Provincial City</td>
<td>16</td>
<td>19</td>
<td>19</td>
</tr>
<tr>
<td>Metropolitan</td>
<td>35</td>
<td>36</td>
<td>44</td>
</tr>
</tbody>
</table>

As you can see, the difference between provincial city and metropolitan interns is sustained between the beginning of the year - what they were expecting, and the end of the year - reflecting their experience. Furthermore, senior medical staff showed the same discrepancy between provincial city and metropolitan recommendations for an optimal starting time.

It would, therefore, be of particular benefit to individual provincial city hospitals to have a process of early identification and meeting of interns' critical training needs as a part of the intern program. This can be done in the knowledge that most interns at provincial city hospitals are likely to stay on for a second year at the same or another provincial city hospital. Hospitals are, therefore, contributing not only to the interns' professional development, but to the efficient and effective service that well-trained interns and JHOs can provide to the rural and provincial city casemix for at least two years; and longer for those interns who have decided to proceed on to vocational training in rural practice. During this time, also, they are already being exposed to the special circumstances and needs of rural patients.

So, how does provincial city training compare with that of metropolitan hospitals now, and what should provincial city hospitals be planning to provide interns of appropriate training that will maximally benefit both provincial city and rural communities?

Provincial City and Metropolitan Hospital Intern Training Programs: Comparisons from a Rural Health Perspective

When we compare the two types of training on the basis of the evaluation carried out in 1990, there are a number of significant differences. First of all, let’s look at those where provincial city hospital conditions are the ones that could be expected to be the more appropriate preparation for rural general practice. These are the types of terms done, the duration of an average term, the reported contribution of nurses to the intern’s learning environment, and the level of responsibility that the interns had in their service role. Unless otherwise stated, the results I’ll be giving are from the December Interns’ Survey.

Taking term experience first, as this the following table shows, provincial city hospital interns were more likely than metropolitan hospital interns to do core terms, that is, the non-specialty terms of general medicine, general surgery and emergency medicine. These are considered to be the critical terms in the intern year, providing experience in a range of essential and desirable procedural skills.
In addition, provincial city hospital interns are more likely to have a fewer number of terms, each of longer duration than the average in metropolitan hospitals. Again, this is considered to be a better learning experience. Over half of the medical staff surveyed at the end of the 1990 year, for example, felt that the optimal term length is ten or more weeks. Longer terms are thought to provide interns with a more stable working environment, and more opportunity to establish good working relationships with the health team within a unit, and therefore more chance to consolidate and extend their learning in the terms to which they are attached. This is not only less likely to occur in the shorter terms reported by metropolitan hospital interns, but also in the split terms that were more commonly experienced in metropolitan hospitals.

It is not surprising, therefore, that significantly more provincial city hospital interns reported a number of positive working conditions which can be related to their longer terms. These included (at p<.001): satisfactory opportunities for procedural work, a broad range of patient age groups, experience with medical emergencies, and adequate opportunities for both independent decision making and doing procedures independently. These are all conditions which provide a sound starting point in preparation for rural general practice, and their greater availability in the provincial city hospitals suggests their suitability for interns with an interest in this as a long-term career.

The next difference of interest is the input of nurses into what interns rate as optimal learning environments. Provincial city hospital interns were more likely than metropolitan hospital interns to rate discussions with nurses and feedback from them as being valuable. This suggests that provincial city hospital interns are more likely to appreciate nurses as members of the health team. As doctors in rural centres in Queensland have strong associations with local hospitals and so will be generally part of a team which includes nurses, it may be that provincial city hospital internship provides a better basis for professional relationships within rural centres than does metropolitan hospital internship.

A possible explanation for the differences in interns' evaluation of the nurses' input into their training is that this is relative to the amount and quality of registrars' and consultants' teaching, supervision and feedback in the respective types of hospitals. When this possibility was tested statistically, however, it was found that there were no significant differences between them in any aspects of registrars' and consultants' input into optimal learning terms.

The next issue that I would like to examine is that of amount of responsibility that the interns report in provincial city hospitals, as compared with those in metropolitan hospitals. This is something of a two-edged sword. I have already commented on the opportunities for independent actions that are more highly reported in provincial city hospitals, and a graduated increase in responsibility is considered to be both part of an optimal training program and sound preparation for the amount of self sufficiency required in rural practice.

However, competence is not always the end result of responsibility and independence; premature responsibility may lead to problems of confidence and, in some situations, to inappropriate solutions to problems. This concern is well exemplified by the relative readiness of interns to work in the accident and emergency term. Anne has already talked about the consensus results from provincial city hospital interns and medical staff, compared with their metropolitan hospital counterparts, about deferring the commencement of their emergency term attachments.
The differences which were sustained at the end of the year may reflect the fact that interns in the provincial city hospitals were significantly more likely to report a lack of on-site back-up from the registrars, as well as less frequent back-up at nights and weekends. It would appear, then, that when interns in provincial city hospitals are allocated emergency term attachments, they are given more responsibility especially at nights and weekends. This would give them far more responsibility for patient care, and this appears to be a source of some concern to them.

While this problem, which can be described as one of professional isolation, needs to be addressed in provincial city hospitals, a pilot observational study that was conducted by PGMEC in 1992 suggests that, overall, the environment in the provincial city hospitals may be more conducive to the team approach so necessary in the rural health environment. Interns in provincial city hospitals are more likely to feel part of the health team (which included nurses from whom opinions were often sought), where they had more opportunities to talk about patients with other interns and other medical staff (not only those in the unit), and where they were more highly valued by members of the health team in which interns shared tasks more equally with the registrars.

To sum up, there are a number of advantages for later rural practice of training as an intern in provincial city hospitals. First of all, interns are more likely to work in core terms for a longer time, and are therefore better placed for learning the procedures in which they need to be best prepared for future rural health practice. They also have a greater opportunity to learn about the basic components of health care and are more likely to see a greater variety of case types such as they may meet in a future rural health practice. They are an active and integral part of the health team and regard nurse contributions to the health team in a positive manner. They are often given responsibility and while this can be an advantage, the process of assumption is such that needs to be examined to ensure that it does not happen in situations where it may be counter-productive, both in the long-term and in the short-term outcomes in patient care. The emergency term in provincial city hospitals should therefore be a focus of attention as regards this issue.

The next point I would like to raise is the possible areas of disadvantage in training in provincial city hospitals. First of all, our surveys suggested that the provincial city hospital interns reported similar levels of availability of a broad range of clinical experience, and similar types of working rosters, both areas in which provincial city hospitals tend to be less well regarded. In both types of hospitals, interns reported good working relationships with other doctors and with nurses.

The main areas of disadvantage reported by provincial city hospital interns as compared to their metropolitan hospital colleagues were in aspects of the educational program offered. These have both long-term and short-term implications for rural health.

Well-oriented interns can be expected to provide a better service quicker, and in the December Interns Survey, the provincial city hospital interns rated their orientation sessions of less value than metropolitan hospital interns. This may reflect content and/or process. Orientation sessions should meet the immediate needs of the interns. One area in which interns in provincial city hospitals may need orientation is a review of minor treatment procedures in which interns' competence in this area is reported as being poor by the provincial city hospital medical staff. The interns themselves felt under-prepared in emergency procedures at the start of the year.

Education sessions, to supplement what interns learn through their service role, are considered to be an essential part of intern training. Interns in provincial city hospitals indicated a need for access to education sessions that are of greater value. At present the interns in provincial city hospitals value their education sessions considerably less (p<.05) than do metropolitan hospital interns. Though it may be more difficult for speakers to come to education sessions, other avenues should be explored. For example, interns giving presentations on topics that interest them were described as very valuable in one of the provincial city hospitals I have observed. And if an increasingly rural focus is to be given to provincial city hospital interns...
training, then speakers with a rural health perspective could contribute a lot to the value of the sessions.

Returning to the point of graduated responsibility, increasing cover or back up for interns in the provincial city hospitals, especially in the emergency term, could improve the competence of the interns as well as their confidence. With greater cover, other interns that are currently in the metropolitan hospitals with future interests in rural practice may be more encouraged to spend the intern year in a provincial city hospital.

Effective coordination and delivery of education in the intern year is a complex task, and it is now recognised as important to have a nominated member of the hospital staff overseeing and facilitating the training program. In Queensland this role is being undertaken by a member of the medical staff designated as the Director of Clinical Training (DCT). In provincial city hospitals, the DCT could take into account the needs of interns with career interests in rural practice, and ensure that their basic preparation is appropriate for their future needs.

As a general point, to ensure the competence of the interns in the provincial city hospital (and all hospitals for that matter) there needs to be more effective supervision of interns. This does not necessarily require the more frequent physical presence of a more senior medical doctor - an issue of some concern to the sometimes short-staffed provincial city hospitals. Rather, there is a need for better strategies for overseeing interns' activities so that there is some level of appraisal of all aspects of work done by interns at various stages of their intern year. Interns would be assisted, for example, by some observation of their history-taking sessions, with suggestions later for improving them. Another area of demonstrated need is an approach to assessing the interns' ability to communicate with patients and their capacity to cover all that the patient should know at a particular point. By this I mean not only bad news but any information given. The interns that I have observed at the coal face are not good at conveying all the directions that their senior staff have asked them to pass on: most forget to tell their patients at least one part of important information.

Conclusion

As the provincial city hospitals are already providing interns with service oriented learning which is very relevant for future rural practice, it would appear that with better supervision strategies and a better coordinated education program (including orientation), the provincial city hospitals could increase the relative competence of interns and contribute to the basic training of the rural practitioner of the future. It, then, provincial city hospitals were also promoted as a formal part of long-term training for rural practice, their contribution to rural health could be enhanced through the avenues of both training and recruitment of rural medical practitioners. At the same time, attention to these aspects of the training program can be expected to improve the interns' skills and hence lead to improvements in the hospital's own provision of medical services to rural and provincial city patients.

Table 6:

<table>
<thead>
<tr>
<th>Hospital</th>
<th>Rural Placement</th>
<th>Provincial Placement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Provincial City Interns</td>
<td>14</td>
<td>58</td>
</tr>
<tr>
<td>Metropolitan Interns</td>
<td>8</td>
<td>3</td>
</tr>
</tbody>
</table>

December Intern Survey - PGMEC 1990

I would like to leave you with one final message - the importance of promoting provincial city hospitals as the newly graduated doctor's first choice for intern placement when they have an interest in provincial city hospital or rural hospital work in their second year out. Table 6 shows that 11% of interns from metropolitan hospitals have such plans. From what I have already said, it seems that the preparation they obtain in a metropolitan hospital may not be adequate for the level of service that would be required from them in this second year - a potential problem in rural medical service delivery.