

SURGICAL SERVICES IN RURAL HOSPITALS

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Prepared by the Rural Resources Unit
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Introductory Note

This report was prepared in response to a request from the Minister of Agriculture to examine the guidelines used to assess hospitals, and to determine whether these guidelines disadvantaged rural hospitals.

In carrying out this task, it became clear that the NSW guidelines used to assess hospital services were only one of the factors influencing decisions about what level of services were provided in rural hospitals. Thus the scope of this report was broadened and an attempt made to identify and discuss these other factors.

However, the report makes no pretence to being an exhaustive treatment of what are very complex issues. Only certain aspects of the health reforms are addressed in this paper. To provide a more comprehensive picture, further analysis of the current situation and directions for the health and disability sector is required.

While some issues and options are presented, there are no simple answers. The future of rural hospitals will be decided on a case by case basis. The only certainty is that consultation with the local community will play a crucial role in obtaining a satisfactory outcome.

It is important to note that, since this report was written, further developments have occurred. Key among these is the introduction by the Minister of Health of Management of Change protocols that require RHAs and CHEs to take account of issues concerning rural access as part of the management of change process. Also, additional funding has been provided to CHEs to improve access to secondary and tertiary services, while a portion of CHE debt has been written down. This paper reflects developments up to June 1994 only.

This report was prepared by the Ministry of Agriculture and Fisheries as part of its brief to ensure adequate access to information and basic services for rural communities. It should be noted that this has therefore been written from the perspective of a Ministry more familiar with rural issues than health issues per se. Nevertheless, the Ministry considers the report to be a valid contribution to the current discussion on the future of rural health services.

Statement from Ministry of Health

The information in this report:

- A. does not necessarily reflect Government health policy, and
- B. was prepared without full input from key Government health advisers.

Subsequent to the report being written, the Ministry of Health has had the opportunity to correct and clarify information in the report.

SURGICAL SERVICES IN RURAL HOSPITALS

Introduction

This report investigates the impact of New Zealand's current health reforms on the surgical services provided in rural hospitals. In particular it focuses on the use of the New South Wales guidelines for evaluating hospital services. It is based primarily on information drawn from relevant literature, augmented by discussions with individuals familiar with the use of the NSW guidelines.

However, there are many forces influencing the nature and level of services provided by rural hospitals, and these other factors are also discussed in order to put the use of the guidelines in context.

The paper begins by discussing the NSW guidelines - their background, their strengths and shortcomings, and some examples of how they are being used.

There are a number of aspects of service delivery not addressed by these guidelines, such as cost, efficiency, access, and community acceptability. Such issues are the focus of the health sector monitoring process, and this then forms the second topic of discussion in this paper, with particular emphasis on CHE operation performance measures.

Moving from health providers to health service purchasers, the paper looks at the decisions being made by the Minister of Health, the Core Services Committee and the Regional Health Authorities (RHAs) about what services will be purchased, and how this will affect the smaller hospitals.

The final section of paper draws together the earlier discussions to summarise where the reform process is leading rural hospitals in New Zealand, and compares this to the pressures being faced by rural hospitals in other countries. Drawing upon the experience of other countries, the paper concludes by examining key issues and options for future rural health services.

The NSW Guidelines (The Role Delineation Model)

Background

Over the 1980s, the New South Wales Department of Health developed a set of guidelines for measuring the services provided by hospitals and area health services. Entitled "Guide to the Role Delineation of Health Services", the guidelines were intended to provide an objective, standardised system for describing the scope and level of services provided.

To quote from the Guide itself,

Role delineation is a process which determines that the support services, staff profile,

minimum safety standards and other requirements are provided to ensure that clinical services are provided safely and appropriately supported. The aim of the Guide is to provide consistent language which health care providers and planners can use when describing health services, and a tool for use when planning service developments. (CHEMU, 1993:107)

First used in New Zealand as the NSW model, a New Zealand version was produced in 1993 (CHEMU, 1993). However, the amendments were more in terms of nomenclature than substance.

The model sets out various levels for each clinical service, ranging from 0 (no service) to 6. Although it is descriptive rather than prescriptive, the guide specifies the level of support services (eg x-ray, anaesthetics, etc) required for the corresponding level of clinical service. There are eight clinical support services, listed in Table 1. As an example, surgery performed at level 2 (minor diagnostic and therapeutic surgical procedures on good risk patients) should be supported by pathology at level 1, x-ray and pharmacy at level 2, and so on.

Table 1

**The Eight Clinical Support Services
in the Role Delineation Model**

- Pathology
- Pharmacy
- Diagnostic Radiology (X-ray)
- Nuclear Medicine (Radio- isotopic diagnosis)
- Anaesthetics
- Intensive Care
- Coronary Care
- Operating Suites

The guidelines cover six categories of basic clinical services: emergency, medicine, surgery, maternal and child, integrated community and hospital services, and primarily community health services. The level assigned to each service is determined by the complexity and frequency of the activity undertaken and the presence of certain suitably qualified health care personnel. Sample procedures are listed to indicate the type of activity undertaken for each level.

Appendix 1 provides an example of the worksheets used in the assessment of services at Dannevirke Hospital using the role delineation model.

Strengths of the Model

Of the 10 health professionals contacted who had worked with the model, most described it as a useful tool. It provides a common framework for describing hospital services, which ensures that RHAs, CHEs and others can be 'talking the same language' when describing services.

This common framework means that the model is useful for coordinating services within an area. Hospitals may specialise in certain services, especially at the higher levels, while still ensuring that, between them, the hospitals in an area offer complete coverage for that area. This can avoid duplication of expensive technology while improving the expertise of staff in the procedures specialised in. It may also allow for better coordination and more use of visiting specialists. This coordination of service may be applied at a local, area, regional or national level. For example, there is work currently underway to use the model to coordinate accident and emergency services at a national level.

As a planning tool the guidelines also provide benchmarks for determining, as one consultant termed it, "what business the hospital is in" (Dutton, pers. comm.). It gives an unbiased inventory of what services are offered, and allows assessment of what gaps or discrepancies exist. This may indicate where more resources need to be directed, or it may show up areas where a service is not appropriate and should be discontinued. It can also be used to compare the services offered between different areas.

There is a degree of flexibility in the guidelines, which allows varying circumstances to be taken into account. Services are not required to be on-site, so that smaller hospitals may count services available at other centres, as long as the access to those services is such that patient safety is not at risk. For example, the requirement for a staff person to be on site may be considered met by a person on call, as long as that person can be on site within a specified time period. Similarly, services offered on an day-patient basis may be considered to count as corresponding operations offered on an in-patient basis, as long as the requirements for follow-up care, etc can be met.

This flexibility means that the guidelines must be used with a certain amount of interpretation. However, there is a balance to be struck as too much leeway can render the guidelines meaningless, especially where used for comparison with others. In general, though, the guidelines serve to raise issues and ask questions, which it is then up to the assessors involved to answer.

Weaknesses of the Model

The most frequent complaint from those involved in using the guidelines was that they had not been sufficiently adapted to New Zealand conditions. This was particularly true with respect to community services, where opinions of the model ranged from "unwieldy" to entirely inappropriate. There was also concern that the criteria for surgery at the lower levels did not entirely suit the New Zealand context, and that work was needed on some of the definitions used. Given that some of the descriptions were first developed in Australia a decade ago, it was also considered that some updating was necessary.

It is important to note, however, that the guidelines issued by the Crown Health Enterprise Monitoring Unit (CHEMU) last year were considered to be a working draft. It was recognised that further development was necessary, and that the amendments necessary would become clearer with further use in the New Zealand environment.

It is also important to acknowledge that this model is just one tool used by providers and purchasers to determine whether services are being offered at an appropriate level. The guidelines examine only

one part of total hospital operations, and do not address issues such as cost, efficiency or equitable access.

The model also focuses on inputs, rather than desired health outcomes. For this reason, it was considered inappropriate by one RHA for use in determining what would be purchased from CHEs, as RHA purchasing decisions are output-based (Taylor, pers. comm.).

The model does not evaluate the competency levels of staff, other than obliquely through assessing the frequency with which they perform certain procedures. And although the guidelines can be used as part of a quality control programme, they by no means constitute a sufficient programme in themselves.

Finally, the results obtained from applying the role delineation guidelines are not static, and the assessment should be carried out on a regular basis to take into account changing conditions at the hospital(s) under study.

The Role Delineation Model as a Safety Check

The role delineation model can provide a useful tool for evaluating some aspects of clinical safety.

The model is not intended to be a complete guide to clinical safety issues. However, it can assist in identifying where there is a mismatch between the services being provided and the clinical support and other resources available (CHEEU, 1993a:2).

Where such a mismatch occurs, it can endanger patient safety. The assessors using the model to evaluate services at Waipukarau hospital considered

that in the health services in the 1990's there is an unacceptably high risk of clinical disasters occurring in hospitals where there is a lack of congruency between the complexity of services being offered to patients and the requisite level of support services for this level (quoted in CHEEU, 1993b:4).

The model also indirectly provides a safety check by considering the experience and "throughput" of hospital staff when assigning levels. It is generally agreed that better results are obtained by those carrying out a given procedure on a regular basis.

It is an unchallenged fact in medical practice today that for some services -particularly highly specialised, highly technical services - significantly better outcomes are able to be achieved at those centres performing more of the service (Core Services Committee, 1993a:7).

This link between volumes and competence applies not only to the surgeon, but also other theatre staff, support service staff, and so on. It is becoming more important as health care becomes more advanced and involves more complex technology, leading to the need for increased specialisation.

This can present a problem for smaller hospitals, who may have difficulties recruiting the specialist

staff required, or who would under-utilise the technology and facilities required. Two areas present particular difficulties for smaller hospitals - Anaesthetists and intensive care. Unlike most countries, who use specialist anaesthetists, New Zealand has traditionally made considerable use of GPs in this role. Under the guidelines, this limits the level of surgery that can be undertaken. The recruitment of suitably qualified health professionals is a real problem for the provision of services in rural areas.

It should also be noted here, however, that technological advances have also produced a counterbalancing trend. Many procedures that previously involved major surgery, such as cataract removal, may now be performed on an daypatient basis, requiring a lower level of support services. Such procedures may be suitable for smaller centres, particularly where visiting specialists are used. In other cases, treatment may become more straightforward (eg drugs eliminating the need for surgery altogether) so that it may be appropriately carried out by a general practitioner or generalist surgeon.

The guidelines also make a useful distinction between levels of risk. Procedures may be acceptably performed at lower levels on low risk patients, while they should not be attempted on higher risk patients. Thus, rather than being unable to perform a given procedure at all, a hospital may be restricted to performing it only on patients who are good risks. Such an approach is currently widely used for maternity care. An appendix to the guidelines indicates risk factors for various procedures.

"Patch Protection?"

It might be questioned to what extent these requirements are based on true safety requirements, or whether there is an element of "patch protection" by specialists and/or larger hospitals.

As pointed out above, it is generally accepted that better results are obtained by those performing more of a given procedure. It is also true that society's expectations of health services are rising, with greater demand for more complex procedures. This trend has resulted in a greater need for appropriately trained staff and suitable support services if a quality service is to be offered.

It is worth noting that these guidelines were developed by government, not by clinicians, although the latter were closely consulted. They were introduced into New Zealand by the National Interim Provider Board (NIPB), precursor to the CHE Establishment Unit (CHEEU, later CHEMU), and are currently used by management, not practitioners. This would indicate that the guidelines have not been "captured" by practitioner interests.

Those consulted did not consider that the guidelines were protecting the territory of a given group of clinicians, indeed the guidelines might be helping overcome the problem from the other direction. Currently there may be a tendency to "hang on" to patients that should, in terms of safety and quality of care, be referred on to another institution. The guidelines may provide an objective method for assessing when such a transfer should occur, with no loss of face to the smaller centre.

International Comparison

Very little information has been available about any similar guidelines in use in other countries. In

Australia, the model is being used in states other than New South Wales for both long-term planning and inter-regional comparisons, but has apparently not been formally adopted outside NSW. Even those involved closely in use and development of the role delineation model were not aware of similar models elsewhere, although the principles involved would be similar to the standards of the Medical Colleges.

It is worth noting that Medical Colleges here and overseas are increasingly moving to restrict the scope of practice for their members to areas of proven competence as the trend to specialisation in medicine continues. In future they may also specify which procedures may be carried out at which hospitals, based on the level of facilities and support services available (CHEEU, 1993b: Annex 7, p 3). Internationally and nationally, there is an increasing focus on the use of Best Practice Guidelines to determine effective, appropriate health and disability service delivery.

In the USA, the California Alternative Rural Hospital Model provides some similarities (Agency for Health Care Policy and Research, 1991:5). It takes a "building block" approach, with a set of basic and support services defining the core, with additional modules possible if the support services are expanded to match.

Use of the Role Delineation Model in New Zealand

The NSW model was first used in New Zealand in September 1991 to assess services at Whakatane hospital. This was part of a larger exercise identifying gaps and core services in the Bay of Plenty. The other two hospitals in the area have since also been evaluated using the model. From the results, the BOP CHE have defined a core of services to be offered by all three hospitals, and plan to rationalise other services between the three. (Dutton, pers.comm.)

In July 1992, CHE Advisory Committees (CHEACs) were established and given the task determining the "shape" of CHEs evolving from the AHB configuration. This involved assessing which hospitals were clinically and economically viable on their own. The NIPB recommended use of the NSW model in this process, and it was subsequently used in 10 of the 14 Health Board areas. It was found that the model worked well for this purpose.

One of the results of the CHEAC process was the identification of four hospitals in which the levels of clinical services provided were not matched by the level of support services available. This finding of "unsafe" hospitals generated considerable media attention at the time. In all cases the AHBs involved took steps to address the problems brought to light by the use of the model. (CHEEU, 1993a)

The model was also used in October 1992 at Wairoa and Waipukarau hospitals to evaluate their potential as community trusts.

Midland RHA used the guidelines last year to examine the surgical, medical, obstetrics and gynaecological services provided by the CHEs in their region. The purpose was generally to take an inventory to assist with future planning and to identify any gaps in service. They may use the levels defined in the guidelines to define the levels of services to be purchased from CHEs in future years. In fact, it was suggested that funding would be restricted to the agreed level, in other words, if a CHE was funded to provide surgery at level 4, it would only be paid to do surgery at this level, even if it

performed some at level 5.

A number of private hospitals have also made use of the guidelines to assess the services they offer. In many cases these hospitals do not have on-site support services, but are able to claim use of support services offered by public services to which they have access (Dutton, pers.comm.).

The MidCentral Health Study

This section is based on information supplied by the Chief Executive of MidCentral Health.

In September 1993 MidCentral Health launched a Clinical Planning Project which was to assess the level of services being offered by Horowhenua, Pahiatua and Dannevirke hospitals using the role delineation model. Palmerston North Hospital had been evaluated under the NSW guidelines the year before as part of the CHEAC process.

This was the first use of the New Zealand model following its adaptation from the NSW version. Two members of the working party who had authored the revised version were hired as consultants to undertake the study.

Pahiatua hospital has 26 beds and offers outpatient clinics only. The study found that the support services were adequate for this level of service. The conclusion reached was that the services at Pahiatua were clinically viable and should continue in their present form.

Dannevirke hospital has 56 beds, and with a resident surgeon offers in-patient surgery. Many clinical services are offered to level 3, and geriatrics to level 4. However, anaesthetics and intensive care services are able to be provided only to level 2, and coronary care to level 1 only, which is not sufficient to adequately support the level of clinical services (the results of the role delineation analysis are presented in Appendix 1).

The study recommended that clinical services be temporarily scaled back to level 2 while a project team was set up to look into a suitable response to the study findings. A project team has been established with representatives from Central RHA, MidCentral CHE, local GPs, Tararua District Council and the local community. The draft terms of reference for this project team are included as Appendix 2.

Horowhenua is a 100-bed facility, but like Pahiatua offers clinical services to level 2 only. It was found that the services offered met the guidelines, and should continue in their present form. Moreover, it was noted that there was a high degree of linkage between Horowhenua and Palmerston North hospitals. There are extensive outpatient clinics held at Horowhenua by visiting specialists from Palmerston North, and frequent clinical liaison occurs at ward level. It was considered that this provided an excellent example for Pahiatua and Dannevirke hospitals to follow.

Performance Monitoring of CHES

As noted above, the role delineation model examines only one part of total hospital operations. There

are many issues that the model does not address. While it is useful for measuring clinical viability, further assessment of other significant issues is required to determine the place for rural surgical services. A further means of assessing the place for rural surgical services is performance monitoring. Although performance monitoring in various forms is undertaken by the Ministry of Health, RHAs, Treasury and other agencies, the next section will focus on the performance monitoring of CHEs by the Crown Companies Monitoring Advisory Unit (CCMAU), outlining the process and the performance indicators used.

CCMAU

Crown Health Enterprises, like SOEs, are monitored to ensure that they are providing the best return (in terms of quality of service for public money invested) to their shareholding Ministers [- In the case of CHEs, the shareholding Ministers are the Minister of Finance and the Minister for CHEs] on behalf of the New Zealand public. This monitoring is carried out by the CCMAU, a Government agency.

The health division of CCMAU was previously known as the Crown Health Enterprise Monitoring Unit (CHEMU), which in turn developed from the Crown Health Enterprise Establishment Unit (CHEEU) under the Department of the Prime Minister and Cabinet. It has about 12 staff.

CCMAU is responsible for both the performance monitoring of CHEs and for the distribution and development of the role delineation guide. They see the two as complementary steps of the management process, with the safety and quality of clinical services being an important component of overall CHE success.

Performance Measures

There is a widespread perception that the requirement for SOEs to exhibit a sense of social responsibility interferes with their ability to operate as a successful and efficient business. Although the SOE Act requires explicit subsidy for services provided at a non-commercial rate, a number of people still consider some degree of tension to exist between the two objectives.

Nevertheless, whatever debate may take place over the division of the public health there can be little argument that a more efficient use of public health resources gives a "pie" to share around. As stated by Peter Troughton, original director of CHEMU:

The motivation of the Government is to improve the health status of New Zealanders through the creation of a more responsive, more efficient and better managed public health system focused on the delivery of quality health and disability services to all New Zealanders. That is the bottom line. (Troughton and Inglis, 1994:9)

In Troughton's view, the key to that efficiency, responsiveness and good management is a rigorous performance monitoring procedure. An international consulting firm estimated that a medium-sized CHE could save up to \$15 million through improved management (Troughton and Inglis, 1994:12).

CHEs are required to report monthly against 23 performance measures. These measures are listed in

Table 2. They cover the areas of customer satisfaction, operational performance, labour relations and financial performance.

The measures were based on similar ones implemented by management at Tauranga hospital to improve performance, and further refined following extensive consultation with AHBs, RHAs, Ministry of Health, professional organisations, and overseas consultants.

The information provided by CHEs has in the main not been published. Ombudsman Brian Elworthy has ruled that CHEs are not required to release this information under the Official Information Act, due to commercial sensitivity. CHEs do see their own results in comparison with others, without being able to identify the others.

Strengths and Weaknesses

The Post Election Briefing prepared by the Ministry of Health describes New Zealand's monitoring regime, in relation to both purchasers and providers, as well advanced in international terms (1993:32). Generally, indicators used in New Zealand are similar to those used in countries such as the UK, Sweden and Australia. They have been developed using fairly wide consultation, and are reasonably straightforward. However, the Post Election

Table 2

CHE Performance Measures

Quality Index¹
Customer complaints
Average customer satisfaction % rating as "Excellent"
Public perception
Average length of stay (Inclusive)²
Average length of stay (Exclusive)²
Average length of stay (Tertiary)
Resourced occupancy rate %
Utilisation of operating theatres %
Overhead expenses as a % of total costs (Changes)
Worked hours to inpatient day equivalents
Outpatient contacts as a % of total inpatient days
Daypatient contacts as a % of total inpatient days
Day stay surgery (Elective) %
Inventory level to resourced beds (\$'000)
Staff turnover to FTEs
Workplace accidents and injuries to FTEs
Number of days sickness in the month per FTE
Net Income Ratio
Return on equity
Debt/Debt + Equity Ratio (%)
Acid Test Ratio³
Debt Service Coverage Ratio

A composite of at least 5 statistics, some of which may be determined by the CHE.

3	Secondary care including/excluding mental health, assessment and rehabilitation services and continuing care. Sum of cash and temporary investments divided by current liabilities.
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Briefing states that there is a need for further development of the performance measures, with a clarification of the objectives of monitoring and examination of the validity of certain indicators (1993:32).

Reporting against the CHE performance measures in Table 2 began on 1 July 1993. Since then some amendments and clarifications have been made, with a review recently having been undertaken by CCMAU based on the first six months of use. There are concerns with the suitability of the measures for aggregation and comparison between CHEs, and there are ongoing questions about the definitions for key variables.

Aggregation and comparison between CHE performance measures is not strictly valid partly because there is no scaling factor to take into account the complexity of the operations being performed. Work is proceeding on weighting the results by case mix using diagnosis-related groups (DRGs), which group procedures of similar cost and complexity.

Influence of Performance Monitoring on Rural Services

The performance-monitoring regime can exert considerable influence on CHE behaviour. It is a frequent, highly visible (although not always to the public) exercise which provides a strong focus for CHE management. In addition, the salaries of CHE CEOs are linked to their performance as measured by the 23 indicators.

However, the monitoring is of services at the CHE level, which generally involves an aggregate of two or more hospitals or other providers. Other than for some small CHEs such as Wairarapa Health, the services provided by rural hospitals will tend to be dominated by those provided by their larger cohorts within the CHE. For example, the rating of services at Dannevirke or Pahiana hospitals will have little influence on the performance results for MidCentral CHE services overall. To this extent it might be expected that performance monitoring will not directly affect the conduct of smaller hospitals.

It is also true, especially without weighting by case mix, that services provided by smaller hospitals may score quite well. Measures are included for customer satisfaction and public perception, which may be higher for smaller hospitals with loyal communities and a perceived more personal approach. Where rural hospitals have a high percentage of daypatient and out-patient work, this will cause them to score well in these categories also. There is no explicit measure for accessibility of services, although this could come into the public perception measure, which should include whether the CHE is seen to be meeting the needs of its community.

Nevertheless, the monitoring will put pressure on CHEs to perform. Many inherited heavy debt loads from the AUB structures. At the time of the Post Election Briefing, the Ministry of Health noted that the efficiency gains necessary to reduce these debts would likely involve some reconfiguration of services. "For some, this will involve reducing or closing uneconomic satellite hospitals, particularly

in rural areas" (Ministry of Health, 1993:31). Since this, the Government has announced increased funding and debt write-downs which should relieve some of this pressure; however, the push for efficiency gains is likely to continue.

RHA Purchasing Decisions

CHE decisions regarding service provision will be influenced by the performance monitoring process, and by quality and safety issues such as may be raised by use of the role delineation model. But most of all, they will be determined by the decisions of the RHAs as to what health services they will be purchasing, and what conditions will be placed on those purchases. This then is the third topic needed to be discussed in order to provide a fuller picture of factors affecting surgical services in rural hospitals.

The Core Services Committee

The Minister of Health outlines the services the Government requires RHAs to purchase on behalf of their populations. To aid in the process of setting these guidelines, the National Advisory Committee on Core Health and Disability Support Services (the Core Services Committee) was established. The overall objective of the Core Services Committee is "to advise the Government on the fairest and most effective use of the public money we spend each year on health and disability support services" (Core Services Committee, 1993a:3).

One function of the Committee is to advise the Minister each year on the services to be purchased, their relative priority, and the terms on which they should be available. In its first year, the Committee recommended that the status quo be held. However, it has now had the opportunity to carry out further study and consultation, and this year has begun to shift the focus for health purchasing decisions (for 1994/95).

A key focus for the Core Services Committee this year has been the question of configuration of services, particularly high level services (eg neurosurgery, heart transplants). Given the need, for safety and quality reasons, for clinicians to perform a certain volume of operations to maintain their proficiency, as well as the wish to avoid duplication of expensive technology, the Core Services Committee has recommended that key services will be performed only in a given number of centres with suitable facilities. For example, they recommend that kidney transplants be performed at no more than two centres nationally, and care for babies under 1000 grams be provided at no more than five centres. For some procedures, such as liver transplants, the recommendation is that they not be performed in New Zealand at all, but that we make use of overseas facilities (as is currently the case).

So far, the Committee has focused on nationally based services, but they have recommended that RHAs do the same at regional level.

Recommendation 9: Where there is evidence that significantly better outcomes can be achieved for health care by providing a service at a regional or national level, RHAs contract with regional or national centres for that service (Core Services Committee, 1993a: 12).

However, they also ask that consideration be given to the needs of family where services are concentrated in only a few centres:

Recommendation 10: RHAs take into consideration the provision of family/whanau support, on fair terms in cases of need, when purchasing regional/national services (p.12).

The Core Services Committee intends to undertake further work to determine which services are best provided at national or regional centres only, while recognising in some cases it will be up to the RHA, in conjunction with its local community, to determine which services are best rationalised.

Overall, the trend to centralise higher level secondary and tertiary services is clearly signalled.

RHA Purchasing Guidelines

The Policy Guidelines for RHAs for 1994/95 draw on recommendations of the Core Services Committee (Ministry of Health, 1994). This document sets the Government's priorities for health services, which is intended to guide the RHAs in the development of their Purchase Plans and Statements of Intent.

In the general discussion section of the Policy Guidelines many issues are raised which are pertinent to the surgical services provided by smaller hospitals. Confirming the trend identified above for increased centralisation of higher level services, RHAs have been asked to coordinate their purchase of tertiary level services. They are also to outline the conditions for provision of family support and assistance with travel and accommodation costs. In addition, they are to comment on their intentions with regard to the provision of ambulance services, both land and air. It is important to note that the 1994/95 Policy Guidelines require RHAs to consult with the affected communities on CHE plans to alter or withdraw services and to consider all alternative proposals, including any community health initiatives.

The Policy Guidelines also state the service obligations for RHAs, detailing the range of health and disability services to be purchased; the coverage and/or terms of access to those services; and standards for safety and quality. While time and distance criteria are set out for primary services (see Table 3), no such indicators have yet been set for secondary services.³ RHAs are undertaking work to make criteria for access to secondary medical services more explicit, and to specify acceptable waiting times. It is anticipated that time and distance criteria for secondary and tertiary services will be further developed in the 1995/96 Policy Guidelines.

Table 3

Terms of Access Criteria for Primary Care: Travel Time

90% of people should have to travel for no longer than half an hour by road to access service

95 % of people should have to travel no more than one hour to access service

99% of people should have to travel no more than three hours to access service

the RHA should make appropriate access arrangements for those people in severely isolated areas within its region.

Source: Ministry of Health, 1994:39

³ Although a briefing paper for CHEACs defined 'ready access' as 45-60 minutes driving time (CHEEU. 1993b: Annex 7, p 3).

RHAs will also consult their communities in the preparation of their Purchase Plans. For example, Central RHA has released a discussion document indicating its purchasing intentions for 1994/95 (Central RHA, 1993). In terms of secondary care, it seeks to encourage continuity of care and improve communication between primary and secondary caregivers. The RHA also intends to increase the amount of day surgery, particularly at rural hospitals, and increase access to outpatient services. They also plan to examine geographical access to surgery within the region and make necessary changes to ensure fair access (p14-15).

The Future for Rural Hospitals

From the above discussion, it is clear that there is a trend to centralise complex secondary and tertiary services. This is on the grounds not only of efficiency, but also safety and quality. As the Minister of Health has stated;

In meeting the needs of a small population with a large geographic spread, it seems increasingly that the answer does not lie in duplicating services but in providing more appropriate means of accessing those services, and ensuring that the services are of the highest quality. (Core Services Committee, 1993a:3)

On the other hand, a key aim of the reforms is the integration of primary and secondary care. There is also the explicit aim to move more surgery to a daypatient basis. For example, Midland RHA is aiming to increase day cases to 60% of all surgery, from the current level of 30-35 %. Several CHEs are currently investing in the technology to allow a move in this direction. These trends offer considerable opportunities for smaller/rural hospitals.

Before returning to the issue of what opportunities exist for rural hospitals under the new regime, it is worthwhile to first look at a few other issues relating to the provision of surgical services at rural hospitals, and also to see what is happening in other countries.

Is New Zealand Over-Bedded?

Several people consulted in the preparation of this report commented on the fact that New Zealand

had a very high number of hospital beds relative to its small population. This can be attributed partly to geographical spread, and partly to historical development. Both these factors account for the South Island having a higher ratio of beds to population, as well as a higher proportion of small hospitals.

Table 4 shows the total number of hospital beds per 1000 population in selected countries. The most recent year for which full statistics are available is 1989. It is clear that, compared to Canada, the USA and the UK, New Zealand in 1989 had a high bed/population ratio. This ratio had fallen by 1991, but the trend in other countries is also downwards.⁴

On the other hand, the table also shows that the level in New Zealand is comparable to the level in Australia on a per capita basis. Furthermore, there are several OECD countries with much higher ratios than New Zealand. In 1991, the Nordic countries had 12-15 beds per 1000 population, while Japan had an amazing 16.

Table 4

Total In-Patient Care Beds Per 1000 Population

	NZ	Canada	USA	UK	Australia
1980	10.19	6.88	5.80	8.13	10.89
1989	8.73	6.59	4.67'	6.38	9.77
1991	7.66	n/a	n/a	n/a	n/a
1	1990 figure				

Source: OECD, 1993: Vol 1 Table 5.2.1 and Vol 11 Table A1. 1.1

It should also be noted, however, that total inpatient hospital beds really only serves as an indicator of availability. It does not tell how well those beds are being used. A more valid comparison with other countries would also identify utilisation rates and the context in which beds are used. The lack of up-to-date data also impedes useful analysis.

The view of health officials is that there is considerable scope for more efficient use of beds in New Zealand. In briefing papers prepared for the CHE Advisory Committees who were evaluating the configuration of future CHEs, the following advice is given:

New Zealand hospitals are as a whole over-bedded by international standards, albeit some specific services are under-bedded. Structures which reduce inpatient bed numbers are favoured. (CHEEU, 1993b: Annex 7, p 2)

It is food for thought that for New Zealand to move to a ratio of, say, 6.5, hospital beds would have to drop from the current 26,000 to 22,000 (assuming no population growth). However, it is also worth pondering how much more community based health and disability services could be provided with the money freed up by such a move.

⁴A recent Canadian study shows that the total number of inpatient beds in that country has fallen to 2.75/1000, and further that 40% of these beds are inappropriately used (Working Group, 1994).

Access

One of the key concerns regarding the loss of surgical services from rural hospitals is the feared increased difficulty of rural dwellers gaining access to those services.

The term "access" has many dimensions. It can mean the time it takes to travel to a services location under normal circumstances; the time it takes to receive treatment in the case of accident or sudden illness; the ease with which family and friends may visit the patient to offer support; or the waiting time to receive treatment for non-emergency needs.

A fifth aspect, and one which is often overlooked in considering the issue of access, is the quality of services obtained. An incident at a small hospital, where an incorrectly set broken leg led to gangrene and the eventual need to amputate the leg, raises questions about the level of service in smaller hospitals (Edgar, pers.comm.). Obviously there are occasional lapses at any hospital, no matter what size, but generally speaking where support services are lacking, volumes are low, or peer support for practitioners is lacking, the risk of surgery increases.

The Core Services Committee addressed this issue directly in their consultation document, "Seeking Consensus". People were asked straight out, which is more important - better results for patients or local access to services? (Core Services Committee, 1993b:20). "Most people considered that it is more important to locate services where they will give the best results, provided access is assured, than to maintain local access to services" (Core Services Committee, 1993a:9).

People, including those in rural areas, then support the move towards increased centralisation of secondary and tertiary level services where this means an increase in the quality of those services. But there are conditions attached.

Access to services is of great concern especially in rural areas. People accept that they may not have access to specialist services in their own community, but want some recognition of the need for assistance with such things as transport and accommodation costs, and support in their community as a follow-up to specialist treatment carried out in regional centres. (Core Services Committee, 1993a:9)

RHAs are working on improving access to surgical services for people in rural areas. The transfer of funding from DSW to RHAs for transport and accommodation assistance on 1 July 1995 should allow greater co-ordination of such assistance. The need for follow-up care may present an opportunity for rural hospitals, and is discussed below.

Rural communities have been assured that land and air ambulance services will be improved to provide the needed emergency access to regional hospital services. It is worth noting that a high percentage of the demand for higher level services is from victims of accidents or violent illness, where it is better to receive full treatment as soon as possible, rather than be stabilised at a local facility and then transferred (Haynes and Bentham, 1979:2). As noted above, the improved provision and coordination of ambulance services is an area which RHAs have been instructed to address.

Before concluding the discussion on access, it is worth noting that, if looked at in terms of hospital

beds and usage of facilities on a per capita basis (and this is clearly only one aspect of access), rural residents are currently favoured over their urban counterparts. A greater percentage of rural residents use hospitals, and they tend to stay for longer. There is also a strong north/south variation, with a proportionately greater number of hospitals and beds available for residents in the South Island. (Ministry of Health, 1993:33)

The inequities in access across a number of fronts was a pronounced finding in the first report of the Core Service Committee, and one which they intend to revisit in the current year (1993a:7).

Community Concerns

It is also important to recognise that loss of surgical services is not the only concern to a rural community when it is proposed that a hospital scale down operations. The hospital may be a large employer, if not the largest, and a major fear is the loss of jobs which will not easily be replaced. The hospital also tends to be an important part of the overall infrastructure, and its loss or downsizing may affect whether other business are viable, and whether new businesses can be attracted to the area.

These are legitimate concerns. However, health care purchasers and providers must focus on providing optimal health care, and impacts on community will necessarily come second. This makes it doubly important that the local community be a partner in any decisions regarding a major change of services. The 1994/95 guidelines for RHAs require them to consult with affected communities on any CHE plans to alter or withdraw services. An example of this is seen in the project team which has been set up to examine the future of surgical services at Dannevirke Hospital.

Overseas Examples

These same issues are facing other countries as they struggle with burgeoning health costs and declining rural populations.

In the UK the issue was recognised 20 years ago, and a policy introduced by the Department of Health and Social Services to move to a structure of district hospitals supported by a network of smaller community hospitals. The district hospitals offered specialised care, generally had 600-800 beds and serviced a population of 100,000 to 150,000. The community hospital had 50-100 beds, and offered a non-specialised service which complemented rather than duplicated the district hospital.

The main focus of the community hospital was an extension of primary care, with surgery offered to no greater level than would be performed by a GP in his or her surgery. Local GPs were encouraged to be part of the staff, thus promoting continuity of care.

By being a focus of health care at the local level, the small hospital might help to foster greater contact and coordination between the health and social services and also between those services and the public, so facilitating early diagnosis and treatment (Haynes and Bentham, 1979:2).

It was recognised that small hospitals had loyal communities and often a strong volunteer base. They fostered a friendly and informal atmosphere that was conducive to recuperation. Familiarity and accessibility were key strengths. They were particularly suited to handling the elderly, chronically ill and those recovering from major treatment in the district hospitals.

This process is now quite advanced in the UK, and many of the community hospitals have now been picked up by community trusts. But it has also been recognised that many of these smaller hospitals are located in older buildings which are costly to maintain, so there has been a move away from "bricks and mortar" to an emphasis on services. The epitome of this is the formation of mobile surgical teams, which bring their own equipment and support services to rural areas. (Edgar, pers.comm.)

In the USA, the problem faced by rural hospitals was even more acute, as unless they met certain standards of staffing, services and facilities, they were not eligible to receive funding from the national Medicare scheme. There were also legal requirements which small hospitals found difficult to meet. However, complete closure of facilities would have seriously reduced access to essential care in many areas.

A study by the US Department of Health and Human Services (Agency for Health Care Policy and Research, 1991) found three interrelated problems common to rural hospitals: low volumes of in-patient services; shortages of skilled personnel; and financial distress. The study looked at the developments undertaken by six hospitals/areas to overcome these problems. The solutions found in the six cases used some or all of the following strategies:

- reduce/eliminate in-patient beds
- discontinue costly/complicated services requiring technology or staff which were then underutilised
- focus on primary, emergency and long-term care
- cross-train staff to handle multiple tasks
- develop close relationships with other hospitals

In general, the smaller hospitals moved out of surgery which required general anaesthesia, reduced their maternity care services (as they were no longer able to perform Caesarian sections), and offered specialist clinics on a regular basis.

Future Options For New Zealand

It is clear that there will be a trend towards the centralisation of higher level surgical services in New Zealand. This is legitimate on safety, equity and quality grounds and may be inevitable on efficiency grounds. In such an environment, the strategies followed by the smaller American hospitals, listed above, provide a possible model for New Zealand.

There will be, of course, a difference in response depending on the size of hospital, its proximity to other hospitals, current facilities, and so on. At some larger rural hospitals, such as Masterton hospital, which in the original CHE establishment process was considered viable as a stand-alone CHE, it may be appropriate to maintain a higher level of surgical services. Even in such cases,

though, it will be important to maintain close liaisons with regional centres such as Wellington Hospital.

Increased concentration of higher level surgical services requires two key elements if it to represent good access for rural residents: a good land and air ambulance service, and financial assistance for travel and accommodation where cost is a barrier. Clear criteria for travel assistance are necessary. The RHAs will be in a better position to achieve greater coordination and consistency of such assistance from 1 July 1995 when the Travel and Accommodation Cost programme of the Disabled Persons Community Welfare Act 1975 transfers to Vote: Health. Further community consultation will be required to achieve fairer access with such assistance.

One possible answer on the accommodation front, especially for those cases where a longer stay in hospital is required, is the provision of low-cost accommodation for family. Hostels could be provided by hospitals themselves, or on a voluntary/charitable basis, such as Ronald McDonald house.

Greater co-ordination of emergency retrieval services is also being addressed by RHAs. In the 1994/95 Policy guidelines it was noted that RHAs intend to purchase coordinated trauma and acute services and clear communications between ambulance, primary care and contracted surgical services. Further elaboration on the progress made in this area will be included in the 1995/96 Policy Guideline service obligations.

If there is a movement of higher level surgical services to regional hospitals, there could be a complementary movement of low-risk, lower level services to local centres. Further development of rehabilitation and disability support services could also be encouraged in local centres. Given the friendly atmosphere and possible lower cost structures often associated with smaller hospitals, there would be a further efficiency gain under this scenario. It would also help to ensure that loss of surgical services did not mean closure for smaller hospitals.

A continuum of services should be offered to people to maintain and improve their health. Much can be gained by focusing on increased integration of local and regional services. Maintaining good linkages between health care centres was a key recommendation emerging from the Midcentral study of services at Horowhenua, Dannevirke and Pahiatua. The services at Horowhenua were described as being so closely linked to the base hospital at Palmerston North as to be difficult to evaluate separately. Certainly Horowhenua area patients undergoing surgery at Palmerston North are able to recover at Horowhenua.

It is important not to underestimate the importance of being in familiar surroundings, with family and friends at hand, in speeding recovery and reducing stress. The Core Services Committee report endorses the return of patients to local care as soon as possible for this reason (Core Services Committee, 1993a:21). For some remote rural residents, it may not be practical to receive follow-up care at home, so return to a local hospital may be an efficient solution.

It is also important to remember that, through medical advances and new technologies, a number of surgical procedures are becoming simplified, and may now be carried out on a day-patient basis. This trend is likely to continue, and specialised operations may in future become more commonplace. These advances further increase the scope for outpatient and day-patient care which could potentially be performed in local centres.

Further possibilities would result from the use of visiting specialists. However, it is still necessary to have access to the appropriate level of support services and facilities. Where these are not available locally, they may be brought in. Already there are mobile surgical clinics and teams developing throughout New Zealand.

Close linkages with other centres also allows for the sharing of staff. This is another method to address services not needed full time, which in the American model was addressed by multi-skilling. Close links can also provide the necessary peer support for practitioners at smaller centres, and can even involve them in research projects, etc carried out at the larger regional centre.

An option which may be available in the longer term is for smaller hospitals to maintain specialised equipment and staff by taking on private cases. This may be more viable where small centres specialise in a particular area of expertise. However, there are many complex issues involved in treating private patients within the public health system, and protocols for this are only at an early stage of development as yet.

Conclusion

Use of the role delineation model for assessing hospital services is only one of the tools used in determining the future shape of rural health services. Performance monitoring of CHEs is also influencing the configuration of service delivery by putting pressure on CHEs to perform.

In the main, the provision of rural services will be determined by the decisions of the RHAs as to what health services they will be purchasing, and what conditions will be placed on those purchases through funding agreements and policy guidelines.

On safety, equity and efficiency grounds, there is a clear trend towards a greater centralisation of higher level surgical services in New Zealand. This will have to be accepted and accommodated. But it also offers opportunities.

It will be important to ensure effective ambulance services and targeted financial assistance for travel and accommodation costs so that rural residents are not disadvantaged in terms of access. But it is also important to realise that quality is an important aspect of access. There is no point in fighting to preserve local surgical services on historic grounds, when such services may not be appropriate, and may in fact be interfering with better provision of other health services which the community really needs.

In order for rural hospitals to prosper and continue to serve their local communities, they will need to reassess what services they offer. While higher level surgical services may be lost in smaller hospitals, greater emphasis on day surgery and on long term or recovery care may provide scope for maintaining a high level of services.

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PEOPLE CONSULTED

(Consultation applied mainly to the Role Delineation model)

Dr Richard Bush, Retired Paediatrician and Chairman of the working party which adapted the NSW Role Delineation model for NZ use

Margaret Dutton, Health Services Consultant who has assisted several organisations with use of the Role Delineation model

Wendy Edgar, Programme Director, Core Services Committee

Malcolm Inglis, Principal Advisor Health, CCMAU

Peter Jane, Senior Analyst, Performance Monitoring and Review division of the Ministry of Health

Margot Mains, Chief Executive, MidCentral Health

Paul Malpas, Manager Surgical Services, Midland RHA

Karen Poutasi, Chief Advisor, Public Health Regulatory Services, Ministry of Health

Ian Short, Performance Analyst, CCMAU

Dr Barry Taylor, Health Services Manager, Central RHA