INTENSIVE CARE SERVICES
IN NEW ZEALAND

A Report to the Deputy Director-General,
Clinical Services

from the Intensive Care Clinical Advisory Group
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1 EXECUTIVE SUMMARY

Intensive care services are fundamental to delivering health care in New Zealand, providing crucial support to the delivery of both acute care and complex elective surgery. Recent clinical evidence also indicates that best practice in intensive care improves patient outcomes and reduces overall health care costs.

In New Zealand, intensive care services have developed in a piecemeal way. In the recent past, a number of stakeholders, including the Health and Disability Commissioner and senior clinicians, have raised issues regarding the provision of intensive care and have promoted the development of a national framework for intensive care services.

In 2001, the Ministry of Health advised the Minister that it intended to undertake an intensive care project in conjunction with stakeholder groups. In November 2001, the Ministry convened a Clinical Advisory Group, and six meetings were held between November 2001 and July 2002.

The Clinical Advisory Group identified six key areas on which to provide advice and made the following key recommendations.

Definitions
• That District Health Boards (DHBs) ensure services delivered to critically or seriously ill patients align with the Joint Faculty of Intensive Care Medicine (JFICM) definition of an intensive care unit (ICU), and the definition of a high dependency unit (HDU) provided in this document.

Standards
• That Level 3 ICUs comply with the JFICM standards.
• That Level 2 and 1 units comply with the JFICM standards with the exception that, in the medium term, the legislative requirements of general oversight under the Medical Practitioners Act 1995 allow these units to be directed by medical practitioners vocationally registered in other specialities.
• That a standard formula be used to calculate the number of nurses needed to staff an intensive care bed and that this formula be used in conjunction with a retrospective analysis of patient acuity to determine establishment levels of nurse staffing.
• That at least 50 percent of nurses in each unit be qualified for speciality practice in intensive care.

Service organisation
• That work be undertaken to accurately assess the level and distribution of increase in ICU capacity needed over the next 10 years.
• That Level 1 and 2 units develop written referral protocols with Level 3 units and that all HDUs have a mutually agreed access policy with an intensive care unit.
• That the establishment of regional directors and/or committees of intensive care be considered.
Data collection

- That consideration be given to adding a field to the National Minimum Data Set that tracks intensive care admissions.
- That an intensive care minimum data set be developed, involving the collection of uniform data with agreed definitions. In the longer term, an expanded data set incorporating performance and outcome measures should be submitted by all units to a single point.

Quality improvement

- That all units utilise a prognostic scoring tool to measure risk-adjusted mortality within the unit.
- That all units have in place a comprehensive quality improvement programme, comprising mortality reviews, clinical audits and adverse event monitoring.
- That time and resources be allocated for senior clinicians to undertake quality improvement activities, including peer group review.

Recruitment and retention

- That the sector prioritise training more intensive care registrars.
- That the Joint Faculty of Intensive Care and the College of Emergency Medicine work together to develop shared training programmes.
- That the Critical Care Nurses Section and DHBs work together to facilitate the development of a nationally consistent, clinical practice-based career pathway for intensive care nurses.
2 INTRODUCTION

Intensive care services are fundamental to delivering health care in New Zealand. The availability of intensive care is crucial both to the delivery of acute care and to post-operative recovery from major elective surgery. Recent research also indicates that best practice in intensive care contributes significantly to improved health outcomes for patients and reduced overall health care costs (Pronovost et al 2002; Gomersall et al 1999; Carson et al 1996; Manthous et al 1997).

Incidents in intensive care resulting in adverse outcomes for patients have been investigated by the Health and Disability Commissioner (Health and Disability Commissioner September 1999, February 2001). Issues relating to intensive care services were also raised in the review of clinical issues in Hospital and Health Services' business plans in 2000 and in meetings between health professionals and the Ministry of Health's Chief Medical Advisor.

In January 2001, the Ministry of Health advised the Minister that it intended to develop an intensive care project in collaboration with hospitals, the Joint Faculty of Intensive Care Medicine; the Australian and New Zealand Intensive Care Society; the Australian and New Zealand College of Anaesthetists; and the Critical Care Nurses Section, New Zealand Nurses Organisation.

The Terms of Reference for this project (see Appendix A) identified the need to consider the most appropriate service delivery configuration for New Zealand, taking into account population, geographic and clinical safety issues, to consider and identify agreed standards for New Zealand intensive care services and to recommend standardised quality assurance systems.

The Ministry convened a Clinical Advisory Group, (membership listed in Appendix B), which met on six occasions between November 2001 and July 2002. The Clinical Advisory Group identified the following six broad areas on which to provide advice.

Definitions
The difference between ICUs and HDUs.

Standards
Nationally consistent standards to guide service inputs and processes.

Service organisation
The capacity and configuration of services and network relations between units.

Data collection
The data needed for resource and workforce planning and quality assessment.

Quality improvement
Activities to assure safe and effective clinical practice and processes within units.
Recruitment and retention
Strategies for training, recruiting and retaining the appropriate numbers and skill mix of medical and nursing staff.
3 DEFINITIONS

One of the issues identified by the Clinical Advisory Group was the variation in definitions applied throughout New Zealand, and the ad hoc and piecemeal way in which services have developed. To facilitate the standardisation of service delivery, it is helpful to have agreed definitions of services provided for critically and seriously ill patients.

The Clinical Advisory Group supports the Joint Faculty of Intensive Care Medicine (JFICM) definition of an intensive care unit (ICU):

An intensive care unit (ICU) is a specially staffed and equipped, separate and self-contained section of a hospital for the management of patients with life-threatening or potentially life-threatening conditions. Such conditions should be compatible with recovery and have the potential for an acceptable future quality of life. An ICU provides special expertise and facilities for the support of vital functions, and utilises the skills of medical nursing and other staff experienced in the management of these problems (JFICM 1997).

The Clinical Advisory Group also supports the following definition of a high dependency unit (HDU):

A discrete unit within a hospital, able to supply critical care expertise at less intensive resource levels, providing a level of care that falls between the general ward level and the Intensive Care Unit. A high dependency unit should be able to provide monitoring and support to patients [but] should not manage patients requiring multiple organ support or mechanical ventilation.1

In practice in New Zealand, HDU-level care is sometimes provided in ICUs.

Recommendation

That District Health Boards (DHBs) ensure services delivered to critically or seriously ill patients align with JFICM definition of an intensive care unit and the definition of a high dependency unit provided in this document.

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1 Adapted from the Joint Faculty Standards 1997 and the British Association of Critical Care Nurses Position Statement.
4 STANDARDS

At present, a variety of standards are used by ICUs in New Zealand. Nationally consistent standards should be used to guide appropriate service delivery inputs and processes.

The Faculty of Intensive Care, Australia and New Zealand College of Anaesthetists (FICANZCA) and its more recently gazetted successor the Joint Faculty of Intensive Care Medicine (JFICM) have established standards for ICUs. The 1997 standards (JFICM 1997) have been widely acknowledged in New Zealand by agencies such as the Health and Disability Commissioner and Quality Health New Zealand. The JFICM undertook a review of these standards during the time in which the Clinical Advisory Group met. The revised standards are appended as Appendix C.

The Critical Care Nurses Section (CCNS) of the New Zealand Nursing Organisation has developed the New Zealand Standards for Critical Care Nursing Education (Critical Care Nurses Section, NZNO 2000) and the Philosophy and Standards for Nursing Practice in Critical Care (Critical Care Nurses Section, NZNO 2002).

4.1 Issues

- The JFICM standards apply across Australasia and therefore do not reflect all the particular requirements of New Zealand. New Zealand is characterised by a different spread of population, with a high proportion of people in small and medium-sized provincial centres, separated from the main urban areas by difficult terrain and changeable weather conditions.

- Level 1 and Level 2 units in provincial centres do not consistently meet the requirements for medical staffing, in particular the requirement for a specialist intensivist to direct the unit. Whilst medical practitioners vocationally registered in other specialties who include intensive care as part of their continuing medical education can work in intensive care as part of their scope of practice, the JFICM standards do not allow them to be medical directors of units.

- However, the legislative requirements of general oversight, as specified in the Medical Practitioners Act 1995, do enable medical practitioners vocationally registered in other specialities to direct these units. The Clinical Advisory Group considers that this New Zealand-specific variation to the JFICM standards will allow safe access to intensive care services in provincial areas that will not necessarily support a specialist intensivist in the immediate future.

- There should be a standard formula, factoring in educational requirements, staff leave and supernumerary co-ordination, which defines the number of nurses needed per intensive care bed. The CCNS is developing a position statement towards this purpose.
4.2 Recommendations

• That Level 3 ICUs comply with the JFICM standards.

• That Level 1 and Level 2 units comply with the JFICM standards, apart from those relating to medical directorship of the unit by a specialist intensivist.

• That all ICUs have a medical director. Any medical director of an ICU who is not a vocationally registered intensivist should receive general oversight from a medical practitioner vocationally registered as a specialist in intensive care.

• That all Level 2 units comply fully with the JFICM standards by 1 July 2006.

• That all units comply with the CCNS Philosophy and Standards for Nursing Practice in Critical Care 2002.

• That the formula being developed by the CCNS be used, in combination with a retrospective analysis of patient acuity mix, to calculate establishment levels of nurse staffing.

• That all clinical practice programmes for intensive care nurses meet the appropriate standards.2

• That at least 50 percent of nurses in each unit be qualified for speciality practice in intensive care.

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2 Programmes funded by the Clinical Training Agency (CTA) are required to meet standards set by the CTA. Other programmes should meet the CCNS New Zealand Standards for Critical Care Nursing Education.
5 SERVICE ORGANISATION

_Roadside to Bedside_ (Ministry of Health et al 1999) states that patients should ‘receive the right care, at the right time, in the right place, delivered by the right person’. Applying these principles to intensive care raises questions about the best configuration of ICUs, given available clinical and financial resources and the wide geographical spread of population in New Zealand.

Available data (Freebairn et al 2001) shows that a substantial proportion of New Zealand intensive care throughput is in smaller and/or provincial hospitals. The availability of intensive care is key to maintaining access to a range of medical and surgical services at these hospitals. The configuration of intensive care services needs to be aligned with medical and surgical specialty services in order to maintain access to safe, effective services appropriate to population need.

In order to support safe access to services in peripheral hospitals while ensuring timely access to tertiary-level care for those who need it, a network of links is needed between units, encompassing referral protocols, clinical support between units and general oversight between individual clinicians. Good relationships and clear responsibilities are important for the network to function effectively and ensure the best care for patients.

5.1 Issues

5.1.1 Capacity and configuration of services

- In New Zealand as at the 2000/01 year, there were approximately 6.0 available intensive care beds,\(^3\) including 4.4 ventilated beds, per 100,000 people. This compared to 8.7 available beds and 6.2 ventilated beds per 100,000 people in Australia (Anderson and Hart 2002). Other international data indicates that many European countries have around 9 or 10 intensive care beds per 100,000 people, while France, Germany and the US have over 20 beds per 100,000 people (Angus et al 1997). However, differences in definitions make comparisons between countries difficult.

- The aging population (Ministry of Health 2002), greater demand for major surgical interventions and the growth of HDU-level care, driven by evidence of effectiveness and consumer expectation (Coggins 2000; Jones et al 1999; Ryan et al 1997), will lead to the need to increase intensive care capacity. It is estimated that an extra 70 ventilated ICU beds would bring the New Zealand ratio up to six ventilated beds per 100,000 people.

- In order to support the current distribution of medical and surgical speciality services around New Zealand, it is estimated that Level 3–4 hospitals serving regions with populations of 80,000 or more or, by virtue of isolation, providing regional acute surgical services, should have at least a Level 1 ICU. Level 4 hospitals serving regions with populations of 100,000 or more should have a Level 2 ICU.

\(^3\) An available bed is one that is in use, or is immediately available for admitted patients as required.
The location of Level 3 units is determined by the national configuration of tertiary hospital services. Regardless of the skills available to the unit itself, or the population served, it is not possible to provide tertiary-level intensive care without back-up from the appropriate surgical specialities.

Further follow-up work is required to accurately assess the functional level of care currently being provided by ICUs around New Zealand and the extent to which units are meeting the JFICM standards for the level at which they are operating.

5.1.2 High dependency units

Some smaller hospitals have developed self-described HDUs that are occasionally required to provide ventilation or other advanced support. To the extent that they do so, these units are in effect Level 1 ICUs and should comply with the standards for Level 1 units.

Other hospitals have variously developed separate, subspecialty, high dependency areas or central, dedicated HDUs. Whatever its nature and purpose, the HDU must have a defined relationship with, and ready access to, the expertise and resources of an ICU via a mutually agreed access policy.

In New Zealand, combined coronary care/intensive care units are common in provincial areas, and coronary care accounts for a significant proportion of patient throughput in these units. Given the need to most efficiently use existing ICU capacity and to meet future demand, it is appropriate that there be further development of combined or mixed ICU/HDU/CCU units in New Zealand.

5.1.3 Networks

There are already some regional relationships established at the senior medical level through mechanisms of general oversight as required by the Medical Council. Network relations between units could be optimised by appointing a specific person in each tertiary unit who is responsible for maintaining links with peripheral units in the region. Consideration should be given to appointing regional directors of intensive care or establishing regional intensive care committees.

Emergency Care Co-ordinating Teams (ECCT) in the five Roadside to Bedside regions provide a forum for discussing issues important to the regional critical care network. ECCT also provides an opportunity for smaller and larger hospitals to understand each other’s issues and to establish communication and support networks.

5.1.4 Inter-hospital transport

Timely care in the right place requires the capacity for 24-hour access to readily available, appropriate transport, and the provision of a co-ordinated service that allows for safe and efficient transport between hospitals.

This capacity needs to include provision for appropriate clinical escort of all patients. Clinical staff should be flight-trained where transport is by air.

Transfer of intensive care patients for other than clinical reasons (ie, when expertise or treatment modalities are not available at the current hospital) has been linked to poorer outcomes (Duke and Green 2001). Units need to have the capacity to meet peak demand or an unexpected admission. This should include adequate provision to enable timely elective and acute admission over a period of time.
5.2 Recommendations

- That work be undertaken to accurately assess the level and distribution of increase in ICU capacity needed over the next 10 years and this work be linked in with DHB capital project and service planning.

- That work be undertaken, in consultation with hospitals, to identify the operational level of each New Zealand ICU, the current compliance with the JFICM standards and plans to move the unit towards compliance with the standards for the unit’s operational level.

- That all DHBs demonstrate through their district annual planning process that the regional intensive care capacity is appropriate to assessed population need and the regional provision of medical and surgical services.

- That DHBs support maintenance and development of clinical networks through:
  - involvement of intensive care clinicians in ECCT
  - regional and national interaction of nursing staff
  - promotion of group clinical workshops in all regions.

- That Level 1 and 2 units develop agreed written referral protocols with Level 3 units, which define a process for consultation, ongoing treatment and/or transfer.

- That DHBs designate a clinician in tertiary ICUs to be responsible for maintaining links with peripheral units within the region.

- That consideration be given to appointing a regional director/committee of intensive care to co-ordinate services in each Roadside to Bedside region.

- That all HDUs in public and private hospitals have a mutually agreed access policy with an ICU.

- That DHBs work together to develop regional plans for transfer and/or retrieval of intensive care patients, including defined responsibilities, streamlined admission pathways and maintenance of an appropriately trained workforce (e.g., flight-trained nurses).
6 DATA COLLECTION

Gathering appropriate data on intensive care services is crucial for national benchmarking against best practice, assessing quality of care and planning the allocation of resources.

Current problems with data collection include difficult software interfaces, a lack of motivation for data entry, inconsistent use of definitions between DHBs and inconsistent data quality within organisations. Research into developing a national data set for intensive care services is needed.

6.1 Issues

- There is not an established system for collating information on all patient admissions to New Zealand ICUs. The Australia and New Zealand Intensive Care Society (ANZICS) has a paediatric registry (the ANZPICR) for all paediatric admissions and an adult database (the APD) for adult patients who have the acute physiology and chronic health evaluation (APACHE) data set recorded. The ANZPICR and APD provide quality assessment using outcome prediction rather than resource/workload evaluation. Cardiothoracic patients are excluded from the APD assessment of outcome.

- Currently in New Zealand all units are participating in a two-year study to collect and assess data on paediatric admissions.

- Some units are collecting the APACHE data set, which uses acute physiological data within the first 24 hours in the ICU and chronic health data to match actual against predicted mortality. This data is sent to the APD and is reported back to contributing hospitals. Five New Zealand units currently contribute to the APD database.

- The ANZICS Centre for Critical Care Resources (ACCCR) collects aggregate data from New Zealand and Australian units every year, which summarises patient admissions, bed numbers and staff numbers but does not allow more detailed enquiry of individual unit activity.

- The New Zealand Health Information Service (NZHIS) collects a National Minimum Data Set (NMDS), which includes patient demographics, discharge diagnosis, interventions and patient outcome.

- From the NMDS it is possible to obtain information on the number of patients ventilated in each hospital (which is a surrogate marker for an intensive care episode). Additional data would need to be collected in order to track useful information about episodes of intensive care. This could possibly be achieved by adding additional fields to the NMDS, which would need to be negotiated with the NZHIS. One or two new fields would allow good evaluation of admission numbers and hospital outcomes using existing processes. This would provide an assessment of national workloads but would be of limited use for more clinical assessment. Adding more clinical fields to the NMDS is unlikely to be feasible. Any alterations to the NMDS would be hard to organise and slow to implement.
Another option is for ICUs to collect their own data, combine this with information from the hospital patient management system and collate it nationally. This would require buy-in from smaller as well as larger units and collaboration from clinical coders and hospital clerical staff. This option would also require clarification of data ownership and privacy issues if the data were to be submitted to a single point and used to benchmark units against one another. It would provide the clinical data needed to assess severity and case-mix. Once established, it could be more easily modified and added to.

The minimum data set should produce reporting information that tracks workload and case-mix in the unit. In the medium to longer term, the aim should be to collect an expanded set of data on key quality indicators, such as declined appropriate acute admissions, cancelled elective admissions and late discharges. With the addition of information on staffing levels, this expanded data set could then feed into resource allocation and planning decisions.

Key to developing a minimum data set is agreeing on common definitions to enable collection of the same data and ultimately allow benchmarking between units.

For data to drive quality improvement, there also needs to be agreed performance and outcome measures. Measuring and comparing intensive care performance has proved to be challenging (Randolph 1999; Angus et al 1997), but work continues internationally and in Australasia to develop robust performance and outcome measures for ICUs (ANZICS 2001).

Collection of useful data on intensive care requires access to appropriate technology and dedicated time for its collation and use. Hospital IT planning needs to acknowledge these requirements, moving towards the standardisation of IT technology and software in ICUs and the allocation of sufficient personnel time for collecting and collating data.

6.2 Recommendations

6.2.1 Short term
- That NZHIS databases be examined for data on intensive care admissions and that this data be compared for consistency with that collected by individual units.
- That a proposal be developed to include an intensive care field in the NMDS
- That a minimum data set for intensive care be developed, involving the collection of uniform data with agreed definitions.
- That, following definition and agreement of privacy and trust issues, data collection and submission to a single point be established.

6.2.2 Medium term
- That processes for reporting and feedback be established, initially to individual units and then to groups.
- That an additional data set be defined, incorporating staffing data together with agreed outcome and quality measures.
6.2.3 *Long term*

- That a data package is sought which can be customised for New Zealand and for available and customisable for New Zealand and ICU/HDU/CCU.
- That uniform data collection and collation be undertaken by all units, and combined with information from ANZICS databases.
- That New Zealand outcome measures be made available nationally.
7 QUALITY IMPROVEMENT

A brief review of the literature indicates that ICUs with comprehensive quality assurance programmes have better outcomes with reduced complications, mortality and length of stay and more efficient use of resources with reductions in cost (NCHC and IHI 2002; Reuters Medical News 2001; Clemmer et al 1999). Research also indicates significantly improved efficiency in ICUs with a team-oriented culture, supportive clinical leadership, timely communication and effective co-ordination with collaborative problem-solving approaches (Shortell et al 1994; Miller 2001; Robinson 2001).

The JFICM Guidelines for Quality Assurance (JFICM 2000) require that all ICUs participate in quality assurance activities, including the evaluation of departmental structure and performance, evaluation of patient management activities (clinical audit), critical incident monitoring, peer review and patient/relative surveys.

7.1 Issues

- Current quality assurance programmes in New Zealand ICUs demonstrate a large degree of variation.
- The Health and Disability Services (Safety) Act 2001 requires ICUs to be part of the hospital’s three-yearly assessment against national standards. However, this is unlikely to be at a level that would adequately audit clinical processes and interactions within an ICU unit.
- The staff credentialling process being undertaken by the Ministry of Health in conjunction with DHBs will see all senior medical officers credentialled by the end of 2002 and all clinical staff working in ICUs credentialled by the end of 2004.
- The ANZICS Safety and Quality Committee has a working group on quality and has produced a Safety and Quality in Intensive Care (ANZICS 2001) that lists quality activities and quality indicators.
- Regional clinical meetings have been established in some regions to provide peer review and clinical audit.
- However, the key to ongoing quality improvement is the collection of robust data that can provide benchmarking between units and against agreed outcome measures.
- The ability to capture clinical data in real time and have it available in an electronic format for quality assurance is not well developed. The recommendations relating to progressing uniform data collection and collation are integral to developing standard quality assurance systems.

7.2 Recommendations

- That all ICUs and HDUs comply with ANZICS quality and safety committee recommendations (when finalised).
- That all units use a prognostic scoring tool as an internal quality measure, matching predicted against actual mortality (eg, APACHE II, SAPS II, MPM II).
- That all units participate in formal mortality reviews.
- That non-clinical time be set aside for medical director of units to enable quality improvement activities.
• That DHBs support and encourage staff to attend regional clinical meetings for peer group review.
• That Level 2 and 3 units produce results of at least two clinical audits annually.
• That all units implement and maintain systems for reporting, investigating and addressing serious adverse events.
8 RECRUITMENT AND RETENTION

Having the requisite numbers of medical and nursing staff with the right skill mix is essential for ensuring the availability of appropriate intensive care services. The need for intensive care staff will continue to increase over the coming years in order just to meet current standards, and the workforce will need to expand further in order to build extra capacity. Workforce planning for intensive care therefore needs to begin now, with issues brought to the attention of the Health Workforce Advisory Committee and the Clinical Training Agency.

8.1 Issues

8.1.1 Medical staff

- Recruitment and retention of medical staff in peripheral or provincial units remains a problem. In particular, the high night-time and on-call workload is a stress factor. As practising intensive care in provincial areas becomes more problematic, other vocationally registered specialists, such as anaesthetists, may prefer to concentrate on their primary speciality at the expense of intensive care.

- While the Clinical Training Agency is increasing funding for the training of registrars in intensive care, in the short and medium term, doctors vocationally registered in other specialities will continue to play an important part in delivering intensive care services. The role played by these doctors needs to be recognised and supported.

- Innovative solutions are needed to address the ongoing recruitment and retention issues in provincial areas, especially in Level 1 units. The Clinical Advisory Group considers that joint speciality training in intensive care and emergency medicine could be one such solution. There are important synergies between these specialities given their respective roles in the critical care pathway and the greater flexibility of the emergency medicine role in comparison to specialities traditionally shared with intensive care, such as anaesthesia.

8.1.2 Nursing staff

- Working in intensive care nursing involves a disproportionate amount of night-shift work, and at present nurses are not proportionally compensated for this. While money is not the only issue, the high proportion of shift work does tend to result in burn-out and staff retention problems.

- The attraction of intensive care for many nurses is that it offers opportunities for education and learning new skills in a high-intensity environment. Hospitals that have attracted funding from the Clinical Training Agency for postgraduate, hospital-based nursing training (eg, Wellington and Rotorua) report fewer problems in attracting and retaining nurses.

- Retention problems are anecdotally prevalent in the larger centres, (the opposite problem from medical staff), with high turnover and, in Auckland, extensive use of agency nurses.

- Internationally, a mix of incentives, access to educational programmes and a supportive environment has been shown to reduce nursing turnover and improve patient care (Robinson 2001).
8.2 Recommendations

- That the sector prioritise training increased numbers of intensive care registrars.
- That the Joint Faculty of Intensive Care Medicine and College of Emergency Medicine work together to develop shared training programmes for ED/ICU.
- That the Ministry of Health projects on nursing recruitment and retention be examined to identify the nature and extent of these issues as they relate to intensive care.
- That all DHBs develop defined career pathways for intensive care nurses.
- That the CCNS and DHBs work together to facilitate the development of a nationally consistent, clinical, practice-based career pathway for intensive care nurses.
9 REFERENCES AND FURTHER RESOURCES


Critical Care Nurses’ Section, NZNO. 2000. *New Zealand Standards for Critical Care Nursing Education*. Wellington: Critical Care Nurses Section.


Reuters Medical News 6 February 2001. Best practice in hospital ICUs could save US more than $1 billion annually.


APPENDIX A: TERMS OF REFERENCE FOR THE INTENSIVE CARE SERVICE DELIVERY PROJECT

The Ministry of Health has identified a need to develop a service delivery framework for intensive care services. This work will include service configuration and standards of service delivery. The service delivery framework will allow for co-ordination with emergency services and will be consistent with the goal of the Roadside to Bedside framework (to ensure all people get the right care, at the right time, in the right place from the right person).

Context
The need for this project was identified during the review of clinical issues raised in the Hospital and Health Services' business plans in 2000. The Ministry of Health also committed to undertaking a review of ICUs in 1999 following a HDC investigation into the death of a patient at Hutt Valley Health. The Ministry is aware of a number of incidents in intensive care services that have had adverse outcomes for patients. The Ministry reported to the Minister in January 2001 that it intended to develop an intensive care project in collaboration with hospitals, the College of Anaesthetists and the Faculty of Intensive Care.

Issues to be addressed
The project will consider, develop options and make recommendations on the development of a service delivery framework for intensive care services in New Zealand. This will include consideration of:

- the current configuration of service delivery at a national, regional and local level
- the most appropriate service delivery configuration for New Zealand (population, geographic, clinical safety issues)
- definition of intensive care services (including current services provided by ICUs and HDUs)
- identification/consideration of agreed standards for New Zealand intensive care services and quality assurance systems
- development of a draft service coverage document (including access and linkages, including interface between ICU and wards and interface between specialist hospitals and other hospitals)
- consistency with the principles of Roadside to Bedside – reducing barriers to patients receiving the most appropriate hospital care in the shortest time (particularly the decision-making framework around patient transfers).

Role of the Clinical Advisory Group
A Clinical Advisory Group will assist in the work outlined above by:

- providing a wider health perspective
- providing advice and recommendations
- identifying implementation issues.
Timeframe

The key milestones are:

- Late October: First meeting of Clinical Advisory Group
- November: Second meeting of Clinical Advisory Group
- February: Third meeting of Clinical Advisory Group
- March: Fourth meeting of Clinical Advisory Group
- March: Draft service coverage and service delivery framework for intensive care services
- March–June: Review, amend/adopt JFICM quality standards and quality assurance systems
- April: Best practice sector workshop.
APPENDIX B: MEMBERS OF THE INTENSIVE CARE CLINICAL ADVISORY GROUP

Dr Ross Freebairn  
Hawke’s Bay Hospital; Chair, JFICM New Zealand

Dr Peter Hicks  
Wellington Hospital

Annie Morley  
Rotorua Hospital

Kathy Barnes  
Waikato Hospital

Dr Gerard McHugh  
Palmerston North Hospital

Alison Pirret  
Intensive Care Nurse, Auckland

Dr Bruce King  
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Gillian Bohm  
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Simon Bidwell  
Ministry of Health
APPENDIX C: JOINT FACULTY OF INTENSIVE CARE MEDICINE MINIMUM STANDARDS FOR INTENSIVE CARE UNITS REVIEW IC-1 (2003)

(Attached)