CRITICAL CARE OUTREACH SERVICES

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INTRODUCTION

In April 1999, the Department of Health established a review of adult critical care services, and invited an expert group to develop a framework for the future organisation and delivery of critical care. The membership of the expert group included experienced practitioners from relevant professional bodies.

Following the review a number of proposals were issued from the Department of Health. These are contained in a document published in May 2000, entitled 'Comprehensive Critical Care. A Review of Adult Critical Care Services'⁽¹⁾.

Following the release of the document work began within Morecambe Bay Trust to try to address some of the issues which were highlighted. The first step was to set up a trust-wide Critical Care Steering Group whose remit is to advise on the development of critical care services. Membership of the group is multidisciplinary and all specialities are represented.

Among the many issues relating to the developments of critical care, the steering group are exploring the development of an **outreach** service throughout the trust. Part of this work has involved an audit of high-dependency patients who were being cared for on the general wards⁽²⁾. The audit revealed:

- a serious shortfall in the number of high dependency beds required during the period the data was collected
- a significant number of high dependency patients were being cared for on the general wards.

These wards are often understaffed and poor in skill mix due to problems with recruitment and retention. Ward staff often lack the skills and competencies necessary for the care of critically ill patients. The historical development of critical care has led to the development of isolated specialist services which has resulted in the deskilling of ward staff.

These issues are exacerbated by the lack of high dependency facilities in the trust. Within the physical, financial and other constraints, a solution needs to be found to ensure that when patients become critically ill they have access to appropriate care carried out by appropriately skilled staff.

This is not just a local problem. These issues are also being addressed on a national basis. Ways of resolving these issues have been given impetus by the publication of 'Comprehensive Critical Care', and an increase in funding to develop services locally.

COMPREHENSIVE CRITICAL CARE

Comprehensive critical care is described as the complete process of care for the critically ill, focusing on the level of care that individual patients need rather than on beds and

buildings⁽¹⁾. It is a **whole systems** approach that encompasses the needs of those at risk of a critical illness, and of those who have recovered from such illnesses, as well as the needs of patients during the critical illness itself.

The proposals contained within the report set out a new way of thinking about critical care that will not only impact on intensive care and high dependency units as they currently exist, but will also affect the delivery of acute care as a whole. It describes comprehensive critical care as a new speciality based on severity of illness – caring for those who are critically ill or vulnerable to critical illness. As such, the proposals represent a substantial change in direction. Intensive care will no longer be an isolated area but will become integrated into a continuum of hospital care⁽³⁾.

Successful implementation of the proposals is dependant on breaking down the barriers which exist between specialities and professions, to focus on the needs of patients.

NEW CLASSIFICATIONS OF CRITICAL CARE PATIENTS

The report recommends "That the existing division into high dependency and intensive care based on beds be replaced by a classification that focuses on the level of care that individual patients need, regardless of location"⁽¹⁾.

These classifications of levels of care underpin all the recommendations made in the report.

Level 0	Patients whose needs can be met through normal ward care in an acute hospital
Level 1	Patients at risk of their condition deteriorating, or those recently relocated from higher levels of care, whose needs can be met on an acute ward with additional advice and support from the critical care team.
Level 2	Patients requiring more detailed observation or intervention including support for a single failing organ system or post-operative care and those "stepping down" from higher levels of care.
Level 3	Patients requiring advanced respiratory support alone or basic respiratory support together with support of at least two organ systems. This level includes all complex patients requiring support for multi-organ failure.

CRITICAL CARE OUTREACH

McQuillan⁽⁴⁾ argues that it is time to challenge the traditional view of the ICU as an isolated area of technical medicine and to develop the role of the intensive care team into a critical care service central to hospital acute medical care. The review of adult critical care nursing⁽⁵⁾ concluded that each critically ill patient, wherever they are located in the hospital, should have skilled critical care nursing available, either to care directly for them or to advise on the care required to meet their needs.

The vision for critical care services described in the report includes the establishment of an outreach service to provide and support the care of level 1 patients on general wards, as well as critical care facilities to meet the needs of levels 2 and 3 patients.

Outreach services have three essential objectives:

- 1 To avert admissions
- 2 To enable discharges
- 3 To share critical care skills

1 Averting admissions

This can be achieved through the early identification of patients who are deteriorating and either helping to prevent admission to a critical care bed or ensuring timely admission to a critical care bed to ensure best outcome. The emphasis of an outreach service should be on early referral and treatment. Once patients are identified, there must be provision to monitor them more closely. One way of identifying sick ward patients earlier is to use a measuring tool such as an early warning scoring system which is being developed throughout the country.

1a Early warning scoring systems

An early warning system is a measurement tool which provides an early accurate predictor of clinical deterioration. At risk patients are scored. Examples of inclusion groups are:

- laparotomy
- pancreatitis
- step-down patients from ICU/HDU
- unstable acute abdomen
- significant co-morbidity
- "just not right" – any patient who is giving cause for concern

Early warning systems allow ward nurses to work more closely with the ICU team to improve their recognition skills and make appropriate judgements about patients requiring interventions. Experienced staff from within the ICU provide education and contact points for queries about patient management.

The early warning system was originally developed at James Paget Hospital in Great Yarmouth⁽⁶⁾. It has since been developed further resulting in a Modified Early Warning System (MEWS) shown in Table 1.

Scoring systems such as this allow nurses to combine their routine observations to produce an aggregate physiological score. The scoring systems are used to target appropriate help and treatment for the right patient at the right time⁽⁵⁾. If the score remains consistently high then the outreach team can be involved. This may prevent admission to the ICU, but if and when admission becomes necessary it will be at an earlier stage of the illness. It has been shown that earlier referral leads to lower APACHE 2 scores⁽⁶⁾.

There are other advantages to using such a scoring system. When combined with clear communication links between intensive care and the wards, it should lead to improved relationships and communication between the two areas –

SCORE	3	2	1	0	1	2	3
HR		< 40	40-50	51-100	101-110	111-129	>= 130
RR		<9		9-14	15-20	21-29	>=30
TEMP °C		<35		35-38.4		>= 38.5	
CNS				Alert	Voice	Pain	Unrespons
URINE OUTPUT	Nil	< 1ml/kg per 2hrs	< 1ml/kg per 1 hr		>3ml/kg per 2 hrs		
SYST BP	> 45% reduced	>30% reduced	>15% reduced	Normal	> % above normal nor	30% above normal	>45% above normal

Table 1 MEWS in use at James Paget Hospital

both medical and nursing. New educational opportunities may develop. Nursing staff will become more aware of the physical deterioration in patients developing critical illness. This will empower nurses to recognise and initiate management at the earliest point in the patient's illness.

2 Enabling discharges

It is hoped that supporting the continuing recovery of discharged patients on wards will lead to improved patient outcomes and decreased re-admission to the ICU. This could be achieved through regular follow-up of patients recently discharged from the ICU/HDU by an experienced ICU nurse. Not only will this provide added benefit to the care of the patients, the ICU team can learn from the feedback they receive from patients and relatives who have spent time within the ICU environment. It also provides a link for the ward staff to discuss any concerns they may have about patients' condition.

It may be possible in the future to extend the follow-up service to provide continuing support post discharge from hospital for patients and relatives. Follow-up support has been demonstrated to complement the work of the intensive care service and improve the speed and quality of recovery⁽¹⁾. Scragg, Jones and Fauvel⁽⁷⁾ argue that treatment and assessment of psychological distress in discharged ICU patients is needed because the prevalence of post traumatic stress, depression and anxiety conditions appear to be as a direct result of ICU treatment.

The report recommends that an effective whole hospital bed management system is in place to enable discharge from the ICU/HDU at an appropriate time and to an appropriate location. This will ensure that patients are nursed in the appropriate environment, depending on the severity of their illness.

3 Sharing critical care skills

For critical care outreach to be successful there is a need to improve the skills, knowledge and competencies of the staff caring for the sick ward patient.

Locally, steps have already been taken in this respect with the securing of funds from the education consortia to develop practice educator posts within the trust. These are experienced critical care nurses whose role is to work in partnership with ward staff in improving knowledge and skills in relation to the higher dependent ward patients. Extra funding has also been made available to local education

providers to widen the access to critical care skills training for not only staff within ICU/HDU but also ward-based staff.

There is a need for a greater emphasis to be placed on the training and education of ward staff, both medical and nursing, in relation to the development of critical care skills and the care of the high dependency ward patient.

The report emphasises that competency-based high-dependency care training for all ward staff should be in place – 50% by March 2002 and 100% by 2004.

THE OUTREACH TEAM

There are varying ideas and models of outreach throughout the country. However, there is a consensus of opinion that an outreach team should be multi-disciplinary, making the best use of staff in addition to critical care nurses, who currently undertake this or similar roles, eg acute pain nurses, physiotherapists, practice educators and night sisters. It is also generally agreed that the outreach service should provide a twenty-four hour seven-day service.

In line with the recommendations within 'Comprehensive Critical Care' outreach services should be provided by a team trained not only in the clinical aspects of care, but also in effective ways of sharing their skills so that ward staff feel supported and not diminished.⁽¹⁾

There should be a clinical leader, for example a nurse consultant whose role would be to lead, coordinate and develop the service over time. There is also a need for an identified lead consultant who is trained in critical care medicine.

The actual make-up of an outreach team will vary from hospital to hospital depending on the particular needs of the service they provide and resources already in place.

It is important that such a service is not viewed as a threat to ward-based staff. The only way to achieve this and gain their cooperation and trust is to involve them in every stage of the developments, keeping them up to date with future proposals and valuing their contribution to the process.

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