CLINICAL INDICATORS FOR

CRITICAL CARE OUTREACH SERVICES

CRITICAL CARE STAKEHOLDERS' FORUM

&

NATIONAL OUTREACH FORUM

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INTRODUCTION

Clinical services to recognise and treat the onset of deteriorating health of adult patients on general wards have emerged in many Acute Trusts in the UK. The precise operational model of care may vary but the underlying principles are the same. Detection relies on the presence of abnormal clinical parameters, weighted by variable and absolute value that are identifiable. Intervention is then individualised to the needs of the patient in question and determined by the precise nature of the clinical problem.

Frequently many of the clinical team supporting this detection and intervention phase also provide clinical support for patients after a period of critical illness when they are discharged back to a lower level of care on the general wards. In this scenario, they would also support and educate the ward staff. Historically the term "Outreach" which was popularised in *Comprehensive Critical Care* [1] has been applied to this work. The development of such services hitherto has occurred piecemeal across the NHS and currently there is a spectrum of services. Some services incorporate a care pathway for the period of care following critical illness and others extend their remit to the outpatient environment.

It is appropriate for the Stakeholder's Forum, in the absence of published guidelines, to describe the components of the pathway and to suggest potential indicators that could be used to describe the effectiveness of a service. It is recognised that NICE are currently undertaking the production of guidelines to address the care received by the acutely unwell patient in Acute Trusts. The work of the Forum in this area will support and may ultimately be surpassed by the NICE project.

It should also be recognised that the application of agreed clinical indicators for outreach supported by the systematic monitoring or audit of the achievement of indicators where possible, will assist both providers and commissioners understand the role of outreach and support the continued resourcing of outreach services.

To progress the work a small group of experts (appendix A) met on the 22 August 2006. The paper summarises the recommendations from this Group along with supplementary advice from the National Outreach Forum from which additional information can be obtained. It describes the three core components of the pathway currently delivered through Critical Care Outreach services and describes practical clinical indicators that can be adopted by Trusts to characterise the activities of their service. Where standards are required for indicators these should be decided by individual Trusts Critical Care Delivery Groups and should ideally be consistent across Critical Care Networks.

The objectives of any service should be to:

- Improve the quality of acute patient care, patient experience and reduce adverse clinical events.

- Enhance clinical staff confidence, competence and experience through training and the sharing of skills.

- Improve organisational agility and resilience by delivering comprehensive care across organisational and professional boundaries, directorates or locations.

The pathway of care can conveniently be divided into 3 phases. These are:

- the recognition and management of the acutely unwell patient. on the general wards

- clinical involvement on the general wards in the care of patients after a period of critical illness

- outpatient support to the patient following discharge from hospital.

It should be noted that an educational role exists for each of the three phases and frequently this role is developed and delivered by the same “outreach” staff but may be delivered by clinical educators working to a training framework agreed with outreach.

Outreach services can facilitate connectivity between professional specialities and locations. Speed and ease of access are critical features of well-organised outreach services. This contributes towards organisational resilience. Well developed outreach services will have the skills to spread good practice, generate new ideas and reduce communication difficulties between clinical areas and with patients or their carers. This, in turn, can enhance job satisfaction.

SECTION 1

CLINICAL OUTCOMES AND INDICATORS

Recognition of acute illness on the wards

Outcomes:

Potential benefits from timely identification of acute clinical deterioration on the general wards are:

- Predictability to the clinical course in hospital for all acutely unwell patients. This may translate to shorter lengths of stay for patients.

- Reduction in number of adverse clinical events in this cohort of patients.

- Early recognition and early referral of acutely deteriorating patients to both outreach and/or critical care. Principles of outreach can also be applied in Emergency Departments and in recovery wards and are not restricted to hospital inpatients.

- Reductions in inappropriate emergency admissions to Critical Care from medical and surgical wards.

- Reduction in the number of admissions to Critical Care that could be attributed to omissions in care or late recognition of the deteriorating patient.

- The earlier admission to critical care areas (i.e. providing Level 2 or Level 3 care) thus helping prevent avoidable patient deterioration.

- Reduction in the number of readmissions to Critical Care that could be attributed to omissions in care after ICU discharge.

- Improvement in the patient experience and outcomes as demonstrated by improved communication between clinical areas and with patients and their carers.

- Reduced drug costs.

- Potential reductions on length of stay in critical care areas and on the general wards thus helping maximise bed capacity and patient flow.

INDICATORS:

1. *The operational functionality of a track and trigger system*.

The following parameters are most frequently used in the Track and Trigger systems currently in use in the NHS. Additional variables that may be of value include Sa02 and its relationship to Fi02, flow rate, serum lactate measurement and urine output .

Respiratory rate.
Temperature.
Heart rate.
Systolic Blood pressure.
Level of Consciousness.

Track and trigger systems alone will never provide the complete answer to the identification of the acutely ill patient. They should be used in conjunction with clinical judgement and experience

Outreach may support the documentation and adherence to patient management plans by observing their application when involved with a patient and exploiting any training opportunities presented,

2. *Dynamic response that reflects the acuity of individual patients.*

Robust and reliable arrangements need to be in place to respond to changes in a patients' condition reported through "Track and Trigger" or otherwise, (e.g. a referral algorithm or pathway). These need to be dynamic and reflect the acuity of the patient's condition and include a clear referral pathway to critical care if appropriate.

3. *Auditing of the effectiveness of the system and feedback of results to clinical staff on the wards, Critical Care Delivery Groups and Trust Board.*

Standards should be set and audited against:

- A patient care pathway. It needs to be recognised that each institution will develop outreach in response to local needs as well as the evidence base, NICE recommendations (when they are published), or recommendations from other learned institutions will require acute Trusts to have a defined referral pathway.

- Completeness of documentation. A standard of documentation needs to be set locally that reflects case mix as well as local infrastructure and skill mix.

- Local mortality rates associated with Trigger scores.

- Response times to triggers.
- Appropriateness of intervention usually by reference to current evidence based practice.
- Adverse clinical events.
- Interface with critical care service
- number of critical care admissions and resources used thereafter
- critical incident reporting should be mandated for breaches of protocol.
- Patient, carer, staff satisfaction / evaluation surveys.

4. *Educational programmes need to support the detection and response to critical illness.*

- a mandatory acute illness recognition course should be available to all acute care staff working in acute care areas in conjunction with BLS. Such courses should be peer reviewed against agreed standards.
- Recognition of acute illness and the significance of observations should be prominent in an induction pack for new medical and nursing staff.
- The development and use of 'Patient Group Directives' covering the administration of medication to aid initial treatment for the 'collapsed' patient for when an independent prescriber (medical of non-medical) is not available.

5. *Facilitation of appropriate initiation of critical care with admission to a critical care area within a clinically appropriate time.*

Admission to a critical care area should be within an appropriate time consistent with the needs of the patient and the extent to which clinical interventions are initiated and available on the ward.

If immediate admission to a critical care area is indicated for a particular patient, the aim should be that this is possible within one hour. Patients for whom admission to critical care is indicated and for whom space is available should not be delayed in ward areas.

Treatment options should be discussed with the patient and their family / carers as the situation allows.

SECTION 2

FOLLOW-UP AFTER CRITICAL CARE DISCHARGE TO A LOWER LEVEL OF CARE ON THE ACUTE GENERAL WARDS.

This phase incorporates clinical intervention and support for general ward staff in caring for patients who have recently had a period of critical illness. The workforce for this period of care will be multidisciplinary and incorporates a significant workload for both nursing staff and physiotherapists.

OUTCOMES.

Potential Benefits:

- Facilities safe and timely discharge procedures from critical care back to the wards.
- Facilitates handover of care between the critical care area and the ward and improved communication.
- Reduction in length of stay on Critical Care unit e.g. through raising the skill levels on the ward and improved communications.
- Reduction in time spent on the general wards after ICU discharge.
- Improved experience and outcome for patients, relatives / carers.
- Enhanced ability to manage patient expectations and the patient's understanding of their rate of recovery and abilities post critical care.
- Reduction in adverse incidents.
- Reduced re-admissions to Critical Care due to more effective care on the general wards or prompt readmission to critical care areas if clinically indicated.
- Reduced drug costs after discharge from Critical Care. For example, regular drug reviews by medical teams in both critical care and on the wards may be enhanced by intelligence and education from outreach teams.
- Improved liaison with ward areas and support to these staff on the ward care.
- Improvement in communication with primary care including discharge protocol for primary care (if indicated).

- Provides opportunities to improve the management of specialist interventions and care arrangements that may need to be continued on the wards such as the management of Tracheostomy and non-invasive ventilation etc.

Indicators could include:

1. The development of the patient care pathway for patients on discharge from intensive care. This could incorporate:

a) Weight - including nutritional plan with goals.

b) Physiotherapy / Occupational therapy assessment and respective goal setting.

c) Continuation of EWS arrangements including call back triggers on deterioration.

d) Outstanding interventions such as CVC, catheter, tracheostomy removal, drug management etc.

e) Wound management.

f) Communications on handover could include:-

> Drug management plan (with pharmacist as indicated).
> Pain relief and management.
> Day / night orientation.
> Psychological state / mood / cognitive function / behaviour.
> Resuscitation and readmission status.
> Recognition of when outreach can 'let go' or critical care involvement can end.

2. Education and support for ward staff.

a) Guidance on the care of the patients after discharge from Critical Care.

b) The management of specialist interventions or procedures not routinely encountered on the ward such as the management of a tracheostomy.

c) Guidance on the recognition of changes in a patient's clinical status and condition.

SECTION 3

OUTPATIENT FOLLOW-UP (POST DISCHARGE FROM HOSPITAL).

It is increasingly apparent that some patients following a period of critical illness still experience functional, cognitive and psychological sequelae even after discharge home. On-going Care should be available for such patients.

A standard of care should be set that reflects the potential needs of the patient. This could be “every patient who has received critical care should be assessed, and where appropriate or desired, have the opportunity to access a critical care out-patient follow-up service”. Such services should incorporate:

- clinical assessment of functional state. and ability to provide appropriate further rehabilitation if indicated

- psychological and cognitive assessment. and ability to provide psychological and/or psychiatric intervention if indicated

- assessment of any residual morbidity and ability to treat if clinically indicated eg residual tracheostomy problems or neuropathies

- Audit of clinical outcomes beyond assessment of hospital mortality.

The services also provide an insight to clinical staff in Critical Care of the problems faced by patients and their carers following a period of critical illness and an opportunity to develop, through research, patient centred services which address these needs.

Many of the services in existence today also undertake an assessment of a patient’s quality of life. The most frequently used tools for this purpose are the Euroqol or SF36 questionnaires.

Outcomes

Potential Benefits include.

- Improved patient experience by development of rehabilitation programmes.

- Improved staff insight into the challenges faced by patients and carers following critical illness.

- Reduction in the potential burden on primary care including the need for additional services.

- Improved drug management including the cessation of unnecessary drugs.

- Reduced readmission to hospital by improved functional state.

- Improved return to work or return to an independent living existence.

Indicators*:*

1. The detection, subsequent management and advice on critical illness related morbidity such as neuropathies, tracheostomy related residual problems, hormonal dysfunction, dermatological and ocular problems.

2. Implementation of rehabilitation programmes. A rehabilitation plan can be either self administered or professionally driven in an outpatient programme

3. Time to return to optimal physical, psychological and cognitive state

Appendix A Membership of the Group

Jane Eddleston - Clinical Advisor DH
Lesley Durham - Chair NORF
Anna Batchelor - President ICS
Maura McElligott - Chair RCN Critical Care Forum
Mandy O'Dell - BACCN
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