BRITISH ASSOCIATION OF PERINATAL MEDICINE

Categories of Care 2011

Introduction

The 2001 categories of care replaced the 1996 categories of care. In the subsequent 10 years, neonatal care changed and it was recognised that the 2001 categories were no longer fully fit for the purpose they were designed for. Examples include:

1. The categories lacked some of the interventions currently being used in routine care. An example of this was therapeutic hypothermia.
2. The allocation of certain elements was no longer considered to require the level of care previously felt to be the case. An example of this was the management of NAS which under the 2001 categories was defined as High Dependency care for the whole duration of care, whereas many units currently manage stable patients on the postnatal/transitional care ward.
3. There were elements which were considered too vague to provide assurance that consistent application was applied across all neonatal units.

In the light of these issues and following the publication of the 2010 BAPM Standards for Hospitals providing Neonatal Care, the BAPM Executive Committee (EC) commissioned a working group (BAPM Data Working Group [BAPM DWG]) to review, and where necessary revise, the neonatal categories of care.

This document reports on the methodology used and the revised categories of care which BAPM EC recommends to its members and neonatal services across the UK.

Methodology

The membership of the BAPM DWG is shown in Appendix A. Members were selected by an open invitation to all members of BAPM. BAPM EC wishes to thank the DWG for the hard work they put into developing these revised categories of care.

A series of meetings of the DWG were held and a draft list of revised categories of care (CoC) 2011 were developed and submitted to BAPM EC for provisional

approval. Following support from BAPM EC, formal consultation took place with all members of BAPM. Overall there was support for the revisions to the CoC.

Some members expressed concern that the impact of the CoC 2011 could be financially detrimental to their services. As a consequence, BAPM commissioned a detailed analysis of the proposed new CoC against the 2001 categories using historical data collected by SEND. The analysis was undertaken by the Neonatal Data Analysis Unit (NDAU) at Imperial College, London (summary details provided in Appendix B). As expected, the analysis demonstrated that there was a degree of change between the CoC 2011 and the 2001 categories. BAPM EC considered this change to be acceptable and in line with the changes seen when the 2001 categories of care replaced the 1996 categories of care. The full report is available at: BAPM Mapping Exercise, Neonatal Data Analysis Unit

BAPM EC recognised the concern of some members that the change (from 2001) of non-invasive ventilation in the first 5 days from the IC to the HD category, would have a significant detrimental impact on income for their neonatal units as they predominantly manage their preterm infant in the first few days using this form of respiratory support. BAPM EC believes that combining non-invasive respiratory support and parenteral nutrition, which are likely to be delivered together in the first few days, should maintain the level of IC in those units which undertake predominantly non-invasive respiratory support for the preterm infant. Outside the first few days, BAPM EC believes that non-invasive respiratory support meets the criteria for High Dependency and not Intensive Care.

BAPM EC recognised the important link between the categories of care and the funding for neonatal services. In fact this was the major driver for the comparison study. BAPM EC considers that the impact of the new categories is within reasonable tolerances whilst offering a much simpler system of recording, more closely aligned to modern neonatal patient care requirements. BAPM EC believes that this improvement and simplification will provide national level validity to the reporting of neonatal care activity, and improve confidence amongst commissioners that the allocation of a category of care is being applied consistently.

BAPM EC believes that the CoC 2011 offers the opportunity to improve the recording of neonatal activity and improve capacity planning for neonatal networks in the future.

The BAPM EC considers the CoC 2011 to be an improvement on previous categories of care and we commend them to all neonatal services in the UK. It is recognised that they reflect a consensus view and it is only through formal research that we will be able to fully determine the care needs for the newborn infant in neonatal services across the UK.

BAPM Executive Committee

August 2011

Categories of Care 2011

INTENSIVE CARE

General principle

This is care provided for babies who are the most unwell or unstable and have the greatest needs in relation to staff skills and staff to patient ratios.

Definition of Intensive Care Day

- Any day where a baby receives any form of mechanical respiratory support via a tracheal tube
- **BOTH** non-invasive ventilation (e.g. nasal CPAP, SIPAP, BIPAP, vapotherm) and PN
- Day of surgery (including laser therapy for ROP)
- Day of death
- Any day receiving any of the following

    - Presence of an umbilical arterial line
    - Presence of an umbilical venous line
    - Presence of a peripheral arterial line
    - Insulin infusion
    - Presence of a chest drain
    - Exchange transfusion
    - Therapeutic hypothermia
    - Prostaglandin infusion
    - Presence of replogle tube
    - Presence of epidural catheter
    - Presence of silo for gastroschisis
    - Presence of external ventricular drain
    - Dialysis (any type)

HIGH DEPENDENCY CARE

General principle

This is care provided for babies who require highly skilled staff but where the ratio of nurse to patient is less than intensive care.

Definition of High Dependency Care Day

Any day where a baby does not fulfill the criteria for intensive care where any of the following apply**:**

- Any day where a baby receives any form of non invasive respiratory support (e.g. nasal CPAP, SIPAP, BIPAP, HHFNC)
- Any day receiving any of the following:
    - parenteral nutrition
    - continuous infusion of drugs (except prostaglandin &/or insulin)
    - presence of a central venous or long line (PICC)
    - presence of a tracheostomy
    - presence of a urethral or suprapubic catheter

- presence of trans-anastomotic tube following oesophageal atresia repair
- presence of NP airway/nasal stent
- observation of seizures / CF monitoring
- barrier nursing
- ventricular tap

SPECIAL CARE

General principle

Special care is provided for babies who require additional care delivered by the neonatal service but do not require either Intensive or High Dependency care.

Definition of Special Care Day

- Any day where a baby does not fulfill the criteria for intensive or high dependency care and requires any of the following:
    - oxygen by nasal cannula
    - feeding by nasogastric, jejunal tube or gastrostomy
    - continuous physiological monitoring (excluding apnoea monitors only)
    - care of a stoma
    - presence of IV cannula
    - baby receiving phototherapy
    - special observation of physiological variables at least 4 hourly

TRANSITIONAL CARE

General principle

Transitional care can be delivered in two service models, within a dedicated transitional care ward or within a postnatal ward. In either case the mother **must be resident with her baby and providing care**. Care above that needed normally is provided by the mother with support from a midwife/healthcare professional who needs no specialist neonatal training. Examples include low birth-weight babies, babies who are on a stable reducing programme of opiate withdrawal for Neonatal Abstinence Syndrome and babies requiring a specific treatment that can be administered on a post-natal ward, such as antibiotics or phototherapy.

Membership of BAPM Data Working Group

Prof Elizabeth Draper (Chair)	Professor of Perinatal & Paediatric Epidemiology University of Leicester
Dr Stan Craig	Consultant Neonatologist Royal Maternity Hospital, Belfast
Dr Sanjeev Deshpande	Consultant Neonatologist Royal Shrewsbury Hospital
Dr Bryan Gill	President Elect, BAPM and Consultant Neonatologist, Leeds General Infirmary
Dr Gary Hartnoll	Consultant Neonatologist Chelsea & Westminster Hospital
Dr Jenny Kurinczuk	Director, National Perinatal Epidemiology Unit Oxford
Dr Brad Manktelow	Senior Research Fellow in Medical Statistics University of Leicester
Prof Neena Modi	Professor of Neonatal Medicine Imperial College London
Ms Lisa Nandi	Executive Officer, BAPM London
Dr Peter Reynolds	Consultant Neonatal Paediatrician St Peter's Hospital, Chertsey
Dr Elizabeth Sleight	Consultant Neonatologist University Hospital, Lewisham
Dr Nim Subhedar	Consultant Neonatologist Liverpool Women's Hospital
Dr Mike Watkinson	NNAP Chair and Consultant Neonatologist Birmingham Heartlands Hospital
Dr Ryan Watkins	Consultant Neonatologist Royal Sussex County Hospital, Brighton

NDAU Analysis of the BAPM 2011 Categories of Neonatal Care

In 2010 a new BAPM Data Working Group was convened, chaired by Professor Elizabeth Draper. The Group was tasked with establishing data requirements for revised definitions for BAPM Categories of Neonatal Care based on the principle that these are primarily intended as a measure of the intensity of care required by a baby and hence staff workload, regardless of birth weight, gestational age or other patient characteristic.

The BAPM Data Working Group commissioned the Neonatal Data Analysis Unit (NDAU) to investigate the impact of the proposed changes. The NDAU were asked to map the New Categories of Care onto the old, including assessing the effect of the linked treatments “non-invasive ventilation and parenteral nutrition” as a criterion for “intensive care”, and measure the effect of the removal of the least frequent items in the New Categories of Care in order to define an efficient dataset.

The NDAU receive data entered into the Badger.net system from NHS trusts with Caldicott Guardian approval. These data are cleaned and merged to create a National Neonatal Database used for a number of outputs, including the National Neonatal Audit Programme. This analysis was based on data for 46,961 babies from 124 neonatal units in England, covering 668,650 care days in 2009. Complete details of the methodological approach, results, and conclusions, may be found in the full report presented to BAPM Executive Committee:
BAPM Mapping Exercise, Neonatal Data Analysis Unit

The key findings of the NDAU analysis were that under the proposed new definitions:

- The overall impact would be small and the national distribution of Categories of Neonatal Care largely unchanged (under the BAPM 2001 definitions 14% of care days were classified as Intensive Care; under the New Category definitions this was 12%)

- The impact on individual neonatal units would vary by level of unit; lower level neonatal units would have a proportionally greater decrease in Intensive Care days but it should be noted that they provide fewer days at this level; level 3 neonatal units would on average retain 73% of Intensive Care days, and would in addition see a 14% upward shift from High Dependency to Intensive Care

- Several data items could be dropped from the proposed new definitions with only minor effect; however some items were not available for this analysis so their impact is uncertain; other items identified as potentially dispensable are either low in frequency, overlap with other more frequent items or are of particular clinical importance even if national frequency is low; other items may have low frequency in the 2009 dataset because they were recent additions to the system, are predominantly applicable to surgical neonatal units, or because entry was incomplete; these points were borne in mind when determining the final

selection, particularly as inclusion in the New Category definitions may improve data entry and enable the use of these important but low frequency items for other purposes such as local service evaluations; clearly a move to the New Categories of care would also require some new data items, nine of which are not currently captured in the Badger system.

Neena Modi
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Member, BAPM Data Working Group
Chair, Neonatal Data Analysis Unit Steering Board