AUSTRALIAN COMMISSION ON SAFETY AND QUALITY IN HEALTH CARE

TRIM: 24071

Interest Group Workshop: Paediatric observation charts and identification of deteriorating paediatric patients - Summary Notes -

Purpose

The purpose of this workshop was to provide a forum for researchers and clinicians with an interest in issues regarding the identification and management of deteriorating paediatric patients. The workshop was attended by over 40 health professionals from across Australia.

Five guest speakers were invited to lead discussion on various issues and included:

1. Dr Kevin McCaffery - What are normal physiological values for children and what is the evidence?
2. Ms Joanne Leaver - What observations should we measure and how should we measure them?
3. Ms Andrea Plummer - How do we improve the skill set of staff measuring observations of paediatric patients?
4. Dr Marino Festa - What are the specific needs of children to consider when designing observation charts and response systems?
5. Mr Tomas Ratoni - What are the specific needs of tertiary, regional and rural hospitals?

The main points from these discussions are summarised in the following sections.

Session 1

What are normal physiological values for children and what is the evidence?

Dr Kevin McCaffery reported on a brief text book and literature search regarding the appropriate physiological parameters for respiratory, heart rate and temperature in paediatric patients.

The results of the search demonstrate that there is no clear agreement on the 'normal' physiological ranges for paediatric patients and that there is a wide range of views of what should be normal for children of different ages and with various illnesses. The references were not necessarily based on evidence; in particular the evidence for heart rate and respiratory rate were limited. There are a number of physiological factors to take into account for children, such as anxiety and hypertension. The identified references generally did not factor in such conditions. The reasons for measuring temperature and illness control in children was also discussed.

Dr McCaffery noted the multi-centre prospective study he was undertaking would involve piloting a new observation chart for paediatric patients.

The variability of expected ranges in the reference sources was a concern.

(Refer to presentation for further information)

Session 2

What observations should we measure and how should we measure them?

Ms Joanne Leaver led a discussion on the importance of observation chart design and how their use can contribute both to good recording of observations and early identification of deterioration.

The design and features of observation charts vary between and within hospitals and it remains unclear what key characteristics should be present in a comprehensive, standard chart. An observation chart needs to display information in a way that facilitates early and easy identification of deterioration. Factors to consider include:

- Visual representation with functions reaching pre-determined levels being differently coloured to enhance observation.
- Graphical representation that also extends along a time line.
- Information that empowers nurses to seek medical review.
- Nurse and/or parent concern
- The use of clinical judgement and observation of a child's behaviour
- Features, systems or algorithms that prompt action and encourage the recording of observations.
- Education to support use.
- Commitment from management to assist with positive change of culture.

The method and frequency of collection of the information is also relevant as it affects the accuracy and reliability of the measurements. Taking observations manually was considered important for maintaining skills and confidence.

Session 3

How do we improve the skill set of staff measuring observations of paediatric patients?

Ms Andrea Plummer led the discussion on ways of increasing the awareness of staff to the changing conditions in paediatric patients. A small group discussion was included as part of this session to provide participants with an opportunity to consider the key focus question.

Issue:	**Why aren't observations being performed adequately?**
• Workload • Current education does not equip nurses to be confident in interpreting observations • On-line courses do not have the benefit of practical, hands-on experience • Lack of appropriate skills and knowledge • Communication barriers • Lack of expertise to support clinical decision making • Reliance on technology and equipment • Some observations considered too hard to perform • Routine care pathways • Managing relationships with parents/carers • Priorities and the perception of the role of observation taking • Focus is on the numbers, not their interpretation and implications • Nurse to patient ratio • Numerical versus graphical representation of observations • How is the decision regarding the frequency of observations made • Insufficient staffing levels • Appropriateness and relevance of observations for different patients • Confusion over what to measure and how often observations should be done	

- Lack of equipment
- Lack of appropriate skills assessment and maintenance
- Lack of accountability
- Normal parameters are more complex in children
- Paediatric requirements and skills are specialised

Actions:	**What steps can be taken to ensure sufficient support is provided to adequately perform observations?**

- Mandatory education with protected allocated education time
- Formal education including internal courses, in-services, external
- Informal education including Preceptorship programs, secondment programs
- Develop practical skills that are incorporated in core skill set
- Assessment of patient programs
- Simulated training
- Organisational support
- Cultural change
- Appropriate workload
- Escalation plans that are supported
- Career pathways
- Multidisciplinary teams (team nursing) and approach (ward rounds)
- CNC and CNE roles
- Clinical development nurses on the wards
- Access to experts for review and to learn from
- Promote importance of role and create expectations
- Incorporate charts in handover
- Task orientation
- Improve communication with parents
- Identify expectations around standards of practice
- Re-evaluation and opportunity to have feedback and debriefing sessions
- Empower regional areas by building networks

Impact:	**How can we measure the impact of these actions?**

- Audits
- Surveys (including satisfaction surveys)
- Compliance
- Feedback

Session 4

What are the specific needs of children to consider when designing observation charts and response systems?

Dr Marino Festa provided a presentation on the issues that are specific to paediatric patients when considering appropriate response systems. This included consideration of the range of organisational, cultural and individual factors. Dr Festa noted that a key feature of a successful rapid response team service may be the empowerment of ward-based junior staff to request urgent medical assistance without necessarily consulting seniors or doctors.

(Refer to presentation for further information)

A small group discussion was included as part of this session to provide participants with an opportunity to consider some key focus questions.

Question 1
Is it reasonable to use one set of criteria based upon prioritised clinical signs to identify critical illness in infants and children of all ages?

Group answer:
No. Dependant on the context in which the patient is being treated.
Yes, if some criteria are age-optimised

Question 2
Can expertise in recognition of the critically ill or deteriorating infant or child be taught to non-experts?

Group answer:
Yes, but systems need to be put in place including:
- Parameters
- Knowledge and skill for performing observations on children
- A tool to measure i.e. a chart

Question 3
Are existing systems of communication flexible enough to activate rapid response teams in your children's ward / hospital?

Group answer:
Dependant on:
- Existence of team
- Which team/speciality is the patient admitted under
- Who is making the call
- The physiological parameters working under
- Culture of organisation
- Confidence of staff

Question 4
Is there sufficient expertise in your rapid response team to perform appropriate assessment and intervention 24/7?

Group answer:
Underlying issue is the ratio of nurses to patients:
- At night there is less staff available, though generally highly qualified.
- In rural settings and small facilities there is dependency on Accident and Emergency doctors that are not specifically trained in paediatrics.

Question 5
Does your organisation have a culture that supports the introduction of a rapid response team for children?

Group answer:
No.
- Expertise of rapid response team is non-paediatric
- There are no resources and it is unrealistic to expect support due to the low number of patients requiring rapid response team.
- Culture is still evident when nursing staff call an escalation point - they are questioned why they called.
- Nurses can receive a better response from the RFDS
- Adult patients tend to take priority over paediatric patients
- Ratio of nurse to patients is high (1:6 or 2:8)

Question 6
What alternatives to a MET or rapid response team may better suit your institution? Is a PICU outreach service a good alternative? What do you do if you don't have a PICU?
(Two groups discussed this question)

Group answer (a):

Rural	Regional
PEWS. They have a higher rate of sensitivity and appropriate escalation of care guidelines /policies with NETs built in where necessary.	Use Existing Met with additional paediatric support of a doctor and nurse

Group answer (b):
PICU Outreach
- 100% increase in service; however there is a need to empower junior staff to call.
- PICU access
- Cover by NP

PICU referral service
- Escalation plans for deteriorating patients
- Arrest Team utilised

If there is no PICU available:
- Emergency Department services, NETS
- Transfer out
- Nursing staff drive ambulances

Session 5

What are the specific needs of tertiary, regional and rural hospitals?

Mr Tomas Ratoni discussed some of the key issues facing regional and rural hospitals in the care of deteriorating patients. Much of the research on the response to patients who deteriorate have occurred in large tertiary facilities, and many of these models are not practical for smaller hospitals that do not have an ICU, and the models do not take into account the rural facilities do not always have on-site medical cover.

Other issues include:
- developing systems that reflect the internal and external resources available
- low number of paediatric cases presented in rural facilities and the lack of immediate expertise
- Isolation and the timely transfer of patients if deterioration is identified
- behaviour of larger facilities discourages rural staff from escalating cases to them as a next point of call

(Refer to presentation for further information)

Summary and Next Steps

The Workshop recognised that there was significant work currently being undertaken in the development of systems and tools to support the identification of deterioration in paediatric patients.

The attendees agreed that the importance of taking observations needs to continue to be promoted and that education and cultural issues may contribute to effective implementation.
The aim of effective change management requires involvement and buy in at all levels including leaders and champions that are also role models.

The group agreed it would be useful for the Commission to convene a second workshop in August/September to discuss the findings of the research study being undertaken by QLD Health, led by Dr McCaffery, and the expansion of the COMPASS program to paediatrics in the ACT.

Nicola Dunbar also advised that the Commission would appoint a paediatric representative to the Program's Advisory Committee and ensure that paediatric stakeholders are consulted in future program activities.