

National Innovation Workshop Development and use of observation charts to identify patients at risk Sydney 14 November 2008 - Summary Notes -

Purpose

The purpose of the workshop was to bring together health care professionals to discuss developments and showcase work in the area of observation charts and managing patients at risk. The workshop was attended by over 100 health professionals from across Australia. There was consensus that this initiative was an important and positive step.

The specific aims of this workshop were to:

- raise awareness of the role of observation charts as a key tool for identifying deterioration, and how they can be designed to support this use;
- provide a forum for researchers and practitioners to share information about observation charts and their use in identifying deterioration;
- provide the Commission with information about work being undertaken on observation charts nationally; and
- identify issues that need to be considered in the development of an evidence-based observation chart.

Eight guest speakers were invited to present on their work and included:

1. Associate Professor Marcus Watson - *Design and Evaluation: Getting the Human Factors Right in Healthcare*
2. Associate Professor Theresa Jacques - *The Observations that Matter*
3. Professor Clifford Hughes - *Recognition and Management of the Deteriorating Patient*
4. Dr Imogen Mitchell - *Patients at Risk of Critical Illness and the Observation Chart*
5. Ms Linda Peel - *Early Recognition of the Deteriorating Patient*
6. Dr Jill Kealley - *Observation Charts as Point of Care Clinical Resources*
7. Dr Kevin McCaffery - *Improving the Safety of Children Admitted to Hospital: Use of a Human Factors Approach to Redesign*
8. Ms Anna Green - *Victorian Travelling Fellowship Program*

Two small group discussion sessions were included to provide participants with an opportunity to consider the nature of observation charts, how charts can best help them identify deterioration and what further information is needed to develop an evidence-based observation chart. The key focus questions were:

1. What priority characteristics does an innovative observation chart require to prompt action?
2. What do we need to know about observation charts, and the way they fit in the system, to improve our identification of deteriorating patients?

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

Small Group Discussion - Session 1

What priority characteristics does an innovative observation chart require to prompt action?

One of the factors that can contribute both to poor recording of observations and failure to interpret them correctly is the way in which observation charts are designed and used. There were a significant range of views and inputs on this question and these have been grouped according to theme.

DESIGN AND USEABILITY

There was significant agreement that a purpose designed observation chart will need to be precise, informative and easy to use and be able to be reviewed quickly and accurately. There were many points made about features the designed chart should have, and these included:

- Visually appealing and user friendly that is able to record essential information
- Links relevant information
- Need to consider where all the different variables should be recorded (e.g. respiratory observations at top and group with oxygen?)
- Keep it simple - easy to read with appropriate font size (use of abbreviations and symbols?)
 - layout not too busy (simplicity, placement and logical design - no ambiguity)
 - easy to interpret
 - universal parameters
- Incorporate colour - take into account staff can have difficulty with red/green colour definition
- Graphic vs tabular - difficulty in reading scribbled numbers in a line
- Needs to be a manageable size, can there be one single chart?
- Design needs to be flexible and have the ability to customise and indicate individual patient variables
- Ability to indicate the level of concern held by patients, family members or nursing staff is important
- Decision making process linked to chart
- Design should force functions and trigger actions
- Design should be patient-focused
- The design of the chart must be transferable appropriate across settings and disciplines and appropriate for different users
- Be transferable to Electronic recordings / photocopy
- An electronic chart needs to be graphical and include an alert system

Participants considered that the design of the observation chart needed to show the trend of a patient's signs and be clearly presented to allow quick and accurate analysis. Comments on this point included:

- Allow changes in frequency of observations
- Ability to illustrate trends over time is important
- It is difficult to predict a trend in deterioration when there are multiple charts used to track various physiological variables.

CLINICAL ASPECTS

It was recognised that the observation chart was a blunt tool and it was considered that an effective chart needs to aid clinical support to a patient and be flexible enough in design to

allow for different patients and patient specific information to be recorded. The range of comments offered on this aspect included:

- Chart all the 'right' parameters
- Need a trigger to spark attention; alerts are necessary
- Have generic triggers that can be adapted to special populations
- Allow for patient variances, 'alert criteria' is unique for each patient, not 'one size fits all'. Signs for different groups may be different e.g. paediatrics, elderly, different illnesses/surgery
- Allow space down the left-hand side for doctors to indicate a patient's normal parameters
- Indicators that are manual in nature and intensive to calculate can result in fewer recordings i.e. respiratory rate.
- Emphasis on observations known to predict deterioration (RR, HR, SaO₂). Less emphasis required for blood pressure
- Use of clinical judgement, need to incorporate a system check – *did you look at and talk to the patient?*

EDUCATION AND COMMUNICATION

Educating staff and having the chart accessible and useable by all clinicians were strong points made under this issue. Specific comments included:

- Education on both the use of the chart as well as the meanings and importance of observations is vital and needs to cater for a range of staff skill mix
- An ongoing education program is important to support increased awareness and knowledge
- Important to teach the basics and start at tertiary level
- Need to engage all clinicians
- Ensure the observation chart is multi-disciplinary
- Consider the number of communication and interpretation steps in process.

RESOURCING

Some concerns were expressed about physical resources and nursing resources being appropriately available. Comments included:

- Requires executive support and appropriate resourcing
- Will the cost of colour printing be a significant impact on resources?
- Ability to save in the cost of training if every hospital had the same system in place
- Need to recognise that by prioritising something in a busy workload, something has to drop in priority. What will this be?
- Consider impact on workload by ensuring no repetition of data collection

ORGANISATIONAL SUPPORT SYSTEM

The operation of an observation chart needs to be well supported and underpinned by organisational support systems and processes. Specific comments on this issue included:

- Standardise nationally
- Supporting policies, procedures, guidelines and reporting processes are required to facilitate sustained effectiveness
- Tie observation charts into KPI's / embed in unit KPI reports
- A system for early recognition requires a process to escalate for a rapid response
- Ownership needs to sit within the facility with executive sponsorship and a clinical champion
- Be transferable – applicable across disciplines and supported in different settings
- Consider standardisation between different services (e.g. hospital and ambulance)

- Observation chart needs to incorporate an escalation plan and have an early intervention plan
- An audit system to check compliance that incorporates accountability and/or sign-off
- Need to be able to demonstrate what's in it for nursing staff (needs to be worthwhile)
- Be evidence based
- Cannot be too time-intensive to complete
- Evaluate to ensure it works!

Small Group Discussion - Session 2

What do we need to know about observation charts, and the way they fit in the system, to improve our identification of deteriorating patients

There has been little research that directly links the design of a chart with patient deterioration. There are already projects underway in Australia to develop improved observations charts and the Commission intends to build on this work and consider further research that will need to be undertaken to develop an evidence-based chart. There were a significant range of views and suggestions provided by workshop participants which have been grouped according to theme.

DESIGN ASPECTS

The design of the observation chart will be critical to the overall effectiveness of any proposed chart. It needs to be able to be read quickly to determine a patient's status and prompt early action. Comments included:

- When is it appropriate to use graphical presentation?
- What does the evidence suggest about how many colours to include?
- Determine what the colours in coding should mean and can colours be standardised
- What is the effectiveness of different designs?
- How can the chart incorporate prompts?
- Rather than having one chart, could there be a chart for specific areas (ED, surgical)?
- How can technology support information/data collected?

CLINICAL ASPECTS

The strong opinion was that observation charts are important but there are various factors that may be fundamental to the monitoring a patient and effectively identifying deterioration. The significance of physiological variables needs to be determined to ensure the appropriate elements are incorporated in a redesigned chart. Retention of charts as a medical record was generally agreed. Specific comments under this aspect included:

- Define the role and function of an observation chart including its role in a medical record.
- Understand why observations are performed and the function of a vital sign
- What physiological measures should be included in observation charts and what are the core chart components?
- How do we know we are measuring the right thing? There are physiological indicators not commonly measured that in some cases, can be an early sign to deterioration
- Further research on the effectiveness of physiological variables in identifying deterioration
- How predictive are vital signs of the deteriorating patient?
- What is 'best practice' in clinical assessment?
- Can universal values for charting be used?
- How many charts do we need? (FBC, vital signs, neuro, PCA)

- Can charts be amalgamated to reduce the duplication of multiple types of observation charts (e.g. specialists) and duplication of documentation?
- How frequently should observations be taken? Why every 4 hours?
- How important is a flexible chart one that enables variation for individual patients?
- How can we use the family as an observation trigger?
- Need to explore the value of extra calculations to identify deterioration

ORGANISATIONAL SUPPORT SYSTEM

Organisational support is most important as the introduction of the observation chart will need to have strong support and clear procedures, and be introduced effectively to ensure that they are used. The time and effort required to make changes to support systems and organisational culture should not be underestimated. Specific issues identified included:

- Need to know how to effectively empower nursing staff
- Determine how to get buy-in from stakeholders
- How to make that huge practice change, how do you change the culture so everyone records data?
- The chart is not the main thing, important to have staff and a team who care and take responsibility
- How can you retain transportability of observation chart between wards and hospitals, throughout a patient's journey?
- How can we retain the expertise of registered nurses in acute wards

EDUCATION AND COMMUNICATION

The general view was that education needed to be undertaken at all levels and effective communication was essential to the successful introduction of the charts. Specific comments included:

- How to address education needs and competency levels of staff
- Should the observation chart be re-badged as an 'Action Chart' or 'Action Plan'?
- Concern with undergraduate education
- Who should record vital signs?
- What is the most effective communication to use in implementation of a redesigned chart

ISSUES FOR CONSIDERATION BY THE COMMISSION

The Commission's role in promoting the development of a standard observation chart was considered an important step and one that was needed as soon as practicable. Other suggestions for consideration included:

- Aim for a national observation chart
- Develop a standardised auditing system and database to assist understanding of the deteriorating patient epidemiology
- Require national standards or policy to support use - develop clinical standards for minimum observation data collection
- Build a standardised chart and do it fast – development of new (and potentially inadequate) electronic systems on doorstep
- Provide escalation guidance
- Educational resources around the deteriorating patient
- Identify and address barriers to filling out and using the chart for staff
- Incorporate paediatrics in the Commission's observation chart work

Conclusion and Next Steps

In conclusion, workshop participants were thanked for their time and valuable contributions to the workshop program.

The Commission will be looking to commission research to gather evidence about the use of observation charts to identify deterioration. The information presented at the workshop, and the discussions of participants will inform the development of specific research questions to be addressed in this work. Once the research has been completed, a draft, evidence-based general observation chart will be developed that can be piloted.