Building an Understanding of the Division of Neurology Morbidity and Mortality Rounds

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BACKGROUND

• In Philadelphia, 1935, the earliest precursor to the Morbidity and Mortality Rounds (M&MRs) was developed to facilitate discussion among physicians by open review of cases reflecting error, to share knowledge about fatalities and to improve practice[1].
• Since then, M&MRs have become more common in both surgical and medical specialties[2].
• M&MRs have recently been found to have two primary uses[4]:

i) to review incidents in order to identify the causes of adverse events and to develop strategies for quality improvement, and
ii) to be an educational tool for staff, particularly residents

• Evidence for the use of M&MRs as a quality improvement surgical initiative is best demonstrated by a 40% decrease in gross mortality over 4 years at an academic center through a mandatory structured M&MRs in conjunction with a physician report card system[3].

• Despite widespread use, there are no validated or standardized recommendations to guide the structure and process of M&MRs as a quality improvement initiative[4].

THE PROBLEM

• Within the University of Calgary, Division of Neurology, M&MRs occur quarterly as both an educational and quality improvement opportunity. Anonymous cases are presented and discussed, with potential cognitive and system contributors identified using the Ottawa Morbidity and Mortality model[5].

• However, from September 2014 to June 2015, eight cases were presented at the Division of Neurology Morbidity and Mortality Rounds, with none leading to any formal quality improvement initiatives.

OBJECTIVE

• To build an understanding of the **current** structure and process used to identify, report, evaluate and respond to cases brought forth to M&MRs within the Division of Neurology.

METHODS

• The project was screened using the A pRoject Ethics Community Consensus Initiative (ARECCI) Ethics Screening.

• **Stakeholders** were identified as:
- Neurology Residents
- Neurology Quality Improvement Committee
  - Informal M&MRs subcommittee
- Neurology Division Head
- Neurologists
- Patients

• A **modified SIPOC** (Suppliers, Inputs, Process, Outputs and Customers) diagram was used as the process mapping tool. Requirements for inputs and Requirements for outputs were added (SIRPORC).

Suppliers	Systems, people, organizations, or other sources of the material/ information that were used in the process
Inputs	Materials, information and other resources the suppliers provide that are transformed or consumed in the process.
Requirements for Inputs	Requirements necessary for the inputs
Process	The set of actions and activities that transform the inputs into the outputs
Outputs	The products or services that the process produces and the customer uses
Requirements for Outputs	Requirements necessary for the outputs
Customers	People, groups, companies, systems and downstream processes that receive the output of the process

Table 1: Definitions used in SIRPORC diagram. Adapted from [6].

• Members of the M&MRs subcommittee were met with individually. Discussion focused on ownership, purpose and creation of a SIRPORC diagram followed by identification of limitations within the current design.
• A final SIRPORC diagram of the current process was developed encompassing all meetings and tested for representativeness with one neurology resident and physician not on the M&MRs committee.

RESULTS

Purpose	Ownership
Quality Improvement Initiative • "so system problem issues don't continue to occur" • "to identify areas of weakness or error within a system to mitigate error" • "to identify areas within a care plan that can be modified to improve outcomes"	• "The residents, transitioning from one rounds to the next" • "The two physicians on M&MRs subcommittee reporting to Division Head" • "Currently unclear ownership; both the resident group and two physicians on M&MRs subcommittee.

Table 2: Proposed purpose and ownership of M&MRs from individuals on M&MRs subcommittee

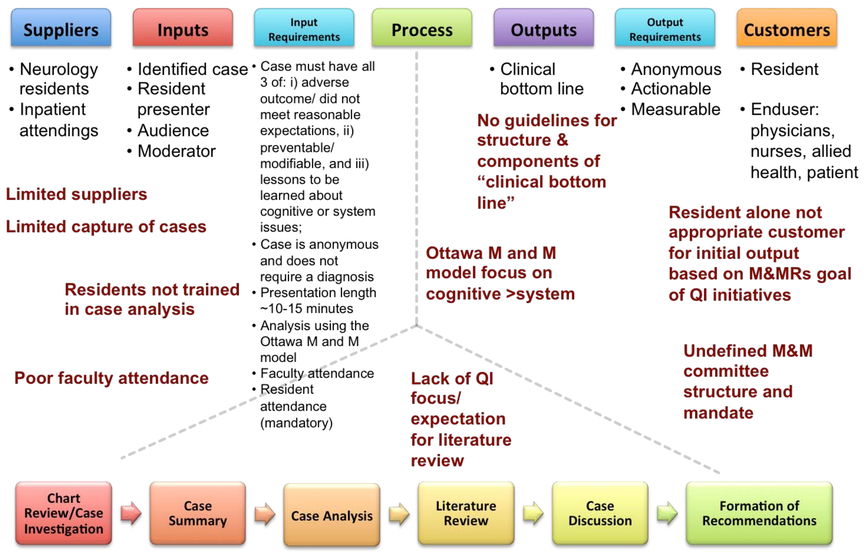

Figure 1: Current SIRPORC diagram of M&MRs structure and process with possible limitations (red). QI, quality improvement. **Clinical bottom line refers to a statement of formal recommendations requiring action.**

DISCUSSION

• There was some variability regarding the perception of current ownership of M&MRs.

• Because the current expectation is that the resident follows through on the "clinical bottom line" generated at M&MRs, the resident was identified as the customer.
  - This was challenging to gain consensus on as the patient was identified by most stakeholders as the initial customer.

• Of the limitations that were identified based on the current design, three were seen as contributing most to the lack of action on clinical bottom lines over the past year:
  1. Having a resident alone as the customer for initial output of M&MRs may not be ideal as the initiative may require significant time, accountability and support of leaders within the Division.
  2. Currently the M&MRs committee is not well defined, in terms of membership and mandate including its role in measuring action performance on M&MRs quality improvement initiatives.
  3. There are currently no specific guidelines for what components are required in the "clinical bottom line" that is generated at M&MRs.

NEXT STEPS

• Re-evaluating the M&MRs committee membership, mandate and role in measuring action performance on M&MRs quality improvement initiatives.

• Creating a specific guideline for required components of the "clinical bottom line" so that it is well defined and actionable.

• Defining who the best customer (individual or team) is for acting on the generated "clinical bottom line".
  - eg. resident, plus assigned staff with expertise in the area under supervision of M&MRs subcommittee?

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