Implementation of a Hospital Medicine Morbidity and Mortality Conference and Mortality Review Using a Structured Mortality Instrument

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INTRODUCTION

- There is no consistent method for mortality review at Duke University Hospital which focuses on system level improvements.
- Hospital Medicine (HM) aimed to develop a structured mortality review for monthly morbidity and mortality (M&M) conferences.
- A standardized and structured electronic mortality instrument developed at Brigham and Women's Hospital was adapted to guide provider review.

Additional goals included:

- Identification of mortalities with potentially preventable issues.
- Increased provider awareness and discussion of system issues.
- Providing a forum to disclose concerns.
- Piloting a model for review of all mortalities health-system wide on the Duke General Medicine (GM) and Medical Intensive Care Unit (MICU) services.

BACKGROUND

- Mortality reviews are an important component of provider and system improvement.
- Patient mortality is being incorporated into hospital based reimbursement.
- It is unclear how many mortalities involve system level issues, are unanticipated, or potentially preventable.
- There is no systematic way to review mortalities.

INTERVENTION

- Brigham & Women's quality team developed an electronic mortality tool that focused on system issues (HAIs, communication issues, complications, etc).
- Mortality reviews include a provider determined preventability score with 3, 4 or 5s suggesting a possible medical error , system issue or preventable death occurred.
- Hospital Medicine assembled a mortality review team that included hospital medicine leadership, administrative staff, and Duke Performance Services.
- In collaboration with Brigham & Women's, the mortality review instrument was adapted into an electronic form that was available to reviewers who were notified to complete the review via a secure email process.
- HM Mortality & Morbidity conferences were held every 4-6 weeks.

METHODS

- Mortalities were reviewed from Duke GM identified by using the University HealthSystem Consortium (UHC) model of Observed:Expected (O:E) mortality ratio; all mortalities with an elevated O:E ratio (>3) were examined.
- Cases with unexpected deaths were reviewed by the discharging provider and an independent reviewer using the mortality instrument. Cases could also be referred for review and providers could identify additional reviewers.
- Pilot started to include review of all mortalities on Duke General Medicine or in the MICU using the mortality instrument.
- All cases with a preventability score of ≥ 3 were reviewed internally by the HM mortality team for possible system or provider level improvements and for consideration of discussion at M&M conference.

RESULTS

- Structured HM M&M format began Nov 2011
- The all-cause mortality review pilot began August, 2012 on General Medicine and September, 2012 in the MICU.
- Notifications are sent within 1-3 days of death.
- Average time for completion of primary review: 4-5 days.
- Average time to complete tool: 6-10 minutes
- Initial opportunities for improvement were noted in consultation of palliative care, perioperative risk assessment and management of hip fractures, antibiotic administration in management of sepsis, and communication with the Emergency Room and consultants.

CONCLUSIONS

- Using the structured mortality instrument has provided a consistent framework to Hospital Medicine M&M that allows for sharper focus on and quantification of system level issues.
- Early pilot data has been encouraging and suggests that possibly preventable system issues are prevalent .
- Migration to an online tool will be needed in order to tackle system wide mortality review.
- Next Steps:
  - Development of a secondary review process involving interdepartmental and interdisciplinary review.
  - Development of a mortality review tool specific to nursing, ED providers, etc.

Forum	# of Deaths Reviewed	# of Reviewers (Primary/ Secondary)	% Deaths with Preventability Score ≥ 3*
Hospital Medicine M&M (Nov, 2011 – Nov, 2012)	12	31	83%
General Medicine Pilot (August - December, 2012)	28	53	28%
MICU Pilot (late September - December, 2012)	54	71	15%

Preventability Scale:

1. **Not preventable death due to terminal illness or condition upon arrival to this hospital**
2. **Not preventable death and occurred despite the health team taking preventative measures**
3. **Not preventable death, but medical error or system issue was present**
4. **Possibly preventable death resulting from medical error or system issue**
5. **Likely preventable death resulting from medical error or system issue**

*** % Deaths with Preventability Score ≥ 3 based on <u>any reviewer</u> score of ≥ 3**