INTRODUCTION
• Information integration critical to clinical care
• Large amounts of heterogeneous data
• Fragmentation contributes to medical errors [1].
• Information integration can mitigate these errors [2, 3].

Aims:
• Characterize information integration model in a Medical Intensive Care Unit (MICU)
• Determine impact on physician activities and patient safety.

METHOD
• Ethnographic observations (4 x 2 hours)
• Shadowing (4 x 1.5 hours each)
• Qualitative coding with emergent categories:
  o Practitioners
  o Information resources
  o Activities
• Understood the workflow and information needs of physicians and residents.
• In addition, shadowing enabled us to learn more about the nature of data intensive activities, technology and electronic health record (EHR) usage.
• Data analysis performed in terms of
  o “information modules” generated
  o the role of clinicians who collect, use, and access
  information for day-to-day care activities, and
  o interactions between clinicians and technology

RESULTS & DISCUSSION
We developed a model of clinical information flow and integration in MICU. Figures 1and 2 give an overview of data dependent activities and technology used by clinicians during patient care.

Figure 1: MICU emergent categories
• Characterized physician and resident workflow and information needs.
• Shadowing revealed the nature of data intensive activities, technology and electronic health record (EHR) usage.
• Information integration and interpretation: Residents/fellows integrated information chunks from heterogeneous sources to develop “case summary”
• Integration tasks were case dependent and decision-specific.
• Technology underutilization: Sub-optimal use of support technologies such as order entry systems to minimize redundancy and cognitive load
• EHR = “data store”: used primarily as a bridge between patient’s bedside and physician’s workbench.

REFERENCES

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