Ward redesign project: Improving admission processes and flow

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Recommended Citation
Pizanis, Charles; Elizabeth Snyder; Christopher Smith; Sergio Huerta; and Patrick Rendon. "Ward redesign project: Improving admission processes and flow." (2015). https://digitalrepository.unm.edu/hostpitalmed_pubs/50

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Residency Ward Redesign: Improving Processes and Flow
Charles Pizanis, MD; Elizabeth Snyder, MD; Christopher Smith, BS; Sergio Huerta, II, MD; Patrick Rendon, MD

Background
With changing ACGME work-hour restrictions, residency programs across the country have continued to work on optimizing admission and workflow processes.

In Fall 2013, the University of New Mexico Internal Medicine Residency began discussions for the redesigning of its residency ward system. Following a month-long pilot in February 2014, a new system was created with an implementation in June 2014.

Purpose
The major goals in modifying the inpatient ward structure were to:
• improve throughput of patients from the Emergency Department (ED) to inpatient floors
• decrease the number of hand-offs of patients between admitting teams
• improve overall education of the interns and residents via changes in the Night Float rotation

System Changes
• Creation of a Night Float Team consisting of two senior residents with intern now on call during daytime
• Teams now receive admitted patients in handoff and follow daily
• Uncouple day call and MICU transfer responsibilities

Details of Ward Structure

<table>
<thead>
<tr>
<th>Previous Ward Structure</th>
<th>New Ward Structure</th>
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<tbody>
<tr>
<td>6 day call cycle, 6 teams (1 senior, 1 intern)</td>
<td>6 day call cycle, 6 teams (1 senior, 1 intern)</td>
</tr>
</tbody>
</table>

- Day 1: Protected Day 1  - Day Call
- Day 2: Protected Day 2
- Day 3: Protected Day 2
- Day 4: Intern Night Call
- Day 5: Night Accept
- Day 6: Protected Day 3

- Day 1: Protected Day 1  - Day Call
- Day 2: MICU/Overflow
- Day 3: Protected Day 2
- Day 4: Night Accept
- Day 5: Protected Day 3

Day Call team responsibilities – admit ER patients and transfer of MICU patients to medicine

- Day Call team responsibilities – admit ER patients and MICU/Overflow Team responsibilities – transfer of MICU patients to medicine

Results

When compared to the previous ward system, the new system was associated with (previous vs new):
• decreased daily patient hand-offs between admitting teams (5.6 vs.3.1 patients, p = 0.021)
• decreased ED-to-admission times (historical average 5.5 hours vs. new system average 2.9 hours)
• increased daily admission evaluations (15.5 vs. 16.6 patients, p = 0.56)
• increased daily admissions performed (10.8 vs. 12.6 patients, p = 0.18)
• minimal change in the daily distribution of patients on medicine ward team censuses over the two study periods (11.2 +/- 2.3 vs. 10.2 +/- 3.1 patients)
• similar inpatient censuses (previous system 81.5 patients vs. new system 81.7 patients, p = 0.917).

Conclusion
Creation of a two-resident night float team and separating daytime admission and MICU-transfer responsibilities over two teams was associated with improved overall workflow in our resident medicine ward system. The decrease in patient hand-offs between admitting teams was also statistically significant.

References