INTRODUCTION

• Indiana University Internal Medicine Residency 2007
• IU Health Methodist Hospitalist 2007-2012
• St. Vincent Internal Medicine Clinical Faculty 2012-Present

• No financial other conflicts of interest to disclose

OUTLINE

• Review literature on the risks and adverse events associated with hospital discharges and readmissions
• Understand the causes of adverse events
• Discuss the Hospital Readmission Reduction Program (HRRP) and the Affordable Care Act
• Review data on the preventability of readmission
• Discuss ways to identify high risk patients
• Review strategies to improve patient safety, reduce risk and readmissions
• Discuss progress in safe transitions of care

ADVERSE EVENTS AFTER DISCHARGE

400 consecutive patients discharged from the Internal Medicine service at a large tertiary care center

• 191 had an adverse event
  ➢ Defined as an injury resulting from medical management rather than the disease
• Adverse drug event most common
• Two thirds of events were preventable or ameliorable

SEVERITY OF EVENTS

MEDICAL ERRORS RELATED TO THE HOSPITAL TO PCP TRANSITION


Almost one fifth (19.6%) of the 11,855,702 Medicare beneficiaries who had been discharged from a hospital were rehospitalized within 30 days. 50.2% of the patients who were rehospitalized within 30 days had no bill for a visit to a physician’s office. The average stay of rehospitalized patients was 0.6 day longer than that of patients in the same diagnosis-related group. The cost to Medicare of unplanned rehospitalizations in 2004 was $17.4 billion.

30 DAY READMISSIONS IN 2003 - 2004
- Almost one fifth (19.6%) of the 11,855,702 Medicare beneficiaries who had been discharged from a hospital were rehospitalized within 30 days.
- 50.2% of the patients who were rehospitalized within 30 days had no bill for a visit to a physician’s office.
- The average stay of rehospitalized patients was 0.6 day longer than that of patients in the same diagnosis-related group.
- The cost to Medicare of unplanned rehospitalizations in 2004 was $17.4 billion.

GOVERNMENT RESPONSE
HRRP
- Hospital Readmissions Reduction Program
- Began in FY 2013 as part of the Accountable Care Act
- Requires CMS to reduce payments to hospitals with excess readmissions
- CHF, AMI, Pneumonia initially
- COPD, CABG, and Total Joint Arthroplasty added
- Maximum penalty of 3%
- $538 million withheld last fiscal year.
THE CARE TRANSITIONS MEASURE (CTM-3)

- Added to HCAHPS survey in 2013
- Reported on Hospital Compare since 2014
- In FY 2018, will impact hospital reimbursement under the Value-Based Purchasing Program.

The Care Transitions Measure (CTM-3)

- The hospital staff took my preferences and those of my family or caregiver into account in deciding what my health care needs would be when I left the hospital.
- When I left the hospital I had a good understanding of the things I was responsible for in managing my health.
- When I left the hospital I clearly understood the purpose for taking each of my medications.

ANALYSIS OF MEAN CTM-3

<table>
<thead>
<tr>
<th>Category</th>
<th>Mean Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low Quarte</td>
<td>Low Mean</td>
</tr>
<tr>
<td>High Quarte</td>
<td>High Mean</td>
</tr>
</tbody>
</table>

Goldstein, J Gen Intern Med. 2016 Jul;31(7):732-8

ARE READMISSION RATES A MEASURE OF HOSPITAL QUALITY?

"When the same patients were admitted with similar diagnoses to hospitals in the best-performing quartile as compared with the worst-performing quartile of hospital readmission performance, there was a significant difference in rates of readmission within 30 days. The findings suggest that hospital quality contributes in part to readmission rates independent of factors involving patients."

Krumholz, NEJM Sept 2017; 377:32

ARE READMISSIONS PREVENTABLE?

"Hospital face Medicare payment penalties for high readmission rates"

MEDIAN PROPORTION OF READMISSIONS DEEMED AVOIDABLE WAS 27.1%

Walraven, CMAJ. 2011 Apr 19;184(8)

CASE REVIEW STUDY TO DETERMINE READMISSION PREVENTABILITY

<table>
<thead>
<tr>
<th>Variable</th>
<th>% of Patients</th>
</tr>
</thead>
<tbody>
<tr>
<td>Readmission Prevalence among 1000 Patients</td>
<td>286 (28.6)</td>
</tr>
<tr>
<td>No evidence for preventability</td>
<td>297 (29.7)</td>
</tr>
<tr>
<td>Slight evidence for preventability</td>
<td>188 (18.8)</td>
</tr>
<tr>
<td>Strong evidence for preventability</td>
<td>119 (11.9)</td>
</tr>
<tr>
<td>Very strong evidence for preventability</td>
<td>138 (13.8)</td>
</tr>
<tr>
<td>Location where intervention to reduce readmissions would have been most effective among 200 patients with low preventability during the index admission</td>
<td>80 (8.0)</td>
</tr>
<tr>
<td>At home after the index admission</td>
<td>142 (14.2)</td>
</tr>
<tr>
<td>Health care professional clinics</td>
<td>38 (3.8)</td>
</tr>
<tr>
<td>Emergency department</td>
<td>16 (1.6)</td>
</tr>
<tr>
<td>Multiple locations</td>
<td>20 (2.0)</td>
</tr>
</tbody>
</table>

Aurbach, JAMA Intern Med. 2016;176(4);484-493
HOW TO IMPROVE THE TRANSITION FROM THE HOSPITAL TO PCP

READMISSIONS AS ADVERSE EVENTS

READMISSION RISK

EFFECT OF CLINICAL AND SOCIAL FACTORS ON STROKE READMISSIONS

Moore, Arch Intern Med. 2007;167:1305-1311


HIGHER RISK FOR READMISSIONS IN RESIDENT CLINIC

Doctoroff Amer J Med. 127; Nov, Sept 2014

VITAL SIGN INSTABILITY IN THE 24 HOURS PRIOR TO DISCHARGE

Nguyen, J Gen Intern Med (2017) 32: 42

FOLLOW UP

- 9361 provider scheduled/follow up visits analyzed.
  - 261 were no shows
  - 255 cancelled prior to visit
  - 515 attended as scheduled


PENDING TESTS AND FOLLOW UP PLAN

- Clear communication of the test with the PCP
- Develop a system to keep track of tests
- Contact the patient and/or PCP when the test returns
- Make note of incidental follow up needs when they arise

PATIENT EDUCATION AND COUNSELING


<table>
<thead>
<tr>
<th>Table 1.</th>
<th>Patient Awareness of the Discharge Treatment Plan*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patients</td>
<td>Yes (%)</td>
</tr>
<tr>
<td>Hospitalized</td>
<td>37 (15)</td>
</tr>
<tr>
<td>Discharged</td>
<td>15 (6)</td>
</tr>
<tr>
<td>Who know all of their medications</td>
<td>22 (9)</td>
</tr>
<tr>
<td>Who know all of their medications</td>
<td>16 (7)</td>
</tr>
<tr>
<td>WHO know the name of all their medications</td>
<td>12 (5)</td>
</tr>
<tr>
<td>WHO know the name of all their medications</td>
<td>16 (7)</td>
</tr>
<tr>
<td>WHO know the name of all their medications</td>
<td>12 (5)</td>
</tr>
<tr>
<td>WHO know the name of all their medications</td>
<td>16 (7)</td>
</tr>
<tr>
<td>WHO know the name of all their medications</td>
<td>12 (5)</td>
</tr>
<tr>
<td>WHO know the name of all their medications</td>
<td>16 (7)</td>
</tr>
</tbody>
</table>


DISCHARGE INSTRUCTIONS AND COUNSELING

- 29% of patients did not recall a physician talking to them about their discharge
- 35% did not remember receiving and reviewing the discharge paperwork.
  - Of those who read the discharge paperwork
    ➢ 23% noted difficulty identifying contact phone numbers
    ➢ 22% could not locate warning symptoms indicating when to seek medical attention
    ➢ Most patients were able to identify medications and follow up appointments

INTERMEDIATE HEALTH LITERACY

Read instructions on a prescription label, and determine what time a person can take the medication.

Figure 1. Adults’ Health Literacy Level: 2003

LOW HEALTH LITERACY IS ASSOCIATED WITH INCREASED TRANSITIONAL CARE NEEDS IN HOSPITALIZED PATIENTS

Boyle, J. Hosp. Med. Published online Sept 2017

PHYSICIAN VS PATIENT PERCEPTION OF UNDERSTANDING OF MEDICATION PURPOSE, MEDICATION SIDE EFFECTS AND WHEN TO RESUME ACTIVITIES

Calkins, Arch Intern Med. 1997;157(9):1026-1030

WHAT TO INCLUDE IN DISCHARGE INSTRUCTIONS


• Major diagnoses
• Medication changes
• High risk medications
• Follow up instructions
• Self care instructions
• Who to contact if problems develop

RED FLAGS AND WARNING SYMPTOMS


• Empower the patient to manage their disease at home
• Anticipate potential problems
• Give detailed instructions on who to contact if problems develop
• Provide written and verbal instructions

TEACH-BACK TECHNIQUE

• A simple method to confirm patient understanding
• Ask patients in a nonthreatening way to explain or demonstrate what they have been told.
  – Examples: “I want to make sure I have explained things correctly. Can you tell me how you plan to take your medication when you go home?”
  – “I want to make sure I have done a good job explaining things to you. When you go home and tell your spouse about your visit today, what will you say?”
• These questions should be asked in a nonthreatening way. Put the burden of explanation on yourself as the first step, and let the patient know you are willing to explain again.
MEDICATION

- Make certain that home medication list is correct
  - Reconcile from multiple sources
  - Ask families to bring in medication bottles
- Reconcile home list and hospital list
- Highlight med changes and high risk medications
- Discuss side effects and instructions
- Be aware of brand and generic names
- Consider cost
- Involve pharmacist when available

MEDICATION

- When a discharge summary isn't enough
  - Follow up of pending result
  - Further management of a new condition
  - Life-changing diagnosis
  - The discharge summary won't be available
  - Complex or challenging discharge plan

AVAILABILITY AND TIMELINESS OF DISCHARGE SUMMARY

Hoyer, J Hosp Med 2016 Jun;11(6):393-400

THE DISCHARGE SUMMARY

- Diagnosis
- Relevant Hospital Course
- Abnormal Exam Findings
- Important Test Results
- Discharge Meds with Rationale for Changes
- Follow-up
- Counseling
- Pending Tests
- Tasks to be Completed


OTHER PATIENT BARRIERS TO DISCHARGE

Harrison, J Hosp Med 2016 Sep;11(9):610-4
ARE THERE UNINTENDED CONSEQUENCES?

WIDENING OF THE DISPARITY?

<table>
<thead>
<tr>
<th>Performance Group</th>
<th>2011</th>
<th>2012</th>
<th>Future</th>
<th>Past</th>
<th>Future Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Highest</td>
<td>232.6</td>
<td>234.4</td>
<td>198.6</td>
<td>&lt;1</td>
<td>-33.8 (0.2 to -65.5)</td>
</tr>
<tr>
<td>Average</td>
<td>231.6</td>
<td>232.2</td>
<td>199.6</td>
<td>&lt;1</td>
<td>-32.0 (0.0 to -62.5)</td>
</tr>
<tr>
<td>Low</td>
<td>230.8</td>
<td>230.4</td>
<td>198.9</td>
<td>&lt;1</td>
<td>-31.5 (0.0 to -61.0)</td>
</tr>
<tr>
<td>Lowest</td>
<td>229.8</td>
<td>229.3</td>
<td>198.1</td>
<td>&lt;1</td>
<td>-30.7 (0.0 to -57.0)</td>
</tr>
</tbody>
</table>

PENALTY VS NON-PENALTY HOSPITAL

IS THE MORTALITY RATE INCREASING?

<table>
<thead>
<tr>
<th>Performance Group</th>
<th>2011</th>
<th>2012</th>
<th>Future</th>
<th>Past</th>
<th>Future Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average</td>
<td>-11.5</td>
<td>-19.8</td>
<td>-19.8</td>
<td>&lt;1</td>
<td>-1.9 (0.0 to -2.9)</td>
</tr>
<tr>
<td>Low</td>
<td>-10.5</td>
<td>-19.0</td>
<td>-19.0</td>
<td>&lt;1</td>
<td>-1.5 (0.0 to -2.5)</td>
</tr>
<tr>
<td>Lowest</td>
<td>-10.2</td>
<td>-19.0</td>
<td>-19.0</td>
<td>&lt;1</td>
<td>-1.5 (0.0 to -2.5)</td>
</tr>
</tbody>
</table>

DO INCREASED OBS STAYS ACCOUNT FOR DECREASE IN READMISSIONS?

CURRENT READMISSION RATES

<table>
<thead>
<tr>
<th>Performance Group</th>
<th>Targeted conditions</th>
<th>nREADS</th>
<th>Targeted conditions</th>
<th>nREADS</th>
<th>Non-targeted conditions</th>
<th>nREADS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Targeted conditions</td>
<td>nREADS</td>
<td>Targeted conditions</td>
<td>nREADS</td>
<td>Non-targeted conditions</td>
<td>nREADS</td>
<td></td>
</tr>
<tr>
<td>Targeted conditions</td>
<td>nREADS</td>
<td>Targeted conditions</td>
<td>nREADS</td>
<td>Non-targeted conditions</td>
<td>nREADS</td>
<td></td>
</tr>
</tbody>
</table>

Zuckerman, NEJM 2016;374:1543-5

Desai, JAMA 2016;316:2647-2656

Dharmarajan, JAMA 2017;318:270-278
WHAT CAN WE DO TO IMPROVE THE TRANSITION OUT OF THE HOSPITAL?

- Ongoing preparation throughout hospitalization
- Early utilization of case management, therapy, etc.
- Keep the patient and family informed of the expected duration of the hospital stay
- Think about disposition, ADLs, wound care, oxygen, medical equipment, monitoring, follow-up, and education
- Identify and plan for pending tests results
- Medication reconciliation – verify that admission med rec is correct! Be aware of brand and generic names
- Written and verbal discharge instructions
- Follow-up
  - Communication with follow-up provider – Don’t hesitate to pick up the phone!
    - Life-changing diagnosis
    - Whenever the outpatient provider needs to follow up or manage something