Improving the Quality of Care Coordination Across Settings

A Road Map

1. Understand how common transitions are
2. Recognize that serious quality problems exist
3. Size up the challenges to improving quality
4. Highlight promising innovations
5. Tie into national efforts
Fundamental Disconnect

Care Transitions Are Common...
45 Unique Care Patterns

<table>
<thead>
<tr>
<th>Transfer Level</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single transfer</td>
<td>61.2 %</td>
</tr>
<tr>
<td>Two transfers</td>
<td>17.9 %</td>
</tr>
<tr>
<td>Three transfers</td>
<td>8.5 %</td>
</tr>
<tr>
<td>≥ Four transfers</td>
<td>4.3 %</td>
</tr>
<tr>
<td>Deaths</td>
<td>8.1 %</td>
</tr>
</tbody>
</table>
Evidence of Serious Quality Problems

Qualitative Studies

- Inadequately prepared for next setting
- Conflicting advice for illness management
- Inability to reach the right practitioner
- Repeatedly completing tasks left undone
30,000 patient experiences at 200 hospitals
Transition to home received lowest ratings

Adverse Events after Discharge
Defined as an injury resulting from medical management rather than underlying disease
19 % had 1+ adverse events within 3 weeks
Many were preventable
Adverse drug events most common (66%)

Information Transfer

- Discharge/transfer information inadequate or not conveyed to next setting (TNTC)
- Hospital => NH Transfer, documentation was not legible 28% of time (Foley et al.)
Medication Errors

- In 46% of hospitalized patients, 1+ regularly taken medications are omitted without explanation
- Potential for harm estimated for 39% cases
  *Cornish Arch Int Med 2005 (165) 424-9*
- Transfers NH=> hospital, average 3 medications changes; 20% lead to ADE
  *Boockvar Arch Int Med 2004 (164) 545-50*
Ultimately Higher Health Care Costs

- Inefficiencies/duplication of services
- Greater hospital and ED use
- Litigation/negative press

Challenges to Improving Quality
Challenges Occur at Multiple Levels

- Patient
- Practitioner
- Health care institution
- Information technology
- Payment
- Performance measurement

Patient Level

- Institutions fosters dependency and complacency
- This changes abruptly on transfer when expected to assume major role in self-care
- Rising prevalence of cognitive impairment intensifies this challenge
Maybe it’s not her heart that is responsible for CHF admits…

1) Working memory (remember)
2) Semantic learning (remember to remember)
3) Executive cognitive capacity for behavioral self-regulation (do the task you remembered)
   (>30% older adults impaired)


Practitioner Level

- Rare for one clinician to orchestrate care across multiple settings
- Many practitioners have never practiced in settings to which they transfer patients

Health Care Institution Level Barriers

- Hospital
- SNF
- Home Care
Information Technology

- Health Information Technology infrequently extends from hospital or clinic into post-acute care settings and long-term care settings
- Widespread interoperability worthy goal but remains on the horizon

Payment

- Perceived as providing little financial incentive for collaboration across settings
- Most prevailing payment approaches do not exact financial penalties for poorly executed transfers
Lack of quality measures for transitional care is a significant barrier to quality improvement.

Majority of hospitals receive JCAHO’s highest rating for continuity and discharge measures.
Promising Innovations

- Patient/Caregiver
- Practitioner
- Health System/Med Reconciliation
- Health Information Technology
- Performance Measurement
Promising Innovations: Patients and Caregivers

The Care Transitions Intervention:

Would an intervention designed to encourage older patients and their caregivers to assert a more active role during care transitions reduce rates of re-hospitalization?
Key Elements of Intervention

- “Transition Coach” (Nurse or Nurse Practitioner)
  - Prepares patient for what to expect and to speak up
  - Provides tools (Personal Health Record)
- Follows patient to nursing facility or to the home
  - Reconcile pre- and post-hospital medications
  - Practice or “role-play” next encounter or visit
- Phone calls 2, 7 and 14 days after discharge
  - Single point of contact; reinforce, ensure follow up

My Medications are:

<table>
<thead>
<tr>
<th>Medication</th>
<th>Dose</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Allergies: _____________________

Reason               Side Effects
<table>
<thead>
<tr>
<th>Reason</th>
<th>Side Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Remember to take this Record with you to all of your doctor visits

Personal Health Record

The Personal Health Record of: Josephine Patient

Personal Information:
Address: __________________________
Home Phone#: _______________________
Birth Date: ________________________
PCP Name: _________________________
Advanced Directives?: ______________

Hospitalization Information:
Admitted: _/_/_ Discharged: _/_/_
Reason for Hospitalization:
________________________________________________________________________

Caregiver Information:
Name: _____________________________
Phone #: __________________________
Relation to Patient: ________________

Before I leave the hospital…

- I have the instructions I need to keep my health condition from becoming worse.
- I know what symptoms to watch out for.
- I know the name and phone number of who to call if I see any of these symptoms.
- My family or someone close to me knows what I will need once I leave the hospital.
- I know what medications to take, how to take them, and possible side effects.
- I will schedule a follow up appointment with my primary care doctor.
- I will have a clear and complete copy of my discharge instructions.

After I leave the hospital…

1. I will write down questions I have about my condition.
2. I will take all bottles of medicine I am using to each doctor visit.
3. I will call ___________________ immediately at (XXX) XXX-XXX if I experience any of the following:
   • Temperature above 101° F
   • Uncontrollable pain
   • Increased confusion
   • Increased redness or drainage around wound
   • Questions about which medications to take
Key Attributes of the Coach

- Able and willing to make the shift from doing things for patients to encouraging them to do as much as they can for themselves
- Competency with medication reconciliation
- “Empowered” enough to activate a patient to ask questions and not be easily intimidated
### Study Population

- Community-dwelling
- Age 65 years +
- Non-elective hospital admission
- CHF
- COPD
- CAD
- Diabetes
- Stroke
- Hip fracture
- PVD
- Spinal stenosis
- Arrythmias

<table>
<thead>
<tr>
<th>Variable</th>
<th>Intervention</th>
<th>Control</th>
<th>P-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (years)</td>
<td>76.0</td>
<td>76.4</td>
<td>0.52</td>
</tr>
<tr>
<td>Female (%)</td>
<td>48.2</td>
<td>52.3</td>
<td>0.26</td>
</tr>
<tr>
<td>Married (%)</td>
<td>58.2</td>
<td>53.8</td>
<td>0.23</td>
</tr>
<tr>
<td>Lives alone (%)</td>
<td>30.9</td>
<td>30.8</td>
<td>0.99</td>
</tr>
<tr>
<td>Sad or Blue (%)</td>
<td>30.3</td>
<td>26.4</td>
<td>0.24</td>
</tr>
<tr>
<td>CHF (%)</td>
<td>16.5</td>
<td>12.9</td>
<td>0.17</td>
</tr>
<tr>
<td>COPD (%)</td>
<td>17.0</td>
<td>18.5</td>
<td>0.61</td>
</tr>
<tr>
<td>Arrythmia (%)</td>
<td>12.8</td>
<td>19.0</td>
<td>0.02</td>
</tr>
<tr>
<td>CAD (%)</td>
<td>14.1</td>
<td>13.5</td>
<td>0.81</td>
</tr>
<tr>
<td>Chronic Disease Score</td>
<td>6.8</td>
<td>7.1</td>
<td>0.31</td>
</tr>
</tbody>
</table>
### Table 1: Comparison of Variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>Intervention</th>
<th>Control</th>
<th>P-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prior Hosp (%) 1+ past 6 mo</td>
<td>29.3</td>
<td>26.1</td>
<td>0.36</td>
</tr>
<tr>
<td>Prior ED (%) 1+ past 6 mo</td>
<td>40.3</td>
<td>38.9</td>
<td>0.69</td>
</tr>
<tr>
<td>D/C Destin.</td>
<td></td>
<td></td>
<td>0.71</td>
</tr>
<tr>
<td>Home (%)</td>
<td>50.8</td>
<td>52.9</td>
<td></td>
</tr>
<tr>
<td>Homecare (%)</td>
<td>24.7</td>
<td>25.9</td>
<td></td>
</tr>
<tr>
<td>SNF (%)</td>
<td>21.0</td>
<td>19.3</td>
<td></td>
</tr>
<tr>
<td>Other (%)</td>
<td>3.5</td>
<td>1.9</td>
<td></td>
</tr>
</tbody>
</table>

### Table 2: Re-hospitalization Rates

<table>
<thead>
<tr>
<th>Variable</th>
<th>Intervention</th>
<th>Control</th>
<th>Adjusted P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Re-hospitalized w/in 30 days</td>
<td>8 %</td>
<td>12 %</td>
<td>0.05</td>
</tr>
<tr>
<td>Re-hospitalized w/in 90 days</td>
<td>17 %</td>
<td>23 %</td>
<td>0.03</td>
</tr>
<tr>
<td>Re-hospitalized w/in 180 days</td>
<td>26 %</td>
<td>31 %</td>
<td>0.09</td>
</tr>
<tr>
<td>Variable</td>
<td>Intervention</td>
<td>Control</td>
<td>Adjusted P-value</td>
</tr>
<tr>
<td>------------------------------------------</td>
<td>--------------</td>
<td>---------</td>
<td>-----------------</td>
</tr>
<tr>
<td>Readmit for Same Dx w/in 30 days</td>
<td>3 %</td>
<td>5 %</td>
<td>0.04</td>
</tr>
<tr>
<td>Readmit for Same Dx w/in 90 days</td>
<td>5 %</td>
<td>10 %</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>Readmit for Same Dx w/in 180 days</td>
<td>9 %</td>
<td>14 %</td>
<td>&lt;0.01</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Variable</th>
<th>Intervention</th>
<th>Control</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-elective mean hospital costs 30 days</td>
<td>$784</td>
<td>$918</td>
<td>0.03</td>
</tr>
<tr>
<td>Non-elective mean hospital costs 90 days</td>
<td>$1519</td>
<td>$2016</td>
<td>0.01</td>
</tr>
<tr>
<td>Non-elective mean hospital costs 180 days</td>
<td>$2058</td>
<td>$2546</td>
<td>0.03</td>
</tr>
</tbody>
</table>
Number Needed to Treat (NNT)

On average, for every 17 patients that works with the Transition Coach, one re-hospitalization will be prevented

Goal Attainment

“What is one personal goal that is important for you to achieve one month after you get home?”
Findings

Patients who worked with the Transition Coach were more likely to achieve their goals around symptom control and functional status

How to Pay for the Transition Coach?

- Under capitation, incentives are aligned and Transition Coach pays for her/himself
- Under DRG payment, hospitals may invest:
  1) to improve JCAHO accreditation scores
  2) to better transition “complex older patients (AKA “DRG Losers”)” making more capacity for higher revenue patients
- Clinics may invest to improve efficiency
- In some states, APN Transition Coaches can bill for their visits
Conclusion

- The Care Transitions Intervention appears to improve the quality of care transitions
- Patients who worked with the Transition Coach were able to get their needs met
- Facilitating adoption within leading health care systems

Promising Innovations-Practitioners
Promising Innovations-Practitioners

- Society for Hospital Medicine
  - Core competencies for transitional care
  - Delphi Consensus on the ideal hospital discharge
  - AHRQ grant on a discharge “bundle”

Promising Innovations: Health Care System
Can Medication Reconciliation Be Done in a Single Setting?

- A warped sock drawer analogy

A New Tool to Characterize Transition-Related Med Problems
Developing a New Tool: Guiding Principles

- Patient-centered
- Applicable across a variety of health settings
- Identify patient- and system-level factors
- Items need to be actionable at point of care

Introducing the Medication Discrepancy Tool (MDT)

- Patient-level factors
- System-level factors
- Steps taken to resolve
Study Results

- Post-hospital medication review
- Compare what hospital told patient to take versus what patient was actually taking
- One MDE completed for each discrepancy

14 Percent Experienced 1+ Med Discrepancies

- 62 percent experienced one
- 25 percent experienced two
- 8 percent experienced three
- 5 percent experienced four or more
Two Important Terms

- **Intentional non adherence**
  - Patient understands what has been recommended but chooses not to follow advice
- **Non-intentional non adherence**
  - Patient did not know what medications to take (aka knowledge deficit)

Patient-Level Contributing Factors

<table>
<thead>
<tr>
<th>Factor</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-intentional non-adherence</td>
<td>34%</td>
</tr>
<tr>
<td>Money/financial barriers</td>
<td>6%</td>
</tr>
<tr>
<td>Intentional non-adherence</td>
<td>5%</td>
</tr>
<tr>
<td>Didn’t fill prescription</td>
<td>5%</td>
</tr>
<tr>
<td>Other</td>
<td>1%</td>
</tr>
<tr>
<td>Subtotal</td>
<td>51%</td>
</tr>
</tbody>
</table>
System-Level Contributing Factors

<table>
<thead>
<tr>
<th>Factor</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>D/C instructions incomplete/illegible</td>
<td>16%</td>
</tr>
<tr>
<td>Conflicting info from different sources</td>
<td>15%</td>
</tr>
<tr>
<td>Duplicative prescribing</td>
<td>8%</td>
</tr>
<tr>
<td>Incorrect label</td>
<td>4%</td>
</tr>
<tr>
<td>Other</td>
<td>7%</td>
</tr>
<tr>
<td>Subtotal</td>
<td>49%</td>
</tr>
</tbody>
</table>

30-Day Hospital Re-Admit Rate

<table>
<thead>
<tr>
<th>Group</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patients with identified med discrepancies</td>
<td>14.3%</td>
</tr>
<tr>
<td>Patients with no identified med discrepancies</td>
<td>6.1%</td>
</tr>
</tbody>
</table>

P=0.041
Conclusion

- New insights into types of medication problems that occur during transitions
- Important implications for patient safety, quality of care, and cost containment
- National patient safety efforts should extend to patients receiving care across settings

Promising Innovations-HIT
Health Information Technology

- Necessary but not sufficient
- Potential for improving safety and quality
- Need to extend beyond the hospital and clinic

Pursuing Perfection Whatcom County

- Shared care plan on a secured Web site accessible by clinicians and the patient
Promising Innovations
Performance Measurement
Care Transitions Measure (CTM)

- Items derived from focus groups
- Items predict recidivism and discriminate among hospitals
- At least 6 QI projects are using the measure
- To date, over 400 requests for permission

CTM Items

- *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*
- *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*
Return to the Emergency Department for the Same Problem

Return to the Hospital for the Same Problem

\[ p=0.01 \]

\[ p=0.04 \]
CTM Scores by Facilities Known To Differ in Care Coordination

P=0.04

Tie into National Efforts
National Efforts

1. Health Information Technology
2. JCAHO
3. National Quality Forum
4. Institute of Medicine
5. Centers for Medicare and Medicaid Services (CMS)

Health Information Technology

- Need to articulate unique needs of older adults
  - Prominently feature family caregivers
  - Physical and cognitive function
  - Access to care delivered in other settings
- Federal study underway examining extension of HIT to post-acute and long-term care settings (UCHSC)
CMS Conditions of Participation

As needed, the patient and family members or interested persons must be counseled to prepare them for post-hospital care.

The hospital must arrange for the initial implementation of the patient’s discharge plan.

The hospital must transfer or refer patients, along with necessary medical information, to appropriate facilities, agencies, or outpatient services, as needed, for follow-up or ancillary care.

JCAHO

- Patient Safety Goal—medication reconciliation
- Tracer Methodology
  - Observe discharge process
  - Assess patient’s experience once home
- “Speak Up” campaign
IOM Report chose Transitional Care as one of three priority areas (target is CMS)
- NQF issued call for care coordination measures
- We now have a critical mass of measures
- Health systems are starting own P4P
CMS Uniform Assessment Tool

- Mandated by Congress
- Vision paper submitted to CMS
- Focus hospital discharge to post-acute care
- Three primary purposes:
  - Facilitate transfer to appropriate setting
  - Improve information transfer
  - Longitudinal outcomes assessment

www.caretransitions.org

- Care Transitions Measure (CTM)
- Care Transitions Intervention
  - Manual
  - Video clips/Order DVD
  - Tools for patients and caregivers
- Medication Discrepancy Tool (MDT)
- Much much more….