A Tale of Two Teams: Interdisciplinary Outpatient Approaches to Improving Transitions of Care

Shana Ratner, MD
Jamie Cavanaugh, PharmD
Emily Hawes, PharmD
Mark Gwynne, DO
The Burning Platform: UNC Readmission rates

Readmission Rate by Discharge Quarter - adult patients

% 30-day Readmissions

- % 30 Day Readmit
- Median
- FY15 Goal
UNC Transitions: Standardized Inpatient checklist

- 1668 moderate or high-risk admissions from 9/13 through 3/14
- Used a standardized discharge checklist to address items relevant to nursing, care management, pharmacy, inpatient physician team and outpatient follow-up
- 29% readmission rate

<table>
<thead>
<tr>
<th>Checklist Bundles</th>
<th>Odds Ratios</th>
</tr>
</thead>
<tbody>
<tr>
<td>Care Management Bundle</td>
<td>1.3 (1.0-1.7)</td>
</tr>
<tr>
<td>MTS Bundle</td>
<td>0.96 (0.76-1.2)</td>
</tr>
<tr>
<td>Pharmacist Bundle</td>
<td>0.72 (0.56-0.94)</td>
</tr>
<tr>
<td>Discharging Physician Bundle</td>
<td>1.1 (0.79-1.4)</td>
</tr>
<tr>
<td>Bedside Nurse Bundle</td>
<td>0.75 (0.56-0.94)</td>
</tr>
<tr>
<td>Follow up</td>
<td>0.59 (0.48-0.74)</td>
</tr>
<tr>
<td>Health Link</td>
<td>1.0 (0.80-1.3)</td>
</tr>
</tbody>
</table>

Whether or not a patient had a follow-up appointment in ambulatory care post-discharge was the most significant predictor of re-admissions
Ambulatory Management of Transitions: Key Themes

• **Interdisciplinary Teams**
  • Measure and define the effective roles and functions within the teams—power of multidisciplinary care

• **Access**
  • Timely access to outpatient care is critical

• **Standardized care**
  • Use tools and assessments to standardize care that addresses root causes and barriers

• **Continuous Quality Improvement (QI)**
  • Sustainability depends on continuous re-assessment and improvement
**Scope of Readmissions: UNC Internal Medicine/Family Medicine**

**UNC Family Medicine/Internal Medicine Practices**
- 31,445 empaneled patients
- 93,156 outpatient visits/year
- 7,474 inpatient admissions/year

**Readmission Count by Risk**
- Low
- Moderate
- High

**Readmission Rate by Risk (%)**
- Low
- Moderate
- High

**Risk Stratification Model:**
- **High**: either $\geq$ 3 hospital admissions in 12 months or $\geq$ 3 chronic conditions and $\geq$10 medications
- **Mod**: $\geq$2 hospital admissions within the last year or $\geq$2 chronic conditions
- **Low**: All others
Link Outpatient to Inpatient Services: Break the Silos

Inpatient Service

Scheduling the Outpatient Visit
- Multiple barriers
- Lean events/tools to improve

Physician team

Outpatient Transitions Team

Direct communication
- EMR
- Email
- Epic
- Canopy

Inpatient Care Manager ← Inpatient Service → Inpatient Pharmacist

Physician team

Outpatient Care Manager ← Outpatient Transitions Team → Outpatient Pharmacist

Direct communication
- EMR
- Email
- Pager/phone
- Epic
University of North Carolina Internal Medicine Clinic
Not Your Ordinary Primary Care Practice

---

**Providers**
- 23 faculty – 5 FTE
- 63 residents – 5 FTE
- 7 advance practice providers - 4 FTE
  - 4 Clinical Pharmacist Practitioners – 2 FTE
  - 1 PGY2 Pharmacy Resident

**Enhancements**
- 2 social workers
- 4 care assistants
- 1 nutritionist
- Multiple medical students
- 2 pharmacy students or residents per month

---

- 12,312 Unique, Active Patients
- 41,963 Annual Visits
- 3,533 Annual Hospitalizations
The Burning Platform of Internal Medicine

Admissions and Readmissions to UNC Hospitals
(UNC Internal Medicine)

80% of those readmitted will come back to UNC hospitals
Using a Guide: STAAR

Drafted a charter with specific goals and measures

- By December 2012, we will reduce readmissions of patients served by the UNC Internal Medicine Clinic by 20% from the current readmission rate. We will do this by implementing the IHI How-to Guide on reducing avoidable rehospitalizations.

Monitor

- UNC readmissions
- Process measures

The Internal Medicine Clinic Approach

Hospital follow-up clinic
- Established UNC IMC patients
- Independent of reason for admission
- Independent of payer status
- Targeting Moderate/High risk patients

Visit within 14 days of hospital discharge

60 minute visit (Clinical Pharmacist Practitioner coordinated)
- Nurse – 10 minutes
- Clinical Pharmacist – 30 minutes
- Attending Physician – 15 minutes
- Clinical summary & teach back – 5 minutes

Increased clinic access
- 7 half days CPP & attending
- 2 half days Medical resident
Pre-Visit Call

Health Link nurse calls patient within 2 business days of hospital discharge (documented in telephone encounter)

Address barriers including:
- Obtaining medications
- Transportation to visit

Triage acute clinical needs

Reminder call 1-2 days prior to the visit with reminder to bring:
- All medicines
- Any caregivers or family
- Any outside labs or paperwork

Care manager begins making reminder phone calls to all hospital f/u patients.

Hospital Follow-up No Show Rates

No Show Rates

Month/Year

Sep-12 Oct-12 Nov-12 Dec-12 Jan-13 Feb-13 Mar-13 Apr-13 May-13
What’s different during the visit?

Patient goals

Patient reported factors leading to the visit

Barriers to care
  • Financial
  • Transportation

Multidisciplinary Medical Home Approach
  • Involvement of clinical pharmacist and care manager

Address appropriate utilization of available resources
  • Same Day Clinic, UNC Urgent Care, Afterhours care
  • Appropriate use & when to seek care
What’s different during the visit?

- Thorough medication reconciliation & education
- Communication with inpatient team, home health, external care managers
- Addressing goals of care
- Screening /treatment for depression
- Facilitate appropriate home health referrals
- Order appropriate labs, testing, referrals
- Clinical summary & teach back
- Follow up calls for high risk patients
### What kind of interventions are made?

<table>
<thead>
<tr>
<th>Intervention</th>
<th>n  (%)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Identification of cost issues</td>
<td>28 (28.0)</td>
</tr>
<tr>
<td>Identification of non-adherence</td>
<td>51 (51.0)</td>
</tr>
<tr>
<td><strong>Medication adjustments</strong></td>
<td></td>
</tr>
<tr>
<td>Therapeutic switch</td>
<td>4 (4.0)</td>
</tr>
<tr>
<td>Medication addition</td>
<td>61 (39.0)</td>
</tr>
<tr>
<td>Medication discontinuation</td>
<td>30 (27.0)</td>
</tr>
<tr>
<td>Dose increase</td>
<td>17 (17.0)</td>
</tr>
<tr>
<td>Dose decrease</td>
<td>19 (18.0)</td>
</tr>
<tr>
<td><strong>Referrals</strong></td>
<td></td>
</tr>
<tr>
<td>Specialist</td>
<td>16 (14.0)</td>
</tr>
<tr>
<td>Home health</td>
<td>3 (3.0)</td>
</tr>
<tr>
<td>Social worker</td>
<td>12 (12.0)</td>
</tr>
<tr>
<td>Emergency Department</td>
<td>3 (3.0)</td>
</tr>
<tr>
<td>Behavioral Counseling</td>
<td>2 (2.0)</td>
</tr>
<tr>
<td>Financial Counseling</td>
<td>2 (2.0)</td>
</tr>
<tr>
<td>Follow up with CPP</td>
<td>2 (2.0)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Intervention</th>
<th>n  (%)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Laboratory Monitoring</td>
<td></td>
</tr>
<tr>
<td>Medication monitoring</td>
<td>16 (16.0)</td>
</tr>
<tr>
<td>Disease state monitoring</td>
<td>45 (33.0)</td>
</tr>
<tr>
<td><strong>Vaccinations (influenza, Tdap, PPSV)</strong></td>
<td>12 (10.0)</td>
</tr>
<tr>
<td><strong>Lifestyle counseling</strong></td>
<td></td>
</tr>
<tr>
<td>Smoking cessation</td>
<td>30 (30.0)</td>
</tr>
<tr>
<td>Alcohol cessation</td>
<td>5 (5.0)</td>
</tr>
<tr>
<td><strong>Interventions per visit</strong> (median, IQR)</td>
<td>3 (2-5)</td>
</tr>
</tbody>
</table>
How do we know it’s working?
Readmission Dashboard – Quality Improvement

- Process measures are collected & discussed monthly
- Utilize rapid cycles of change to drive improvement
## Hospital follow up clinic patients seen sooner

<table>
<thead>
<tr>
<th></th>
<th>Intervention n=54</th>
<th>Usual Care n=54</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Time to first clinic f/u (days)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Median (IQR)</td>
<td>6.5 (5, 10)</td>
<td>10.5 (7, 17)</td>
<td>0.0004</td>
</tr>
<tr>
<td><strong>Time to first IMC f/u (days)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Median (IQR)</td>
<td>7 (6, 11)</td>
<td>12 (7.5, 25.5)</td>
<td>0.0006</td>
</tr>
<tr>
<td><strong>Hospital f/u within 30 days</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>n (%)</td>
<td>54 (100%)</td>
<td>46 (85%)</td>
<td>0.003</td>
</tr>
</tbody>
</table>

**Note**: IQR = Interquartile Range
Hospital follow up clinic patients have fewer readmissions

90 Day Readmission

Readmission
30 days: 9% vs. 26%, p=0.023
90 days: 19% vs. 44%, p=0.004

Composite
30 day 19% vs. 44%, p=0.004
90 day 33% vs. 59%, p=0.007

90 Day ED visits or Readmissions
The UNC Family Medicine Center Approach: Interdisciplinary Team

ACTion: Multidisciplinary post-discharge visit

Key Features:

- Coordinate information:
  - Inpatient to outpatient
  - Throughout the outpatient visit
- Standardized care
  - Outpatient Checklist - Improve fidelity in addressing important issues post-discharge
- Standardize communication – standard huddle format
- Outpatient ownership/accountability for transitional care
- Identify patients at risk and provide more intense ongoing continuity care for medically and psychosocially complex patients
Interdisciplinary Team Approach: Roles

**Care Manager**
- Identify high and moderate risk transitions patient – manage access to Transitions appointments
- Assess home health, DME, hospice; help arrange, as appropriate
- Assess mental health/substance use; identify appropriate and facilitate clinic and community resources
- Educate/review after hours care and resources
- Arrange follow-up needs with PCP
- Post visit contact to assess ongoing needs

**Pharmacist**
- Medication reconciliation between discharge list and patient’s home regimen
- Therapeutic review for adherence, safety, dose optimization, cost, etc.
- Teach back to assess self-management

**Physician**
- Review discharge summary, prior to visit and with patient
- Discuss patient’s understanding of factors contributing to hospitalization
- Review goals of care (advanced directives, future treatments)
- Provide and review patient After Visit Summary
- Review red flag symptoms – when to seek care and where
Team Approach: Pharmacist roles are important

- Marked increase in readmissions when pharmacist not involved
- Most common pharmacy related issues identified:
Access is critical: hospital follow-up within 7 days

Access to an outpatient appointment within 7 days of discharge is critical to reducing readmissions

How to do this:
- Advanced Access scheduling system
- Thursday Transitions clinic
- All PCP appointments can be transitions – pair with pharmacist schedule
- Controlled and managed by Care Manager
Standardized Care: Outpatient Transitions Checklist

Key points and behaviors built into Checklist:

Before visit:
- Post-discharge phone call made
- Identify barriers and appointment reminder

During Visit:
- Medication reconciliation
- Clarify patient identified factors contributing to admission
- Identify barriers to care
- Identify and assess goals of care including advanced directives
- Assess home health needs
- Teach Back (meds and self-management)
- Arrange follow-up
- Identify Red Flag Symptoms and management strategies
- Educate about after hours resources

After visit:
- Joint team documentation
- 1 week phone call check in
- 2 week appointment

<table>
<thead>
<tr>
<th>Tasks</th>
<th>Name/Date</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prior to visit - Primary Care Team:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.</td>
<td>Received and reviewed Health/Risk phone notes</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>Visit reminder call 2 business day prior to visit</td>
<td>Rescheduled, why?</td>
</tr>
<tr>
<td>3.</td>
<td>Multidisciplinary huddle (virtual or face-to-face) involving all outpatient team members (care manager, providers, clinical support staff)</td>
<td></td>
</tr>
<tr>
<td>During the visit - Primary Care Team</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>Medication reconciliation between discharge list and patient home regimen</td>
<td>No Show/Reason: Phone Message Documented</td>
</tr>
<tr>
<td>5.</td>
<td>Specific attention to issues identified in inpatient pharmacist notes</td>
<td></td>
</tr>
<tr>
<td>6.</td>
<td>Identify patient reported factors contributing to hospitalization/ED visit and document</td>
<td></td>
</tr>
<tr>
<td>7.</td>
<td>Assess and/or discuss goals of care and document</td>
<td></td>
</tr>
<tr>
<td>8.</td>
<td>Assess home health needs and arrange as appropriate</td>
<td></td>
</tr>
<tr>
<td>9.</td>
<td>Educate patient on after hours care and resources</td>
<td></td>
</tr>
<tr>
<td>10.</td>
<td>Provide patient clinical summary that includes accurate medication list, highlights medication changes, red flag symptom management, clinic and after hours care instructions</td>
<td></td>
</tr>
<tr>
<td>11.</td>
<td>Use Teach Back for self-management instructions</td>
<td></td>
</tr>
<tr>
<td>12.</td>
<td>High Risk Patients - Care Manager introduce self, plan for f/u calls, and confirm best phone number</td>
<td>Provider identified moderate risk or an &quot;high risk&quot; and elevated risk level</td>
</tr>
<tr>
<td>13.</td>
<td>Assess and arrange for medical follow-up needs with primary care provider within 30 days</td>
<td></td>
</tr>
<tr>
<td>After the visit - Primary Care Team</td>
<td></td>
<td></td>
</tr>
<tr>
<td>14.</td>
<td>Documentation utilizing joint documentation functionality</td>
<td></td>
</tr>
<tr>
<td>15.</td>
<td>High Risk Patients - Post visit contact 1 week following appointment; Teach Back used for priority areas listed in clinical summary, including red flags</td>
<td>Attempted 3x with no answer</td>
</tr>
<tr>
<td>16.</td>
<td>High Risk Patients - Post visit contact 2 weeks following appointment; Teach Back used for priority areas listed in clinical summary, including red flags, confirmed upcoming appointment</td>
<td>Attempted 3x with no answer</td>
</tr>
<tr>
<td>17.</td>
<td>High Risk Patients - Follow-up appointment completed</td>
<td>Not scheduled or cancelled</td>
</tr>
<tr>
<td>Submitted by:</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Care manager signature | Date

Note: This is a quality improvement document and should not be part of the patient’s medical record.
Continuous Quality Improvement

Fidelity to Outpatient Checklist Items:
% items completed

Need to Improve:

- 11 = Use of Teach-Back for self-management skills
- 13 = Arrange PCP follow-up in 30 days
- 16 = 2 week post-visit contact
- 17 = attendance of 30 day post discharge visit
- Discuss and document Advanced Care Planning
Continuous Quality Improvement

Attendance Rates for Scheduled Hospital F/U Appts

No-show rates
- Mod risk = 0-50%
- High risk = 20-60%
- Involving patients in scheduling is critical

Chart audit on No-shows:
- 70% with incorrect # or disconnected phones
- 20% wanted to wait for PCP

Potential Solutions
- Standardize capturing correct contact info as inpatient
- Review schedule and if not scheduled with PCP, re-schedule
Continuous Quality Improvement

<table>
<thead>
<tr>
<th>Comorbidities of Transitions patients</th>
<th>n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Depression</td>
<td>55 (51.4)</td>
</tr>
<tr>
<td>Diabetes</td>
<td>46 (43.0)</td>
</tr>
<tr>
<td>CHF</td>
<td>30 (28.0)</td>
</tr>
<tr>
<td>CKD</td>
<td>27 (25.2)</td>
</tr>
<tr>
<td>COPD</td>
<td>25 (23.4)</td>
</tr>
<tr>
<td>AMI</td>
<td>10 (9.3)</td>
</tr>
<tr>
<td>PNA</td>
<td>7 (6.5)</td>
</tr>
<tr>
<td>Dementia</td>
<td>2 (1.9)</td>
</tr>
</tbody>
</table>

**Finding:** Depression is the most common co-morbidity in our moderate and high risk Transitions patients

**New intervention:**
- assess all patients in hospital follow-up for depression and anxiety (PHQ-9, GAD-7)
- intervene (counseling, substance use treatment) on uncontrolled depression and anxiety in moderate and high risk patients
- identify clinic and community resources to partner for management \( \rightarrow \) substance use, therapy, behavior change
UNC Family Medicine Center: Readmission Rates

- Sustained reduction in Re-admissions over 18 months
- More significant effect over the past 4 months – program is maturing
Important concepts to improve Outpatient Transitional Care

• **Interdisciplinary Teams**
  - Measure and define the effective roles and functions within the teams—power of multidisciplinary care

• **Access**
  - Timely access to outpatient care is critical

• **Standardize care:**
  - Use tools and assessments to standardize care that address root causes and barriers

• **Continuous QI**
  - Sustainability of this intervention depends on continuous re-assessment and improvement: Quality Improvement
UNC Outpatient Transitions Collaborative

Members:
• UNC Family Medicine
• UNC General Internal Medicine
• UNC Heart and Vascular
• UNC Geriatrics
• UNC Physicians Network (community primary care)

Goals:
FY15 readmission-related measures for participating Outpatient Transitions Collaborative (OTC) practices:
➢ 15% absolute increase in patients seen within 14 days of hospital discharge
➢ 5% absolute reduction in readmission rates for patients in OTC practices

• 60,327 total patients
• 20% baseline re-admission rate for mod/high risk
OTC Data 1Q2015 (July – November 2014)

- Agreed on measures
- Comparative data
- Identify and rapidly spread best practices
- Improvement teams in each practice – collaboratively generate improvement strategies
- Care management workgroup
- Inpatient and ambulatory care representatives
Thank you!

Questions and Discussion?