Welcome to NYU Langone Health
five inpatient hospitals:
- Tisch Hospital
- Rusk Rehabilitation
- NYU Langone Orthopedic Hospital
- NYU Langone Hospital - Brooklyn
- Hassenfeld Childrens Hospital

with locations in
- New York City’s five boroughs
- Long Island
- New Jersey
- Westchester, Putnam, and Dutchess counties

affiliation with
- Winthrop University Hospital

Over 200 ambulatory sites
Clinical Care

- Modern Healthcare Top Hospital
- Ranked #1 & #2 – Third Year in a Row for Overall Patient Safety & Quality
- 140 Physicians Listed in New York Magazine’s “Best Doctors”
- Gold Seal of Approval by the Joint Commission for Commitment to High Quality Care
- Magnet Recognized Hospital for Excellence in Nursing
- Most Wired Hospital - 2017
#1 in licensing revenue among U.S. universities

A Top 11 U.S. News & World Report’s Best Medical School

$189 million in new NIH funding for 2016

435 research faculty

Among the fastest growing NIH portfolios in the U.S.

4,187 peer reviewed publications as of 2016
Education

175 Years of Training Physicians and Scientists

75+ Residency and Fellowship Training Programs

5,000 Voluntary, full and part-time faculty

3-year medical degree program

80 MD/PhD students

233 PhD Students
we’ve achieved Stage 7
Healthcare Information and Management Systems Society (HIMSS) Analytics Electronic Medical Records (EHR) Adoption Model
Stage 7 Award.

Based On Ability To
- Leverage and govern health data and analytics
- Execute computer order entry and electronic documentation
- Measure and analyze patient engagement
- Demonstrate advanced implementation and augmentation of EHR

Only 4% of over 5,000 hospitals evaluated are Stage 7
Top 20 in the Nation with 12 nationally ranked and 8 high performing specialties
Total Joint Arthroplasty Bundled Payment Care Initiative

Kathleen Mullaly, MSN, RN
Senior Director MCIT, Care Delivery Transformation, NYU Langone Health

Lily Pazand
Director, Managed Care Payment Reform Analytics, NYU Langone Health
Clinically Integrated Network – Risk Programs

- CARE
  Bundled Payment for Care Improvement (BPCI)

- NYUPN
  Commercial Shared Savings

- Medicaid IPA United

- Delivery System Reform Incentive Payment (DSRIP)
Clinically Integrated Network – Risk Programs

CARE
Bundled Payment for Care Improvement (BPCI)

NYUPN

Medicaid IPA United

Delivery System Reform Incentive Payment (DSRIP)
Bundle Payment Strategy

What We Considered

- Clinical Opportunity
  - Strong clinical leadership
  - Defined, discrete clinical episodes
  - Relatively predictable

- Financial Opportunity
  - High volume
  - Procedure-based
  - Attractive to Medicare

What We Selected

- **Total Joint Replacement**
  - 469–470 Major joint replacement of the lower extremity
    - 800 Medicare cases annually
    - 31 physicians; 55% employed / 45% voluntary

- **Spinal Surgery**
  - 459–460 Spinal fusion (non-cervical)
    - 235 Medicare cases annually
    - 18 physicians; 56% employed / 44% voluntary

- **Cardiovascular Surgery**
  - 216–221 Cardiac valve
    - 260 Medicare cases annually
    - 8 physicians, 100% employed
Cost Drivers Across Episode of Care

**Internal Cost Reductions**

Levers to reduce internal hospital cost:

- Reduce LOS
- Reduce implant, supply, and/or drug costs
- Reduce OR time

**90-day Episode Spend Reductions**

Levers to reduce 90-day episode spend:

- Reduce readmissions
- Alter discharge patterns (home-based vs. facility-based care)
- Decrease utilization (e.g. consults, ancillary tests)
- Reduce SNF LOS
## Baseline Metrics – Total Joint Replacement

<table>
<thead>
<tr>
<th>Initial Post-acute Setting</th>
<th>90 Day Readmission Rate</th>
<th>AVG 90-Day Episode Payment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inpatient Rehab</td>
<td>15%</td>
<td>$40,095</td>
</tr>
<tr>
<td>Skilled Nursing Facility</td>
<td>18%</td>
<td>$43,466</td>
</tr>
<tr>
<td>Home Health</td>
<td>10%</td>
<td>$23,462</td>
</tr>
<tr>
<td>Outpatient Therapy</td>
<td>18%</td>
<td>$27,267</td>
</tr>
</tbody>
</table>
Total Joint Replacement Pathway Development Governance

- Bundled Payment Initiative Steering Committee
- Total Joint Care Pathway Committee
  - Pre-hospital Team
  - Inpatient Team
  - Post Acute Team

Epic Workflow
MCIT Reporting
Implementation
Clinical Management Throughout the Pathway

Standardization

Systematization and standardizing are the foundations of good operational routines that can be measured and facilitate improvements, outcomes, and ever-greater efficiency.

Advantages of Standardization

1. Increases efficiency
2. Improves ability to monitor and study individual factors
3. Improves communication
4. Allows for identification of outliers or modifiable factors
Patient Navigation

- Pre-admission
  - Surgeon
  - Pre-Admission Testing

- Hospital + Inpatient
  - Surgeon
  - Hospital

- Nurse Care Coordinator

- Skilled Nursing Facilities
- Inpatient Rehab
- Home Health Agencies
- Outpatient Services
- Surgeon Follow-Up Visits

Communication Modes:

- Electronic
  - EMR: My Chart
  - EMR Light: For providers without EMR

- Telephonic

- Fax
  - For providers without EMR or limited internet connectivity

90-Day Post-Acute Period
Clinical Episode Documentation, including readmissions to outside hospitals (Outreach/Telephone Encounter)

Risk stratification to identify patients at risk for readmission

Schedule NYULMC occupational therapy home visit for high-risk patients

Epic

Physician Dashboard

OpTime Scheduling System

Bundled Payment Registry

MyChart

Physicians

Patients

Physician and Surgical Coordinator

Clinical Care Coordinators

EDW

SNF Partners

HIE/Web Portal

Home Health Partners

Population Analytics

MyChart

History Questionnaire

Care Team

Test Results

Messaging

Conditions

Educational Materials/Videos

BPCI Episode Technical Work

Medicare Claims Data

Physicians

Physician Dashboard

OpTime Scheduling System

Bundled Payment Registry

Risk stratification to identify patients at risk for readmission

Schedule NYULMC occupational therapy home visit for high-risk patients

Clinical Episode Documentation, including readmissions to outside hospitals (Outreach/Telephone Encounter)

BPCI

Episode Technical Work
Reporting and Monitoring Tools – Pre-Care Outcomes Improvement

- DRG Predictor
- Reporting
- Care Coordinator Dashboard
- High Risk Readmission Identifier
<table>
<thead>
<tr>
<th>Surgery Date</th>
<th>Pre-Testing Date</th>
<th>Patient Name</th>
<th>Patient Age on Surgery Date</th>
<th>Surgeon Name</th>
<th>Procedure</th>
<th>Home Phone</th>
<th>Email Address</th>
<th>Birth Date</th>
<th>Patient PCP Name</th>
<th>PCP Office Phone Num</th>
<th>Schedule Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>10/15/2013</td>
<td>5/8/2013</td>
<td>Patient 1</td>
<td>69.5</td>
<td>Surgeon 1</td>
<td>ROBOTIC MITRAL VALVE ANNULOPLASTY</td>
<td>Phone 1</td>
<td>Email 1</td>
<td>DOB 1</td>
<td>PCP 1</td>
<td>PCP 1</td>
<td>Scheduled</td>
</tr>
<tr>
<td>10/15/2013</td>
<td>10/1/2013</td>
<td>Patient 2</td>
<td>62.2</td>
<td>Surgeon 2</td>
<td>REVISION FUSION SPINAL POSTERIOR</td>
<td>Phone 2</td>
<td>Email 2</td>
<td>DOB 2</td>
<td>PCP 2</td>
<td>PCP 2</td>
<td>Scheduled</td>
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<tr>
<td>10/15/2013</td>
<td>10/2/2013</td>
<td>Patient 3</td>
<td>70.9</td>
<td>Surgeon 3</td>
<td>REPLACEMENT HIP TOTAL</td>
<td>Phone 3</td>
<td>Email 3</td>
<td>DOB 3</td>
<td>PCP 3</td>
<td>PCP 3</td>
<td>Scheduled</td>
</tr>
<tr>
<td>10/15/2013</td>
<td>10/4/2013</td>
<td>Patient 4</td>
<td>88.6</td>
<td>Surgeon 4</td>
<td>REPLACEMENT KNEE TOTAL</td>
<td>Phone 4</td>
<td>Email 4</td>
<td>DOB 4</td>
<td>PCP 4</td>
<td>PCP 4</td>
<td>Scheduled</td>
</tr>
<tr>
<td>10/15/2013</td>
<td>10/4/2013</td>
<td>Patient 5</td>
<td>71.5</td>
<td>Surgeon 5</td>
<td>REPLACEMENT HIP TOTAL</td>
<td>Phone 5</td>
<td>Email 5</td>
<td>DOB 5</td>
<td>PCP 5</td>
<td>PCP 5</td>
<td>Scheduled</td>
</tr>
</tbody>
</table>

DRG Predictor - Scheduled procedure report kicks off outreach efforts pre-surgery
FYI Flags identify patients in the EMR
BPCI Epic – Patient Identification / Registry
## EMR Care Coordination Tools and Patient Registries

### Care Coordination - Bundled Payment

#### ON Health Plan

<table>
<thead>
<tr>
<th>Event</th>
<th>Patients</th>
</tr>
</thead>
<tbody>
<tr>
<td>Admission Status</td>
<td># Patients</td>
</tr>
<tr>
<td>Discharged</td>
<td>105</td>
</tr>
<tr>
<td>Preadmission</td>
<td>24</td>
</tr>
<tr>
<td>Total</td>
<td>129</td>
</tr>
</tbody>
</table>

### Preadmissions by CCC

<table>
<thead>
<tr>
<th>CCC</th>
<th>Patients</th>
</tr>
</thead>
<tbody>
<tr>
<td>GMF P. Donchance</td>
<td>25</td>
</tr>
<tr>
<td>Judith Scott</td>
<td>28</td>
</tr>
<tr>
<td>Lauren J. Ratchel</td>
<td>25</td>
</tr>
<tr>
<td>Rosetta Ferranti</td>
<td>38</td>
</tr>
<tr>
<td>Sora Newman</td>
<td>4</td>
</tr>
<tr>
<td>Total</td>
<td>129</td>
</tr>
</tbody>
</table>

### Discharged Patients by Date

**Week 1**
- GMF P. Donchance: 21
- Judith Scott: 6
- Lauren J. Ratchel: 4
- Rosetta Ferranti: 3
- Sora Newman: 4
- Total: 36

**Week 2**
- GMF P. Donchance: 7
- Judith Scott: 4
- Lauren J. Ratchel: 2
- Rosetta Ferranti: 2
- Sora Newman: 2
- Total: 15

### Discharged by CCC

<table>
<thead>
<tr>
<th>CCC</th>
<th>Patients</th>
</tr>
</thead>
<tbody>
<tr>
<td>GMF P. Donchance</td>
<td>66</td>
</tr>
<tr>
<td>Judith Scott</td>
<td>49</td>
</tr>
<tr>
<td>Lauren J. Ratchel</td>
<td>43</td>
</tr>
<tr>
<td>Rosetta Ferranti</td>
<td>61</td>
</tr>
<tr>
<td>Sora Newman</td>
<td>103</td>
</tr>
<tr>
<td>Total</td>
<td>342</td>
</tr>
</tbody>
</table>

### All Patients by CCC

<table>
<thead>
<tr>
<th>CCC</th>
<th>Patients</th>
</tr>
</thead>
<tbody>
<tr>
<td>GMF P. Donchance</td>
<td>82</td>
</tr>
<tr>
<td>Judith Scott</td>
<td>77</td>
</tr>
<tr>
<td>Lauren J. Ratchel</td>
<td>68</td>
</tr>
<tr>
<td>Rosetta Ferranti</td>
<td>63</td>
</tr>
<tr>
<td>Sora Newman</td>
<td>103</td>
</tr>
<tr>
<td>Total</td>
<td>319</td>
</tr>
</tbody>
</table>

### Meds

<table>
<thead>
<tr>
<th>Meds</th>
<th>Patients</th>
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</thead>
<tbody>
<tr>
<td>Aspirin</td>
<td>2</td>
</tr>
<tr>
<td>Lipitor</td>
<td>3</td>
</tr>
<tr>
<td>Metformin</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>6</td>
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</tbody>
</table>

### Readmissions

<table>
<thead>
<tr>
<th>Event</th>
<th>Patients</th>
</tr>
</thead>
<tbody>
<tr>
<td>Admit</td>
<td>9</td>
</tr>
<tr>
<td>Discharge</td>
<td>7</td>
</tr>
<tr>
<td>Total</td>
<td>16</td>
</tr>
</tbody>
</table>

### Bundled Payment Totals

<table>
<thead>
<tr>
<th>Registries</th>
<th>Patients</th>
</tr>
</thead>
<tbody>
<tr>
<td>CABG</td>
<td>139</td>
</tr>
<tr>
<td>Discharged</td>
<td>250</td>
</tr>
<tr>
<td>Total</td>
<td>389</td>
</tr>
</tbody>
</table>

### Primary Surgeon

<table>
<thead>
<tr>
<th>Surgeon</th>
<th>Patients</th>
</tr>
</thead>
<tbody>
<tr>
<td>CABG</td>
<td>139</td>
</tr>
<tr>
<td>Discharged</td>
<td>250</td>
</tr>
<tr>
<td>Total</td>
<td>389</td>
</tr>
</tbody>
</table>

### Hospital Summary

<table>
<thead>
<tr>
<th>Area</th>
<th>Patients</th>
</tr>
</thead>
<tbody>
<tr>
<td>ICU</td>
<td>128</td>
</tr>
<tr>
<td>Discharged</td>
<td>250</td>
</tr>
<tr>
<td>Total</td>
<td>389</td>
</tr>
</tbody>
</table>

---

*Note: The image shows a screenshot of a healthcare coordination tool with various patient details and data. The text highlights the use of EMR tools for care coordination and patient registries.*
Clinical Care Coordinator Preadmission Assessment

<table>
<thead>
<tr>
<th>Living Environment</th>
<th>2/7/14</th>
<th>2/10/14</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lives With</td>
<td></td>
<td>friend(s)...</td>
</tr>
<tr>
<td>Provides Primary Care For</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Primary Care Provided By</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Quality Of Family Relationships</td>
<td>involved</td>
<td></td>
</tr>
<tr>
<td>Able To Return To Prior Living</td>
<td>yes</td>
<td></td>
</tr>
<tr>
<td>Living Arrangement Comments</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Home Safety</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Feels Safe Living In Home</td>
<td>yes</td>
<td></td>
</tr>
<tr>
<td>Potentially Unsafe Housing Conditions</td>
<td>no indoor...</td>
<td></td>
</tr>
</tbody>
</table>

**Living Environment**

- Lives With:
- Provides Primary Care For:
- Primary Care Provided By:
- Quality Of Family Relationships:
- Able To Return To Prior Living:
- Living Arrangement Comments:

**Home Safety**

- Feels Safe Living In Home:
- Potentially Unsafe Housing Conditions:
- Home Safety Comments:

**Others**

- Living Arrangement:
- Home Safety Comments:
- Other Comments:

**Legend**

- Green checkmark: Selected
- Red X: Not selected
# Readmission Risk Predictor Tool

<table>
<thead>
<tr>
<th>Patient</th>
<th>IRC Code</th>
<th>MRN</th>
<th>CCC</th>
<th>DOB</th>
<th>Age</th>
<th>Sex</th>
<th>Readm Risk - High?</th>
<th>Registries (Abbr.)</th>
<th>Ind Adm Status</th>
<th>Index Adm Da</th>
<th>Surgery Date</th>
<th>Sched. Procedure</th>
<th>Procedure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Croatia, Don</td>
<td></td>
<td>9800307</td>
<td></td>
<td>06/25/1980</td>
<td>23</td>
<td>Male</td>
<td></td>
<td></td>
<td></td>
<td>1/23/2014</td>
<td>CAB</td>
<td></td>
<td>CAB</td>
</tr>
<tr>
<td>Anesthesia, Annabelle D</td>
<td></td>
<td>9800679</td>
<td></td>
<td>06/30/1980</td>
<td>33</td>
<td>Female</td>
<td></td>
<td></td>
<td></td>
<td>12/10/2013</td>
<td>REPLACEMENT HIP TOTAL</td>
<td>REPLACEMENT HIP TOTAL</td>
<td></td>
</tr>
<tr>
<td>Grimaldi, Cetest</td>
<td></td>
<td>9800706</td>
<td></td>
<td>09/04/1978</td>
<td>35</td>
<td>Female</td>
<td></td>
<td></td>
<td></td>
<td>12/10/2013</td>
<td>REPLACEMENT HIP TOTAL</td>
<td>REPLACEMENT HIP TOTAL</td>
<td></td>
</tr>
<tr>
<td>Surgery, Sicily</td>
<td></td>
<td>9801083</td>
<td></td>
<td>01/01/1980</td>
<td>34</td>
<td>Male</td>
<td></td>
<td></td>
<td></td>
<td>11/20/2013</td>
<td>COLONOSCOPY</td>
<td>COLONOSCOPY</td>
<td></td>
</tr>
<tr>
<td>Care Coordination, Demo</td>
<td></td>
<td>9881390</td>
<td></td>
<td>01/01/1945</td>
<td>69</td>
<td>Female</td>
<td></td>
<td></td>
<td></td>
<td>4/18/2014</td>
<td>REPLACEMENT KNEE TOTAL</td>
<td>REPLACEMENT KNEE TOTAL</td>
<td></td>
</tr>
</tbody>
</table>
Patient Communication Tool – NYU Langone Health MyChart

MyChart at NYU Langone

You Might Want To...

View Test Results
For test results reviewed and released by your doctor, click here.
*Some results may not be immediately available online*

Request Prescription Refill
To request a prescription refill, click here.
*For a new medicine or one prescribed by another provider please contact your doctor’s office*
Inpatient Workflow + Order Sets –
During-Care Outcomes Improvement

- Order Sets
- Epic Dashboard
- Reporting
Inpatient Goal – Order Sets + Standard Workflow

Analgesic Pathway

POD Standard:

Pre-op Standard
- Celebrex until day of surgery
- Continue opioids if there is pre-op use

Intra-op Standard
- Routine surgeon wound infiltration with cocktail
- Wound cocktail to be determined by the surgical team
- 250mg ropivacaine with epinephrine
- Ketorolac

Intra-op Anesthetic
- GETA
- Epidural
- CSE
- Spinal
- Peripheral catheter (femoral, etc.)

PACU/POD#0 Standard
- EPCA or peripheral nerve catheter with +/- IV PCA
- APAP 1g IV upon PACU arrival and q6h ATC
- Ketorolac 30 mg IV q8h ATC
- Lyrica 50 mg bid
- Continue opioids if there is pre-op use
**Analgesic Workflow**

**Medications**

- **Adult PCA Drugs**
  - PCA Low Dose/Opioid Naïve
  - PCA Average Dose
  - PCA Tolerance/High Dose/Opioid Tolerant

- **Pediatric PCA Drugs**
  - morphine IV/PCA (PEDS) infusion
    - Intravenous, Continuous

- **Pain medications starting PACU/Post operative Day 0**
  - For Patient Controlled Analgesia, please use PCA order set.
    - Nursing Communication
      - ONE TIME, Discontinue peripheral nerve catheter on POD 2 at 4 PM, Post-op
    - Nursing Communication
      - ONE TIME, Discontinue PCA on POD 1 at 5 AM, Post-op
  - ketorolac (TORADOL) injection
    - 30 mg, Intravenous, Every 8 Hours PRN, Moderate pain, Post-op
  - pregabalin (LYRICA) capsules
    - 50 mg, Oral, 2 Times Daily, Post-op

- **Pain medications starting Post operative Day 1**
  - Knee patients: Celebrex 200 mg oral twice daily or meloxicam 15 mg oral daily.
  - Hip patients: Celebrex 100 mg oral twice daily or meloxicam 7.5 mg oral daily.

- Patients greater than 65 years old should receive Celebrex 100 mg oral twice daily.
  - Please select one of the following:
    - celecoxib (CELEBREX) capsule
      - 100 mg, Oral, 2 Times Daily, Starting 11/13/12, Post-op
    - meloxicam (MOBIC) tablet
      - 7.5 mg, Oral, Daily, Starting 11/13/12, Post-op
    - oxycodone-acetaminophen (PEROCET) 5-325 mg per tablet
      - 1 Tab, Oral, Every 4 Hours PRN, Mild pain, Starting 11/13/12, Post-op
    - oxycodone-acetaminophen (PEROCET) 10-325 mg per tablet
      - 1 Tab, Oral, Every 4 Hours PRN, Severe pain, Starting 11/13/12, Post-op
### VTE Prophylaxis — Required

#### Anti-Platelet Agent
*VTE prophylaxis using aspirin and foot pumps is not considered to be as effective as other prophylaxis modalities, but may be considered if the patient is at high risk for bleeding, undergoing high risk surgery, and not a candidate for IVC filter.*
- aspirin chewable tablet
  - 81 mg, Oral, Daily, Post-op

#### Pharmacologic VTE Prophylaxis — Required
*enoxaparin* 30mg SQ Q12H is the preferred VTE prophylaxis for the Ortho Joint pathway
- enoxaparin (LOVENOX) injection
  - 30 mg, SubCutaneous, Every 12 Hours, Post-op
- fondaparinux (ARIXTRA) injection
  - 2.5 mg, SubCutaneous, Daily, Post-op
- warfarin (COUMADIN) tablet
  - Oral, Post-op
- Reason for no Pharmacological VTE Prophylaxis

#### Mechanical VTE Prophylaxis
*Strongly consider placing mechanical VTE prophylaxis if pharmacologic prophylaxis contraindicated*
- Place Sequential Compression Device
  - Post-op
Acceptable
According to Workflow
### Actual Patient Info for Comparison

<table>
<thead>
<tr>
<th>Problem</th>
<th>Codes</th>
<th>Priority</th>
<th>Class</th>
<th>Listed</th>
<th>Hours From</th>
<th>Hours To</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abdominal pain (Chronic)</td>
<td>299.00</td>
<td>1</td>
<td></td>
<td></td>
<td>9/27/2012</td>
<td></td>
</tr>
<tr>
<td>Osteoarthritis</td>
<td>715.90</td>
<td>1</td>
<td></td>
<td></td>
<td>10/16/2012</td>
<td></td>
</tr>
<tr>
<td>S/P total hip arthroplasty</td>
<td>443.94</td>
<td>1</td>
<td></td>
<td></td>
<td>10/16/2012</td>
<td></td>
</tr>
</tbody>
</table>

**Overview**

Addendum 10/15/2012 11:57 AM by Attending P Nys Ippe

**Active Lines/Drains/ Airways/Wounds**

<table>
<thead>
<tr>
<th>Name</th>
<th>Placement date</th>
<th>Placement time</th>
<th>Site</th>
<th>Days</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urethral Catheter Double-lumen</td>
<td>10/11/12</td>
<td>11:32</td>
<td>Double-lumen</td>
<td>5</td>
</tr>
<tr>
<td>Feeding Tube NG - Salem sump Left nare</td>
<td>10/14/12</td>
<td>11:33</td>
<td>Left nare</td>
<td>2</td>
</tr>
</tbody>
</table>

**Pain Control**

- Pain score (3) PI Satisfaction with Pain control and response to intervention (satisfied)

**VTE prophylaxis and planning**

- VTE risk score=2 (requires prophylaxis)
- Post admission VTE prophylaxis planning (none)
- Post admission VTE medication training (none)

**Therapy**

- Bed mobility->rolling/turing (Dependent)
- Bed mobility->scooting bridging (Dependent)
- Bed mobility->sit to supine (Dependent)
- Transfer Skill->to chair/chair to bed (Dependent)
- Transfer Skill->supine to sit (Dependent)
- Transfer Skill->sit to stand (Dependent)
- Transfer Skill->stand to sit (Dependent)
- Ambulation (Q6H)
- Lower Extremity Dressing (not started)
- Toilet Training (not started)
- Toilet Training (started)

**Discharge Plan**

- Discharge Disposition (discussed)
- Transportation (discussed)
- Discharge Summary Status (Follow up appointments made)
- Discharge Risks

**Most Recent Value**

- 5 - Five filed at 10/16/2012 10:27
- Pain medication is helping me (filed at 10/16/2012 11:00)
- medication concerns [Pharmacy has Rx for Lovenox] (filed at 10/16/2012 11:00)
- assistive person [brother trained to administer lovenox] (filed at 10/16/2012 11:00)
- moderate assist (25% patients effort) (filed at 07/31/2012 07:00)
- maximum assist (25% patients effort) (filed at 07/31/2012 07:00)
- unable to perform (filed at 07/31/2012 07:00)
- dependent (less than 25% patients effort) (filed at 07/31/2012 07:00)
- dependent (less than 25% patients effort) (filed at 07/31/2012 07:00)
- Taught hip precautions (filed at 07/31/2012 07:00)

**Lives alone, physical impairment, dependent with mobility/activities of daily living, financial support inadequate**
### Bundled Payment Initiative Inpatient Census Report - Medicare Only

<table>
<thead>
<tr>
<th>Date</th>
<th>Surgery Date</th>
<th>Patient Name</th>
<th>MRN</th>
<th>Sex</th>
<th>Birth Date</th>
<th>Admission Date</th>
<th>Discharge Date</th>
<th>LOS to Date</th>
<th>ADT Patient</th>
<th>Actual Procedure Name</th>
<th>Surgeon Name</th>
<th>Service</th>
<th>Total Case Time</th>
<th>Payor</th>
<th>Age</th>
</tr>
</thead>
<tbody>
<tr>
<td>10/11/2013</td>
<td>Patient 1</td>
<td>MRN 1</td>
<td>Male</td>
<td>DOB 1</td>
<td>10/11/2013</td>
<td>10/11/2013</td>
<td></td>
<td>2.74</td>
<td>Inpatient</td>
<td>REPLACEMENT KNEE TOTAL</td>
<td>Surgeon 1</td>
<td>Ortho Total Joint</td>
<td>164.00mins</td>
<td>MEDICARE</td>
<td>71.00</td>
</tr>
<tr>
<td>10/09/2013</td>
<td>Patient 2</td>
<td>MRN 2</td>
<td>Male</td>
<td>DOB 2</td>
<td>10/09/2013</td>
<td>10/09/2013</td>
<td></td>
<td>4.74</td>
<td>Inpatient</td>
<td>REPLACEMENT HIP TOTAL</td>
<td>Surgeon 2</td>
<td>Ortho Total Joint</td>
<td>145.00mins</td>
<td>MEDICARE</td>
<td>85.00</td>
</tr>
<tr>
<td>10/10/2013</td>
<td>Patient 3</td>
<td>MRN 3</td>
<td>Male</td>
<td>DOB 3</td>
<td>10/10/2013</td>
<td>10/10/2013</td>
<td></td>
<td>3.76</td>
<td>Inpatient</td>
<td>REOP AVR</td>
<td>Surgeon 3</td>
<td>Cardiovascular</td>
<td>330.00mins</td>
<td>MEDICARE</td>
<td>69.00</td>
</tr>
</tbody>
</table>

Run Date: 10/14/2013
Homecare Workflow—
Post-Care Outcomes Improvement

- Care Coordinator Post-Acute Documentation
- Transitional Care Document
- Analytics
# Real-Time Readmission, ED, Urgent Care Visit Report

## Bundled Payment Initiative Urgent Care/ED Visit, Readmission, and Inpatient Rehab Report - Daily

<table>
<thead>
<tr>
<th>PATIENT CLASS</th>
<th>SERVICE</th>
<th>INDEX ATTENDING</th>
<th>MRN</th>
<th>PAT NAME</th>
<th>HOSP ADMSN TIME</th>
<th>HOSP DISCH TIME</th>
<th>CURRENT DX DESCRIPTION</th>
<th>INDEX ADMIT DATE</th>
<th>INDEX DISCHARGE DATE</th>
<th>INDEX DRG NUM</th>
<th>INDEX DISCHARGE DISPOSITION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inpatient</td>
<td>Medicine</td>
<td>Surgeon 1</td>
<td>MRN 1</td>
<td>Patient 1</td>
<td>10/13/2013</td>
<td></td>
<td></td>
<td>8/31/2013</td>
<td>9/5/2013</td>
<td>MS470</td>
<td>Skilled Nursing Facility</td>
</tr>
<tr>
<td>Observation</td>
<td>Surgery</td>
<td>Surgeon 3</td>
<td>MRN 3</td>
<td>Patient 3</td>
<td>10/14/2013</td>
<td>10/14/2013</td>
<td>Lymph edema</td>
<td>10/7/2013</td>
<td>10/11/2013</td>
<td>MS470</td>
<td>Home Health Care Svc</td>
</tr>
</tbody>
</table>

**Legend:**

- Blue - Current Visit
- Yellow - Index Visit
### Post Discharge Flow Sheet

#### Weekly Care Coordination
- Post Discharge Care Coordination
- Weekly Care Coordination
- I am a Registered Nurse and a Clinical Care
- Language Assistance
- Deaf and Hard of Hearing Services needed

#### Plan and Services Received
- Did you return directly home or did you go directly
- Confirm patient's current location/post acute
- Who is providing your services?
- Have you had any issues with your post

#### Medical Follow Up
- When was your most recent visit to your primary
- When is your visit to your surgeon?
- Pain or discomfort
- Pain Score
- Did you receive all your medical equipment?
- Ambulation

#### Transferring
- Medication - need to fill prescription(s)?
- Medication - any injectable medications?
- Medication - on blood thinner (e.g. Coumadin)

#### Nutritional Considerations
- Nutrition - appetite good
- Nutrition - nausea
- Nutrition - vomiting

#### Additional Information
- Any visits to ED or Urgent Care?
- Any hospital admissions or overnight stays?
- Any unplanned physician visits?
- Any calls to physicians?
- Any falls?
Post Acute Care Provider Contact
Post Acute Care Provider Contact

The new "Contacted About" option in the Track Pt. Outreach section of the Outreach navigator is "PAC Provider Contact for Outreach".
Post Acute Goal –
Improved Outcomes and Patient Experience NYULMC Post-Acute Partners

Developed in collaboration with Partners Standard Post Acute Pathways

- Focus on bi-directional exchange of information
- Twice weekly updates on high risk patients
- Interdisciplinary weekly call
- PAC Report card
- Quarterly PAC Committee Meeting
Two Home Care Pathways
  • Standard Pathway
  • Enhanced Support Pathway

VNSNY/TJR Enhanced Support Pathway Pilot Criteria
  • Single Joint replacement
  • Caregiver able to participate in therapy prior to DC
  • Stairs before discharge / No more that 1 flight in home
  • If private home bed/bath cant be longer than a flight of stairs
  • Eligible for SNF / Complex Needs

Established risk profile to assist in determining appropriate disposition

Focus on bi-directional electronic exchange of information
Transitional Care Document –
**Post-Care** Outcomes Improvement

- Transfer Document
- Follow-up Form
- Continuity of Care Document
## Components of Transitional Care Communication Tool

### Transfer Document
Delivered at Discharge

- Demographics
- Type of surgery and date
- Care pathway
- Readmission risk
- Clinical Status
- Functional Status
- Patient Preferences / Comments
- Social History
- Knowledge Deficit
- Follow-up Appointments
- Hospital Contact Info
- VS/Smoking Status
- Education
- +CCD

### Follow-Up Form
Delivered Weekly

#### Clinical Status
- Pain
- VTE pro
- Surgical Wound
- Pressure Ulcer
- UTI
- Fever
- Diet
- Any new medications added
- Change in clinical condition
- Evaluated by MD/NP

#### Functional Status
- Number of PT/OT visits week
- Ambulation
- Stairs
- Transfers
- Falls

#### Discharge Status
- Anticipated Discharge Date
- Barriers to Discharge
- Patient on Target for Discharge
Patient is Ready for Discharge

- NYU Clinical Care Coordinator reads documentation
- NYU clinician logs into system & completes Post Acute Transfer Form

NYULMC EMR Lite

- Facilitates exchange of information between NYU and VNSNY systems

NYULMC HIE

- Information received at VNSNY/ Clinician notified
- Provider logs into system and accesses Post Acute Transfer Form and CCD

VNSNY Homegrown EHR

VNSNY nurse visits patient at home
Weekly Meeting with PAC partners to develop pathways understand information critical to transition

Meetings with PAC partners to develop workflow

Risk-Bearing Phase 2 Period begins

Testing NYU-VNSNY

Live with Risk Bearing Phase 2 Bundle Payment for Care Improvement Initiative

EMR-EMR transfer with VNSNY

Mar. - Nov 2012

Dec 2012

Jan, 2013

Jan – Mar 1, 2013

Apr. 1st, 2013

Oct. 1st, 2013

Mar, 2014

Sept, 2014

Internal/external review of potential system solutions

Testing solution

Began training with VNSNY and NYU teams both individually and together
Made updates based on feedback from teams

Live with manual transitional care communication tool

Transitional Care Communication tool electronically sent to NYULMC HIE
We have exchanged over 7,000 forms with VNSNY
Bundle Payment Weekly Dashboard

Readmission Rate by First Discharge Setting - Primary Joint of the Lower Extremity

- Self Care: 8%, n = 3 out of 37 self care pts
- HHA: 7%, n = 16 out of 231 HHA pts
- SNF: 12%, n = 24 out of 194 SNF pts
- IP Rehab: 5%, n = 3 out of 58 IRF pts

Readmissions – Primary Joint of the Lower Extremity
# Readmissions = 90

- First 7 days:
  - Jan: 6
  - Feb: 3
  - Mar: 12
  - Apr: 7
  - May: 7
  - June: 6
  - July: 4
  - Aug: 8
  - Sep: 11
  - Oct: 10
  - Nov: 4
  - Dec: 5
  - Jan 2014: 23
  - Feb 2014: 19

- # Days After Index Discharge:
  - 8-14 days:
    - Jan: 1
    - Feb: 1
    - Mar: 5
    - Apr: 2
    - May: 2
    - June: 2
    - July: 2
    - Aug: 1
    - Sep: 1
    - Oct: 1
    - Nov: 1
    - Dec: 1
    - Jan 2014: 13
    - Feb 2014: 13

- 15-30 days:
  - Jan: 2
  - Feb: 1
  - Mar: 3
  - Apr: 2
  - May: 2
  - June: 2
  - July: 2
  - Aug: 1
  - Sep: 1
  - Oct: 1
  - Nov: 1
  - Dec: 1
  - Jan 2014: 21
  - Feb 2014: 21

- 31-60 days:
  - Jan: 2
  - Feb: 1
  - Mar: 3
  - Apr: 2
  - May: 2
  - June: 2
  - July: 2
  - Aug: 1
  - Sep: 1
  - Oct: 1
  - Nov: 1
  - Dec: 1
  - Jan 2014: 14
  - Feb 2014: 14

Total:
- Days 1-7: 6
- Days 8-14: 19
- Days 15-30: 13
- Days 31-60: 21
- Days 61-90: 14
- Total: 90
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<thead>
<tr>
<th>Discharge Disposition</th>
<th># Patients Discharged</th>
<th>ALOS</th>
<th>Rehab Facility</th>
<th>Skilled Nursing Facility</th>
<th>Total Facility-Based Care</th>
<th>Home Health Care Svc</th>
<th>Home/Self Care</th>
<th>Total Home-Based Care</th>
<th># Readmissions (Closed Episodes Only)</th>
<th># Patients (Closed Episodes Only)</th>
<th>90-Day Readmission Rate (Closed Episodes Only)</th>
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<tbody>
<tr>
<td>Primary Joint of the Lower Extremity</td>
<td>779</td>
<td>3.52</td>
<td>7%</td>
<td>37%</td>
<td>44%</td>
<td>53%</td>
<td>3%</td>
<td>56%</td>
<td>42</td>
<td>338</td>
<td>12%</td>
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<tr>
<td>HJD</td>
<td>733</td>
<td>3.41</td>
<td>6%</td>
<td>35%</td>
<td>41%</td>
<td>56%</td>
<td>3%</td>
<td>59%</td>
<td>35</td>
<td>317</td>
<td>11%</td>
</tr>
<tr>
<td>DRG 469 - Primary Joint w MCC</td>
<td>17</td>
<td>6.76</td>
<td>18%</td>
<td>35%</td>
<td>53%</td>
<td>47%</td>
<td>0%</td>
<td>47%</td>
<td>1</td>
<td>2</td>
<td>50%</td>
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<tr>
<td>Physician 1</td>
<td>4</td>
<td>6.00</td>
<td>25%</td>
<td>50%</td>
<td>75%</td>
<td>25%</td>
<td>0%</td>
<td>25%</td>
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<td>0</td>
<td>0%</td>
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<td>4</td>
<td>8.75</td>
<td>25%</td>
<td>50%</td>
<td>50%</td>
<td>50%</td>
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<td>Physician 3</td>
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<td>0%</td>
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<td>0</td>
<td>1</td>
<td>0%</td>
</tr>
<tr>
<td>Physician 5</td>
<td>1</td>
<td>7.00</td>
<td>0%</td>
<td>100%</td>
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<td>0%</td>
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</tr>
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<td>Physician 6</td>
<td>1</td>
<td>3.00</td>
<td>0%</td>
<td>0%</td>
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<td>0%</td>
<td>100%</td>
<td>0%</td>
<td>100%</td>
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<tr>
<td>Physician 7</td>
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<td>13.00</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
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<td>Physician 8</td>
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<td>100%</td>
<td>0%</td>
<td>100%</td>
<td>0%</td>
<td>0%</td>
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<td>0</td>
<td>0</td>
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<td>0%</td>
<td>0%</td>
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<td>100%</td>
<td>0%</td>
<td>100%</td>
<td>1</td>
<td>1</td>
<td>100%</td>
</tr>
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</table>
BPCI Discharge Disposition Patterns

Primary Joint Replacement – HJD / Tisch

- % IP Rehab
- % SNF
- % HHA
- % Self care
- % Other

Primary Joint Replacement – Lutheran

- % IP Rehab
- % SNF
- % HHA
- % Self care
- % Other

<table>
<thead>
<tr>
<th>Year</th>
<th>IP Rehab</th>
<th>SNF</th>
<th>HHA</th>
<th>Self care</th>
<th>Other</th>
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<tbody>
<tr>
<td>Baseline</td>
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<td>39%</td>
<td>26%</td>
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<td>24%</td>
<td>60%</td>
<td>68%</td>
<td>75%</td>
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<tr>
<td>CY 2014</td>
<td>5%</td>
<td>53%</td>
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<td>75%</td>
<td>77%</td>
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<td>CY 2015</td>
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<td>67%</td>
</tr>
<tr>
<td>CY 2016</td>
<td>5%</td>
<td>5%</td>
<td>5%</td>
<td>77%</td>
<td>67%</td>
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<tr>
<td>CY 2017</td>
<td>5%</td>
<td>5%</td>
<td>5%</td>
<td>77%</td>
<td>67%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Year</th>
<th>IP Rehab</th>
<th>SNF</th>
<th>HHA</th>
<th>Self care</th>
<th>Other</th>
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<tbody>
<tr>
<td>Baseline</td>
<td>18%</td>
<td>22%</td>
<td>30%</td>
<td>29%</td>
<td>5%</td>
</tr>
<tr>
<td>CY 2015</td>
<td>81%</td>
<td>22%</td>
<td>30%</td>
<td>29%</td>
<td>5%</td>
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<tr>
<td>CY 2016</td>
<td>74%</td>
<td>22%</td>
<td>30%</td>
<td>29%</td>
<td>5%</td>
</tr>
<tr>
<td>Q1 2017</td>
<td>62%</td>
<td>22%</td>
<td>30%</td>
<td>29%</td>
<td>5%</td>
</tr>
<tr>
<td>Q1 2017</td>
<td>67%</td>
<td>22%</td>
<td>30%</td>
<td>29%</td>
<td>5%</td>
</tr>
</tbody>
</table>

N = 1908
LOS: 4.79

N = 381
LOS: 4.57
BPCI Average Length of Stay

Time

Length of Stay in Days


TJR - NYU  TJR - Lutheran
Lessons Learned

- Concept of bundle payment is still very new
- Continuous engagement requires reminders – re-education around reports, and data, new goals and targets, and regular discussion of performance
- Data is consumed and understood differently by different groups
- Leverage IT platforms (EMR, HIE, analytics) to identify population of interest at preadmission and during inpatient stay
- Early identification of BPCI patients is critical to success
- Place focused information in the hands of clinicians on a timely basis in order to facilitate care redesign
- Develop tools to risk stratify patients to allow targeted clinical intervention
- Developed and tested Care Coordination workflow manually
- Advance clinical and technical relationships with post acute partners to expand influence with care delivery
Questions
BPCI Discharge Disposition Patterns

Primary Joint Replacement – HJD / Tisch

Primary Joint Replacement – Lutheran

Total Joint Arthroplasty Bundled Payment Care Initiative
Thank you for your consideration.