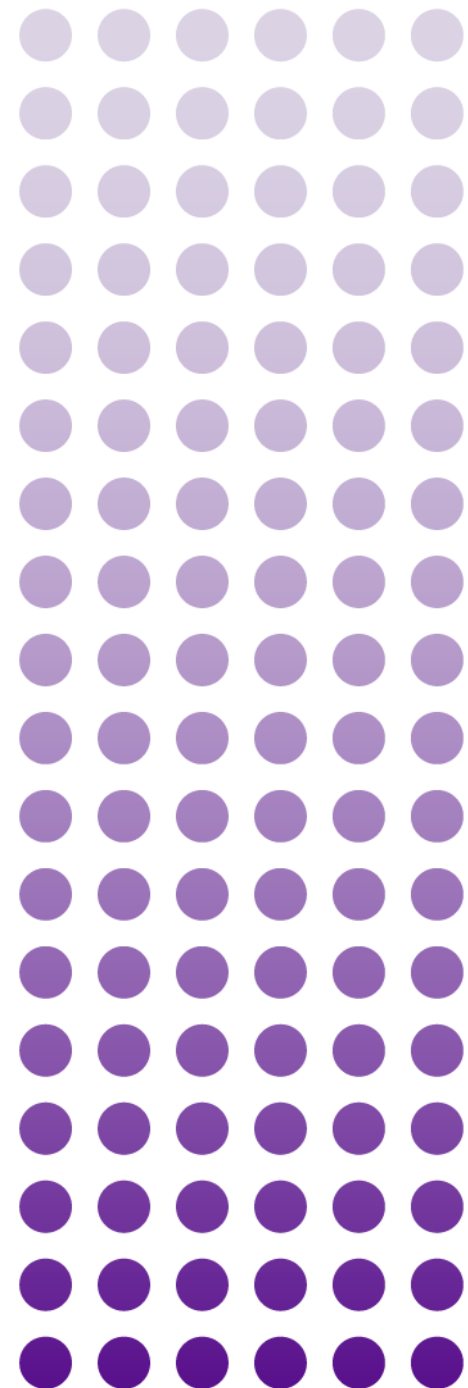




**Measuring Success with Bundles:
Winning Strategies in Analytics
The National Bundled Payment Summit
Washington, DC
June 16-18, 2014**

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NYU Langone Medical Center

- Academic medical center comprised of four hospitals
- 1,069 licensed beds
- 39,000 patient admissions
- 670,000 outpatient visits
- Medicare beneficiaries represent 27% of NYULMC volume and 18% of revenue
- Established NYUPN, a Clinically-Integrated Network, in 2010
- 761 voluntary physicians (38%)
- 1262 Faculty Group Practice (FGP) physicians (62%)
- >1M FGP physician visits



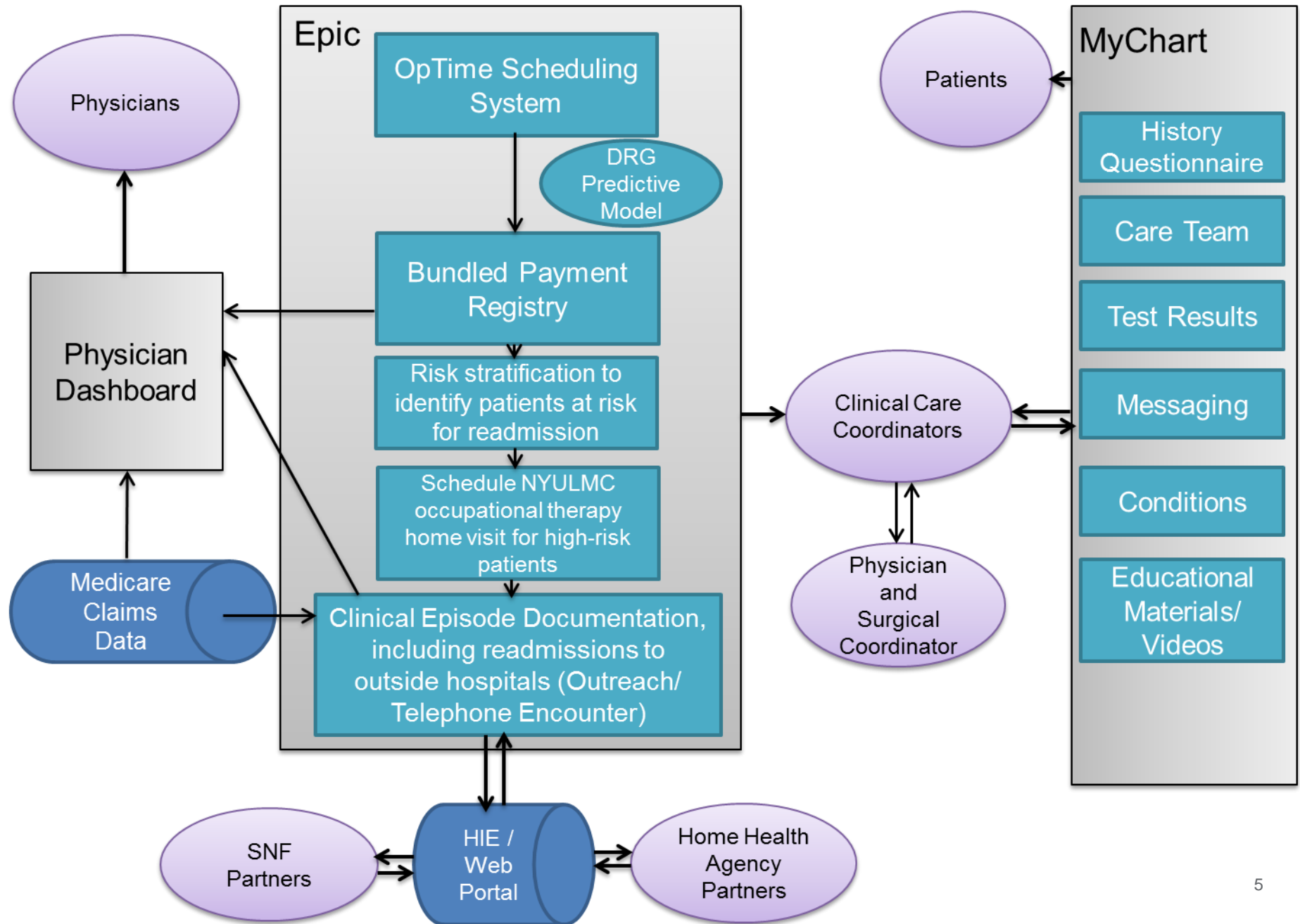
Using Analytics to Empower Clinicians

- ❑ To be successful in BPCI, NYULMC needed to place focused information in the hands of clinicians on a timely basis in order to facilitate care redesign.
- ❑ Since DRG coding occurs post-discharge, NYULMC had to find a way to predict BPCI patients at both the pre-admission phase after scheduling of surgery and during the inpatient stay. NYULMC leveraged Epic to identify this population of interest.
- ❑ NYULMC also built tools in Epic so that Clinical Care Coordinators (CCCs) could document care coordination activities, including readmissions to facilities outside of NYULMC. CCCs have been able to capture the majority (>85%) of readmissions that occur at outside our hospitals.
- ❑ Using EMR data, a weekly dashboard was developed to regularly inform leadership and clinicians on BPCI performance, at both the condition and physician levels.



BPCI Episode Technical Workflow

BPCI Episode Technical Workflow



BPCI Patient Identification

- ***Scheduled procedures report*** kicks off outreach efforts pre-surgically

Surgery Date	Pre-Testing Date	Patient Name	Patient Age on Surgery Date	Surgeon Name	Procedure	Home Phone	Email Address	Birth Date	Patient PCP Name	PCP Office Phone Num	Schedule Status
10/15/2013	5/8/2013	Patient 1	69.5	Surgeon 1	ROBOTIC MITRAL VALVE ANNULOPLASTY	Phone 1	Email 1	DOB 1	PCP 1	PCP 1	Scheduled
10/15/2013	10/1/2013	Patient 2	62.2	Surgeon 2	REVISION FUSION SPINAL POSTERIOR	Phone 2	Email 2	DOB 2	PCP 2	PCP 2	Scheduled
10/15/2013	10/2/2013	Patient 3	70.9	Surgeon 3	REPLACEMENT HIP TOTAL	Phone 3	Email 3	DOB 3	PCP 3	PCP 3	Scheduled
10/15/2013	10/4/2013	Patient 4	88.6	Surgeon 4	REPLACEMENT KNEE TOTAL	Phone 4	Email 4	DOB 4	PCP 4	PCP 4	Scheduled
10/15/2013	10/4/2013	Patient 5	71.5	Surgeon 5	REPLACEMENT HIP TOTAL	Phone 5	Email 5	DOB 5	PCP 5	PCP 5	Scheduled

- ***FYI Flags*** are added at the time of booking to identify patients in the EMR

FYI

New Flag

Patient contact: #76 - 08/14/13 - Hospital Encounte

Flag type: [Dropdown]

Summary: [Text Box]

Existing FYIs

Entry Date/Time	Contact	User	Type	Summary	Status
08/16/13 11:24	08/05/1...	Mary Enquist	Care Coordination CV Surgery		Active

Category Select

Search: [Text Box]

△ Title

- Care Coordination CV Surgery
- Care Coordination Spine
- Care Coordination Total Joint

3 categories loaded.

Accept, Cancel, Accept & New, Refresh

BPCI Patient Identification (con't)

- ***Inpatient census report*** is available to the care team daily

Bundled Payment Initiative Inpatient Census Report - Medicare Only														
Date range: Yesterday														
<u>Surgery Date</u>	<u>Patient Name</u>	<u>MRN</u>	<u>Sex</u>	<u>Birth Date</u>	<u>Admission Date</u>	<u>Discharge Date</u>	<u>LOS to Date</u>	<u>ADT Patient</u>	<u>Actual Procedure Name</u>	<u>Surgeon</u>	<u>Service</u>	<u>Total Case Time</u>	<u>Payor</u>	<u>Age</u>
10/11/2013	Patient 1	MRN 1	Male	DOB 1	10/11/2013		2.74	Inpatient	REPLACEMENT KNEE TOTAL	Surgeon 1	Ortho Total Joint	164.00mins	MEDICARE	71.00
10/09/2013	Patient 2	MRN 2	Male	DOB 2	10/09/2013		4.74	Inpatient	REPLACEMENT HIP TOTAL	Surgeon 2	Ortho Total Joint	145.00mins	MEDICARE	85.00
10/10/2013	Patient 3	MRN 3	Male	DOB 3	10/10/2013		3.76	Inpatient	REOP AVR	Surgeon 3	Cardiovascular	330.00mins	MEDICARE	69.00
Run Date: 10/14/2013														

- ***Readmission and ED/Urgent Care Visit Report*** alerts staff in real time

Bundled Payment Initiative Urgent Care/ED Visit, Readmission, and Inpatient Rehab Report - Daily											
<u>PATIENT CLASS</u>	<u>SERVICE</u>	<u>INDEX ATTENDING</u>	<u>MRN</u>	<u>PAT NAME</u>	<u>HOSP ADMSN TIME</u>	<u>HOSP DISCH TIME</u>	<u>CURRENT DX DESCRIPTION</u>	<u>INDEX ADMIT DATE</u>	<u>INDEX DISCHARGE DATE</u>	<u>INDEX DRG NUM</u>	<u>INDEX DISCHARGE DISPOSITION</u>
Inpatient	Medicine	Surgeon 1	MRN 1	Patient 1	10/13/2013			8/31/2013	9/5/2013	MS470	Skilled Nursing Facility
Inpatient	Medicine	Surgeon 2	MRN 2	Patient 2	10/13/2013			9/4/2013	9/9/2013	MS460	Home Health Care Svc
Observation	Surgeon	Surgeon 3	MRN 3	Patient 3	10/14/2013	10/14/2013	Lymph edema	10/7/2013	10/11/2013	MS470	Home Health Care Svc
Blue- Current Visit											
Yellow - Index Visit											

Inpatient Care Pathway

- **Epic Pathway Report** monitors a patient's progress on the pathway

ORT TJR POD 0
Index
Snapshot
Labs
Wt
Vitals
Rad
Meds to Give
Signout
Sedation Sign-off
ORT TJR POD 0
Report: ORT TJR POD 0

Problem

Problem	Codes	Priority	Class	Noted	Hosp From	Hosp To	Never Reviewed
Abdominal pain	789.00			8/2/2012	8/2/2012	8/27/2012	
S/P total hip arthroplasty	V43.64			10/16/2012	10/16/2012		

[More... Overview](#)

Active Meds Goals: VTE prophylaxis; Pain control IV meds

Current Active Meds

Start	Stop	Status	Route	Frequency	Ordered
10/28/12 2315	11/27 2159	Dispensed	SubQ	At Bedtime	10/28/12 2311
10/29/12 0700	11/28 0659	Dispensed	SubQ	3 Times Daily	10/28/12 2311
insulin glargine (LANTUS) injection 14 Units - (LOW basal dose)					
insulin aspart (NovoLOG FLEXPEN) injection pen 0-15 Units - (Medium Dose Daytime Correction Scale - Panel (OR))					
"Or" Linked Group Details					
10/29/12 0700	11/28 0659	Dispensed	SubQ	3 Times Daily	10/28/12 2311
insulin aspart (NovoLOG FLEXPEN) injection pen 0-7 Units - (Medium Dose Daytime Correction Scale - Panel (OR))					
"Or" Linked Group Details					
10/28/12 2315	11/27 2159	Dispensed	SubQ	At Bedtime	10/28/12 2311
insulin aspart (NovoLOG FLEXPEN) injection pen 0-10 Units - (insulin aspart (NOVOLOG) injection)					
10/28/12 2315	11/27 2312	Dispensed	IV	Continuous	10/28/12 2311
insulin regular (HUMULIN R;NovoLIN R) 1 Units/mL in sodium chloride 0.9 % 100 mL infusion					
10/25/12 0000	11/24 0959	Sent	Oral	2 Times Daily	10/24/12 1040
celecoxib (celeBREX) capsule 100 mg - (Please select one of the following)					
10/24/12 1040	11/23 1044	Sent	SubQ	Every 12 Hours	10/24/12 1040
enoxaparin (LOVENOX) injection 30 mg					

Active Lines/Drains/Airways/Wounds

Name	Placement date	Placement time	Site	Days
Urethral Catheter Double-lumen	10/11/12	1132	Double-lumen	25
Feeding Tube NG - Salem sump Left nare	10/14/12	1133	Left nare	22

Pain Control

	Most Recent Value
Pain score (8)	2 - Two filed at:10/28/2012 2333
Patient satisfaction with pain control and response to interventions (Satisfied)	pain medication is helping me filed at:10/16/2012 1100

VTE Prophylaxis and Planning

	Most Recent Value
VTE risk score(>=2 requires prophylaxis)	5 filed at:10/16/2012 1135
Post discharge VTE prophylaxis planning (None)	medication concerns [Pharmacy has Rx for Lovenox] filed at:10/16/2012 1100
Post discharge VTE medication training (None)	assistive person [brother trained to administer lovenox] filed at:10/16/2012 1100

Therapy

	Most Recent Value
Ambulation (0-5ft)	10 feet filed at:07/31/2012 0700
Bed mobility-->rolling/turning (Dependent)	moderate assist (50% patients effort) filed at:07/31/2012 0700
Bed mobility-->scooting/bridging (Dependent)	maximum assist (25% patients effort) filed at:07/31/2012 0700
Bed mobility-->sit to supine (Dependent)	maximum assist (25% patients effort) filed at:07/31/2012 0700
Bed mobility-->supine to sit (Dependent)	maximum assist (25% patients effort) filed at:07/31/2012 0700
Transfer skill-->bed to chair/chair to bed (Dependent)	unable to perform filed at:07/31/2012 0700
Transfer skill-->sit to stand (Dependent)	unable to perform filed at:07/31/2012 0700
Transfer skill-->stand to sit (Dependent)	dependent (less than 25% patients effort) filed at:07/31/2012 0700
Lower extremity dressing (Not started)	dependent (less than 25% patients effort) filed at:07/31/2012 0700
Toilet training (Not started)	dependent (less than 25% patients effort) filed at:07/31/2012 0700
Range of motion/Hip precautions (General education)	Taught hip Precautions filed at:07/31/2012 0700

EMR Care Coordination Tools and Patient Registries

- Care coordination tools were built into the EMR so that Clinical Care Coordinators could see their daily patient lists, view the 90-day longitudinal plan of care as well as document all notes, including information from patients, post-acute providers, and readmissions back to NYULMC and to other hospitals

The screenshot displays a web-based EMR interface with a top navigation bar and multiple data panels. The top bar includes tabs for 'Bundled Payment - CV', 'Bundled Payment - Total Joint' (selected), and 'Bundled Payment - Spine'. The interface is organized into several columns, each containing a registry or summary table.

Upcoming Preadmissions

Surgery Date	Patients
Today	4
Tomorrow	3
Rest of Week	14
Total count	86

Recently Discharged

Index DC Date	Patients
Past 72 Hours	6
Judith Scott	3
Lisa S McIntyre	2
[No Value]	1

Upcoming Patient Outreach

Next Pt Outreach	Patients
4/21/2014 - 4/23/2014	16
4/24/2014	22
4/25/2014	10
4/26/2014	-
4/27/2014	-
4/28/2014 - 5/1/2014	50
Other	152

Total Joint Summary

Admission Status	Patients
Admission	8
Discharged	250
Preadmission	86

All Preadmissions

CCC	Patients
Betty Degella Viaud	12
Judith Scott	23
Judith Scott; Octavia Monique Harrison	1
Lauren J Raichle	14
Lisa S McIntyre	15
[No Value]	21
Total count	86

Discharged by CCC

CCC	Patients
Betty Degella Viaud	43
Judith Scott	23
Judith Scott; Octavia Monique Harrison	23
Lauren J Raichle	37
Lauren J Raichle; Shakespear Boka	9
Lisa S McIntyre	15
Lisa S McIntyre; Christine M Garcia	18
Total count	250

Readmissions

Admit Status	Patients
Admission	8
Lauren J Raichle	4
Lisa S McIntyre	1
Patricia Finnerty	3
Discharged	20
Judith Scott	2
Judith Scott; Octavia Monique Harrison	1
Lauren J Raichle	4
Lisa S McIntyre	4
Patricia Finnerty	3
[No Value]	6

Discharged by Week

Week	Patients
> 12 Weeks	64
Week 12	13
Week 11	16
Week 10	16
Week 9	17
Week 8	26
Week 7	24
Week 6	4
Week 5	10
Week 4	20
Week 3	12
Week 2	15
Week 1	11
Total count	250

No Longer Eligible for Bundled Payment

CCC	Patients
SCOTT, JUDITH	1
VIAUD, BETTY DEGELLA	1
[No Value]	436

Admitted Patients

CCC	Patients
Betty Degella Viaud	1
Judith Scott	3
Lauren J Raichle	4
Lisa S McIntyre	1
Total count	9

Report Links

The interface includes various interactive elements such as 'Refresh' and 'View Report' buttons for each data table, and a 'Report Links' section on the right side.

Communication With Patients – NYULMC MyChart

- NYULMC MyChart is an online patient portal that allows patients to access educational videos, test results, appointment calendars, and messages from clinicians and Clinical Care Coordinators

The screenshot shows the MyChart at NYU Langone patient portal. The header is purple with the text "MyChart at NYU Langone" in white. Below the header, there is a navigation bar with "Don (Me)" and a wrench icon. On the left, there is a sidebar with a list of links: Home, My Conditions (expanded to show Joint Replacement), Message Center, Appointments, My Medical Record, Billing & Insurance, and My Account. A mouse cursor is pointing at the Message Center link. The main content area is titled "You Might Want To..." and features two sections: "View Test Results" with a folder icon and a link to view test results, and "Request Prescription Refill" with a pill bottle icon and a link to request a refill. Both sections include a disclaimer: "*Some results may not be immediately available online*" and "*For a new medicine or one prescribed by another provider please contact your doctor's office*".

MyChart at NYU Langone

Don (Me)

- Home
- My Conditions
 - Joint Replacement
- Message Center
- Appointments
- My Medical Record
- Billing & Insurance
- My Account

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

Post-Acute Communication

- NYULMC's *Health Information Exchange*

- Allows care team to review clinical results/notes of other facilities and physicians
- “EMR Light” allows for enhanced communication with post-acute care providers through the use of an electronic transitional care communication tool. The tool consists of:
 - **Transfer Document:** Completed by a NYULMC Clinical Care Coordinator upon hospital discharge and made available to the post-acute provider through EMR Light. Includes information such as demographics, type of surgery, care pathway, most recent clinical status, and Clinical Care Coordinator contact information.
 - **Follow-up Form:** Sent from the post-acute provider to NYULMC as a patient progress report. Includes information such as post-acute length of stay, changes in clinical condition, physician / nurse practitioner evaluations, and medication changes.
 - **Continuity of Care Document:** The post-acute provider can also access the patient's Continuity of Care Document that is generated by NYULMC's electronic health record. The document is an electronic patient summary containing a set of standardized clinical elements that are most relevant during care transitions. These elements include allergies, medications, problem list, procedures, and results.

Reporting and Monitoring

Reporting and Monitoring Cost Drivers

Cost Reductions (Cost to Providers)

- Reduce LOS or # of visits
- Reduce implant, supply, or drug costs
- Reduce OR time

Revenue Reductions (Cost to Medicare)

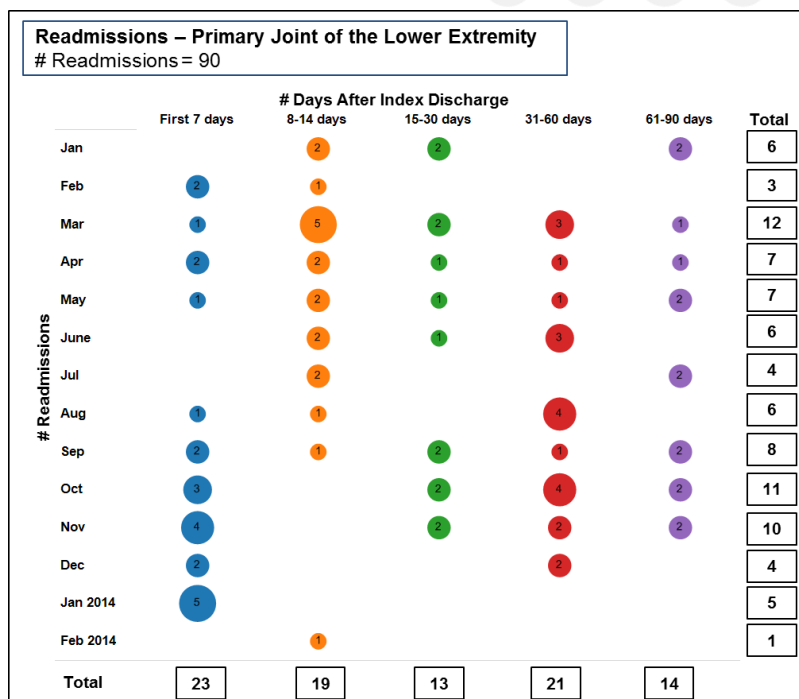
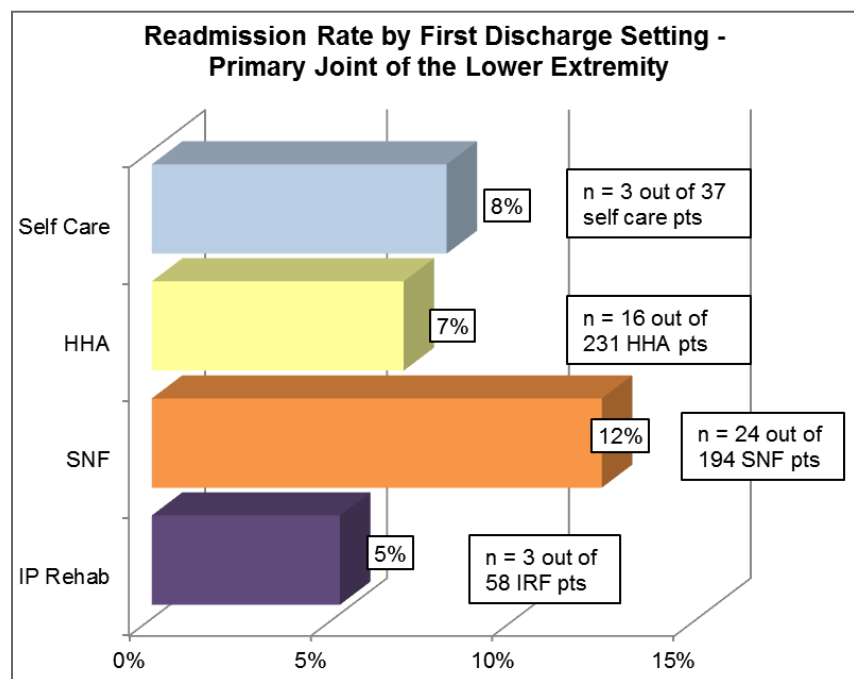
- Reduce readmissions
- Alter discharge patterns
- Decrease utilization (e.g., consults, ancillary tests)
- Reduce SNF LOS (paid on per diem)

NYULMC studied the levers of cost and quality in a bundle when creating a care redesign structure. BPCI reporting and analytics tracks performance on these levers.

Reporting and Monitoring

• *Bundled Payment Weekly Dashboard*

- ***Initiative-level reporting*** keeps the organization focused on achieving our targets



Reporting and Monitoring

• **Bundled Payment Weekly Dashboard (continued)**

- **Physician-level reporting** allows Chairs and Chiefs to monitor their departments' performance
- Promotes a continuous drive for improvement and results

NYULMC Physician Dashboard

	# Patients Discharged	ALOS	Discharge Disposition						90-Day Readmission Rate - Closed Episodes Only ¹		
			Rehab Facility	Skilled Nursing Facility	Total Facility-Based Care	Home Health Care Svc	Home/ Self Care	Total Home-Based Care	# Readmissions (Closed Episodes Only)	# Patients (Closed Episodes Only)	90-Day Readmission Rate (Closed Episodes Only)
Primary Joint of the Lower Extremity	779	3.52	7%	37%	44%	53%	3%	56%	42	338	12%
HJD	733	3.41	6%	35%	41%	56%	3%	59%	35	317	11%
DRG 469 - Primary Joint w MCC	17	6.76	18%	35%	53%	47%	0%	47%	1	2	50%
Physician 1	4	6.00	25%	50%	75%	25%	0%	25%	0	0	0%
Physician 2	4	8.75	25%	25%	50%	50%	0%	50%	0	0	0%
Physician 3	2	4.50	0%	50%	50%	50%	0%	50%	0	0	0%
Physician 4	2	9.00	0%	50%	50%	50%	0%	50%	0	1	0%
Physician 5	1	7.00	0%	100%	100%	0%	0%	0%	0	0	0%
Physician 6	1	3.00	0%	0%	0%	100%	0%	100%	0	0	0%
Physician 7	1	13.00	0%	0%	0%	100%	0%	100%	0	0	0%
Physician 8	1	3.00	100%	0%	100%	0%	0%	0%	0	0	0%
Physician 9	1	3.00	0%	0%	0%	100%	0%	100%	1	1	100%

Reporting and Monitoring

• Quarterly Reporting

• Physician-level financial performance:

Q1 2013 physician comparison - Episode cost

2013 Predicted Target Prices		Q1 n=	Q1 2013 Total Episode Medicare Pmt	Q1 2013 Avg Medicare Pmt	Difference btw Target Price and Q1 2013 Avg. Pmt / Case*	Total Difference btw Target Price and Q1 2013 Avg. Pmt	Notes
DRG 470	\$35,565						
DRG 469	\$54,233						
DRG 470 - w/o MCC		145	\$4,502,110	\$31,049	\$4,516	\$654,856	
Physician 1		17	\$555,114	\$32,654	\$2,911	\$49,495	
Physician 2		17	\$488,987	\$28,764	\$6,801	\$115,623	
Physician 3		13	\$348,167	\$26,782	\$8,783	\$114,182	
Physician 4		12	\$329,093	\$27,424	\$8,141	\$97,690	
Physician 5		11	\$300,686	\$27,335	\$8,230	\$90,532	
Physician 6		11	\$240,935	\$21,903	\$13,662	\$150,283	
Physician 7		8	\$353,004	\$44,125	(\$8,560)	(\$68,482)	74% of patients to facility-based post-acute care; 5 readmissions
Physician 8		5	\$185,561	\$37,112	(\$1,547)	(\$7,735)	72% of patients to facility-based post-acute care
Physician 9		5	\$127,504	\$25,501	\$10,064	\$50,322	
Physician 10		4	\$224,483	\$56,121	(\$20,555)	(\$82,222)	79% of patients to facility-based post-acute care. One outlier patient had a \$108,000 readmission. The patient had a comorbidity of CHF and was readmitted for pulmonary embolism and pneumonia. The patient expired during the readmission.
Physician 11		2	\$159,205	\$79,602	(\$44,037)	(\$88,074)	All fracture patients
Physician 12		2	\$95,341	\$47,671	(\$12,105)	(\$24,211)	All patients in Q1 were discharged to SNF

• Future dashboard:

- Real-time pricing of the bundle using both current data and historical averages

Future of Bundled Payment

Successes:

- The demonstration project has created dynamic and influential changes in the delivery of care
- The hospital, physicians, and post-acute partners are better coordinating care transitions and are communicating important clinical information about shared patients
- Our patients are experiencing improved care through enhanced coordination and communications between providers

Future of Bundled Payment

Challenges:

- Based on the 2013 CMS targets, the demonstration project is having a negative financial impact on NYULMC when you account to the cost incurred and the revenue lost due to care redesign.
 - \$3 Mil in staffing cost to get ready and \$1.5 Mil/year going forward
 - Loss of acute rehab revenue, \$15,000 per case, 370-400 cases in 2013
 - Loss of IME, DME, DSH add-ons revenue associated with the acute rehab inpatient cases
 - Reduction in readmissions, estimated at 24 cases in 2013 at \$12,500 per case plus \$7,500 per case for IME, DME and DSH add-ons per case
- Recent data fluctuations are barriers to success. Baseline target prices and volumes keep changing, resulting in the inability to accurately predict financial performance and resulting in mixed messages to the physicians
- Without predictability of financial performance at both the initiative and physician-levels, it is difficult to maintain clinician engagement in existing bundles and will definitely hinder expansion to additional bundles



Questions?

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