

A large green decorative shape on the left side of the slide, consisting of a square with a curved bottom edge and a trapezoidal top edge.

The Oncology Care Model

*Key Learnings for Any Cancer Program:
Sharing Tools and Best Practices for Success*

January 29, 2018 from 3:15 pm – 4:45 pm

Linda Weller-Newcomb, PhD

Vice President, Lahey Health Cancer Institute, Massachusetts



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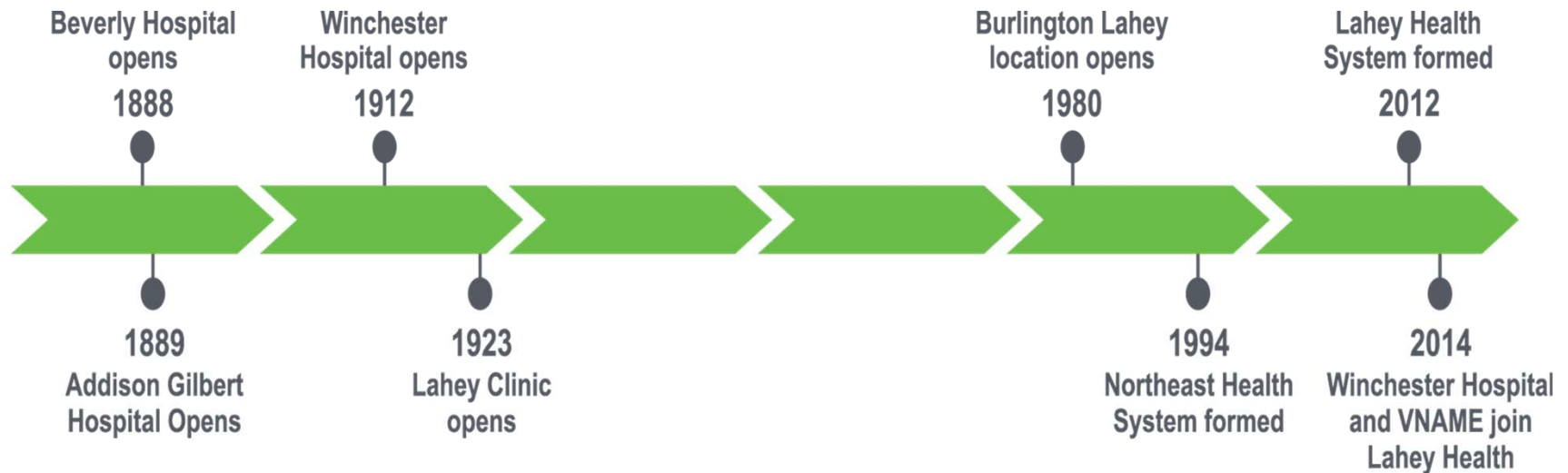
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About Lahey Health System



Dr. Frank Lahey's vision was unique. He believed:

- Every component of care should be coordinated in a single location
- Deliver efficient care to patients
- A group practice should be a center for research, teaching and learning



Lahey Hospital & Medical Center



Beds:
345

Patient admissions and observations:
30,288; Occupancy averages 98%

Awards

Health Grades Distinguished Hospital for Clinical Excellence

Lowest cost academic teaching hospital in the United States

100 Hospitals and Health Systems with Great Neurosurgery and Spine Programs by Becker's Hospital Review

Department of Transplantation was again named an Institute of Excellence for adult liver transplants by Aetna

Program Highlights

Level II Trauma Center

An academic teaching hospital for Tufts University School of Medicine

Pioneered a model for low-dose CT lung cancer screening

Beverly Hospital/Addison Gilbert Hospital



Beds:

Beverly: 223

Addison Gilbert: 46

Patient admissions and observations:

28,322



Awards:

2015 Truven Health Analytics 100 Top Hospital (seventh time)

2015 Leapfrog Group “A” Rating

Service Highlights:

Level III Trauma Center

12-bed Level II Special Care Nursery

Epic electronic health record go-live in 2015; HIMs Certified at Level 7 in both Inpatient and Outpatient settings

Winchester Hospital



Beds:
229

Patient admissions:
12,753

Awards

Community Value 100 hospital

2015 Leapfrog Group “A” Rating

HealthGrades Outstanding Patient Experience Award

HomeCare Elite status for the third year

Service Highlights

Level IIB Special Care Nursery

Two urgent care facilities

State-of-the-art Center for Cancer Care

Overview of the Oncology Care Model Program



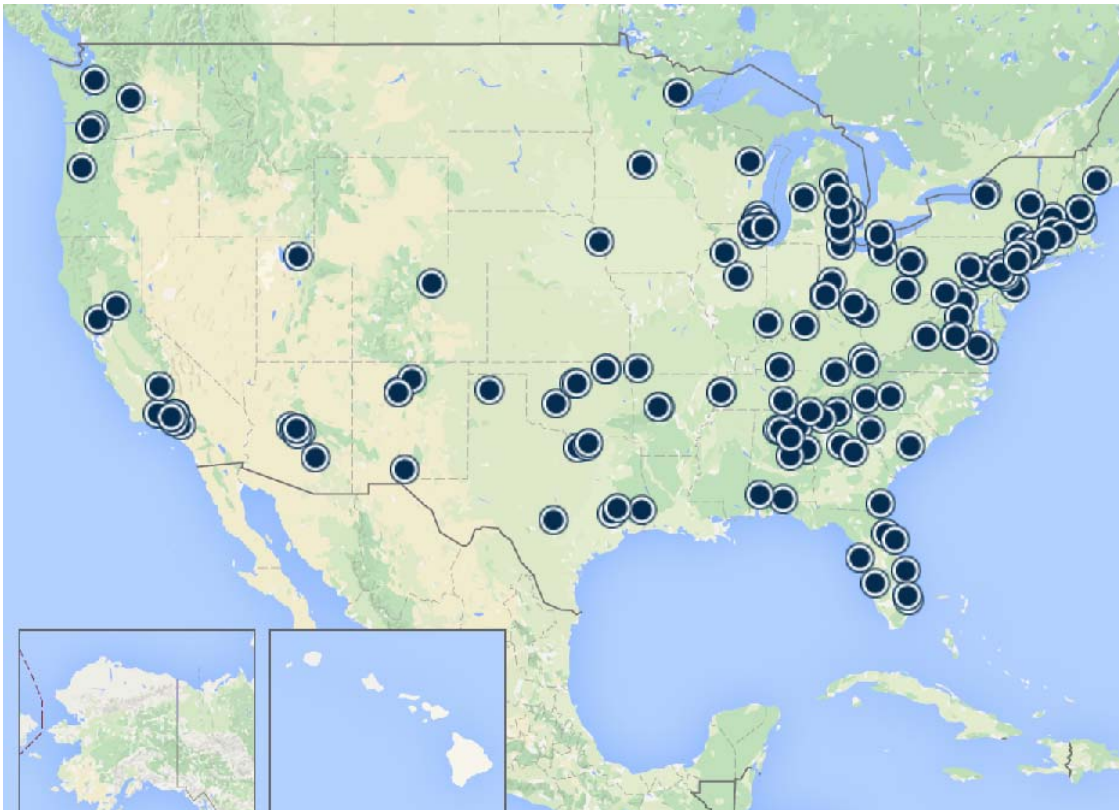
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The Oncology Care Model

- The 5-year CMS Medicare demonstration project launched on July 1, 2016 for oncology practices under a competitive application process.
- The goals are to better quality care, better health experience and lower costs.
- The design aligns seeks to improve access, care coordination, appropriateness of care, patient engagement in treatment decisions, and reduce costs through alignment of financial incentives with physicians through Monthly Enhancement Oncology Services Payments (MEOS) and Performance Based Payments with a quality modifier.
- CMS anticipates that appropriate care improves quality and reduces health care expenditures.
- The model supports the CMS goals of “better care, smarter spending, healthier people and healthier communities”.

Oncology Care Model Participants



- CMS selected 196 practices, comprised of 2,000 medical groups and 17 payers to participate in the demonstration project.
- 155,000 Medicare cancer patients' cost and quality data are tracked annually.
- Lahey Health Cancer Institute was the only practice group in greater Boston area selected.
- To date, 6 practices have withdrawn from the demonstration project.

The 11 exempt Prospective Payment System cancer hospitals (e.g. MSKCC, MD Anderson, DFCI) were not eligible to participate.

CMS' Quality Goals





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OCM's Financial Model

- There is no institutional financial risk; Medicare patients' care is paid at Medicare FFS rates.
- Medicare additionally pays \$160 PBPM payments for 6 month episodes during both intravenous and oral chemotherapy treatments, called MEOS payments.
- If a treatment regimen changes, the episode re-triggers for an additional 6 months.
- If a patient complete intravenous treatment episode and starts an oral agent, the episode re-triggers for an additional 6 months.
- CMS maintains the list of diagnoses and chemotherapy, orals, biologics that are included in the model and changes periodically.
- There is a performance bonus for reductions in cost of care for participants with a quality multiplier.

OCM's Performance Based Payments

- The five quality domains that comprise the practice's performance multiplier include: 1) Communication and care coordination; 2) Person and caregiver-centered outcomes; 3) Clinical Quality of care; 4) Patient safety; and 5) Clinical data.
- Practices that generate a 4% reduction in expenditures under the target price based on a 3-year benchmark (July 1, 2012 to June 30, 2015) will be eligible for semi-annual lump sum performance-based payments up to 100% of the difference between target and actual expenditures, with a quality multiplier.
- The models include risk adjustment factors and vary by geographic region. The discount is 4% in the one-sided risk arrangement and 2.75% in the two-sided risk arrangement; Monthly Enhancement Oncology Services payments are included in the baseline performance cost data.
- All entities are in a one-sided risk arrangement in Years 1 & 2.
- Those practices not demonstrating cost reductions from their benchmark period that would qualify them for a performance-based payment by the end of the third year will be asked to leave the program.

**IT WAS MY
UNDERSTANDING
THAT THERE
WOULD BE
NO MATH**

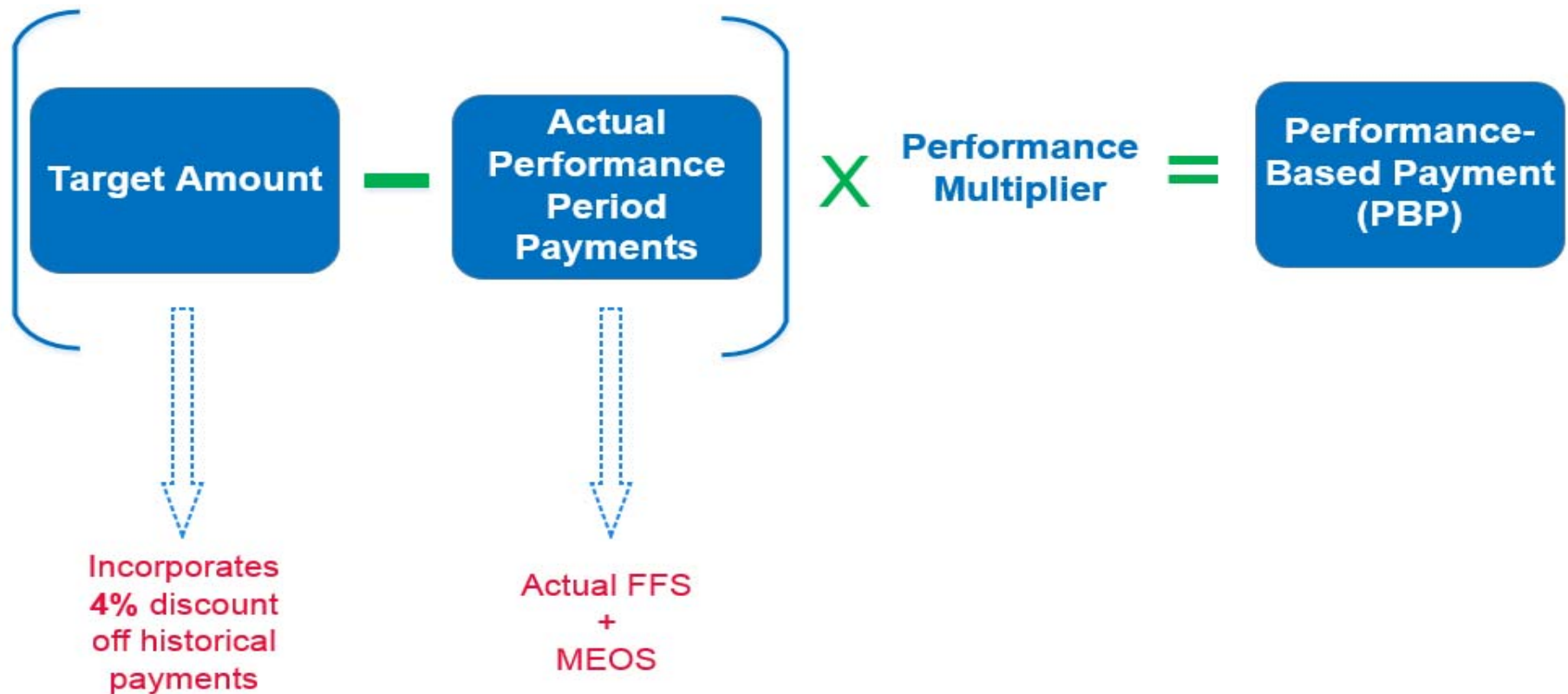




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Calculating Performance Based Payments (PBP)



Achieving a PBP: Not So Easy

Achieving a Performance-Based Payment Example	Institution A	Institution B	Institution C	Pooled
Total Patients Attributed (3 Years)	380	664	3,691	4,735
Total Patients Attributed (Annual)	127	221	1,230	1,578
Average Spend Per Episode	\$ 27,075	\$ 28,841	\$ 23,749	\$ 26,555
Total Medicare Spend	\$ 3,429,500	\$ 6,383,475	\$ 29,219,186	\$ 39,032,161
Add 2.041% Sequestration Adjustment	\$ 3,499,496	\$ 6,513,761	\$ 29,815,550	\$ 39,828,807
Add MEOS Payments	\$ 121,600	\$ 212,480	\$ 1,181,120	\$ 1,515,200
Total CMS Payments	\$ 3,621,096	\$ 6,726,241	\$ 30,996,670	\$ 41,344,007
Must Achieve a Total 4%+ Savings :	\$ 144,844	\$ 269,050	\$ 1,239,867	\$ 1,653,760
Total Per Patient Savings required per episode	\$ 1,143.50	\$ 1,215.59	\$ 1,007.75	\$ 1,047.79

Practice Participation Requirements: Annual Attestation



Requirements

1. Provide 24/7 access to an appropriate clinician who has real-time access to patients' medical records.
2. Use a Certified EHR Technology.
3. Use data for continuous quality improvement, as specified by CMS, including reporting of clinical quality data in a CMS registry.
4. Provide core functions of patient navigation (i.e.: coordinating appointments, communication to patients, survivors, families, providers, medical record availability, language translation, access to clinical trials, and partnerships with local agencies).



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Requirements

5. Document a Care Plan with the **13 components** in the IOM Care Management Plan and **communicated to the patient**:
 - Patient information
 - Diagnosis, including stage biomarkers, tissue information
 - Prognosis
 - Treatment goals
 - Plan for treatment (chemotherapy, surgery, radiation)
 - Expected response to treatment
 - Treatment benefits and harms
 - Information on quality of life & likely treatment experience



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Requirements

6. Identify the care team who has responsibility for specific aspects of care.
7. Advance care plans, including advanced directives and legal documents.
8. Provide patients with their out-of-pocket costs of the entire cancer treatment regimen, including surgery, radiation and medical oncology.
9. Document and address psychosocial health needs.
10. Provide a Survivorship care plan with summary of treatment and surveillance plan.
11. Use therapies consistent with nationally recognized clinical guidelines: Retag all Chemotherapy Protocols in EPIC to report compliance at the patient level.
12. Provide depression screening (PHQ-9) with interventions.
13. Provide advance care plans.



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Why Should You Care?



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Economic Burden Is Too Great

- The economic impact of cancer is increasing at a total annual economic cost worldwide in 2010 at an estimated \$1.16 Trillion US dollars.*
- In the U.S., American Society of Clinical Oncologists (ASCO) reports that spending for cancer care is increasing by >15% annually, faster than the overall rate of increase in total health care spending and much faster than the U.S. gross domestic product.**
- Financial toxicity due to the cost of cancer care is finally recognized: in the U.S.; 3% of patients declare bankruptcy and over 55% owe more than \$10,000. Studies cite 16% to 78% of survivors experienced financial hardships.
- Payers continue to shift costs to the consumer. Despite the Affordable Care Act in the U.S., high deductible insurance plans have high copays for cancer treatments and drugs. A first line treatment for leukemia for a Medicare patients is projected to have \$57,000 of out-of-pocket expenses by 2025.***

*Cancer Fact Sheet. World Health Organization. <http://who.int/mediacentre/factsheets/fs297/en/>. Accessed 10/30/2017.

**The State of Cancer Care in America, 2017: A Report by The American Society of Clinical Oncology. *Journal of Oncology Practice*. Volume 13, No 4. <http://ascopubs.org/dai/full/10.1200/JOP.2016.020743>.

***Chen Q, Jain N, Ayer T., et al: Economic burden of chronic lymphocytic leukemia in the era of oral targeted therapies in the U.S. *Journal of Clinical Oncology* 35: 166-174, 2016.

*Stewart BW, Wild CP, Editors. *World Cancer Report 2014*. Lyon: International Agency for Research on Cancer, 2014.

** Ramsey's, Schickedanz A. *The Oncologist*, 2010; 1 (Supplement), 1-4.

Evolving to Value-Based Cancer Care

- Oncology drug costs are escalating at a rate of 20% per year.*
- Non-sustainable drug pricing is pushing the discussion.

AS LEADERS IN CANCER CARE, ARE WE ASKING THE RIGHT QUESTIONS?

- How do we engage patients in their care?
- How do we promote clinically meaningful outcomes and decisions based on clinical trial outcomes?
- How do we reduce the cost of cancer care?
- How do we improve quality of life of our patients?
- How do we provide patient-centered care that respects patient's values and health choices?
- How do we ensure accessible and equitable cancer care?
- How do we develop new payment models to get to these aims?

Incentives and Penalties and Alternative Payment Models....

Value-Based Cancer Care Is Coming!

- In 2016, 30% of CMS/Medicare payments were tied to quality or value. The goal is to have **50% CMS/Medicare payments** tied to quality or value by 2018.
- In the U.S., HHS/CMS retains a Fee for Service model of reimbursement but builds in quality incentives and penalties in 2019 by creating performance-based payment systems. Merit-Based Incentive Programs [MIPS] are introduced to report outcomes and care delivery efforts, like Meaningful Use of EHR's.
- Alternative Payment Models [APMs] include Accountable Care Organizations, patient-centered medical homes, bundled payment models or Medicare Shared Savings Programs.
- Most controversial is the 2016 introduction of the **Oncology Care Model**, which is an APM demonstration project for delivering value-based, coordinated care. 196 practices started the project and 16 insurance companies. Over 155,000 Medicare beneficiaries are being tracked annually in these practices.



Lahey's Infrastructure Changes

Infrastructure Changes: Hire a Lahey OCM Team

- Erkan Ceyhan, PhD, Operational Engineer & Manager, Surgical & Cancer Services
- Janet Burke, Operational Data Manager, OCM
- Sandra Areias, OCM Nurse Navigation Manager
- Camille Chicklis, MS, OCM, Engineer & Analyst
- Four additional Nurse Navigators
- Two IT Teams for EPIC and MOSAIQ EHRs:
Project Managers, Programmers, Report Writers



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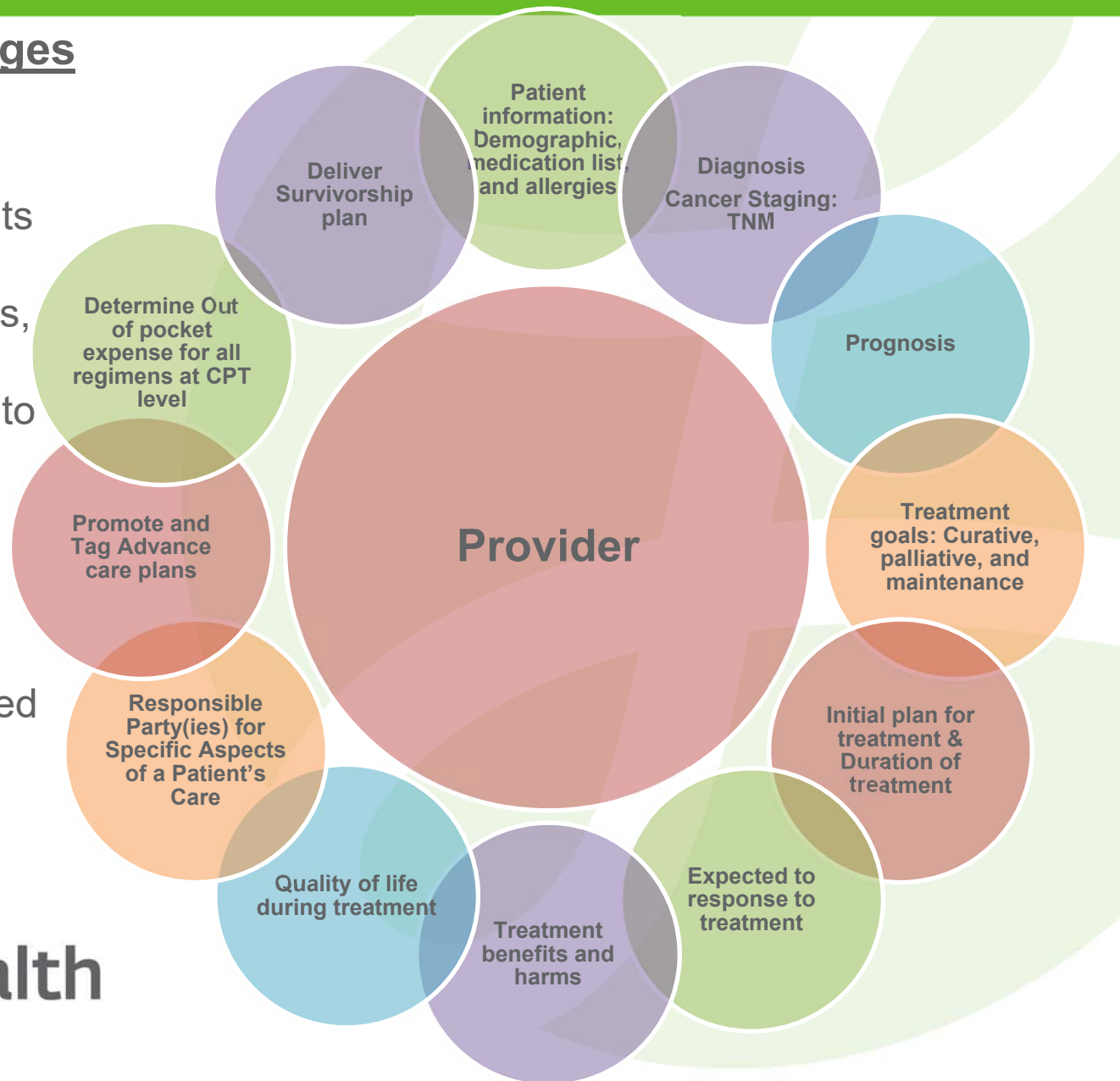
Infrastructure Changes

- **EPIC Report to Identify the CMS Patients** eligible for the program.
 - 1) Proper Medicare A & B coverage (no Railroad coverage, etc.);
 - 2) Right Cancer Diagnosis;
 - 3) Proper chemotherapy or oral agent on the CMS list;
 - 4) Not receiving ESRD benefits or entered into Hospice;
 - 5) Not a Medicare Advantage patient;
 - 6) Had an E & M visit with the medical oncologist on the Care Partner list.
- **Oral chemotherapy patients** must be billed based on the date they filled the prescription, not on the date it was prescribed; staff manually verified with OP/retail pharmacies the date the Oral agent's prescription was filled.

Infrastructure Changes

EPIC Fields Built to Report On:

- 1) MD to Stage all patients in EPIC.
- 2) Fields define prognosis, treatment goals, and expected to response to treatments.
- 3) Treatment benefits & harm.
- 4) Train staff to become Care Team Members.
- 5) Report out on Advanced Care Plan, if on file.
- 6) Report on medication reconciliation by provider at each visit.



Infrastructure Changes

- **CMS Letter Notifications to OCM Beneficiaries**
 - Sent patients identified the mandated CMS Letter.
- **Episode Review for MEOS opportunities and expected denials**
 - Tag in EPIC: Identify deceased, patients entering hospice, Medicare insurance changes, new E&M visits or regimen changes that triggers 2nd episode.
 - Eligible OCM medication, OCM ICD-10 cancer type code, qualifying E & M code within the 6-month episode, qualifying OCM provider, and qualifying OCM medication administration date or oral fill date (Part D).
- **Audit reporting**
 - Compliance of documentation & workflow(s)
 - Pain intensity, depression screening with intervention, cost of care estimates, letters of notification, MD OCM documentation.

Infrastructure Changes

- **NCCN Compliance Attestation**
 - Practice attestation for two years;
 - Individual attestation with reasons why not NCCN compliant after 4th performance period;
 - Pharmacy staff review for compliance, and tagging for disease site compliance;
 - Report capability at the patient level.
- **Total Cost of Care and Out-of-Pocket Costs**
 - Includes chemotherapy drugs, E&M visits, labs, imaging, rehabilitation, surgery and radiation oncology.
 - Intern hired to build out all treatment plans at the CPT level to estimate out-of-pocket costs.



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Infrastructure Changes

- **Use of a Certified EHR Technology**
 - Winchester Practice utilized MOSAIQ, and was not EHR certified, resulting in an upgrade prior to their EPIC Go-Live; costly and resource-consuming.
- **Provide depression screening with associated interventions**
 - Develop algorithms for Best Practice Alerts in EPIC.
 - Associating interventions to social work, PT, OT, psychologist or psychiatry.
 - Ensuring that depression screening occurs every 90 days for OCM patients.
- **Provide Survivorship Care Plans: Treatment summary & surveillance plan**
 - Develop EPIC templates to auto-populate.
 - Survivorship Care Clinics and patient tracking.



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The University of Tennessee

WEST
Cancer Center

Methodist Healthcare Family

Oncology Care Model Challenges and Innovation

Cheryl A Prince

Garrett Young

Quality, Innovation, and Clinical Integration

West Cancer Center Background



The University of Tennessee

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West Cancer Center: Organization Background

- West Clinic entered a professional services agreement in January 2012 with a large health system in the Memphis area
 - West Clinic, PC (50 physician group)
 - Methodist LeBonheur Healthcare System
 - University of Tennessee Health Science Center Medical School
- West provides services across the full spectrum of cancer care:
 - Medical Oncology
 - Gynecological Oncology
 - Radiation Oncology
 - Surgical Oncology
 - Pain Management and Palliative Care
 - Psychology
 - Diagnostic and Interventional Radiology
 - Blood and Marrow Transplant (Autologous and Allogeneic)
 - Clinical trial participation
- Services are currently provided across 15 clinical locations
 - 36,646 patients treated in 2016
 - 11,858 New patients treated in 2016

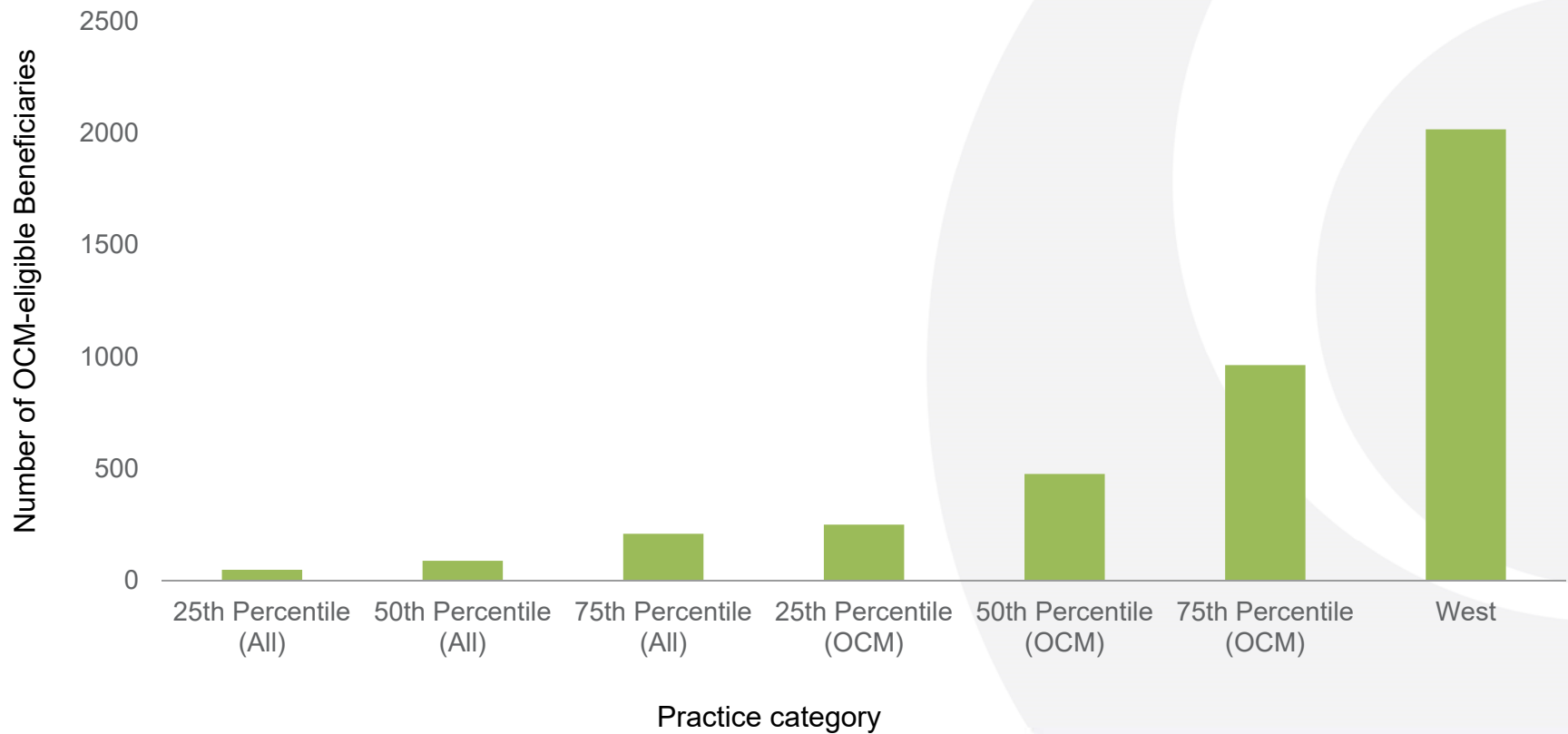


West OCM Patient Volume

West saw 2017 OCM beneficiaries in Q3 2016, more than double the 75th percentile for all OCM-participating practices

Number of Eligible Beneficiaries Seen by Cancer Practice Category

By quartile, Q3 2016



Beneficiary Demographic Comparison

West's patient population skewed younger and had more dual-enrollees, indicating higher rates of disability and lower incomes

Beneficiary Demographics
Medicare Beneficiaries, Q3 2016

Category	West Cancer Center	OCM Practices in same risk score range	All Cancer Practices in same risk score range
Gender			
Female	66.8%	62.1%	60.7%
Male	33.2%	37.9%	39.3%
Race			
White	71.9%	82.3%	82.5%
Black	26.2%	8.9%	9.0%
Other	1.8%	8.8%	8.5%
Age			
Under 65	12.4%	8.7%	9.4%
65-74	50.8%	48.5%	48.1%
Over 75	36.7%	42.8%	42.6%
Dual-Enrollees	18.4%	12.8%	14.5%



OCM Practice Redesign Activities



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OCM Practice Redesign Activities

No changes or additional infrastructure were needed to successfully meet the first four practice redesign activities

- 1 Provide 24/7 access to an appropriate clinician with real-time access to patients' medical records
- 2 Use therapies consistent with nationally recognized clinical guidelines
- 3 Provide Core Functions of patient navigation
 - Coordinate appointments
 - Facilitate communication
 - Assure timely access to medical records
 - Arrange language or interpretation services
 - Facilitate follow up services
 - Provide access to clinical trials
 - Build supportive care services
- 4 Use Certified EHR Technology



OCM Practice Redesign Activities

The last two activities have proven to be the most challenging

- 1 Provide 24/7 access to an appropriate clinician with real-time access to patients' medical records
- 2 Use therapies consistent with nationally recognized clinical guidelines
- 3 Provide Core Functions of patient navigation
- 4 Use therapies consistent with nationally recognized clinical guidelines
- 5 Use data for continuous quality improvement



Activity #5: Use of data for continuous quality improvement

- The sheer volume of patients seen has made this activity more challenging
 - Increased need for data staff
 - Increase in sophistication and capabilities of staff
 - Familiarity with quality and improvement activities
 - Analytic problem solving abilities
 - Statistical and modeling skill sets
- The need for complete information all captured in discrete data fields
- The clinical data requirements and quality measures are ever changing targets
 - Con: Increases the work needed to comply with each change
 - Pro: CMMI does appear to be listening to practices' feedback



OCM Practice Redesign Activities

The last two activities have proven to be the most challenging

- 1 Provide 24/7 access to an appropriate clinician with real-time access to patients' medical records
- 2 Use therapies consistent with nationally recognized clinical guidelines
- 3 Provide Core Functions of patient navigation
- 4 Use therapies consistent with nationally recognized clinical guidelines
- 5 Use data for continuous quality improvement
- 6 Complete Institute of Medicine (IOM) care plan



Activity #6: Complete Institute of Medicine (IOM) care plan

- Financial counseling before start of treatment - face to face visit
 - Required increase in number of financial counselors
 - Tools do not exist to accurately access the full cost of care across three hospital systems
 - Smaller satellite sites may not support a financial counselor able to provide a face to face visit - requires current staff to assume this role
- Patient centered plan of care must include:
 - Prognosis
 - Treatment goals
 - Expected response to treatment
 - Specific benefits and harms/long-term short term effects
 - Expected impact on the patient's quality of life
 - Patient goals of treatment
 - This is a highly individualized discussion that is had with the patient. It is extremely difficult to capture this conversation in "data" fields and in prose that would also be directed to the patient's mode and desire for understanding.
- Survivorship plan - This seems simple... but it's not.



Conclusion

18 months into the program, has it been worth it?

Absolutely

Change is driven by the need for continuous improvement
in patient outcomes and patient experience



Questions?





OCM at OHSU

- DATE: 29 JAN 2018 PRESENTED BY: MATT WAYSON, M.D.

OHSU





Knight Cancer Institute

- 7 physical locations in Portland Metro
- 109 chairs
- 55,000 annual provider visits
- 62,000 annual treatment visits

Infrastructure

Practice Redesign Activities

1. Provide 24/7 access to an appropriate clinician who has real-time access to patients' medical records
2. Use Certified EHR Technology
3. Use of data for continuous quality improvement
4. Provide core functions of patient navigation
5. Document a care plan that contains the 13 components in the Institute of Medicine Care Management Plan
6. Use therapies consistent with nationally recognized clinical guidelines

What is our product?

Via Pathways CONTENT



Clinical algorithms for all significant aspects of cancer care

PathBuild
R

Via Portal SOFTWARE



Decision support delivery tools



Via Triage

Via Insight ANALYTICS



Reporting and analytics framework

What do Via Pathways Cover?



Staffing Investment

- 0.5 FTE Medical Directorship
- 1.0 FTE Project Coordinator
- 1.0 FTE Social Worker
- 0.5 FTE Cancer Registries
- 0.4 FTE Coding and Billing

Data: Identifying OCM Patients

1. Manual spreadsheet from Epic schedule
2. Custom Epic SmartForm
 - Alternative Payment Model flag



The screenshot shows a patient header bar with the following information:

Language: English ePOLST: NO Adv Dir: NO	Allergies Bacitracin-polymyxin B Neomycin	MyChart: Declined FYI: (None) Research: None	My Sticky Note:  APM: Yes
---	---	---	--

A blue arrow points to the 'APM: Yes' text in the header bar.

3. Epic prescription data + pharmacy phone calls
4. CMS data

Additional Data Support

- Value Analytics team within OHSU
Center for Health Systems
Effectiveness
- AAMC DataGen

Lahey's System-Wide Practice Transformation & Innovation Efforts

1. Population Management & Risk Stratification

Population Management & Risk Stratification

- Identify those patients most at risk for hospitalization hence most likely to benefit from early intervention via Elderly Risk Assessment (ERA) tool validated by Mayo Clinic.
- Risk factors were screened to determine their statistical significance in the model and programmed to calculate from the Problem List in EPIC.
- Aim is to daily management of high risk patients via Nurse Navigation.
- The scores based on the instrument ranged from -7 to 32.

Score Quartile	Risk Level	Risk Scores
1 st quartile	Baseline	-7 to -1
2 nd quartile	I	0 to 3
3 rd quartile	II	4 to 8
75% to 90% group	III	9 to 15
Top 10%	IV	16 or higher



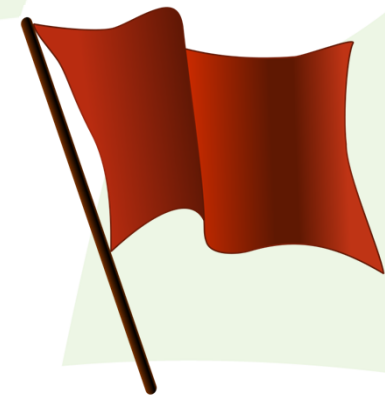
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Mayo's Elder Risk Assessment Example

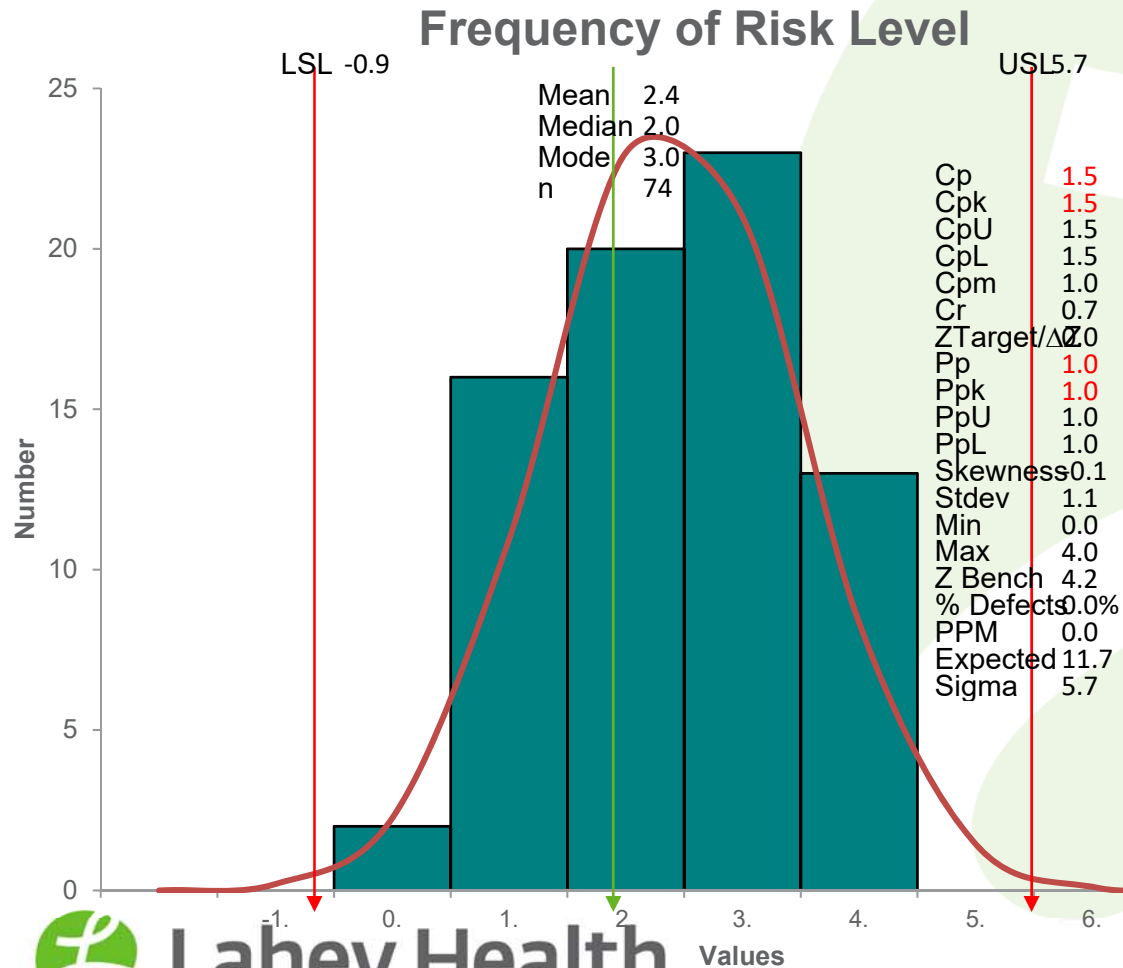
Computed off the pts.' Problem List in EHR; Dynamically changes over time with resolved problems and new problems!

Factor	Y/N	Regression Coefficients	Regression Estimate
Married	Y	-0.12	-0.12
Age 70-79	Y	0.11	0.11
Age 80-89		0.31	0
Age 90 or more		0.67	0
1-5 hospital days in past 2 years		0.55	0
6 or more hospital days	Y	1.10	1.10
History of Diabetes	Y	0.17	0.17
History of CAD/MI/CHF		0.31	0
History of Stroke	Y	0.23	0.23
History of COPD		0.47	0
History of Cancer	Y	0.10	0.1
History of Dementia		0.31	0.31
		Risk = 10*Regression estimate	19



Flags a high risk patient for ER Visit or Unplanned Admission

Completed Pilot Results



- Piloted on 70 patients in LHMC & LMCP
- Risk-stratifies cancer patients
- Clinical workgroup will focus possible interventions in each group

Confirmed
for Go-Live



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Lahey's System-Wide Practice Transformation & Innovation Efforts

2. Nurse Navigation of Risk – Stratified Patients

Population Management Reports

ED Visit Workbench

Reports

Navigator - Emergency Visits GI/GU as of Thu 11/2/17 11:49AM

Filters Options ED Chart

Patient Name/Age/Sex	MRN	OCM Eligibility	ERA RISK Score	Onc Care Team Pr	Triage Start	Departed	Dept/Room/Bed	Primary Dx	CC
			12	Christopher P Tretter (Consulting Physician); Krishna S Gunturu (Consulting Physician)	11/1 0623	11/1 1754	BUR MED SURG 7 SE / 7S14 / 01	Acute radiation proctitis	Emesis; Diarrhea

Download Print

Hospitalization Workbench

Navigator - Hospital Current Admissions LHMC GI/GU [3810337] as of Thu 11/2/2017 11:53 AM

Filters Options Hospital Chart

Patient Name	MRN	OCM Eligibility	ERA RISK Score	Patient Class	Onc Care Team Pr	Admsn Date	Discharge Date	Dept/Room/Bed	Dx Code
			12.5	Inpatient	Francis W Nugent III (Consulting Physician)	10/25/2017		BUR MED SURG 7 WEST / 7W21 / 01	R11.2 - Non-intractable vomiting with nausea, unspecified vomiting type; K81.0 - Acute cholecystitis
			12	Inpatient	Christopher P Tretter (Consulting Physician); Krishna S Gunturu (Consulting Physician)	11/01/2017		BUR MED SURG 7 SE / 7S14 / 01	E87.6 - Hypokalemia; E87.2 - Metabolic acidosis; N41.9 - Prostatitis; E86.9 - Volume depletion; K62.89, T66.XXXA - Acute radiation proctitis; R19.7 - Diarrhea, unspecified type; R11.10 - Vomiting, intractability of vomiting not specified, presence of nausea not specified, unspecified vomiting type

Population Management Reports

Recently Discharged Workbench

Navigator - Hospital Recently Discharged LHMC GI/GU [3810395] as of Thu 11/2/2017 12:04 PM

Filters Options Hospital Chart

Patient Name	MRN	OCM Eligibility	ERA RISK Score	Patient Class	Onc Care Team Pr	Admsn Date	Discharge Date	Dept/Room/Bed	Dx Code
			10.8	Inpatient	Francis W Nugent III (Consulting Physician); Krishna S Gunturu (Consulting Physician)	10/19/2017	10/26/2017	Disch	N39.0 - Urinary tract infection, site not specified; Z68.41 - Body mass index (BMI) 40.0-44.9, adult; I10 - Essential (primary) hypertension; Z85.51 - Personal history of malignant neoplasm of bladder; E66.01 - Morbid (severe) obesity due to excess calories; E86.0 - Dehydration; N99.528 - Other complication of incontinent external stoma of urinary tract; F41.9 - Anxiety disorder, unspecified; K21.9 - Gastro-esophageal reflux disease without esophagitis; N40.0 - Benign prostatic hyperplasia without lower urinary tract symptoms; Z90.79 - Acquired absence of other genital organ(s); Z90.6 - Acquired absence of other parts of urinary tract; B96.5 - Pseudomonas (aeruginosa) (mallei) (pseudomallei) as the cause of diseases classified elsewhere; B95.2 - Enterococcus as the cause of diseases classified elsewhere; Z87.442 - Personal history of urinary calculi
			5.7	Inpatient	Francis W Nugent III (Consulting Physician)	10/25/2017	10/28/2017	Disch	C22.0 - Liver cell carcinoma; K92.2 - Gastrointestinal hemorrhage, unspecified; R18.8 - Other ascites; C77.2 - Secondary and unspecified malignant neoplasm of intra-abdominal lymph nodes; C78.6 - Secondary malignant neoplasm of retroperitoneum and peritoneum; E11.22 - Type 2 diabetes mellitus with diabetic

Population Management Reports

Oral Chemo Starts Clarity

Navigator - Oral Treatment



Date Range: 10/31/2017 to 11/01/2017

Facilities: BUR/PEA

Patient Name	Risk Score	MRN	Ordering Provider	Date Generated	Medication	Prescription Name	Prescript Date	Next Visit / Disease Site
[REDACTED]	-0.2	[REDACTED]	MCKENZIE, JAMIE E	11/01/2017	ANASTROZOLE 1 MG TABLET			05/02/18 15:40 Breast/GYN
[REDACTED]	1.0	[REDACTED]	MCKENZIE, JAMIE E	11/01/2017	TAMOXIFEN 20 MG TABLET			01/22/18 15:00 Breast/GYN
[REDACTED]	2.7	[REDACTED]	GUNTURU, KRISHNAS	11/01/2017	SORAFENIB 200 MG TABLET			11/10/17 07:30 GI/GU

Treatment Plan Starts Clarity

Navigator - Treatment Plan



Date Range: 10/31/2017 to 11/01/2017

Facilities: BUR/PEA

Patient Name	MRN	Risk Score	Onc Provider	Plan Start	Appt	Treatment Plan Name	Diagnosis	Next Visit / Disease Site	Days Since
[REDACTED]	[REDACTED]	1.5	GUNTURU, KRISHNAS	10/30/2017	10/31/2017	OP PACLITAXEL / CARBOPLATIN Q 21 DAYS	Malignant neoplasm of upper lobe of right lung	11/07/17 13:00 Other	2
[REDACTED]	[REDACTED]	2.9	GUNTURU, KRISHNAS	11/01/2017	11/01/2017	LEUPROLIDE (LUPRON) 7.5 MG IM DEPO INJECTION	Prostate cancer	12/01/17 09:30 GI/GU	1
[REDACTED]	[REDACTED]	1.0	TRETTET, CHRISTOPHER P	10/31/2017	10/31/2017	LEUPROLIDE (LUPRON) 7.5 MG IM DEPO INJECTION	Prostate cancer	11/28/17 14:00 GI/GU	2

Cancer Institute

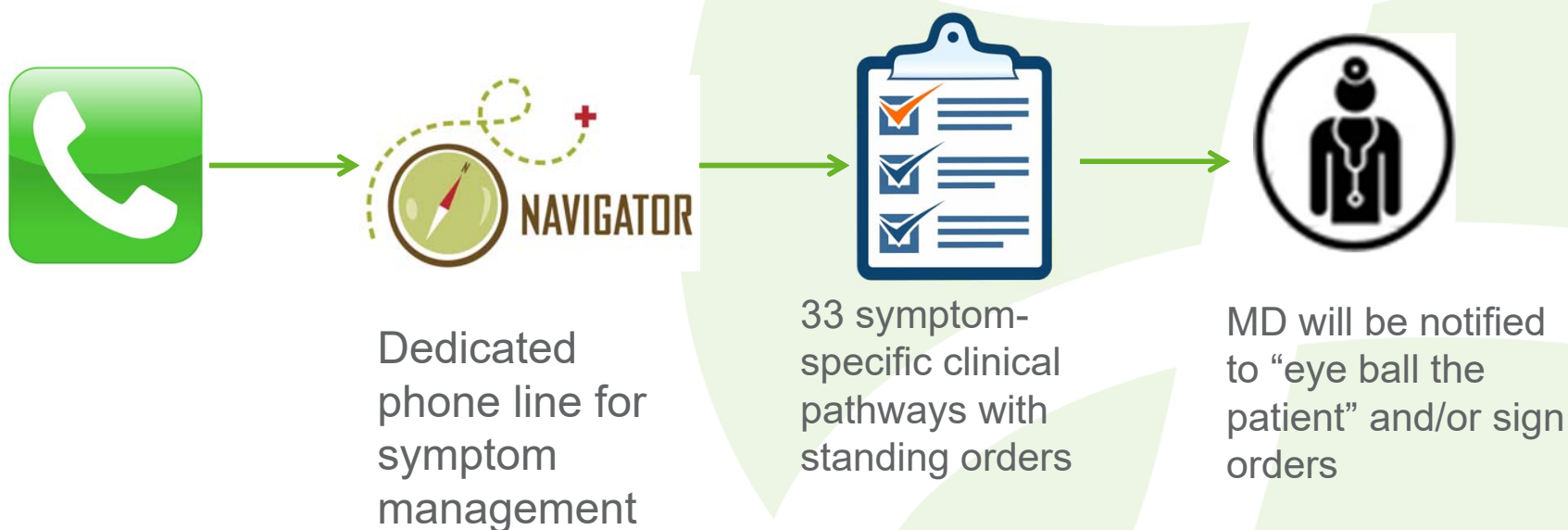
Lahey's System-Wide Practice Transformation & Innovation Efforts

3. Nurse Triage – COME HOME Protocols

Former State: Symptom Management



Current State: Triage Line & “Come Home” Project Clinical Pathways



Sample: Completed Fatigue Protocol

SmartForm (Read-only)

Do any of the following apply?

Sudden onset of fatigue (<24 hours)
Fatigue is so severe that patient cannot or will not get out of bed
Fever of 100.5 or more within the past 24-hours
Patient is taking new medications
None of the above

Manage the patient over the phone: For general fatigue, advise the patient on moderate exercise several times a week; and allow for periods of rest. Counsel the patient on nutrition, increasing fluids, limiting caffeine, alcohol intake, avoiding afternoon naps, and get into a routine of going to bed and waking up on a schedule. Tell the patient to call us back if they begin to feel worse. Schedule a follow up nurse call in 72 hours.

Does the patient want to be seen? Yes No

Schedule an appointment within 48 hours.

What was the patient outcome?

I scheduled a same day appointment
I scheduled a next day appointment
I scheduled an appointment in 2 or more days
I scheduled a STAT appointment
I scheduled a follow up call
I managed the patient over the phone
I followed the 911 protocol and notified the admitting/on-call physician
The patient refused ambulance through 911. Patient is going to the ER via private automobile
I notified the hospice nurse
Made an appointment/referral to an outside provider
The patient refused to be seen

If an appointment was scheduled: What would the patient have done if they could not have been seen in the office?

The patient would have gone to an urgent care center
The patient would have gone to the emergency room
The patient would have stayed home and called the next morning
The patient would have called and asked to speak to the doctor on call
The patient would have called their doctor (i.e. PCP) for care
Other (explain in note)

Close

Lahey's System-Wide Practice Transformation Efforts

4. Understanding Cost Reduction Opportunities Using Medicare Claims Data

Metric	Hospital A	Hospital B	Hospital C	OCM Practices (Median)
# Patients	1,115	259	164	492
Risk Score Category	Medium-Low (25 th -50 th percentile)	Medium-Low (25 th -50 th percentile)	Medium-Low (25 th -50 th percentile)	Medium-High (50 th -75 th percentile)
5 Most Common Cancer Types Treated	Prostate (27%), Breast (25%), Bladder (9%), Lung (7%), Lymphoma (4%)	Breast (34%), Prostate (14%), Multiple Myeloma (9%), Lung (9%), Female GU Other than Ovary (6%)	Breast (36%), Prostate (19%), Multiple Myeloma (6%), Bladder (6%), Lung (6%)	Breast (34%), Prostate (13%), Lung (10%), Lymphoma (6%), Multiple Myeloma (6%)

Metric	Hospital A	Hospital B	Hospital C	OCM Practices (Median)
Total Expenditures	\$4,548	\$4,254	\$4,146	\$4,676
Inpatient Admissions	\$984 ★	\$718	\$837	\$802
ED visits	\$31 ★	\$18	\$22	\$21
Rad Onc	\$217 ★	\$141	\$120	\$130
Physician Services	\$423	\$416	\$443	\$494
Prescription Drugs	\$1,605	\$1,891	\$1,456	\$2,300

Expenditures are risk-adjusted per patient, per month, over 2016. 68

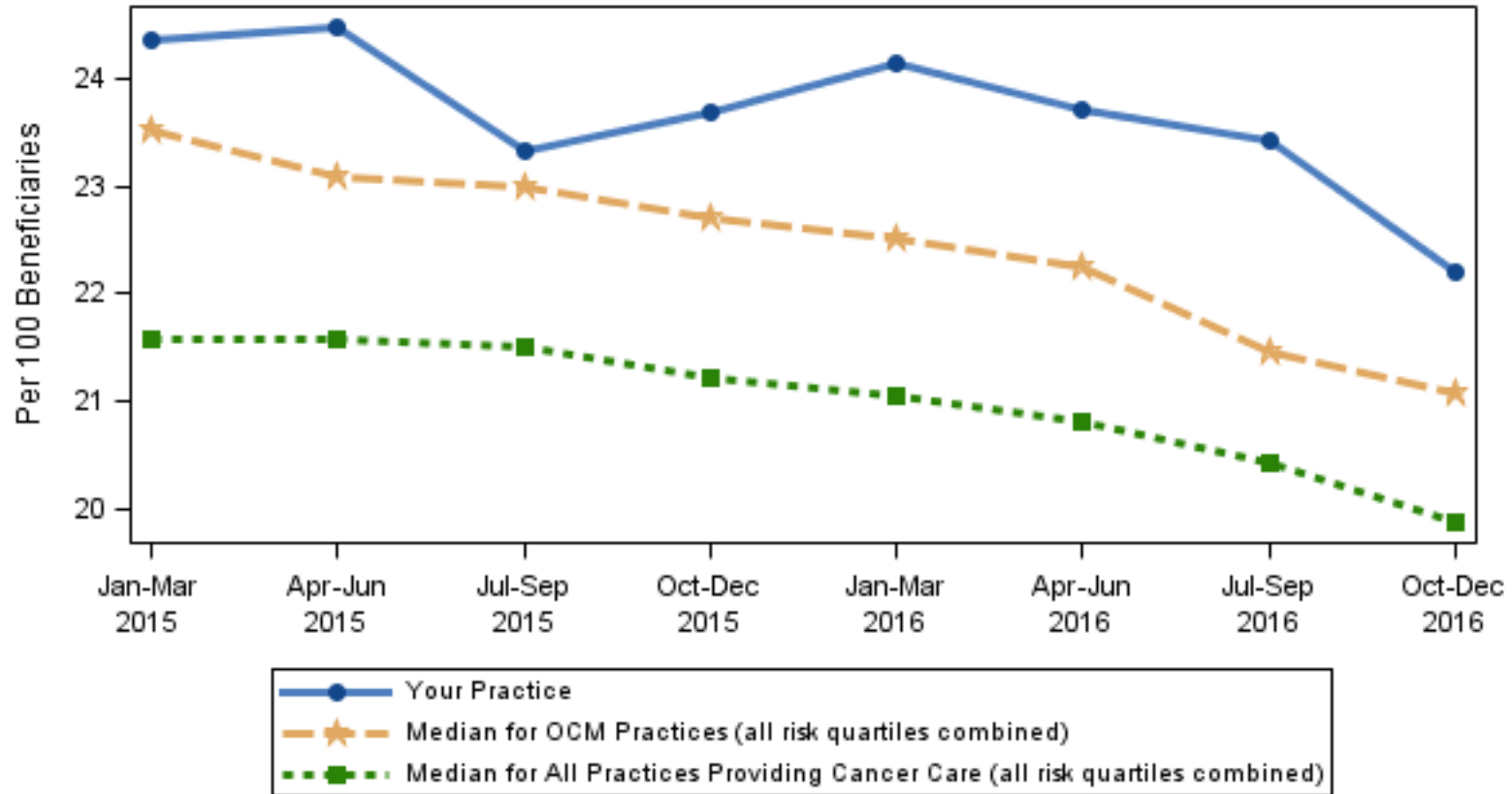
Metric	Hospital A	Hospital B	Hospital C	OCM Practices (Median)
Total IP expenditures	\$984	\$718	\$837	\$802
Admissions for ambulatory care sensitive conditions	\$81	\$72	\$74	\$60
Unplanned readmissions w/i 30 days	\$231 	\$141	\$182	\$173
Admission resulting from ED visit or obs. stay	\$572	\$512	\$570	\$514
Admission not resulting from ED visit or obs. stay	\$417	\$208	\$273	\$283

Not all subcategories shown

Expenditures are risk-adjusted per patient, per month, over 2016. 69


IP Admission Rates Declining

Figure 2: Trends in Inpatient Admissions to Short-term Acute Care Hospitals and CAHs, All Cause Per 100 Beneficiaries (Not Risk Adjusted; 4-quarter Averages)



Metric	Hospital A	Hospital B	Hospital C	OCM Practices (Median)
Ancillary services: total	\$285	\$265	\$249	\$270
Lab and testing: total	\$78	\$102	\$89	\$110
Lab and testing: advanced	\$63	\$78	\$71	\$80
Lab and testing: other	\$15	\$24	\$18	\$30
Imaging: total	\$206 	\$163	\$160	\$161
Imaging: advanced	\$109	\$94	\$88	\$96
Imaging: other	\$97	\$69	\$72	\$64

Expenditures are risk-adjusted per patient, per month, over 2016. 71

% Deceased Patients:	Hospital A	Hospital B	Hospital C	Patients at OCM Practices
with Hospital Use w/i 30 Days of Death	53.2%	57.5%	45.8%	54.9%
with Chemo w/i 2 Weeks of Death	7.2%	5.0%	20.8% 	12.7%
with Hospice Use w/i 30 Days of Death	61.7%	78.9%	66.7%	65.2%
with Hospice Use w/i 30 Days of Death and Death Occurred at Home	32.3%	53.6%	37.5%	38.1%

Rates are across all 2016, with comparison to all patients at OCM practices. 72

Using Claims Data

- **Increase Palliative Care** services in the OP setting, addressing unmet psychological and emotional distress needs and managing symptoms more effectively. Engaging patients in Advanced Care Planning with Access staff.
- Assess **end of life care** and patient decisions in a multidisciplinary setting, to ensure chemotherapy is not over-utilized very near to end of life, not to increase ER visits and hospitalizations in the ICU for terminal patients, and not to underuse hospice services.



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Get Ready for Bundled Payments

- CMS will have 755,000 patient's characteristics based on quality reporting, along with episode-specific baseline costs across most disease sites, cost adjusted by geographic region.
- What will CMS know:
 - 1) Know the impact of novel therapies on cost of care;
 - 2) Know the impact of a patient's risk adjustment score on cost;
 - 3) Link stage/histologic markers to NCCN guidelines and predict the cost of care;
 - 4) Have identified the impact of geographic region on total cost; and
 - 5) Have developed a generalized linear model with a log link and gamma distribution based on a national set of historical episodes to develop baseline pricing.

TAKE AWAY: LEADERS SHOULD BE PREPARED FOR BUNDLED PAYMENTS IN ONCOLOGY.





Discussion & Questions

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Work: 781-330-9072

Work Cell: 781-330-9072

Personal Cell: 775-813-7991

Address: Lahey Health, 41 Mall Road, 3 West Cancer Administration, Burlington, MA 01803





APPENDIX: Sample OCM Materials

New Patient Education Materials



How You and Your Caregivers Can Help

SYMPTOM MANAGEMENT — CALL US FIRST

As soon as you start to feel sick or experience any treatment-related side effects, call us first rather than waiting to see if it gets worse.

UPDATED MEDICATION LISTS

Let us know about all medications and supplements you are taking to help us check for any possible interactions between them and your chemotherapy treatment.

UPDATED HEALTH HISTORY

Let us know about any changes to your health while receiving chemotherapy. This will help your oncology care team personalize your care to help prevent treatment-related side effects.

QUESTIONS ABOUT YOUR CARE — CALL US!

Call us any time day or night if you have questions about your care. We're here for you! If you receive a recording asking you to leave a message, please do so and we will return your call within one hour.

As soon as you start to feel sick or experience any treatment-related side effects, CALL US FIRST!

Cancer Care and Chemotherapy Support

Beverly Hospital

85 Herrick Street · Beverly, MA 01915
978.927.6850


Addison Gilbert Hospital

298 Washington Street · Gloucester, MA 01930
978.281.6460

Cancer Care and Chemotherapy Support

Beverly and Addison Gilbert Hospitals





We've planned our cancer care to support you every step of the way.

Our Commitment to You

At Lahey Health, we understand the many emotions surrounding a cancer diagnosis and the need for chemotherapy. We know you will have questions and concerns during your treatment and beyond. We've planned our cancer care to support you every step of the way.

Our cancer care reflects the Oncology Care Model (OCM) designed by the Centers for Medicare & Medicaid Services. We are excited about this new system of care, providing it for ALL of our chemotherapy patients, not just those with Medicare.

Why Lahey Health for Cancer Care?

Our goal is to provide you with higher quality, more highly coordinated care in the most efficient way possible. Advantages of Lahey's cancer care services include:

- Increased access to your healthcare team
- A collaborative partnership between you and your care team members
- Personalized medicine with shared decision-making between you and your care team — including treatment goals and benefits, expected response to treatment, and aspects surrounding your quality of life

What This Means For You

As you undergo chemotherapy, we're here for you. Our resources and support include:

- 24/7 access to providers for real-time access to your medical records
- A detailed care plan that includes your treatment goals, any out-of-pocket expenses and a survivorship plan provided at the end of your treatment
- A patient portal allowing you, and your designated caregivers, 24/7 access to your medical record
- Assistance with coordinating care, such as appointments, radiology scans, forms, and more

- Staff trained and ready to assist you with answering questions
- A single number to call for symptom management any time day or night
- Access to leading-edge clinical trials

Care That Goes Beyond Chemotherapy

As part of our cancer care, we offer the following services if you need them:

ADVANCE CARE PLANNING

Advance care planning is an important part of anyone's care. It ensures that the care you receive is based on your decisions, personal values, preferences, and discussions with your loved ones. We have staff trained and ready to assist you with exploring options, answering questions, completing essential documents, and designating your Health Care Agent.

PSYCHOSOCIAL HEALTH

Many people receiving chemotherapy also need additional supportive services. So we'll periodically ask you to complete short surveys to monitor and address any concerns associated with depression or distress.

MY LAHEY CHART

Our online patient portal allows you, and your designated caregivers, 24/7 online access to your medical records — including laboratory and radiology results, appointments, and more. Please ask our staff to help you sign up for My Lahey Chart.



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New Patient Education Materials

- Call us first!

 <p>Lahey Health Cancer Institute</p> <p>Chemotherapy Treatment Alert Card</p>	 <p>Lahey Health Cancer Institute</p> <p><u>Chemotherapy Treatment</u> <u>Alert Card</u></p> <p>As soon as you start to feel sick or experience any treatment-related symptoms, <u>CALL US FIRST!</u></p> <p>Burlington: (781)744-8400 Peabody: (978)538-4330</p>
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<p><u>CALL US FIRST</u></p> <p>Burlington: (781)744-8400 Peabody: (978)538-4330</p>	<p>If you are presenting to an Emergency Room, please present this card immediately:</p> <p>Doctor Name: _____</p> <p style="margin-left: 40px;">(781) 744-8400 (978) 538-4330</p> <p style="margin-left: 100px;"><small>(CIRCLE ONE)</small></p> <p>Regimen: _____</p> <p>Start Date: _____</p>
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Refrigerator Magnets



APPENDIX

Quality Metrics – CMS Registry Reported by the Practices

CMS Quality Metrics in PBP

- All cause inpatient admissions within the 6-month episode. (National Claims Data).
- ER visits without an admission within the 6-month episode (National Claims Data).
- Proportion who dies who were admitted to hospice for 3 days or more (National Claims Data).
- Patient-reported satisfaction (Collected by CMS Contractor).
- Plan of care and pain intensity quantified (Practice-reported).
- Screening for clinical depression and follow-up care (Practice-reported).



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CMS Quality Metrics in PBP

- Prostate Cancer: Adjuvant hormonal therapy for high-risk prostate cancer patients (Practice-reported).
- Adjuvant chemotherapy considered or administered within 4 months of surgery for Stage III colon cancer (Practice-reported).
- Combination chemotherapy considered or administered for Hormone Receptor negative breast cancers (Practice-reported).
- Trastuzumab administered to patients with Stage I-III HER2 + breast cancers (Practice-reported).
- Hormonal therapy for Stage I-III ER/PR positive breast cancer (Practice-reported).
- Documentation of medication in EHR (Practice-reported).



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Additional CMS Quality Metrics

MONITORING (CMS Registry):

- Chemotherapy intent is documented (Practice-reported).
- Advance Care Plan (Practice-reported).
- Closing the referral loop: Receipt of specialist report (Practice-reported).
- CLINICAL DATA (CMS Registry)
- Cancer Type.
- Cancer Stage: TNM.
- Molecular and histologic markers, as specified by CMS.
- Relapse status, with date (If applicable).
- Progression status, with date (if applicable).



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CMMI Data Registry for OCM Patients

Clinical Data: All Cancer Types

- Initial diagnosis date
- Current clinical status
- Cancer Stage: TNM
- Disease-specific data
 - C/R – KRAS, NRAS, BRAF mutations
 - Breast – histology; estrogen and progesterone receptor status, HER2 amplification status; prognostic multi-gene assay performed/results
 - Malignant Melanoma – BRAF mutation
 - Multiple Myeloma – disease status, revised ISS, remission/relapse
 - Lung – histology; EGFR, ALK, ROS1 mutations
 - Lymphoma – disease status, CNS, resection, clinical stage



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The University of Tennessee

WEST

Cancer Center

Methodist Healthcare Family

Oncology Care Model Challenges and Innovation

Cheryl A Prince

Garrett Young

Quality, Innovation, and Clinical Integration

High-risk Patient Identification



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Initial Hypotheses

- 1** Identifying actionable cost and quality drivers will be paramount in achieving success in the OCM program
- 2** Improving high-cost utilization patterns may have a large impact on OCM patient cost and quality
- 3** Having the capability to proactively identify “high risk” patients to focus resources on will be key in affecting change



IP Utilization and Cost: CMS Expenditures

Hospitalization costs accounted for 18% of all CMS spend for West's OCM patients in the second half of 2016

CMS Hospitalization Spend – 6 months
West OCM Patients, combined Q3 and Q4 2016

Hospitalization Type	Hospitalizations	% of CMS IP Spend	% of All CMS Spend
Cancer-related	231	30%	5%
Treatment-related	85	6%	1%
Chronic condition	58	4%	1%
All other	560	60%	11%
Total	934	100%	18%

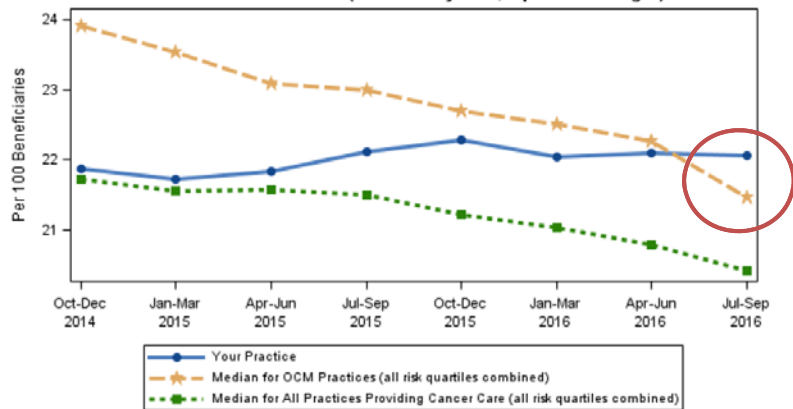


Inpatient and Emergency Room Utilization Patterns

OCM quality metrics measured performance in IP and ER utilization; CMS-provided data showed increasing utilization

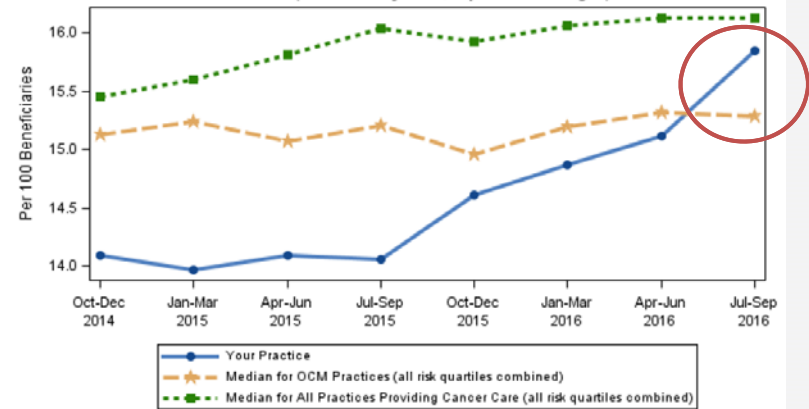
Inpatient Admissions: West vs. OCM Practices 2014 - 2016

Figure 2: Trends in Inpatient Admissions to Short-term Acute Care Hospitals and CAHs, All Cause Per 100 Beneficiaries (Not Risk Adjusted; 4-quarter Averages)



ER Utilization: West vs. OCM Practices 2014 - 2016

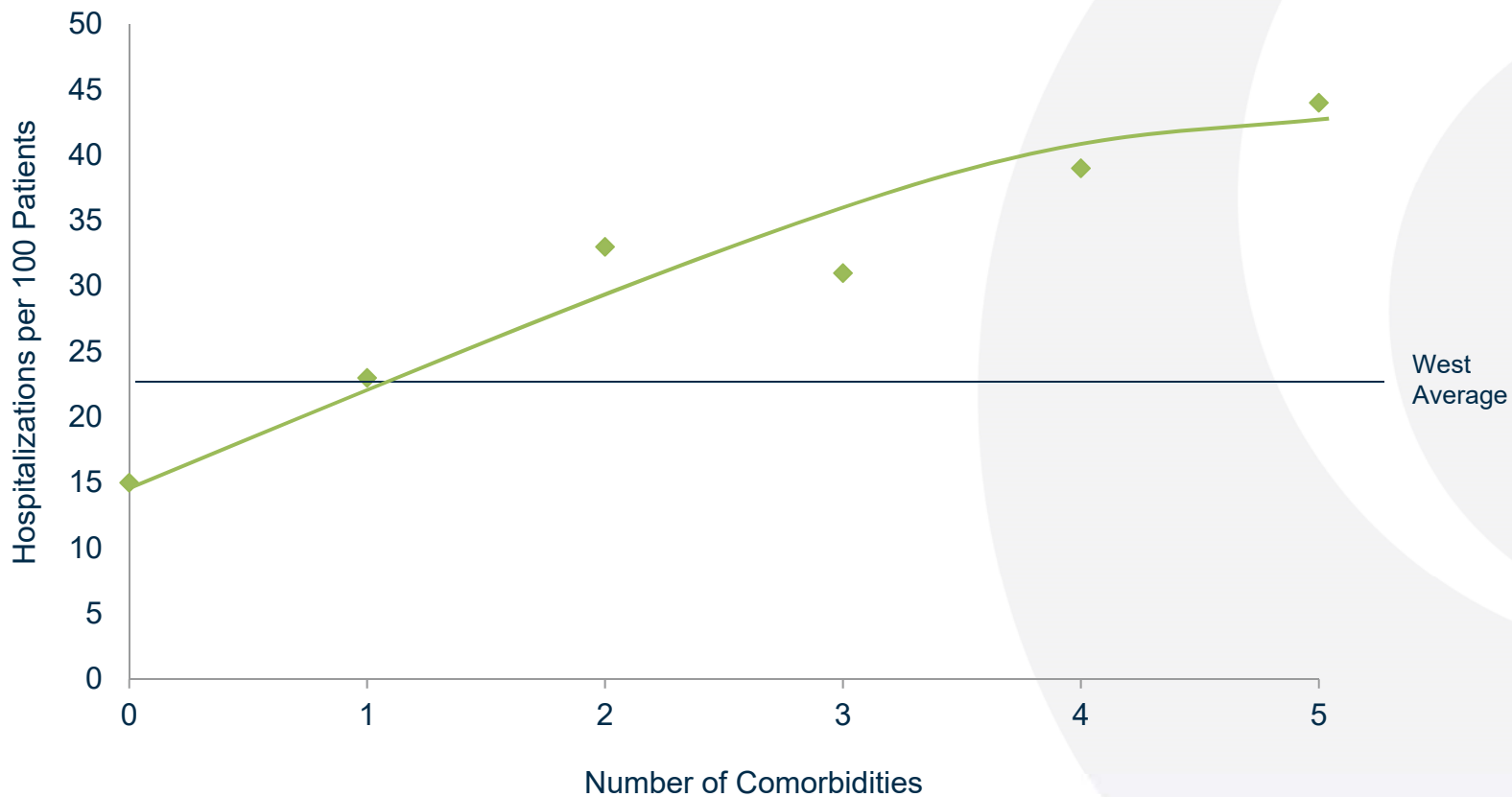
Figure 4: Trends in ED Visits Not Leading to Admission or Observation stay Per 100 Beneficiaries (Not Risk Adjusted; 4-quarter Averages)



Comorbidity Burden: Impact on Hospitalizations

OCM Patient data showed a correlation between increased number of comorbidities and IP utilization rates

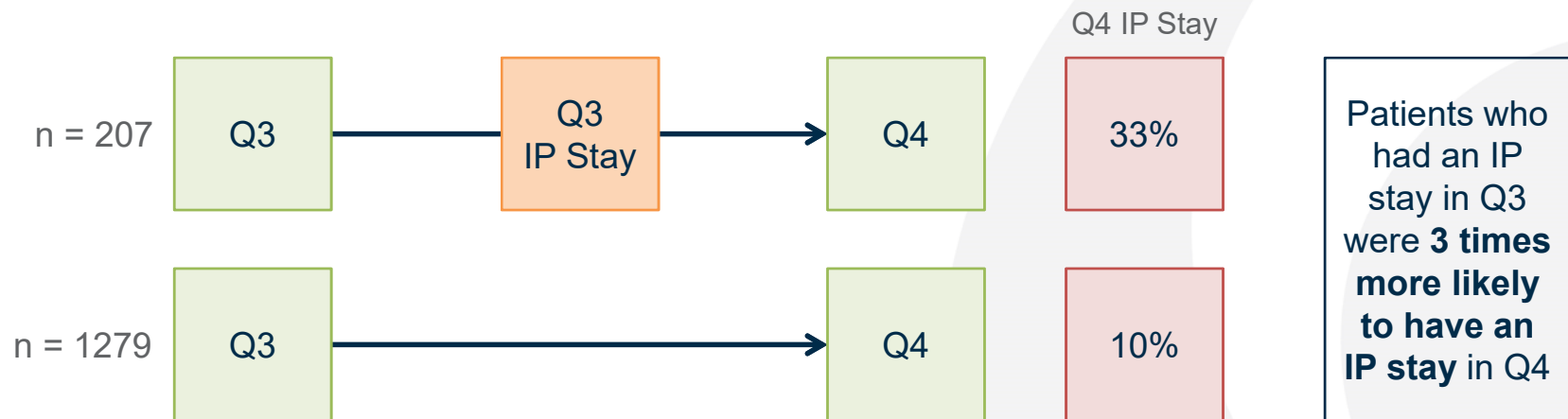
Hospitalization Rate by Number of Comorbidities
OCM Patients, combined Q3 and Q4 2016



Prior Hospitalization Impact on Future Utilization

Patients that were hospitalized in Q3 were more likely to have a Q4 hospitalization compared to those with no prior hospital utilization

Utilization Analysis Diagram



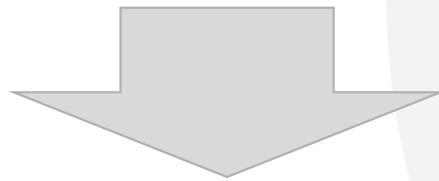
Notes

- Fisher's exact test p-value < 0.0001
- Patients who died in Q3 and Q4 were excluded to avoid capturing end of life hospitalizations
- Includes hospitalizations due to all causes; not all hospitalizations are potentially avoidable



Initial Hypotheses

- 1 Identifying actionable cost and quality drivers will be paramount in achieving success in the OCM program ✓
- 2 Improving high-cost utilization patterns may have a large impact on OCM patient cost and quality ✓
- 3 Having the capability to proactively identify “high risk” patients to focus resources on will be key in affecting change ✓



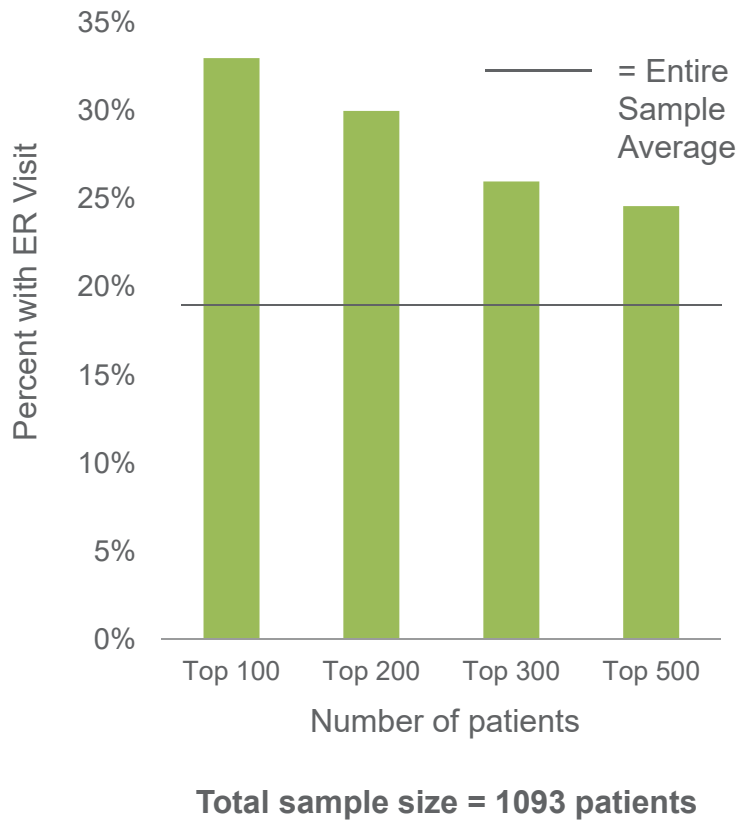
Patients’ health, demographic, and utilization data were used to create a predictive model that proactively identifies patients at a high risk of going to the ER or experiencing a hospitalization



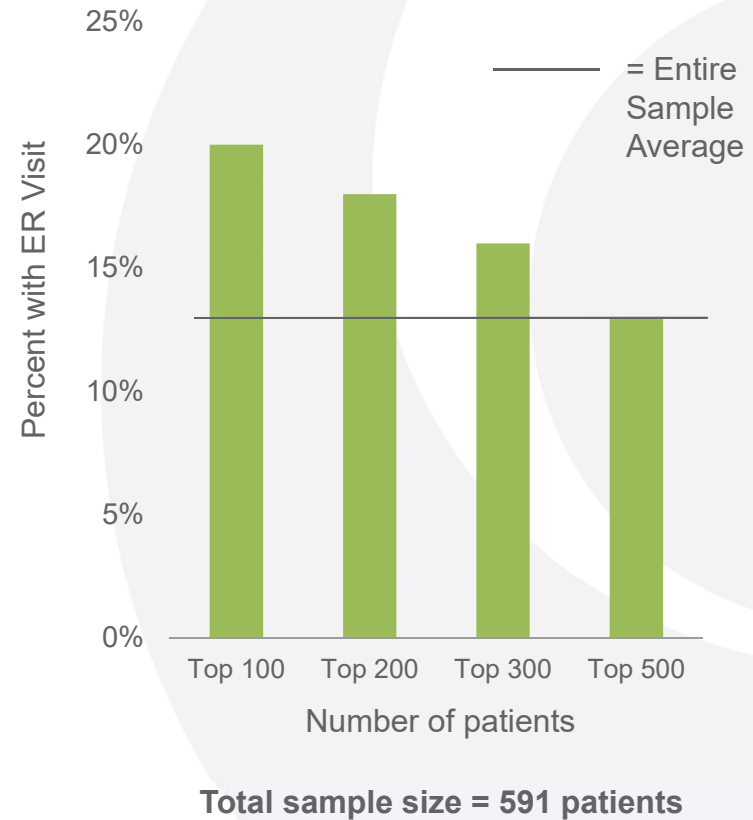
Patient Identification Model Performance – ER utilization

In both data sets tested, patients identified by the model as having the highest risk were over 50% more likely to use the ER

Percent of patients with ER utilization – Training set
OCM patients, Q3 2016 - Q4 2016



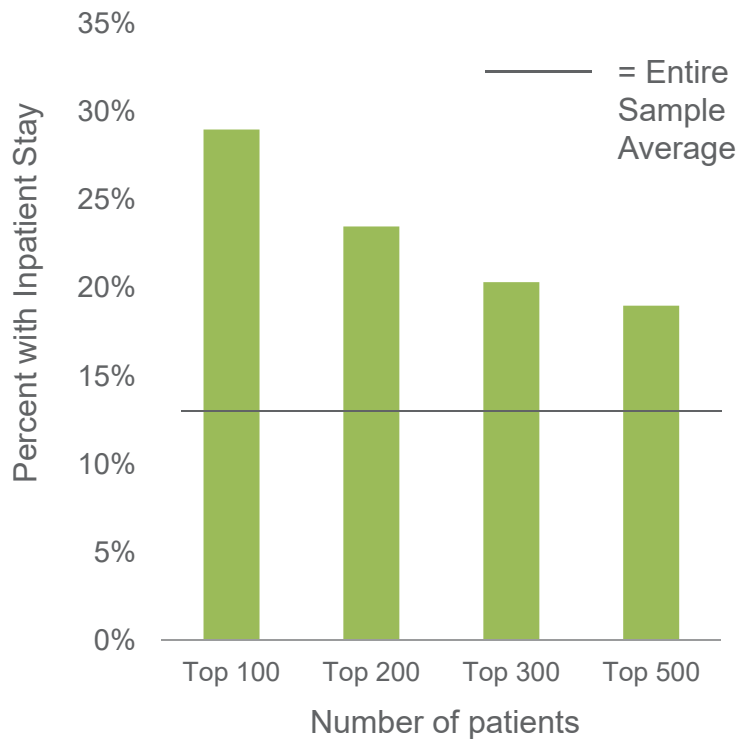
Percent of patients with ER utilization – Validation set
OCM patients, Q4 2016 – Q1 2017



Patient Identification Model Performance – Inpatient Utilization

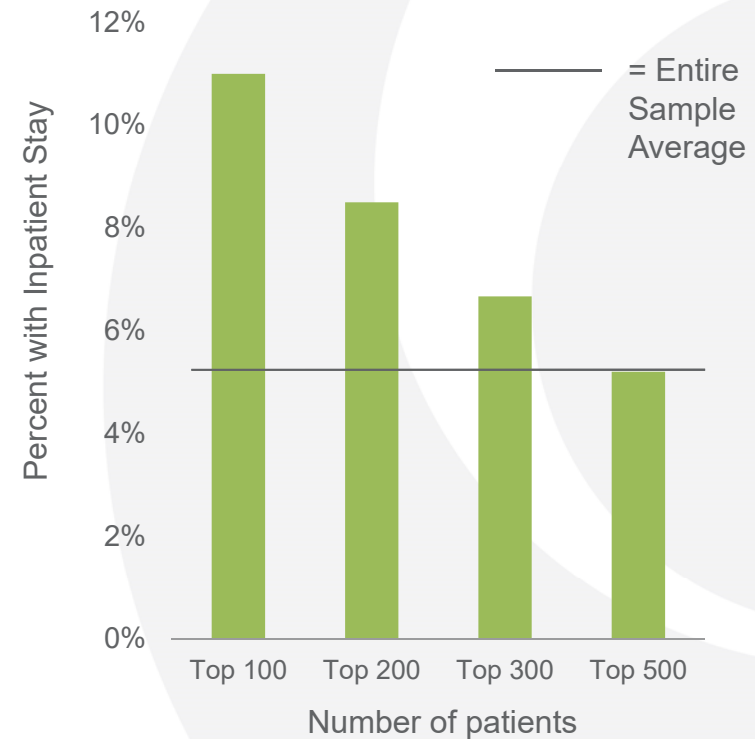
In both data sets tested, patients identified by the model as having the most risk were more than twice as likely to have an IP stay

Percent of patients hospitalized – Training set
OCM patients, Q3 2016 - Q4 2016



Total sample size = 1093 patients

Percent of patients hospitalized – Validation set
OCM patients, Q4 2016 – Q1 2017

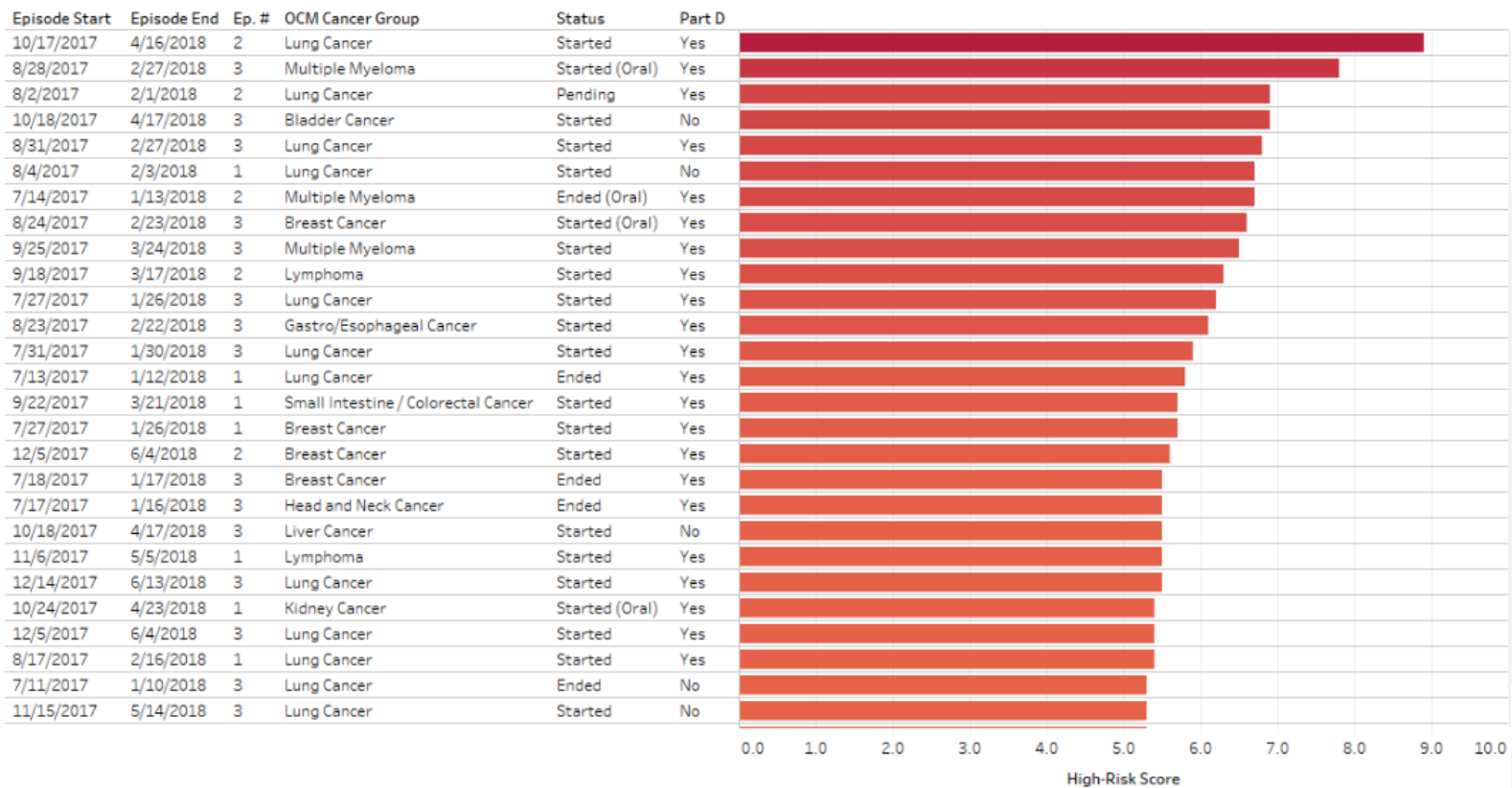


Total sample size = 591 patients



Patient Identification Dashboard (1/3)

Predictive model output was placed in a dashboard in order to be easily utilized by clinical staff members



- Dashboard automatically updated nightly to incorporate new information entered into EMR
- Hosted in web app to allow for easy access by care manager team and other staff
- Easily to modify as new data sources become available or needs are identified by users



Patient Identification Dashboard (2/3)

Predictive model output was placed in a dashboard in order to be easily utilized by clinical staff members

Patient Information

Ep. #	Episode Start	Episode End	Status	OCM Cancer Group
3	10/18/2017	4/17/2018	Started	Bladder Cancer

0.0 1.0 2.0 3.0 4.0 5.0 6.0 7.0 8.0 9.0 10.0
High-Risk Score ↗

Care Plans

Planned Start	First_Admin	End Date	Cplan Name	Cplan #
9/27/2017	8/16/2017	12/20/2017	Metastatic 2nd line Docetaxel q21d	5
4/19/2017	4/19/2017	8/4/2017	Metastatic Bladder Post Platinum Atezolizumab	4
7/6/2016	7/6/2016	8/25/2016	Metastatic Gemcitabine+Cisplatin	3

CM Notes

Note Date	Type	Subject	Note
8/18/2017	OCM-CM Assessment		Note
8/15/2017	Tx delay	Tx delay	Note

ER Utilization

Arrival	Reason for Visit	Depart Info
10/7/2017	UROSEPSIS, ADVANCE BLADDER CANCER	Admitted
9/10/2017	PNA, UTI	Placed in observation bed

IP Utilization

First Seen	Last Seen	First charge	Info
10/9/2017	10/12/2017	A3 Hospital Admit High Complexity	Info
9/11/2017	9/17/2017	A3 Hospital Admit High Complexity	Info

Comorbidities

Anemia
Hypothyroidism

CM QCLs

Created	Activity	Edited / Completed
8/7/2017	Care Manager Assessment	8/18/2017
	OCM Comorbidities	8/7/2017

Supportive Care

Future Appointments

Date	Activity
2/14/2018	Office Follow Up Appointment

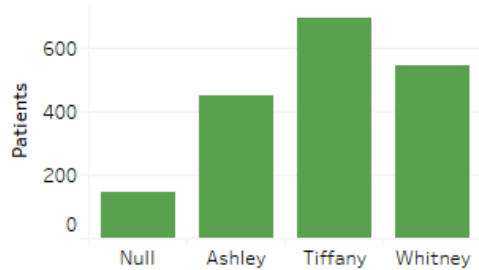
- Dashboard automatically updated nightly to incorporate new information entered into EMR
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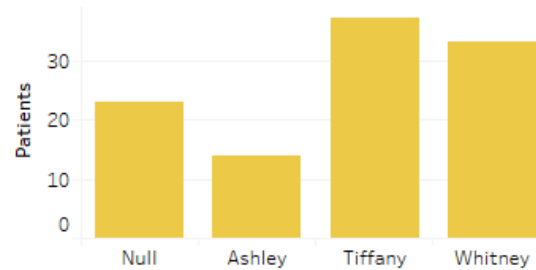
Patient Identification Dashboard (3/3)

Predictive model output was placed in a dashboard in order to be easily utilized by clinical staff members

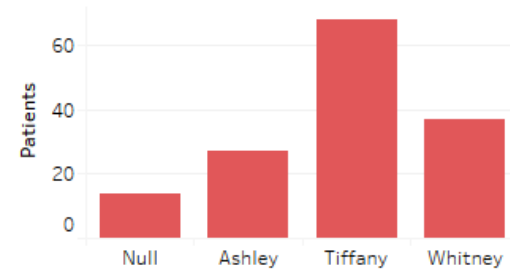
All Active Episodes



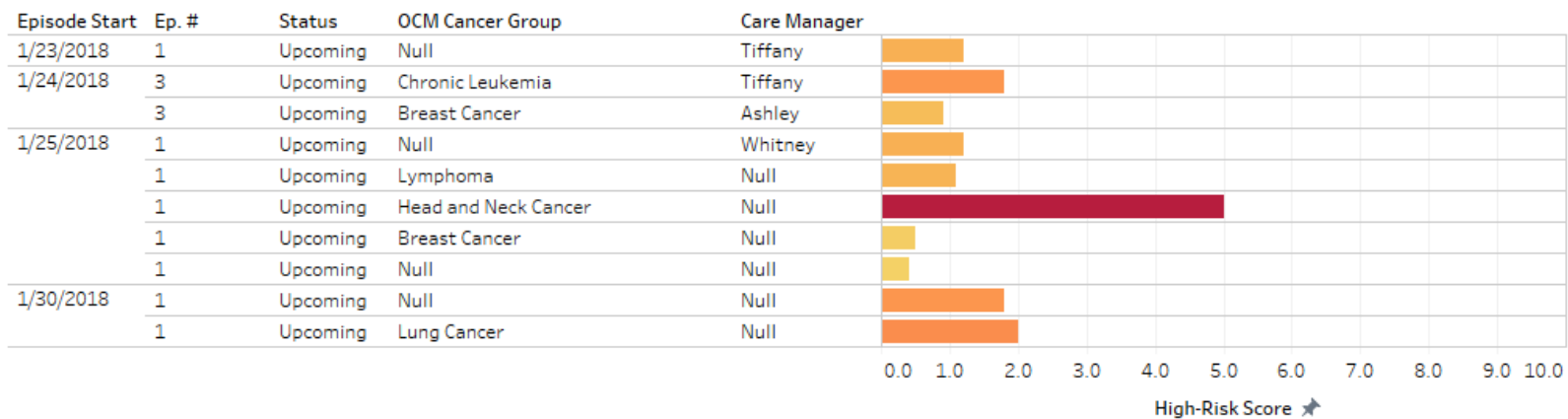
Started in past 2 Weeks



Ending in Next 2 Weeks



Upcoming Episodes



- Dashboard automatically updated nightly to incorporate new information entered into EMR
- Hosted in web app to allow for easy access by care manager team and other staff
- Easily to modify as new data sources become available or needs are identified by users



Care Manager Interventions

Information provided in the care manager dashboard will enable targeted outreach in response to specific events

Identified Intervention Triggers

- 1 New Treatment Initiation**
- 2 Hospitalization**
- 3 ER Visit**
- 4 Proactive case management by Palliative Care Team**



Physician Dashboard



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Physician Dashboard Development (1/2)

A physician-specific dashboard has been designed to increase information collection and awareness of patient-specific data

Appointment Date	Value-based Program	Recent ER Visit	Palliative Referral	Fertility Discussion	Cancer Diagnoses	Cancer Group	Possible Trials	Group Diagnoses in Chart	Staging Information Complete
1/10/2018 14:00:00				N/A	198.5	198	0	1	●
					C50.111	C50	0	3	●
					C54.1	C54	0	1	●
	OCM	Nov 3 2017		N/A	C64.9	C64	1	1	●
			Complete	N/A	C34.2	C34	0	1	●
				N/A	Null	Null	0	Null	●
				N/A	Null	Null	0	Null	●
1/10/2018 14:15:00				N/A	C18.7	C18	0	2	●
1/10/2018 14:30:00				N/A	C50.319	C50	0	2	●
				N/A	C34.11	C34	0	1	●
	OCM	Nov 3 2017		N/A	C64.9	C64	1	1	●
1/10/2018 14:45:00				N/A	Null	Null	0	Null	●
1/10/2018 15:00:00	OCM			N/A	C50.411	C50	0	1	●
					C56.9	C56	0	1	●
					C83.00	C83	0	1	●
				N/A	Null	Null	0	Null	●
1/10/2018 15:15:00	OCM			N/A	C61	C61	0	1	●
1/10/2018 15:30:00	OCM			N/A	C50.111	C50	0	2	●
		Nov 27 2017		N/A	C50.411	C50	0	1	●
				N/A	Null	Null	0	Null	●
1/10/2018 15:45:00				N/A	C61	C61	0	1	●
1/10/2018 16:00:00		Nov 27 2017		N/A	C50.411	C50	0	1	●



Physician Dashboard Development (2/2)

A physician-specific dashboard has been designed to increase information collection and awareness of patient-specific data

Patient Info

Value-based Program	Palliative Referral	Fertility Discussion
OCM		N/A

Possible Clinical Trials

Trial	
Keynote 426	Full Trial Information (Click)

Staging Information

MRN	Cancer Diagnoses	Description	Group Diagnoses in Chart	Staging Information Complete	Diagnosis Date	T Stage	N Stage	M Stage
270019	C64.9	Malignant neoplasm of unspecified kidney, except renal pelvis	1	●	●	●	●	●

ER Data

Arrival Date	Reason for Visit	Depart Status
11/3/2017 7:28:00 AM	AKI,DYSPNEA	Placed in observation bed



Innovations

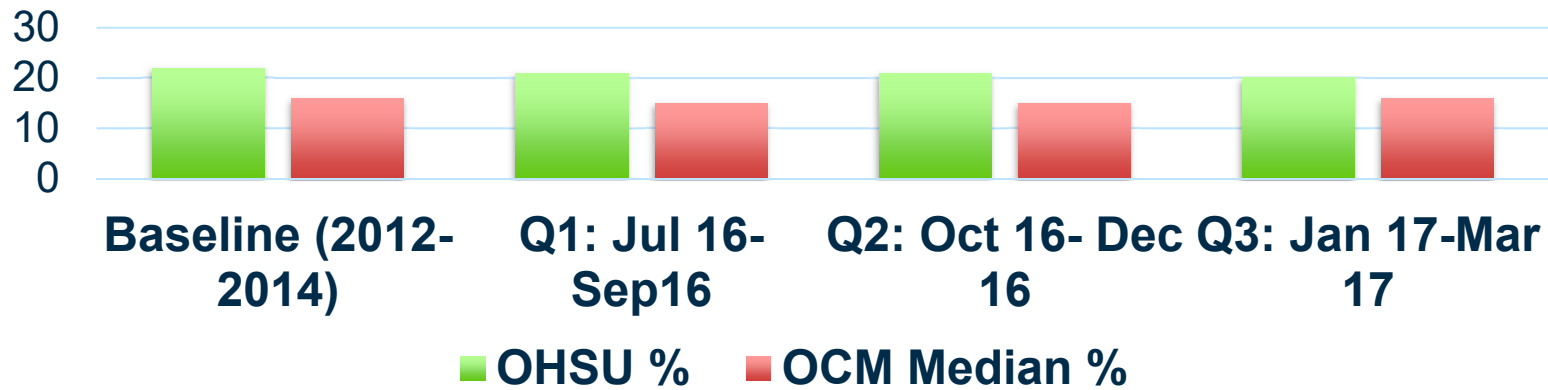
OCM Practice Feedback Data

	OHSU	OCM practices in the same patient risk quartile as your practice	All practices providing cancer care in the same patient risk quartile as your practice
Number of inpatient admissions to short-term acute care hospitals and CAHs, all cause	21.4	25.8	25.9
Number of unplanned readmissions to short-term acute care hospitals and CAHs within 30 days of discharge	4.0	5.8	5.6
Number of ED visits not leading to admission or observation stay	19.1	16.3	18.6

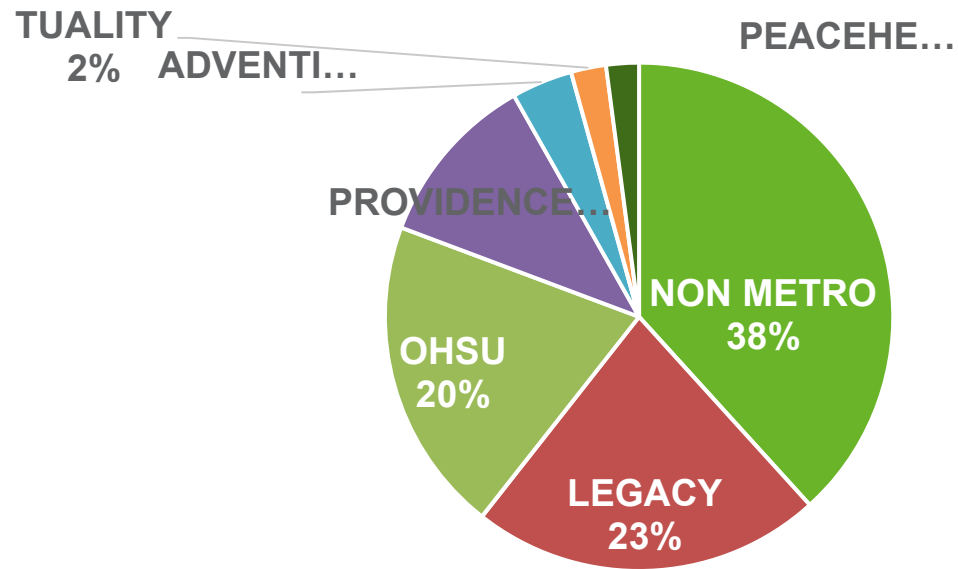
OCM ED Utilization



per 100 beneficiaries/per beneficiary per month
treat and release visits only



ED Visit Hospital Distribution



1



Encouraging patients
to proactively
communicate urgent
symptoms

2



Finding time in
providers' daily
schedules

3

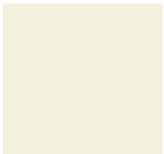


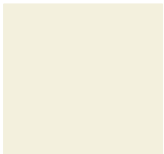
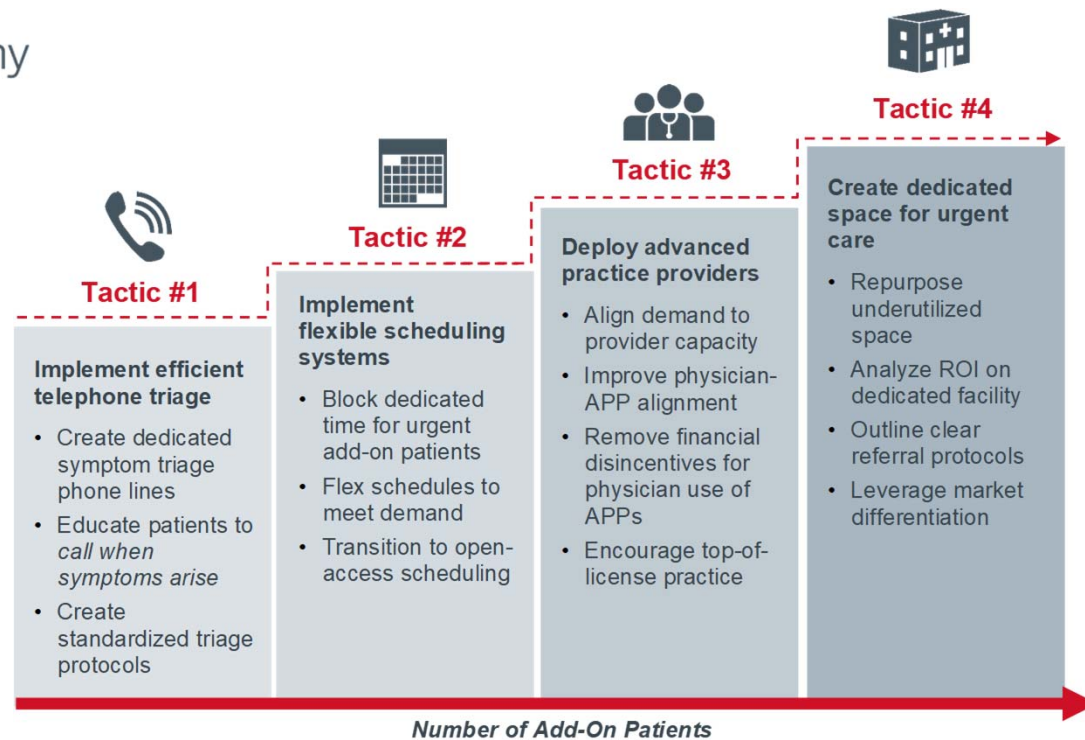
Supporting
patients after
hours

4



Finding space to
treat add-on
patients

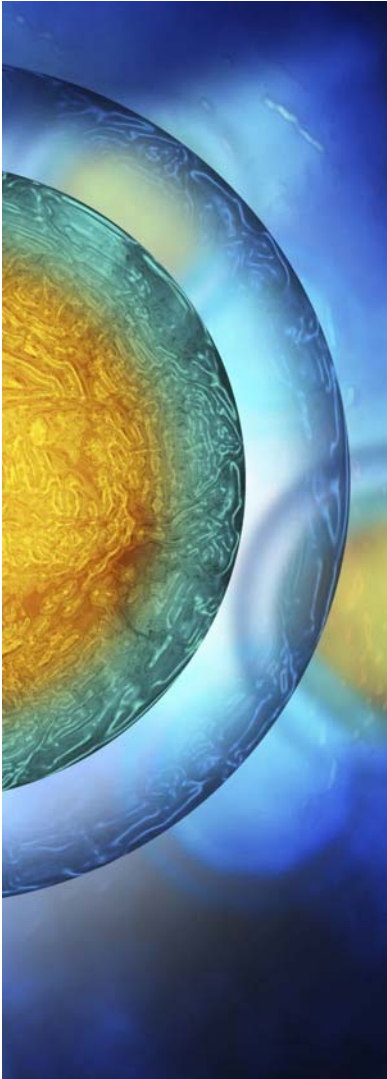




Patient Education and Contact

- Reinforced patient and caregiver education
 - Standardization
 - Booklets
 - Proactive phone calls on day 2 or 3 following treatment
 - 51% of patients needed symptom management on day 3
 - Catching febrile patients that were not calling us
 - Catching medication issues
-

Outpatient Sepsis Prediction



- Resulted from opportunity analysis of costs from Medicare OCM claims data (2012-2014)
- Sepsis admissions had three notable features:
 1. Common (>100 cases in 3 years, ~10% of admissions)
 2. Expensive (over \$1 mil, 9% of spend, and \$9,468 per admission)
 3. Not at OHSU (~70% admit elsewhere)

Outpatient Sepsis Prediction



- Use EHR data to predict sepsis occurring at OHSU or elsewhere
 - Uses cancer type, comorbidities, labs, medications, procedures
 - Survival model predicts probability in next 30 days of having sepsis admission
- Ranked list of all OCM patients delivered weekly to nurse care managers including predictors

Vision

- Regular, scheduled patient phone contacts
 - Symptom management calls based on patterns for treatment regimen
 - Leverage sepsis model to increase contacts for high-risk patients
 - Additional risk stratifications
 - Caregiver concerns
 - Patients with a history of not reporting symptoms



Thank You

