Bundles in Oncology: Reflections on the Medicare Experience

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Oncology Care Model - Bundle Structure

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Components of the Medicare Oncology Bundle

- Eligibility criteria
- Attestation requirements
- Proactive redesign
- Measures – 2 types
- Financial components
- Commercial payers – OCM participants

Compliance Requirements

- Attestation and use of ONC-certified EHRs.
- Provide and attest to 24 hours a day, 7 days a week patient access to an appropriate clinician who has real-time access to practice's medical records.
- Treat patients with therapies consistent with nationally recognized clinical guidelines.
- Beneficiary notification
- Patient surveys
- Provide and attest to 24 hours a day, 7 days a week patient access to an appropriate clinician who has real-time access to practice's medical records.

Performance Based Payment

- Risk-adjusted proportion of OCM Beneficiaries with all-cause hospital admissions within the 6-month episode Claims ☑
- Risk-adjusted proportion of OCM Beneficiaries with all-cause emergency department visits that did not result in a hospital admission within the 6-month episode Claims ☑
- Proportion of OCM Beneficiaries who died who were admitted to hospice for 3 days or more Claims ☑

Performance Based Payment

- Patient-Reported Experience - CMS Survey (82 item survey every 6 months)
- Prostate Cancer: Adjuvant Hormonal Therapy for High or Very High Risk Prostate Cancer (NQF 0390)‡ Practice reported ☑
- Adjuvant chemotherapy is recommended or administered within 4 months (120 days) of diagnosis to patients under the age of 80 with AJCC III (lymph node positive) colon cancer (NQF 0223) ‡ receptor– negative breast cancer (NQF 0559) Practice reported ☑
- Combination chemotherapy is recommended or administered within 4 months (120 days) of diagnosis for women under 70 with AJCC T1cN0M0, or Stage IB - III hormone receptor negative breast cancer (NQF 0559) ‡ Practice reported ☑

Use of “Novel Therapies” – Guidance from CMS

- “New therapies that received FDA approval after December 31, 2014 will be consider for inclusion…(as a novel therapy).”
- Expenditures for these therapies will only be included in the adjustment if their use is consistent with FDA-approved indications. New therapies will be included in the adjustment for 2 years from the FDA approval date for that specific indication.
- Generally CMS expects to update the list a couple of months before each performance period (which occurs towards the end of each 6 month episode)

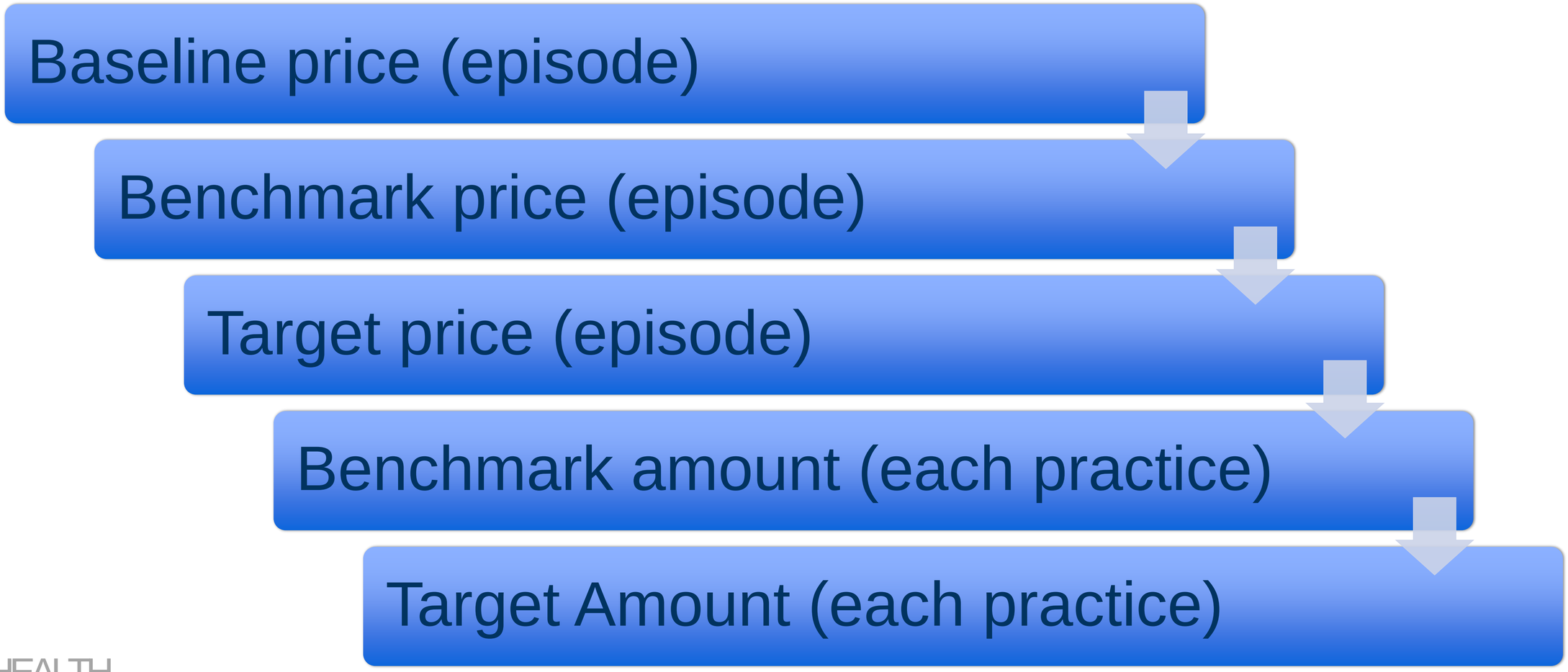
Financial Component

- MEOS - Monthly Enhanced Oncology Services
- $156.80/month for 6 months – can repeat (decreased amount due to budget sequestration)
- Cancer ICD-10 diagnosis code
- Oral claim from Part D plan
- IV CPT code
- Episode cost threshold
- Discount factor
- Performance multiplier
- Pooled

Implementation Success & Use of Data

OCM is an Intensely Quantitative Episode Based Model

Financial Targets - Complex multi-part calculation built in steps off historical data



Prediction (Risk Adjustment) Model Variables

Prediction model → estimated by regressing baseline episode expenditures by covariates determined to influence episode expenditures.

male_age_18_64
male_age_65_69
male_age_70_74
male_age_75_79
male_age_80+
female_age_18_64
female_age_70_74
female_age_75_79
female_age_80+
bladder_with_surgery
bladder_without_surgery
intestinal_with_surgery
intestinal_without_surgery
breast_part_b_with_surgery
breast_part_b_without_surgery

breast_part_d_only_with_surgery
gastro_with_surgery
gastro_without_surgery
liver_with_surgery
liver_without_surgery
lung_with_surgery
lung_without_surgery
ovary_with_surgery
ovary_without_surgery
female_gu_with_surgery
female_gu_without_surgery
pancreas_with_surgery
pancreas_without_surgery
prostate_with_surgery
prostate_without_surgery
head_neck_with_surgery
head_neck_without_surgery

anal_with_surgery
anal_without_surgery
CNS
Chronic_Leukemia
Acute_Leukemia
Lymphoma
Myeloma
MDS
Endocrine
Kidney
Melanoma
bmt_allogeneic
bmt_autologous
ep_182_183
clean_1_61
clean_62_730
Institutional_status
hrr_relative_cost

Full_Dual
Part_D_LIS
Part_D_no_LIS
hcc_new
hcc_1
hcc_2
hcc_3
hcc4_5
hcc6_or_more
Clinical_Trial
Radiation

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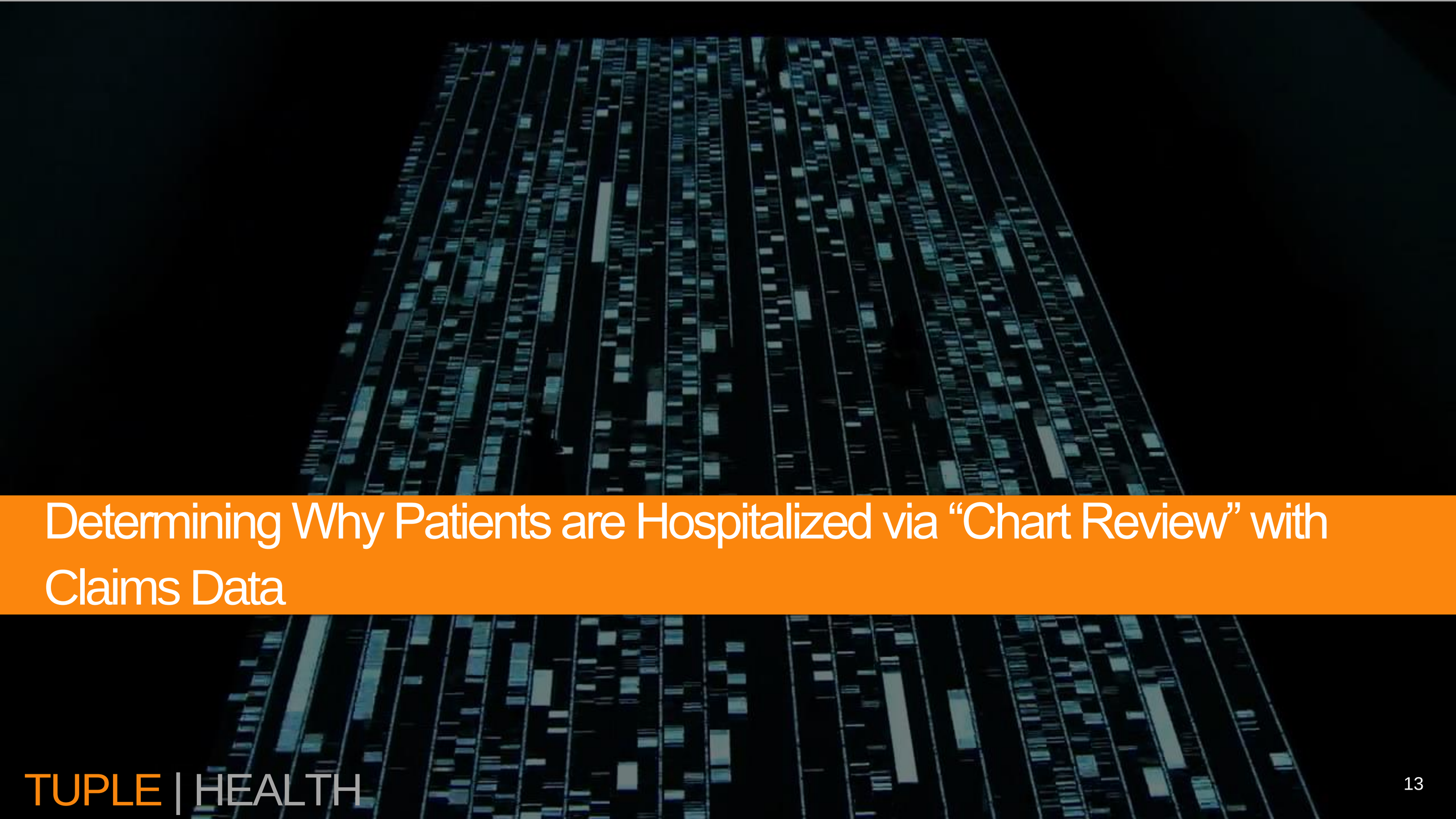
Key Take Aways:

Best practices in using claims data for bundled payment

- Not just what but exploring the why behind utilization & costs → what to do & potential ROI
- Using claims data to understand why is a strong opportunity to engage physicians
- Total cost of care happens outside your walls & claims data are the best picture we have of that

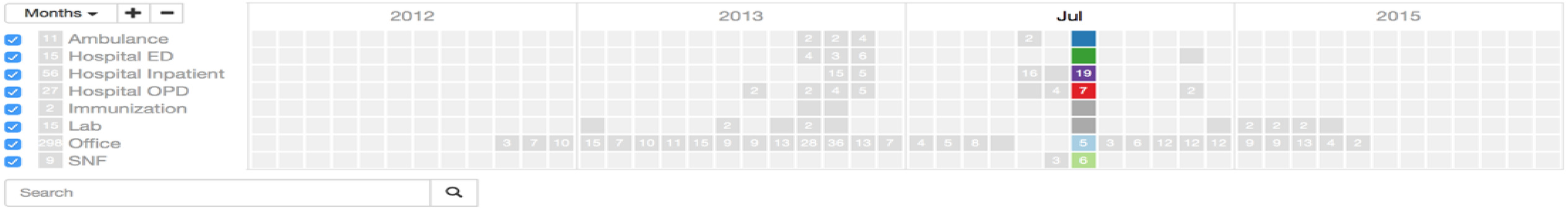


Determining Why Patients are Hospitalized via “Chart Review” with Claims Data

The “Full Picture”: Succinct Summary of Care → Across Transitions

			solution infus	
Office	Wed, Aug 21	Malignant neoplasm of breast (female), unspecified	Trastuzumab injection; Chemo iv infusion 1 hr; Chemo iv infusion addl hr; Complete cbc w/auto diff wbc; Normal saline solution infus	Medical oncology
Office	Wed, Aug 21	Malignant neoplasm of breast (female), unspecified	Office/Hospital OPD visit est	Medical oncology
Office	Wed, Aug 21	Malignant neoplasm of breast (female), unspecified	Comprehen metabolic panel	Medical oncology
Office	Wed, Aug 28	Malignant neoplasm of breast (female), unspecified	Docetaxel injection; Palonosetron hcl; Chemo iv infusion 1 hr; Tx/pro/dx inj new drug addon; Complete cbc w/auto diff wbc; Dexamethasone sodium phos; Normal saline solution infus	Hematology/oncolc
Office	Fri, Aug 30	Nausea alone	Office/Hospital OPD visit new; Hydration iv infusion init; Promethazine hcl injection	Nurse practitioner
		Sept 2013		
Office	Sun, Sept 1	Nausea alone	Office/Hospital OPD visit new; Hydration iv infusion init; Promethazine hcl injection	Medical oncology
Ambulance	Mon, Sept 2	Nausea with vomiting	Als1-emergency; Ground mileage	Ambulance service
Hospital ED	Mon, Sept 2	Malignant neoplasm of breast (female), unspecified	X-ray exam series abdomen	Diagnostic radiolog
Hospital ED	Mon, Sept 2	Abdominal pain, unspecified site	Emergency dept visit	Emergency medicir
Hospital OPD	Mon, Sept 2	Abdominal pain, unspecified site	Emergency dept visit; X-ray exam series abdomen; Blood culture for bacteria; Comprehen metabolic panel; Microbe susceptible mic; Urine culture/colony count; Complete cbc w/auto diff wbc; Assay of	Emergency Medicir

Honing In: Claims + Clinical Acumen → Why

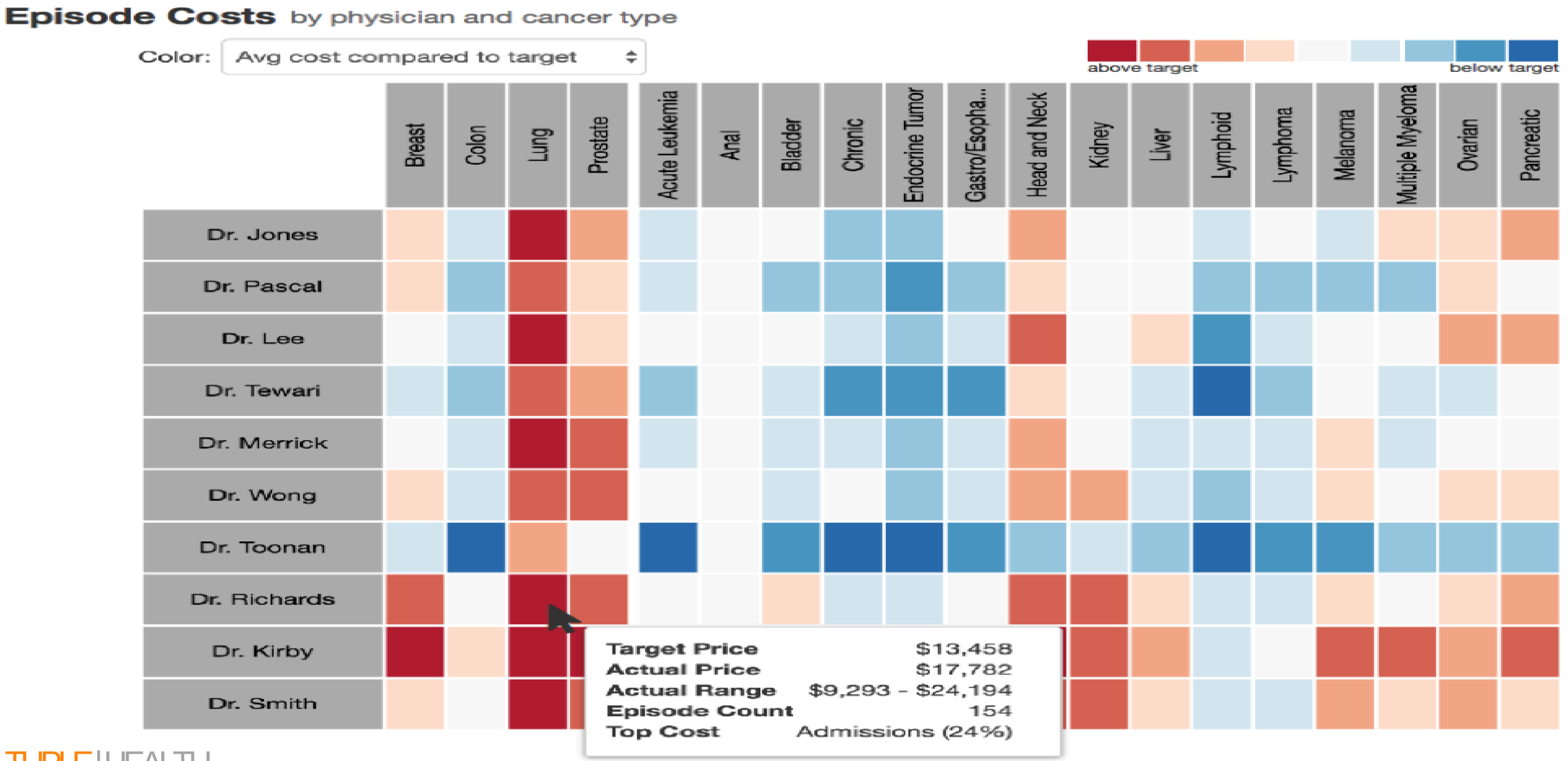


Jul 2014

Office	Tues, Jul 1	Malignant neoplasm of breast (female), unspecified	Inj, ado-trastuzumab emt 1mg; Chemo iv infusion 1 hr; Complete cbc w/auto diff wbc; Normal saline solution infus	Medical oncology	Physician
Office	Tues, Jul 1	Aftercare for healing pathologic fracture of hip	Md certification hha patient	Internal medicine	Physician
Ambulance	Sun, Jul 6	Other respiratory abnormalities	Als1-emergency; Ground mileage	Ambulance service	Physician
Hospital ED	Sun, Jul 6	Other pulmonary embolism and infarction	Critical care first hour	Emergency medicine	Physician
Hospital Inpatient	Sun, Jul 6	Other pulmonary embolism and infarction	Ct thorax w/dye	Diagnostic radiology	Physician
Hospital Inpatient	Sun, Jul 6	Other pulmonary embolism and infarction	Chest x-ray 1 view frontal	Diagnostic radiology	Physician
Hospital Inpatient	Sun, Jul 6	Other pulmonary embolism and infarction; Acute respiratory failure; Secondary malignant neoplasm of bone and bone marrow; Acute venous embolism and thrombosis of deep vessels of proximal lower extremity; Malignant neoplasm of liver, secondary; Cellulitis and abscess of upper arm and forearm; Malignant neoplasm of breast (female), unspecified; Obesity, unspecified; Body Mass Index 29.0-29.9, adult; Unspecified essential hypertension; Other and unspecified hyperlipidemia		Internal Medicine	Hospital Inpatient
Hospital Inpatient	Mon, Jul 7	Other pulmonary embolism and infarction	Critical care first hour	Internal medicine	Physician
Hospital Inpatient	Mon, Jul 7	Other pulmonary embolism and infarction	Extremity study	Diagnostic radiology	Physician
Hospital Inpatient	Mon, Jul 7	Other pulmonary embolism and infarction	Ct head/brain w/o dye; Extremity study	Diagnostic radiology	Physician
Hospital Inpatient	Mon, Jul 7	Other pulmonary embolism and infarction	Initial hospital care; Subsequent hospital care; Tte w/doppler complete	Cardiology	Physician
Hospital Inpatient	Tues, Jul 8	Other pulmonary embolism and infarction	Subsequent hospital care	Internal medicine	Physician

Understanding Overall Practice Performance in OCM

The "Big Picture View" → Where to Focus Time & Resources for Improvement



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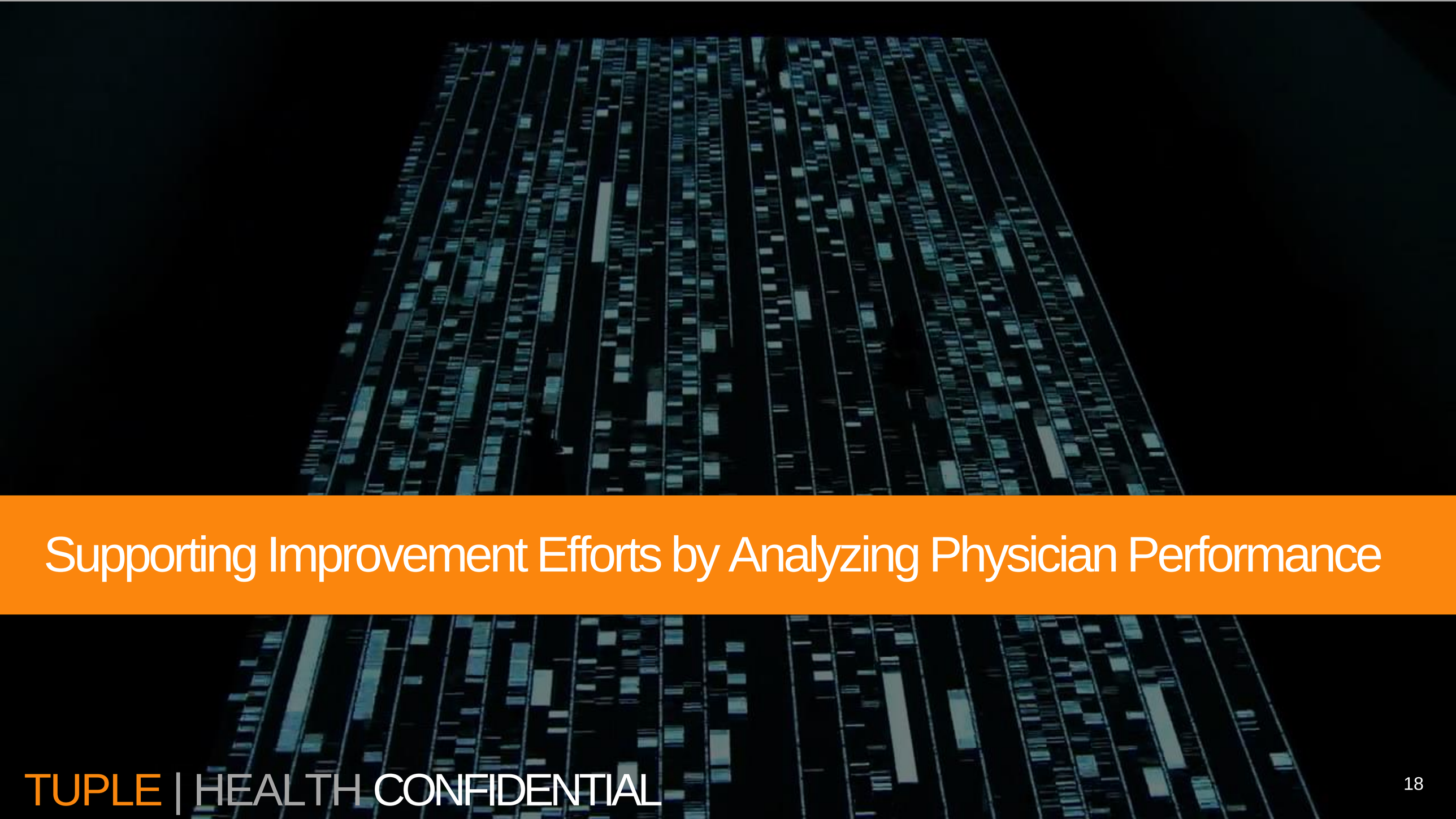
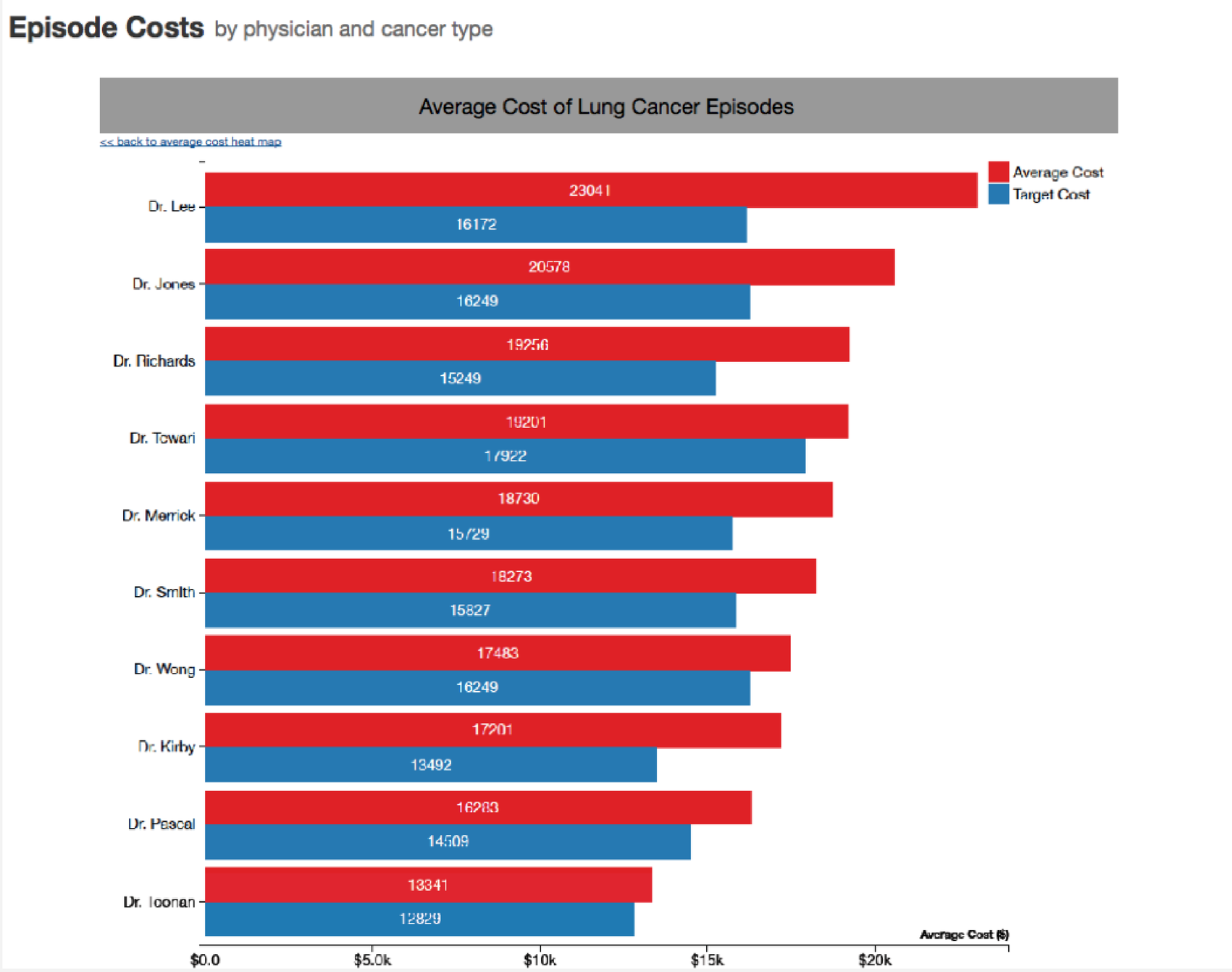


Supporting Improvement Efforts by Analyzing Physician Performance

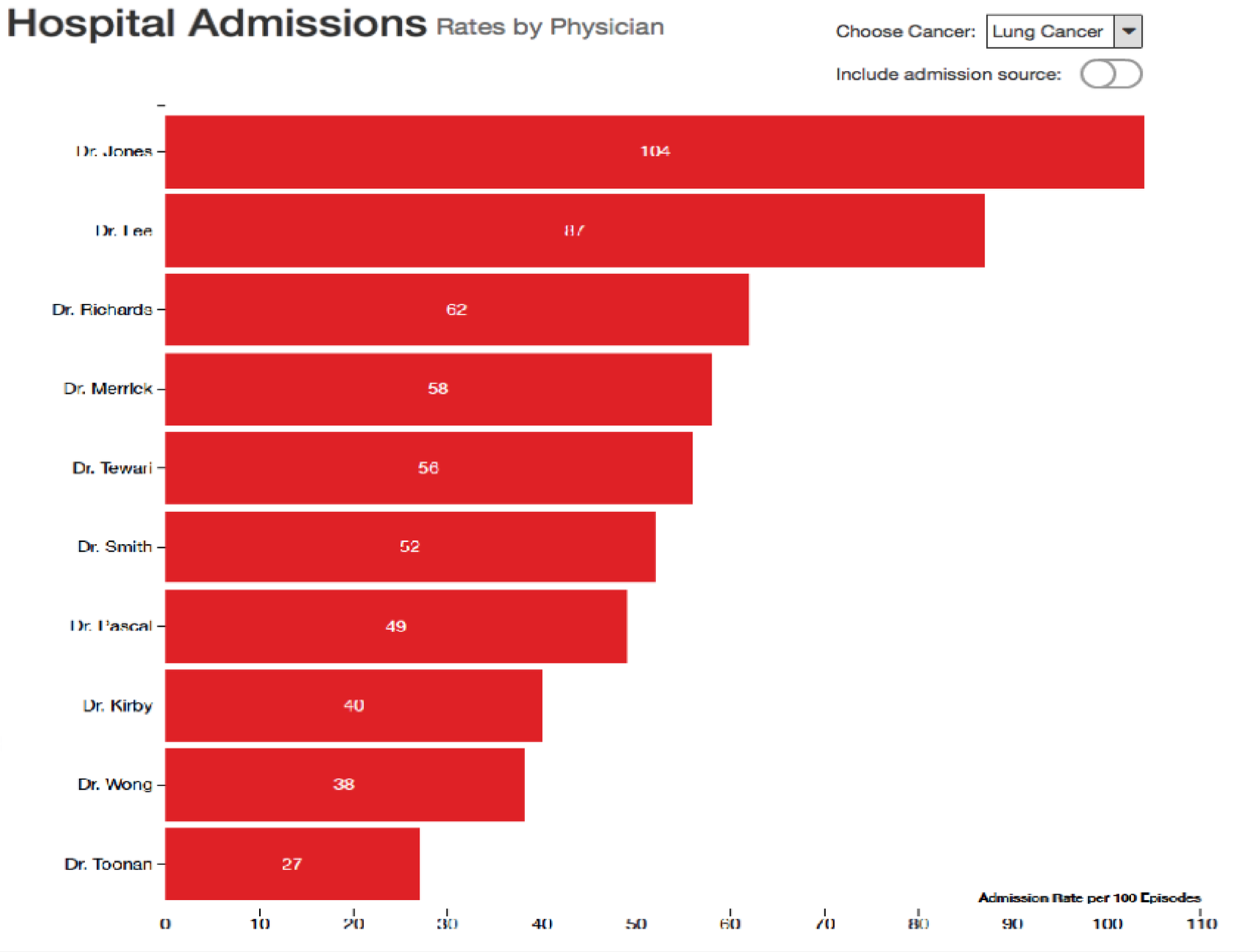
A Starting Point for a Conversation

Physician x cancer level analyses helps create **hypotheses** for care management interventions



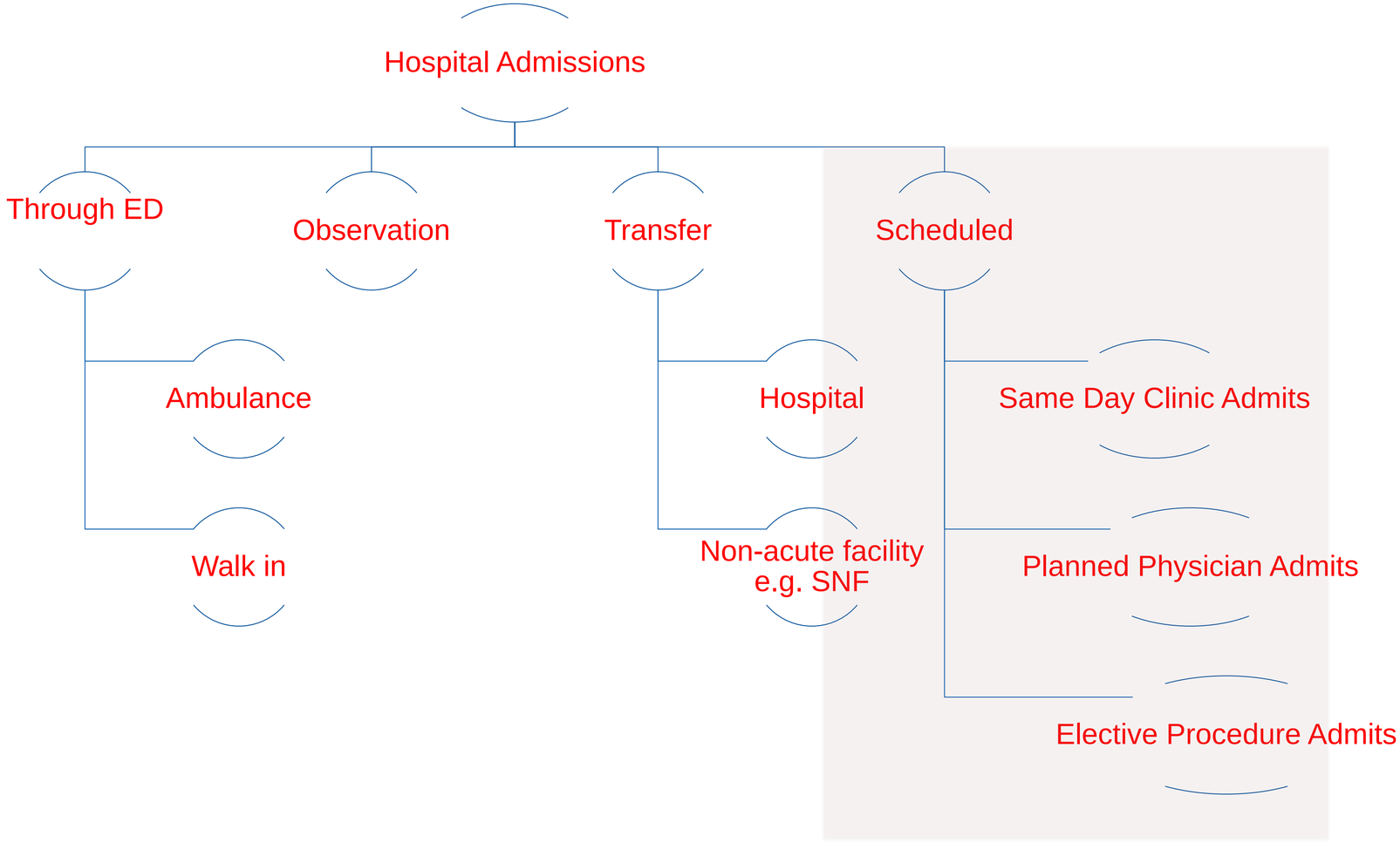
Drilling Down & Getting to Why

Cost → Utilization adds additional granularity to hypotheses and helps in develop the right programs & interventions



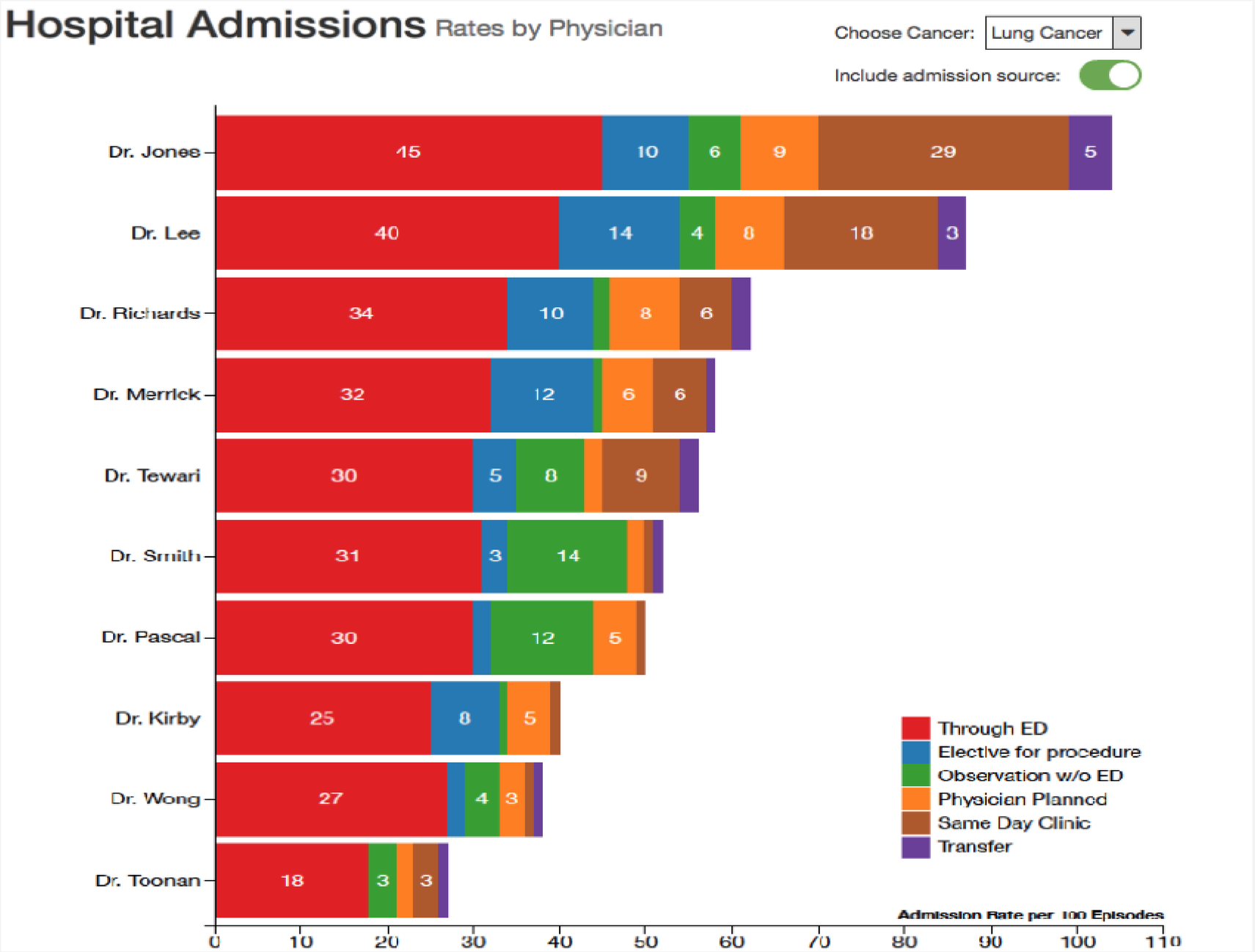
Oncology is Different: Direct from Clinic /Physician Scheduled Admissions

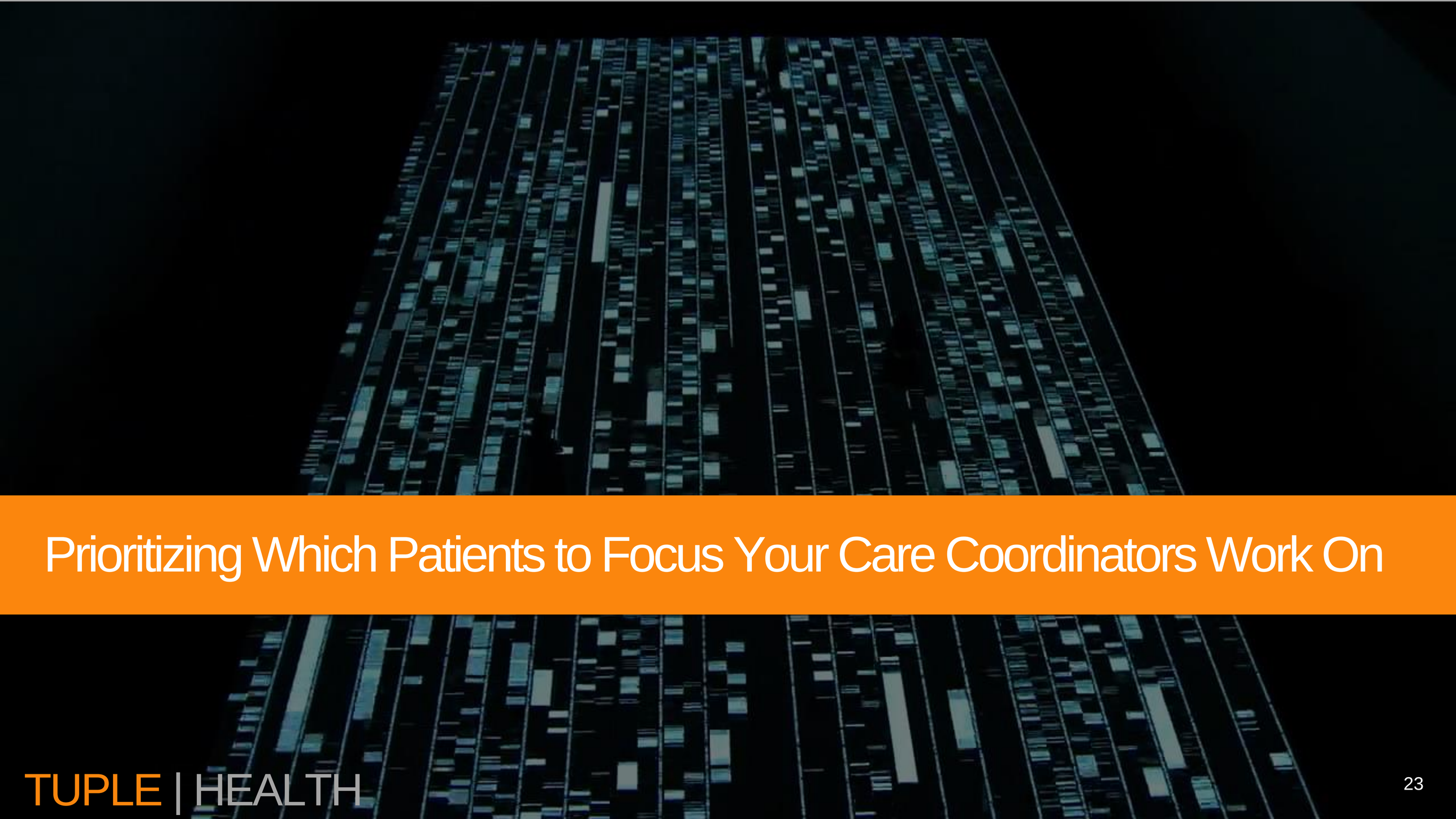
Care management requirements in oncology differ from other bundle payment models due to the severity of illness. Different care coordination approaches are needed for different types of admissions



Care Coordination Requirements Vary by the Source of Admissions

Shaping care coordination to reduce admissions in more targeted ways. Care coordination is really multiple different “programs”

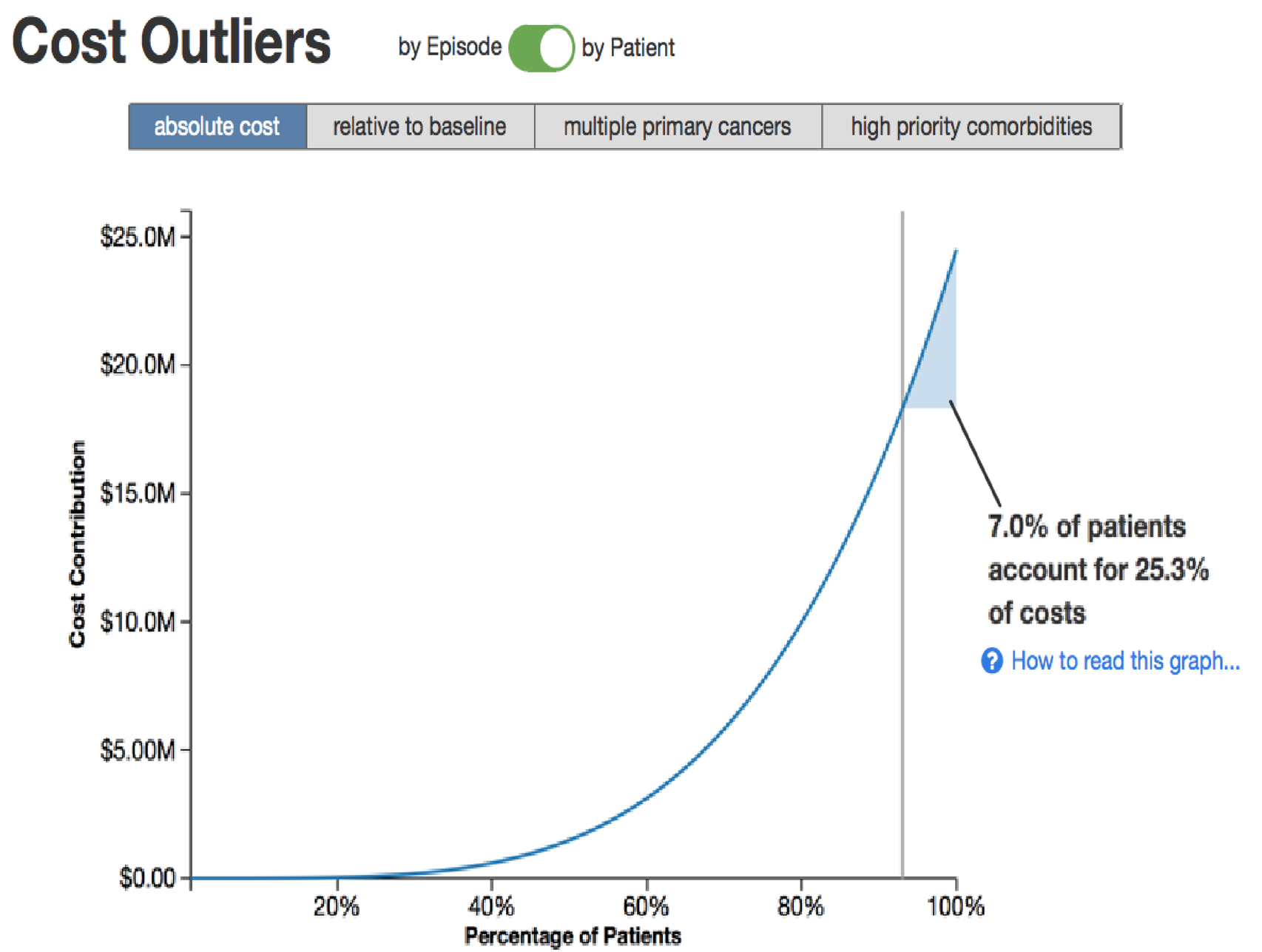




Prioritizing Which Patients to Focus Your Care Coordinators Work On

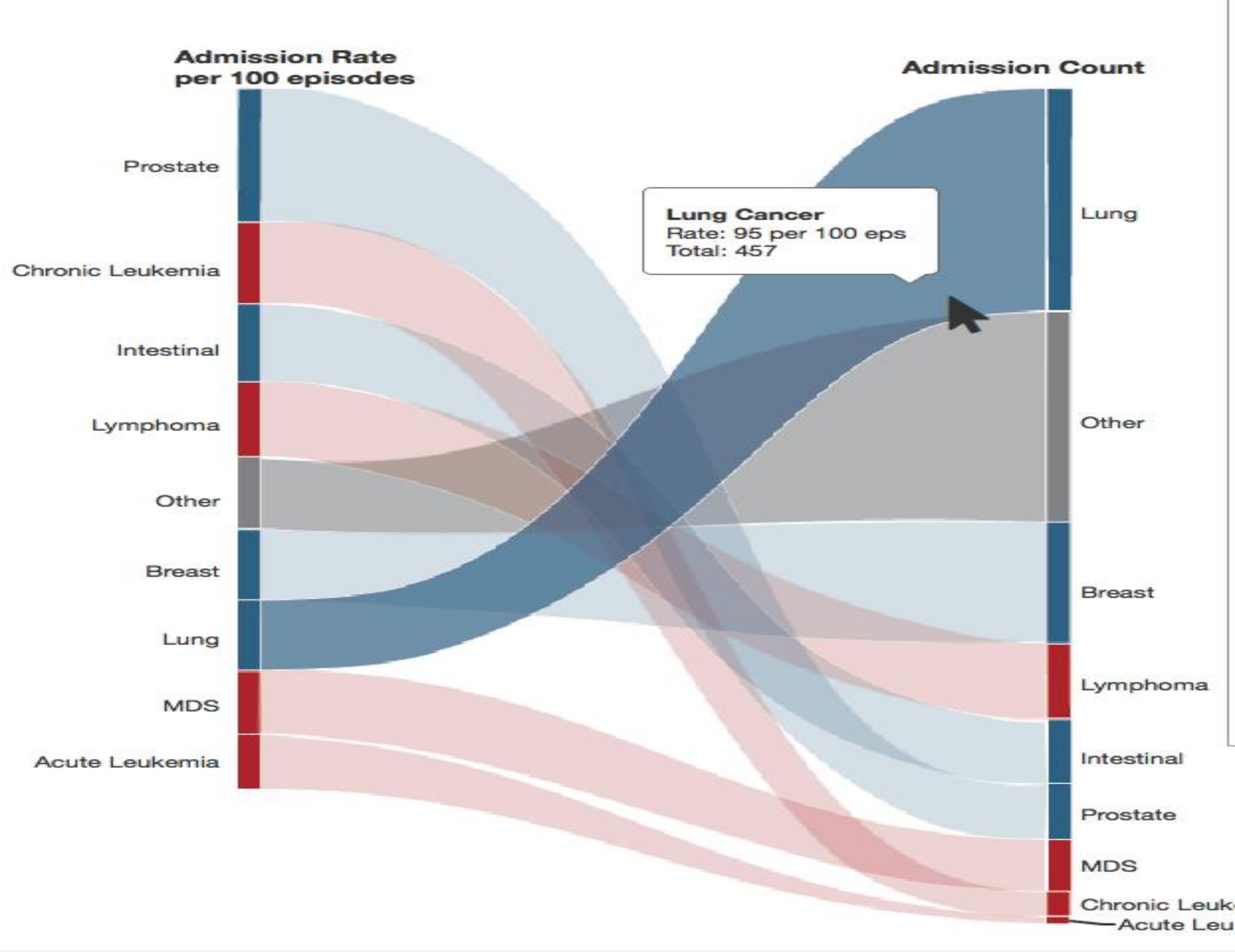
Focusing Your Resources

Prioritizing staff, infrastructure and practice transformation resources



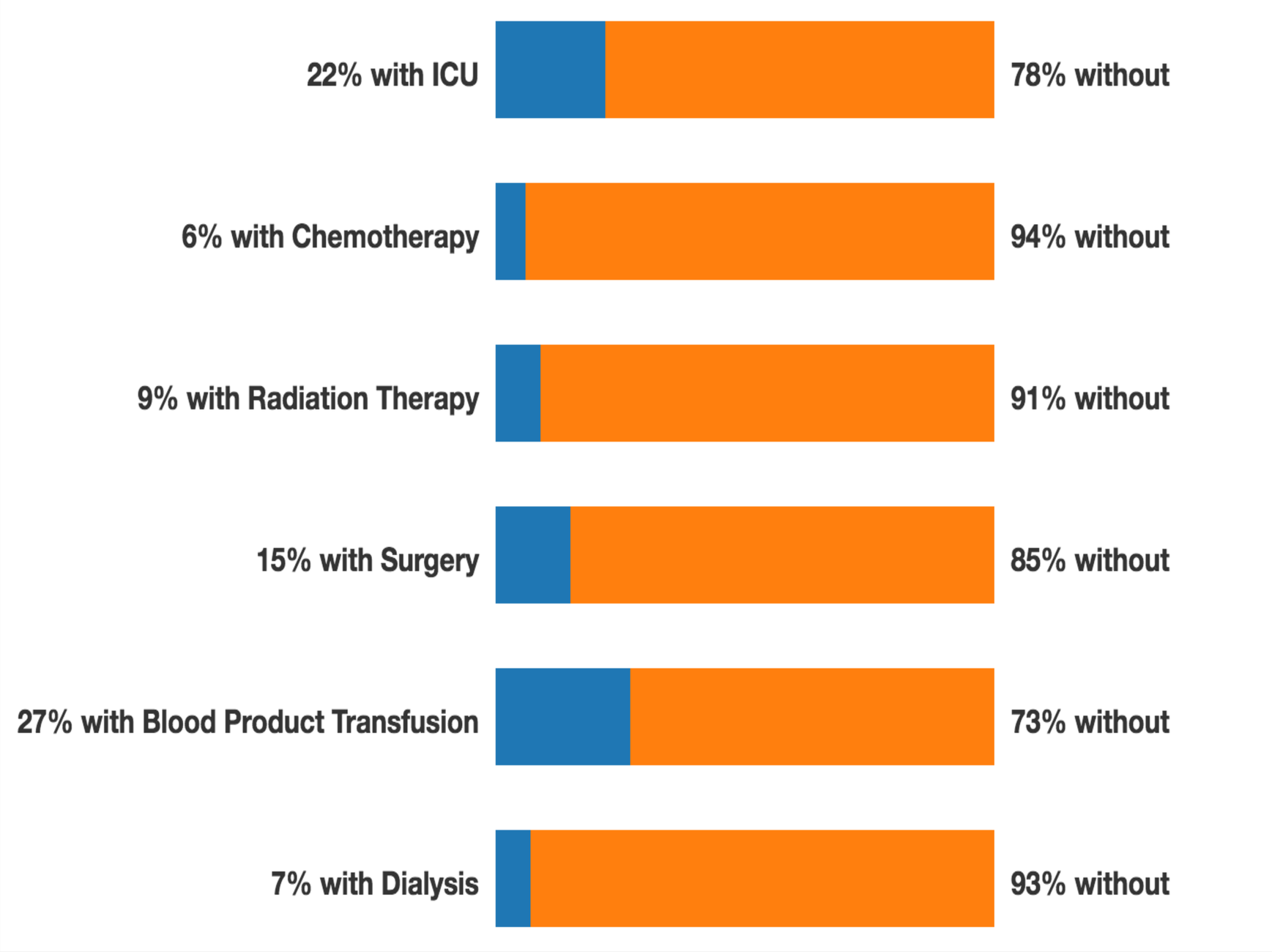
What's the Right Population to Target for Care Coordination

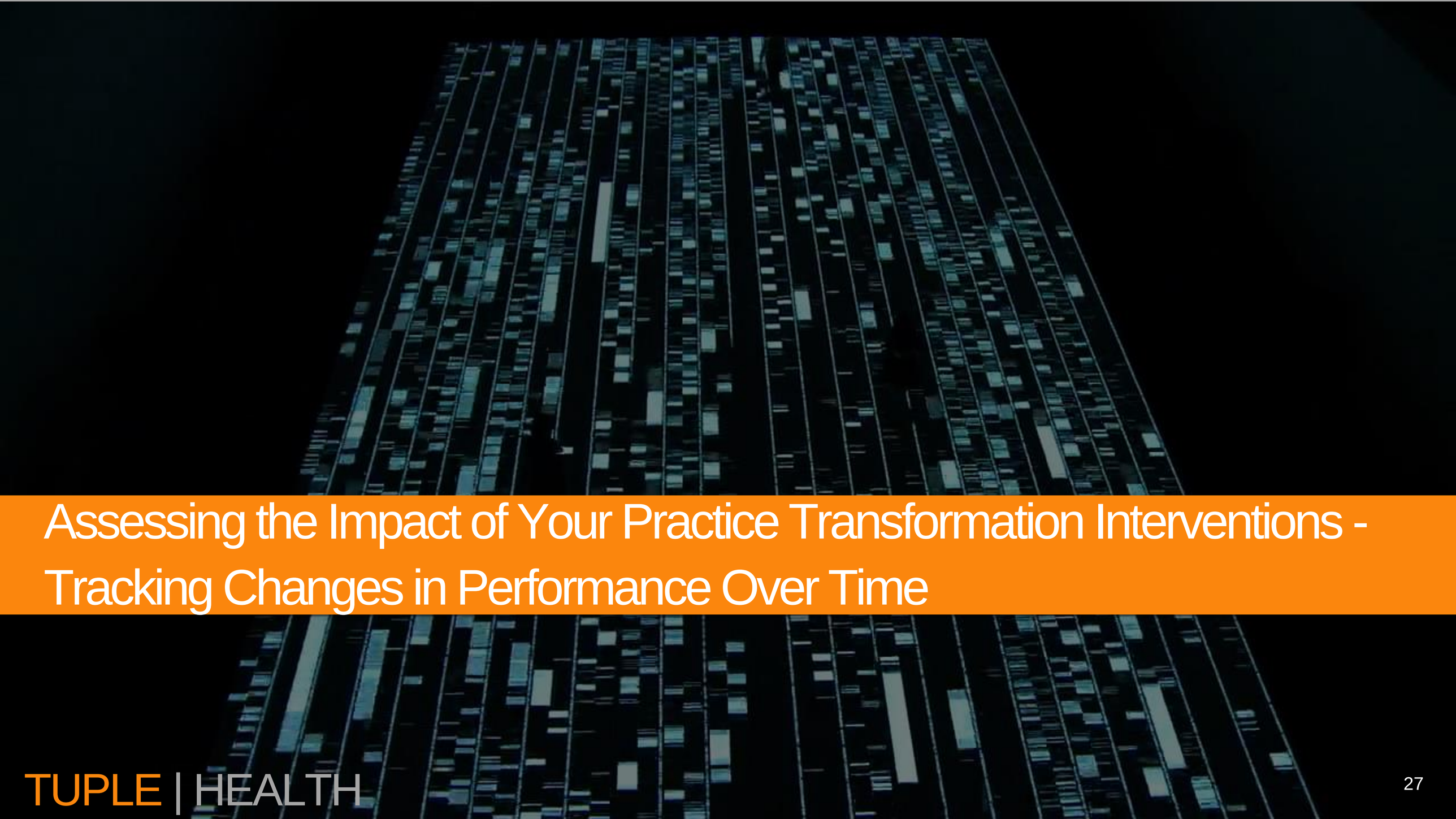
- Rates vs absolute totals
- Different pictures of utilization
- Different types of care coordination functions



Which Patients Should we Prioritize Post Discharge?

- What happens during a hospitalization?
- E.g. ICU utilization in oncology → critical

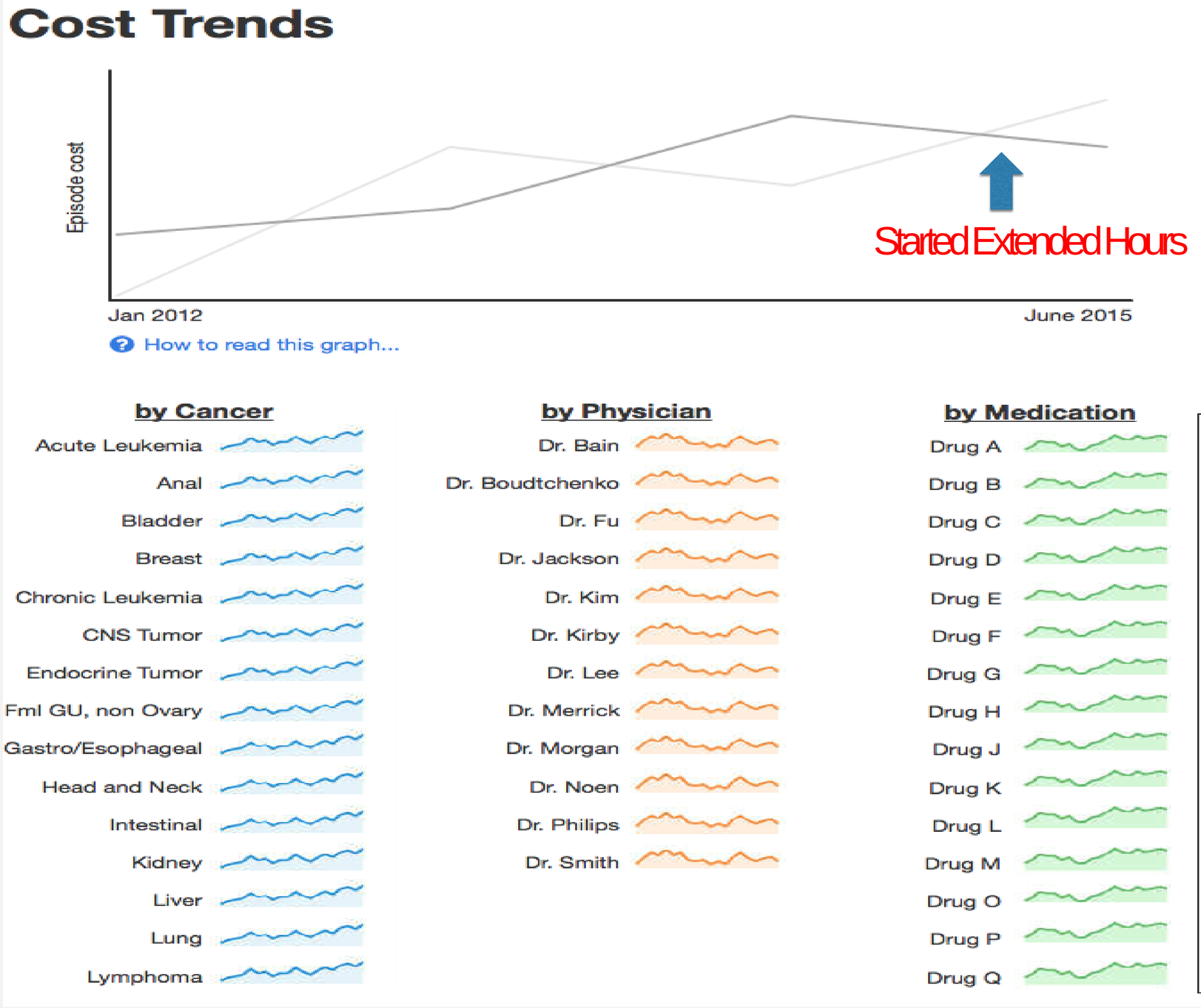




Assessing the Impact of Your Practice Transformation Interventions - Tracking Changes in Performance Over Time

Understanding Trend & the Impact of New Programs

- Global view of how performance is evolving
- Break down into sub-groups
- Mapping interventions



Tracking Episodes Over Their Life Cycle

OCM enrollment → rolling window. Claims run out > 12 months

Episode Management

Active Episodes	Completed Episodes	Reconciled Episodes	Verified Episodes
53 episodes (118 complete months)	27 episodes (unreconciled)	67 episodes	18 episodes
$4,699 avg episode **month** cost	$27,699 avg episode cost	$30,699 avg episode cost	$32,699 avg episode cost
5% below target	4.5% above target	5% above target	5% above target

Episode ID	Physician	Clinic	Patient Name	Patient ID	Cancer	Completed Months	Average Monthly	Episode Cost-to-date
123456	Dr. Patel	Central Family	Jane Doe	234567	Breast	1	$4556	$4,556
234567	Dr. Fu	Neighborhood	Jane Doe	345678	Colon	1	$3567	$3567
345678	Dr. Morgan	Outskirts	Jane Doe	456789	Lung	2	$4100	$8200

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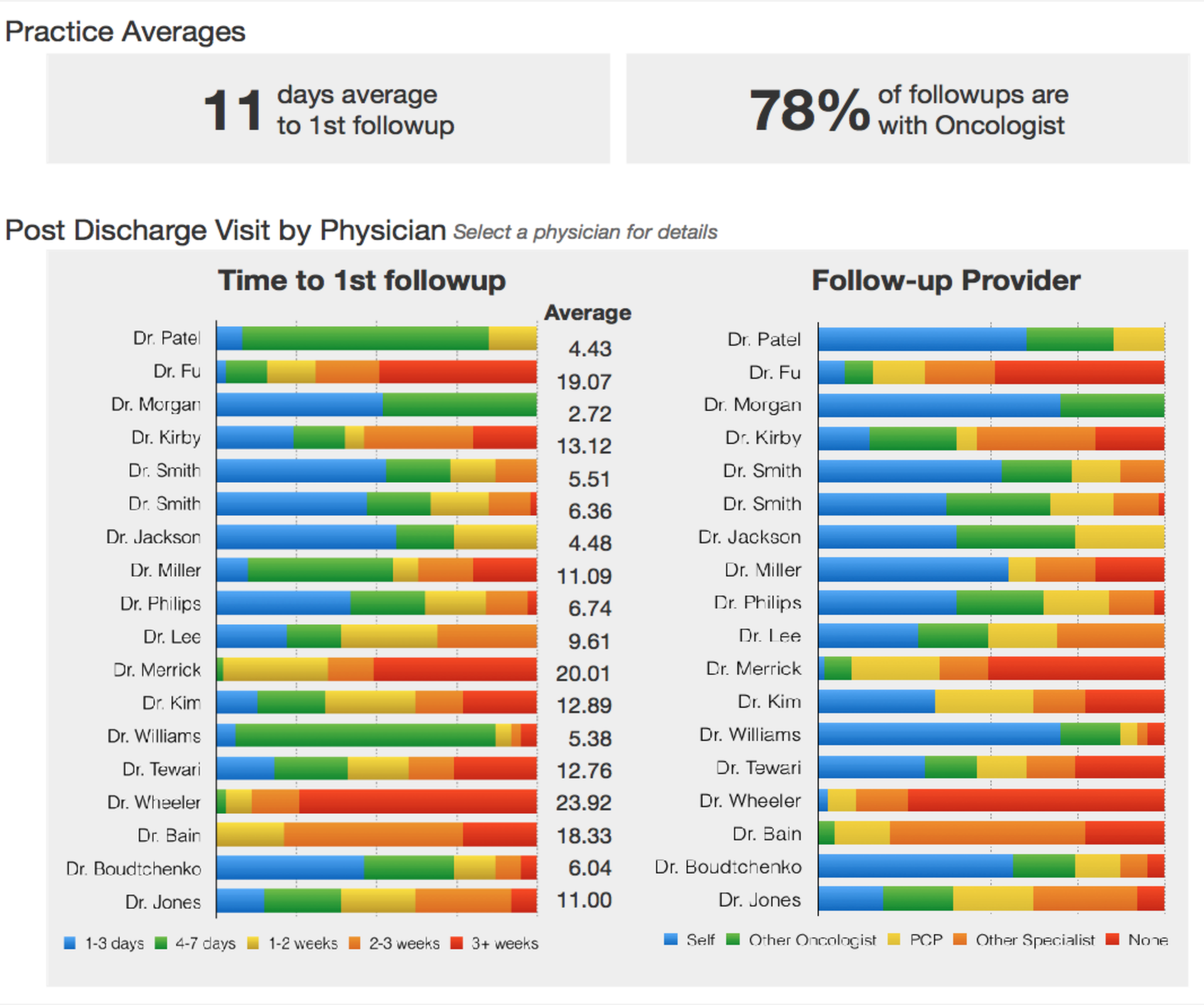
Assessing Transitions in Care

Looking Across Settings of Care to Guide New Practice Policies

- Claims provides strong insights on how patients move between settings of care e.g. hospital → post acute setting
- Help guide internal care management protocols & policies e.g. all patients seen in clinic 48 hours after discharge, etc.



Individual Physicians & Access to Care

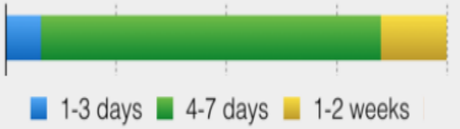
How physicians are scheduled has a major impact on continuity of care & capacity for integrated management

Post Discharge Visit by Physician

<-- Back to Physician Overview

Dr. Patel (20 patients)

Time to 1st followup



Follow-up Provider

Patient Details

Patient	Time to 1st Followup	Follow-up Provider	Dx Code
Jane Doe	2 days	Dr. Patel	
John Doe	5 days	Dr. Jones (onc)	
Jimmy Dean	6 days	Dr. Patel	
Jeff Vader	12 days	Dr. Patel	
Billy Doe	9 days	Dr. Patel	
Bennie Doe	4 days	Dr. Jones (onc)	
Jimmy Dean	6 days	Dr. Patel	
Sally Oliver	11 days	Dr. Vick (PCP)	
Jane Doe	2 days	Dr. Patel	
John Doe	5 days	Dr. Jones (onc)	
Jimmy Dean	6 days	Dr. Patel	
Jeff Vader	12 days	Dr. Patel	
Billy Doe	9 days	Dr. Patel	
Bennie Doe	4 days	Dr. Jones (onc)	
Jimmy Dean	6 days	Dr. Patel	

Understanding Co-Morbidities to Manage Total Cost of Care

Understanding the Interaction between Cancer & Different Chronic Conditions

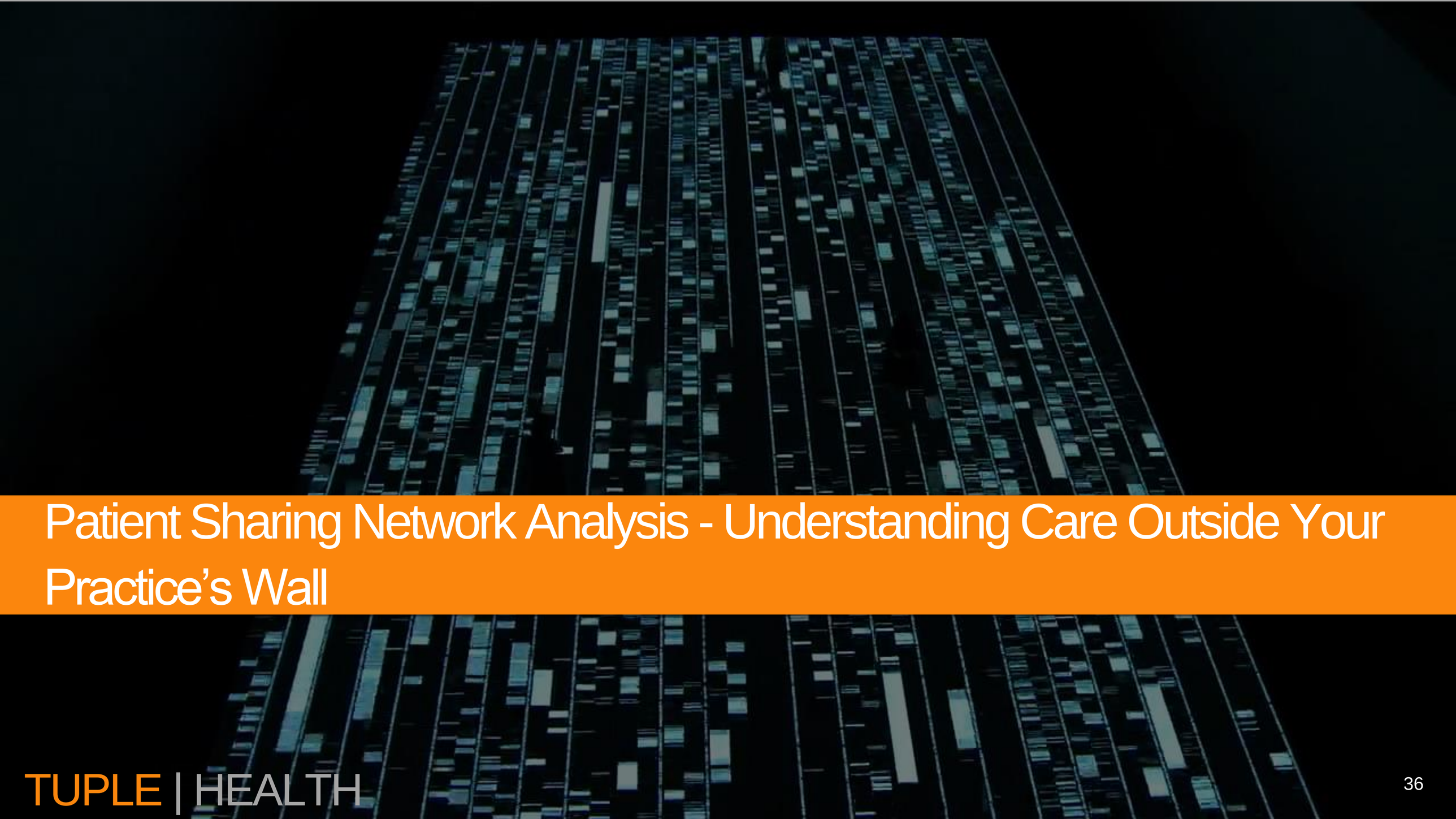
Comorbidities Overview

	Cardiac Disease				Chronic obstructive pulmonary disease								
	Atrial Fibrilation	History of Heart Attack	Congestive Heart Failure	Coronary Artery Disease (CAD)	Depression	Diabetes	Emphysema	Hypertension	Stroke	Syncopy	Transient Ischemic Attacks	Other Comorbidities	
% of episodes with disease	15%	20%	30%	12%	15%	20%	30%	12%	15%	20%	30%	12%	11%
cost of episodes with disease	$13000	$11000	$13290	$1987	$13000	$11000	$13290	$1987	$13000	$11000	$13290	$1987	$897
cost of episodes without disease	$13000	$11000	$13290	$1987	$13000	$11000	$13290	$1987	$13000	$11000	$13290	$1987	$897
Cancers / Physicians													
Acute Leukemia													
Anal													
Bladder													
Breast													
Chronic Leukemia													
CNS Tumor													
Endocrine Tumor													
Fml GU, non Ovary													
Gastro/Esophageal													
Head and Neck													
Intestinal													
Kidney													
Liver													
Lung													
Lymphoma													
Mlgn Melanoma													
MDS													
Multi Myeloma													
Ovarian													
Pancreatic													
Prostate													

Co-Morbidities Have a Major Impact Target Prices in OCM

Expected costs are estimated to vary significantly holding all other factors constant

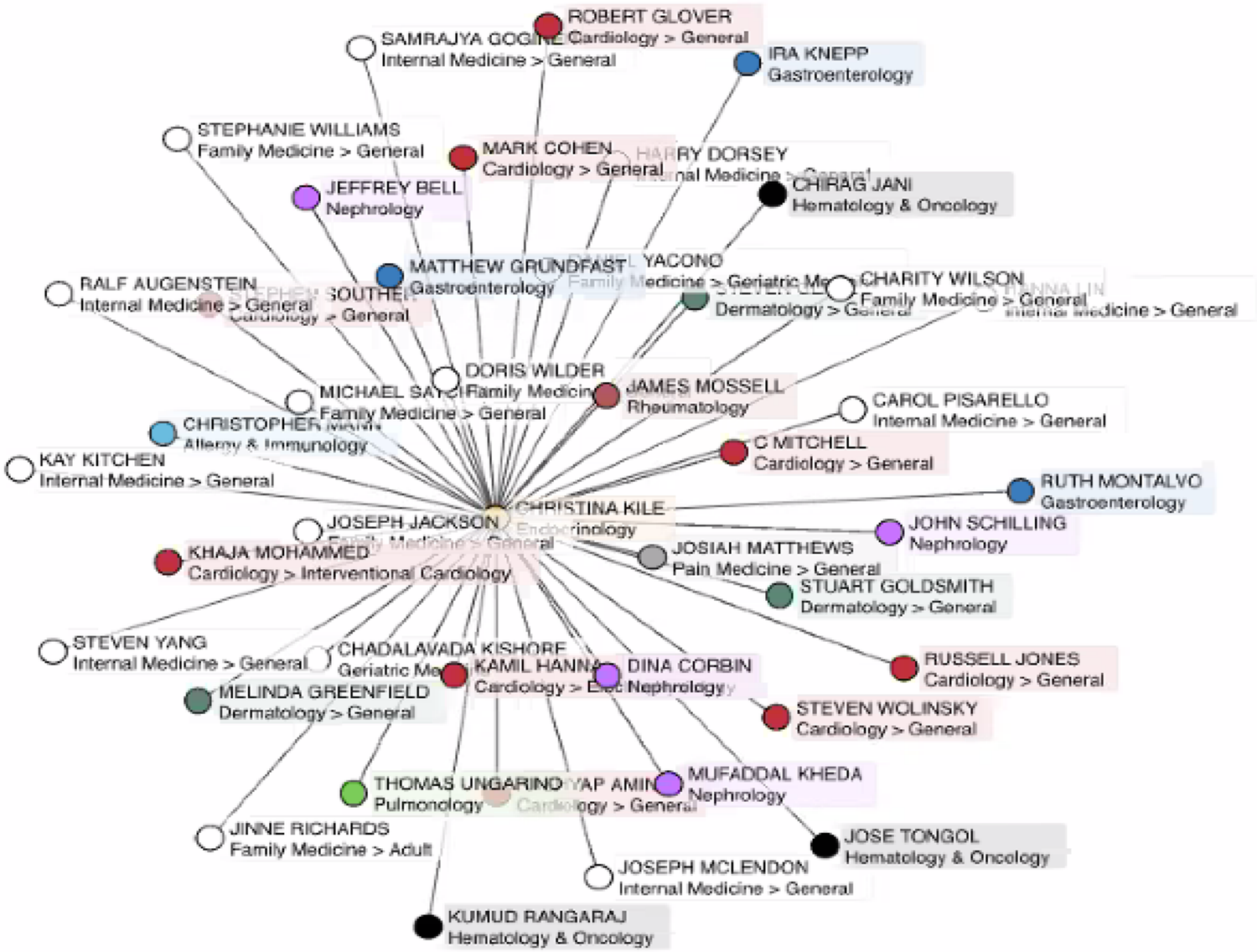
Parameter	Coefficient β	Factor by which Baseline price is effected exp(Xβ)	Percentage increase to Episode Target Price (Holding All Other Factors Constant)
hcc_new	0.12841572	1.137025584	13.7%
hcc_1	0.11662774	1.12370104	12.4%
hcc_2	0.21931901	1.245228457	24.5%
hcc_3	0.30413982	1.355458569	35.5%
hcc4_5	0.40153878	1.494122054	49.4%
hcc6_or_more	0.55278985	1.738095285	73.8%

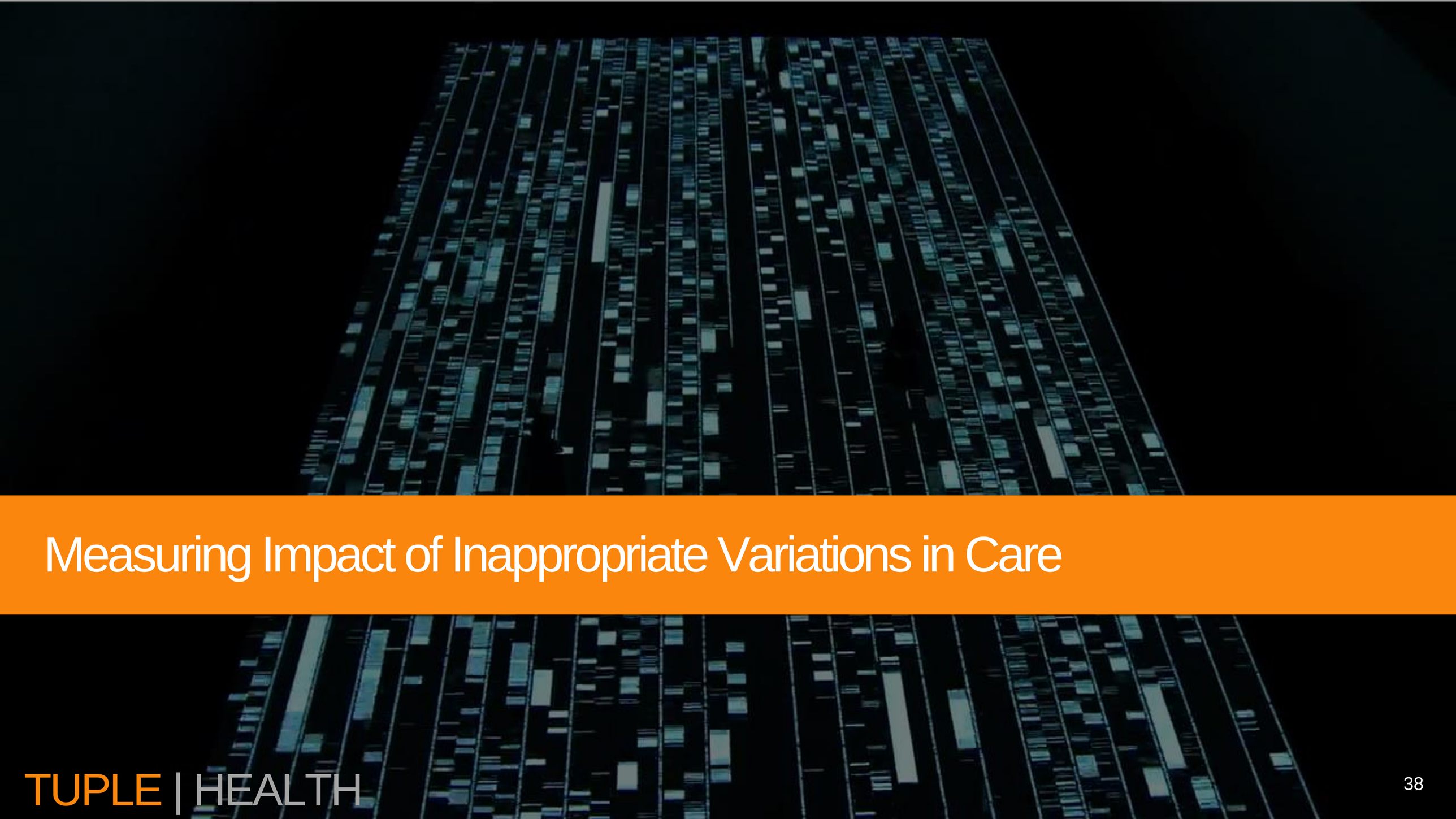


Patient Sharing Network Analysis - Understanding Care Outside Your Practice's Wall

Looking Inside & Outside Your Practice

- Gaining insight into who else is touching the patient
- Basis for thinking about care coordination & “referral management"





Measuring Impact of Inappropriate Variations in Care

Organizing CMS Claims Data Using Clinical Knowledge to Make it More Actionable

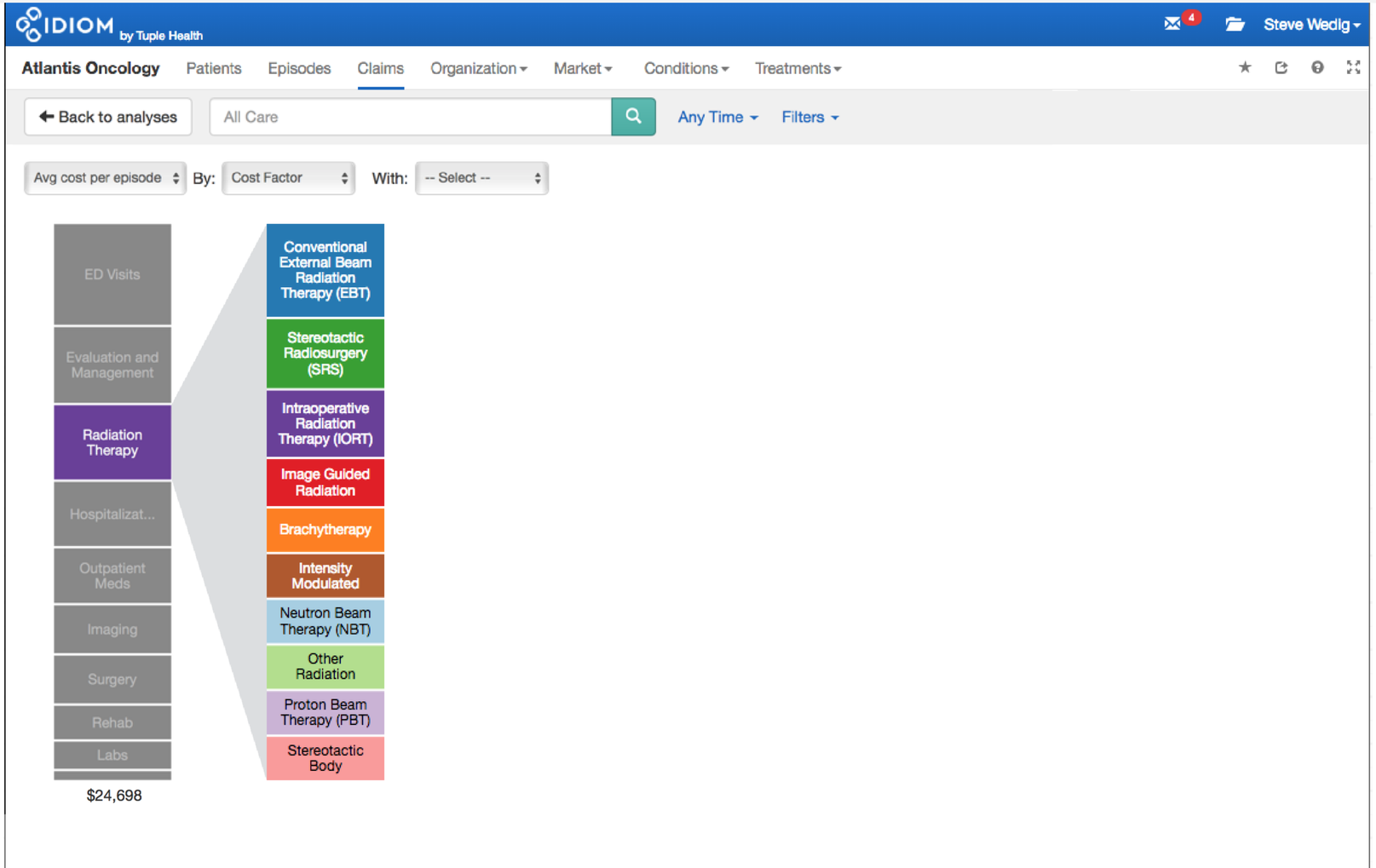
One Way of Looking at the Cost of Radiation Oncology

OCM Performance Feedback Report – Standard Way Radiation Therapy is Analyzed

Expenditure categories[a]	Based on practice-level four-quarter averages				
	Your practice	OCM practices		All practices providing cancer care	
		Median expenditure amount	% by which your practice's expenditures are higher or lower (-)	Median expenditure amount	% by which your practice's expenditures are higher or lower (-)
Radiation oncology in all ambulatory settings[c]		$137		$186	

Sources of Variation in Cost → IMRT is a Key Issue

Getting to the cause of avoidable costs



Thank you.

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