

Profiling Your Favorite Consultant

Oscar C Marroquin, MD
Chief Health Care Data and Analytics Officer

Overview

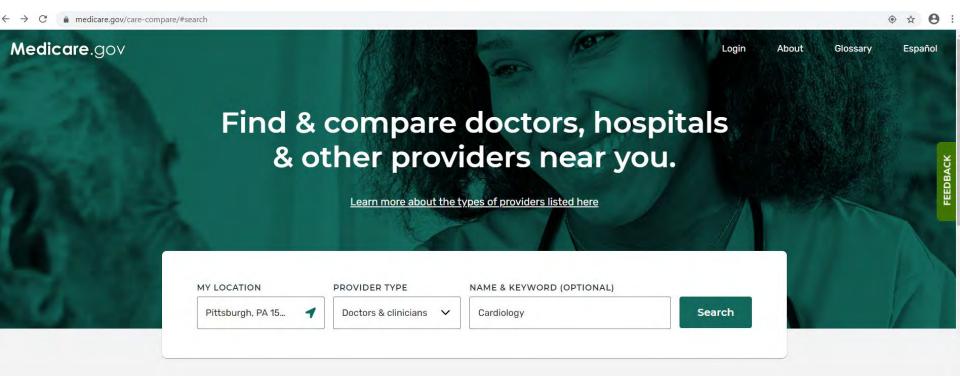
Background

UPMC HP's Physician Insights Program

• Illustrative examples



We are all being 'Profiled'



Or, select a provider type to learn more:

How Commercial Payers Measure Physicians Performance

United Health – "High-value Physicians"

- Quality measures based on metrics from NQF and NCQA
- Cost metrics based on ECG episode cost with market benchmark

Anthem – Blue Precision

- Begin with five specialties: Cardiology, OB.GYN, Endocrinology, Rheumatology, Pulmonary Medicine
- Efficiency measures based on Optum ECG episode costs

Florida Blues

- BI based physician performance report available through provider portals
- Recently moving from Optum tool to Cave Episode tool

Highmark

- Specialist Efficiency Report (SER) based on Optum solution
- Starting introduce quality measures in 3Q 2019





UPMC HP (Kejian Niu): Physician Insight Analytics

- "... is an attempt to measure the performance of doctors and providers of health care by supplying interested parties with information on the structure, process, and outcomes of health care."
- The rationale for Physician Insight Analytics is that analyzing patterns of care will help reduce variation in care patterns and variation in physician performance and lead to improvement in quality of health care
- Especially important in today's transition to value based payment
 - Payers and ACOs want to understand physicians' performance in both quality and efficiency
 - Employers and governments want to quantify the values delivered
 - Members also want the transparency on quality and costs



Higher Share of Value-based Payment Makes Provider Performance a Huge Focus

Accelerating ACOs drive realignment of providers

- PCP-led ACO with 12K attributed lives in Texas evaluates which specialists they should refer their patients to achieve shared saving goals
- Regional health system ACO in Indiana attempts to optimize their post acute care network
- Fee-for-service payment now impacted by quality performance
 - MIPS report requirement
 - APMs
- Drive for transparency
 - CMS makes data available for physician performance measure
 - From pricing transparency to value transparency

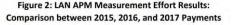




Figure 2 compares data from CY 2015, CY 2016, and CY 2017. In 2015, data was collected from 70 plans and 2 managed FFS Medicaid states, which represented 198.9 million lives or 67% of the U.S. covered population. In 2016, the data was collected from 78 plans, 3 managed FFS Medicaid states, and Medicare FFS. This represented 245.4 million lives or 84% of the U.S. covered population. In 2017, the data was collected from 61 plans, 3 states, and Medicare FFS, representing 226.3 million lives or 77% of the U.S. covered population.⁴



Overview

Background

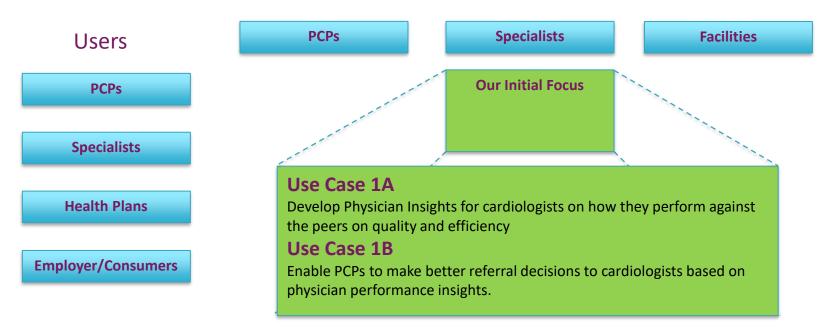
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Physician Insights – The Objectives and Use Cases

Physicians/Providers Being Measured





The Framework for Physician Insight Analytics

The Metrics

- Quality Measures
- Cost efficiency
- Key utilization

The Methodology

- Unit of Analyses
- Attribution
- Conditions
- Severity Adjustment

The Episode Grouper
Form episode of care
based on claims data

These are the metrics we use to measure physician performances in both quality and efficiency.

These are the key elements of producing the physician insights, including how we attribute patients to physicians, what conditions to be included in each specialty, and how we do risk adjustment to account for different patient mix for different physicians,

The tool that groups the claims together to form longitudinal episodes of care. This is the building blocks for the Physician Insight Analytics.



The Quality Measures

The Quality Process Measures

Congestive Heart Failure

Episodes with CHF lab monitoring

Episodes with LVF assessment for CHF

Episodes with other CHF test monitoring

Episodes with follow-up visits w/in 4 weeks of discharge

Episodes with ACE/ARB therapy for CHF

Episodes without CCB therapy

Episodes with ACE/ARB therapy having serum labs

Episodes with beta-blocker therapy

Episodes with AF and anticoagulants

Ischemic Heart Disease

Episodes chronic with anemia lab monitoring

Episodes circulatory with cholesterol monitoring

Episodes with IHD lab monitoring

Episodes with IHD/cardiac test monitoring

Episodes with HMG CoA Therapy

Episodes with ACE/ARB therapy for IHD

Atrial Fibrillation

Episodes with thyroid lab for arrhythmia

Episodes with arrhythmia test monitoring

Episodes with chronic AF and anticoagulants

The Outcome Measures

Quality Outcome Definition

Member outcome is 1 if going through entire year

without any of the following "negative" events

- Death, all causes: -1
- Hospitalization related to cardiac conditions: -1
- Other hospitalization: -0.5
- ED related to cardiac conditions: -0.5
- Other ED visits: -0.25



The Efficiency Measures

Episode Cost Measures

Directly measure the costs of cardiology episodes, which include all costs related to treating a cardiac condition in a specified period.

- Cover 23 conditions managed by cardiologists
- Account for different severity levels for many conditions as well

Pros and Cons

- Provide a complete picture of the cost of managing an episode
- Some of the factors, e.g. pricing, may be out of specialists' control
- Have to exclude certain outliers and some conditions with low incidences

Utilization Measures

Measure key utilizations that will drive downstream decisions and have significant impact on use of resources

- Number of Stress Tests per 1000
- Number of Echocardiograms per 1000
- % of Left Heart Catheterizations with no Revascularization within 90 days

Pros and Cons

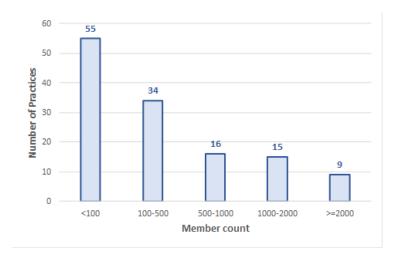
- Actionable
- "Real World" experience
- Pricing not a factor
- Not directly measuring costs
- Don't have complete picture of the episode



The Unit of Analyses – Practice vs. Physician

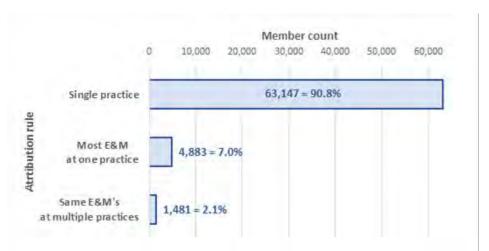
We use group/practice instead of individual physicians as the unit of analyses.

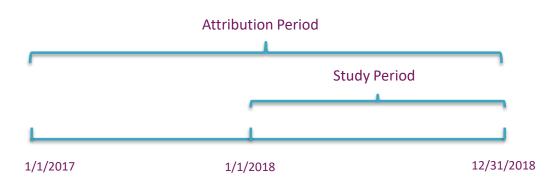
- The small sample size challenge. Small sample sizes with individual physicians creates too
 much noise to draw valid conclusions on performance.
- The sub specialization challenge. Individual physicians who sub-specialize will be a challenge to profile. Some of the issues can be addressed when analyzing at the group/practice level.
- The attribution accuracy challenge. The claims submission process sometimes makes it's difficult to attribute the patients to the right individual physician.





The Patient Attribution Method

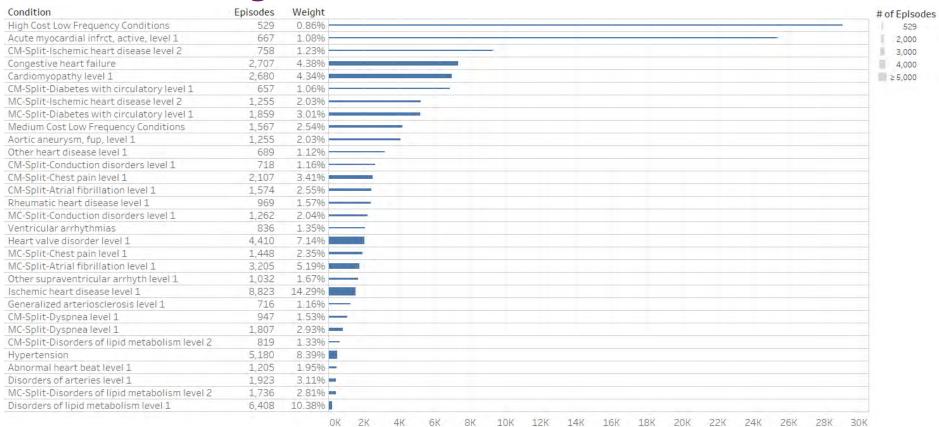




- Start with all the patients who had at least one visit with a cardiologist during the attribution period
 - Office and outpatient E&M
 - Exclude E&M for IP, Observations or ED.
- Attribute patients to physicians:
 - 91% of the patients only saw one practice.
 - If a patient saw more than one practice, attribute the patient to the practice with the most frequent visits.
 - 2% of the patients are attributed to multiple practices



The Weights and Costs for Cost Scores (SEC)



Severity Adjustment - How It Works

Physician A	Н	M	L
Episode Mix	40%	50%	10%
Average Costs	\$5500	\$1500	\$700

Physician B	Н	M	L
Episode Mix	15%	50%	35%
Average Costs	\$6400	\$1600	\$750

Raw Average Costs: \$3020

Unadjusted Efficiency Ratio: 1.19

Standardized Average Costs: \$2436 Adjusted Efficiency Ratio: 0.96 Raw Average Costs: \$2023

Unadjusted Efficiency Ratio: 0.80

Standardized Average Costs: \$2743

Adjusted Efficiency Ratio: 1.08

Population Average Episode Cost: \$2535

Severity Level	Н	M	L
Episode Mix	27%	55%	18%
Average Costs	\$5900	\$1500	\$650



Overview of the Scores





Score table, Cardiology practices

Practice Name	Total Members	Avg. Age	Quality Process (SQP)	Quality Outcome (SQO)	Quality Score (SQ)	SEU Stress Test	SEU Echo- cardio- gram	SEU Normal LHC	Overall Utilization (SEU)	Cost (SEC)	Efficiency Score (SE)
	4,607	63.7	1.01	1.00	1.00	0.78	1.09	0.93	0.93	1.14	1.04
	4,012	64.6	1.02	1.00	1.01	0.69	0.94	0.91	0.85	1.07	0.96
	3,725	68.1	0.95	1.01	0.98	0.73	0.82	0.89	0.81	0.90	0.85
	2,982	67.1	0.94	1.01	0.97	1.33	1.02	1.09	1.15	1.03	1.09
	1,954	68.6	0.94	0.99	0.96	1.02	0.85	1.11	0.99	0.89	0.94
	1,939	62.6	1.01	1.01	1.01	0.80	0.97	0.92	0.90	1.21	1.05
	1,890	64.8	1.01	1.00	1.01	0.70	0.74	0.93	0.79	1.08	0.93
	1,778	68.9	1.05	1.01	1.03	0.67	0.99	1.14	0.93	0.87	0.90
	1,136	68.7	1.00	0.94	0.97	0.76	0.93	0.91	0.87	0.97	0.92
	1,115	70.8	1.04	1.01	1.03	0.91	1.04	0.95	0.97	0.90	0.93
	912	58.2	0.98	1.01	0.99	0.67	0.89	0.76	0.77	1.04	0.90
	895	68.9	1.00	0.96	0.98	1.36	1.04	1.01	1.14	0.90	1.02
	664	63.9	1.02	0.94	0.98	0.95	1.27	0.95	1.05	1.05	1.05
	625	68.1	0.94	0.95	0.95	0.73	0.89	1.12	0.91	0.98	0.94
	601	68.6	0.97	0.96	0.96	1.32	0.81	1.30	1.15	1.10	1.12
	554	68.0	1.10	1.01	1.06	0.78	0.85	1.12	0.92	1.16	1.04
	545	66.9	1.14	1.01	1.07	1.06	1.53	0.93	1.17	1.02	1.10
	194	64.7	1.07	0.98	1.02	1.71	1.28	1.38	1.45	0.99	1.22
47	104	65.0	0.99	0.98	0.99	0.07	0.55	1.40	0.67	0.99	0.83

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Physician Report for Cardiology Practices



Practice Name: Practice Specialty: Cardiology

Report Period: CY 2018

QUALITY and EFFICIENCY SCORES



Scores	Confidence	Interval
0.976*	0.961	0.990
0.946*	0.921	0.971
1.005	0.992	1.019

0.854*

0.895*

Score Name

Quality Score

Efficiency Score

Cost Score

Quality Process

Quality Outcome

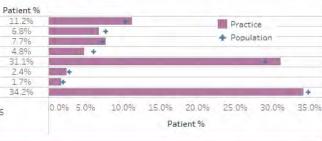
Utilization Score 0.812*

1.019 0.896

0.811 0.766 0.859 0.828 0.962

* Significant difference from Population Average (at 5% level)

Patient Distribution by Condition Mix Compared to Population



UPMC Health Plan Confidential information/ Do Not Copy or reproduce without Permission; Do Not Share with Any Other Organization or Party Without Permission

Chronic Condition

None of Above Three

Total Patient Count: 3,725

AFIB_ONLY

ALL THREE

CAD AFIB

CAD CHE

CAD_ONLY

CHF_AFIB

CHF_ONLY

Physician Insight Analytics

Dear PCP Office,

As part of ongoing efforts to ensure that UPMC Health Plan members receive clinically effective care, we created a "Physician Insight" report on cardiologists. It was developed using 2018 claims data for patients covered by UPMC Health Plan Commercial and Medicare

Advantage insurance using our internal tools and CCG episode grouper. Once the process was validated with cardiologists, we designed this report to communicate the results to PCPs.

What questions can you answer using this report?

- Are there opportunities to redistribute patients among the high volume cardiologists I am currently referring to?
- Are there any other better performing cardiologists that I could refer to?
- · What is the impact if I change my referral from one cardiologist to another?

Section 1: What does your current cardiology referral pattern look like?

This section shows what cardiology practices make up the top 85% of your referrals and their corresponding scores. The graph shows each cardiology practice as a dot, with the upper left quadrant being optimal.

<u>Section 2</u>: Where is there an opportunity to refer your patients to different cardiology practices? The grid shows where the opportunity is to refer patients to different cardiology practices based on the Efficiency scores. The color at the intersection of the horizontal and vertical practices denotes the difference in Efficiency scores when shifting referrals from the horizontal to the vertical practice.

Section 3: Nearby Alternative Cardiology Practices

After comparing practices within your referral pattern, we check to see if there are any practices nearby that would be better to refer to based on statistical significance. If there are no practices in this list your opportunity lies within your current referral pattern.

<u>Section 4:</u> Who are the physicians attached to the smaller, non-UPMC practices in your referral pattern? This section is provided as a reference for physicians that may be more familiar with cardiologists rather than the practice to which they are attached.

We appreciate you taking the time to review this report. If you have questions or suggestions or would like to

Cardiology Referral Pattern Report for UNIV OF PGH PHYS/GENERAL INTERNAL MEDICINE

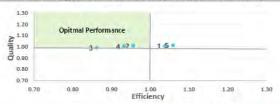
1. What does your current cardiology referral pattern look like?

The following practices represent "85% of cardiology referrals within your practice during 2018. The member count is inferred referrals based on individuals who belong both to your practice & the cardiology practice. Highlighted fields are the best in your list.

- Quality: patient care measured by quality of process (preventative & maintenance care) & quality of outcome (lack of adverse events). A higher score is better.
- * Efficiency: resource use measured by utilization (procedure-specific) & cost of care (condition-specific). A lower score is better.

Plot Label	Cardiology Practice	Member Count	Quality Score (higher is better)	Efficiency Score (lower is better)
1	UPMC Presbyterian Cardiology	377	1.005	1.038
2	UPMC Shadyside Cardiology	124	1.009	0.956
3	UPMC Magee Cardiology	120	0.991	0.862
4	UPMC Mercy Cardiology	58	1.004	0.932
5	Pittsburgh Cardio Consultants	27	1.013	1.058

The same cardiology practices' Quality and Efficiency scores represented another way:



2. Where is there an opportunity to refer your patients to different cardiology practices?

The table below shows your current referral pattern & presents the level of opportunity if the referral pattern was shifted to practices with <u>better</u> Efficiency scores.

NOTE: Some practices from your current referral pattern may not be included if they do not meet the minimum Quality threshold.



Legend

No opportunity
Low opportunity (<11% difference in scores)*
High opportunity (>=118 difference in scores)*

*See FAQs for explanation on why 11% was chosen

3. Nearby Alternative Cardiology Practices

Why are these alternate cardiology practices included in your list?

Alternative cardiology practices are nearby and both statistically more efficient and statistically equal to or greater in quality when compared to the cardiology practices in your current referral pattern.

Nearby: within a reasonable distance of the furthest cardiology practice in your current referral pattern.
 NOTE: If there are no practices listed, our process did not identify any alternate cardiology practices within a reasonable distance.

Alternative Practice	Quality	Efficiency	Distance	Distance To Your
Atternative Practice	Score	Score	Indicator	Practice

4. Who are the physicians attached to the smaller, non-UPMC practices in your referral pattern?

NOTE: This space will be blank if there are no smaller, non-UPMC practices in your list of alternate cardiology practices.

Cardiology Practice	Physician Name
Pittsburgh Cardio Consultants	Imad Domat, MD
Pittsburgh Cardio Consultants	James D O'Toole, MD
Pittsburgh Cardio Consultants	Joseph Frederick O'Toole, MD
Pittsburgh Cardio Consultants	Olga Shabalov, MD



How are the Efficiency and Quality of cardiology practices measured?

Quality measures how well physicians take care of their patients, and includes two components:

- Quality of Care Process measures are a percent of patients who receive a range of HEDIS-inspired procedures like preventative screenings and maintenance care.
- It is thus very similar to "dosed gaps in care" measures.
- Quality of Outcome measures (lack of) adverse events like ED visits, hospitalization or death. While there are many factors affecting patient outcomes, we put more weight on events with diagnoses-within a given specialty, ensuring that physicians in that specialty are the ones with best change to change the outcome.

Efficiency measures resource use by physicians, and covers two aspects:

- . Utilization of specific procedures, selected for being resource intensive, having substantial variation, as well as nontrivial impact on patient's risk and care trajectory.
- . Cost of care, limited to specific conditions and measured on per-patient basis.

Each Quality and Efficiency score is the arithmetic mean of the two components within each measure.

How are patients attributed to cardiology practices?

The attribution is assigned based on the number of Evaluation and Management (ESM) visits according to the following steps:

- If a patient has E&M visits to only one physician practice/group during the attribution period, then the patient will be attributed to that physician practice/group. This rule applied to 91% of cardiology patients.
- . If a patient has E&M visits to more than one physician practice/group during the attribution period, the patient will be attributed to the physician practice/group that has the most visits from this patient.
- . In the event there is a tie in terms number of visits, the patient will be attributed to all practices in the tie. This rule applied to only 2% of Cardiology patients.

What risk adjustment measures were taken?

Risk Adjustment is essential to account for any differences in patient severity between cardiology practices. Our analysis defines patient severity by "stratifying" patients into groups based on their conditions, and adjusting for init of patients from different groups to our measurements. We chose not to use the alternative approach of severity-adjusting coefficients accurately for some practices.

How were patients attributed to your PCP office?

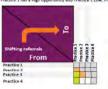
The same patients that are in your UPMC Health Plan Shared Savings panel are used in this report.

What does nearby mean?

We calculate the straight line distance from your PCP office to the cardiology practices in your current referral pattern and take the furthest distance. If a cardiology practice meets the statistically requirements and is within 120% of the furthest distance it is served up as an alternative.

How do I read the referral pattern grid?

All the cardiology practices in your current referral pattern are listed in the "From" section. With a restriction, the "To' section also shows cardiology practices in your current referral pattern (only practices in the top STsh percentile for Quality are included). Using the example below, if your office were to slift referrals away from Practice 3 to Practice 1 for 7, the quare control would be the opportunity of or interpretation of the Pfilipsing yours, Practice 1 has a Yelly control that as Yelly country and Practice 1 Jour Percentage 1 agreed out as remarks cannot more To-Promise Left, and Practice 4 has a wome Efficiency some.



Eurrent Referral Practice 3 High Opportunity Practice 1 Low Opportunity Practice 2

Why is 11% the cut-off for high and low opportunity?

Across all PCP offices, the median percentage improvement when shifting referrals is 11%. So roughly half of all opportunies are High and the other half are Low.

Who can I email if I have further questions?

Please feel free to contact us at PhysicianInsight@UPMC.edu.

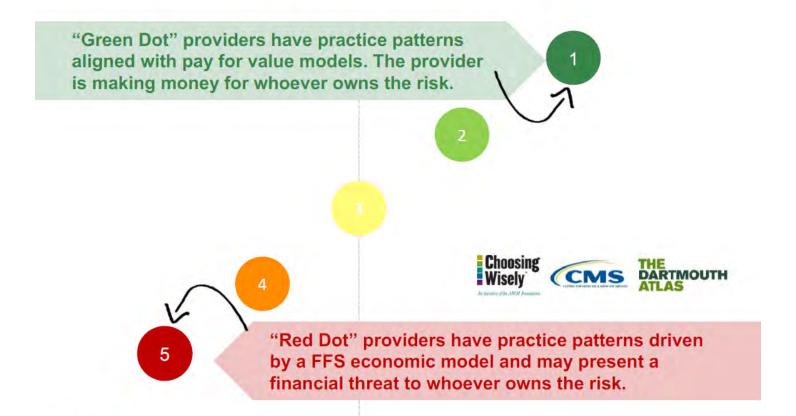
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Cotiviti Network Intelligence for UPMC

Dr. Oscar Marroquin

September 2020

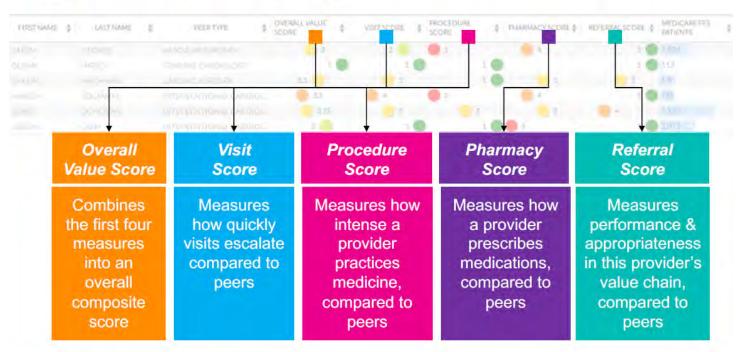
What Makes a High-Value Provider?



Measuring Value with Clinical Relevance

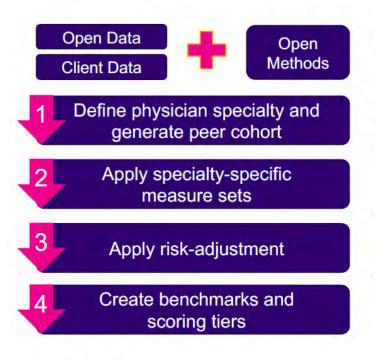


The four Domains behind the Overall Value Score are the major areas in which providers make decisions and mirror the way a patient flows through the system – visits, procedures, pharmacy, and referrals



Understanding the Science of Risk-Readiness®

Risk-Readiness® benchmarks apply research and clinical evidence to large public data sets to identify and understand practice pattern variation

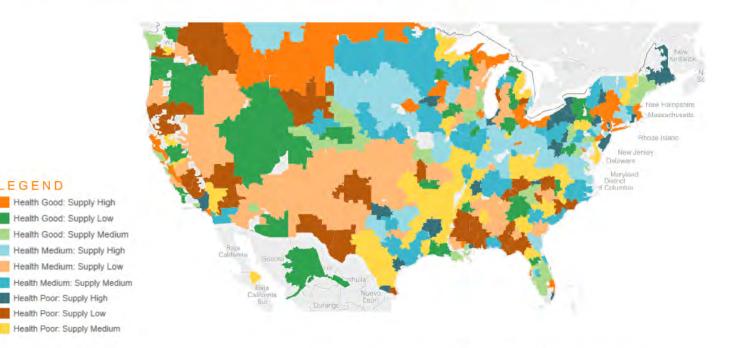


- Over 5 years of Medicare parts A, B, and D provide a large, multi-year, normalized dataset on 90%+ of all physicians.
- Proprietary algorithms identify specialties and create peer cohorts in each geography.
- Evidence from academic research, Choosing Wisely, etc. are used to assess clinical quality and medical economics.
- Measures are risk-adjusted based on the provider's patient panel using Medicare HCC risk-adjustment methodologies.
- Providers are scored in each measure based on their relative performance within their peer cohorts.

LEGEND

Creating Relevant Peer Groups

Hospital Referral Regions (HRRs) define peer group geography



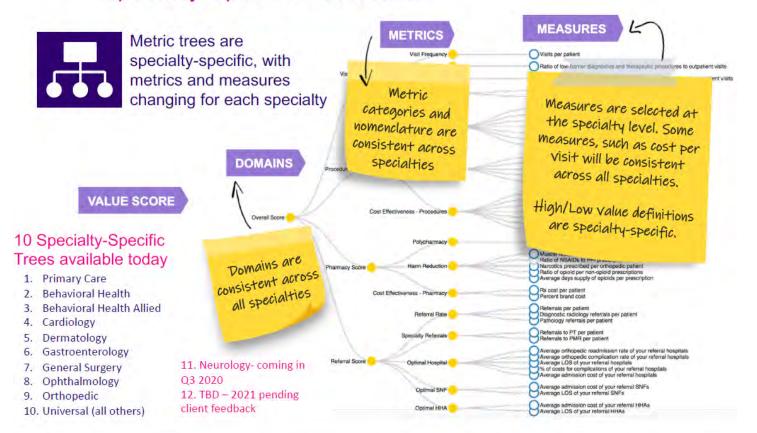


HOSPITAL REFERRAL REGION **ECOSYSTEMS**

Ecosystems are defined based on similarities in patient health and provider supply characteristics

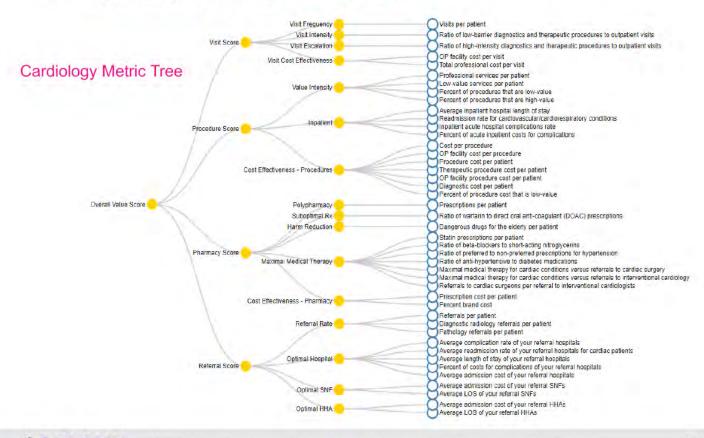
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Measuring Practice Pattern Variation Specialty-Specific Metric Sets



Measuring Practice Pattern Variation

Specialty-Specific Metric Sets



3

Risk Adjustment Options

Guiding Principles:

- Right type of risk adjustment attached to the right type of measure
- Align time periods with data
- Ensures accuracy for your most intensive use cases
- Path of least resistance to provider acceptance







CMS Based Scores (HCCs)

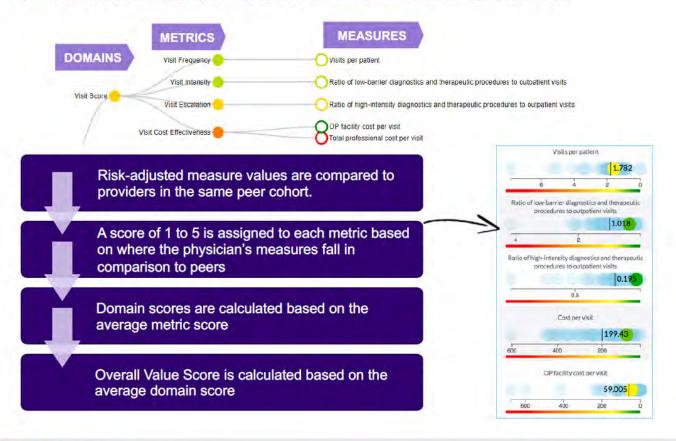
- Data matches time period
- Commonly accepted
- It is how CMS views the provider

Client Derived Scores

- Industry Standard (DxCG)
- Flexible to use client preferred methodology

Risk-Readiness® Scoring

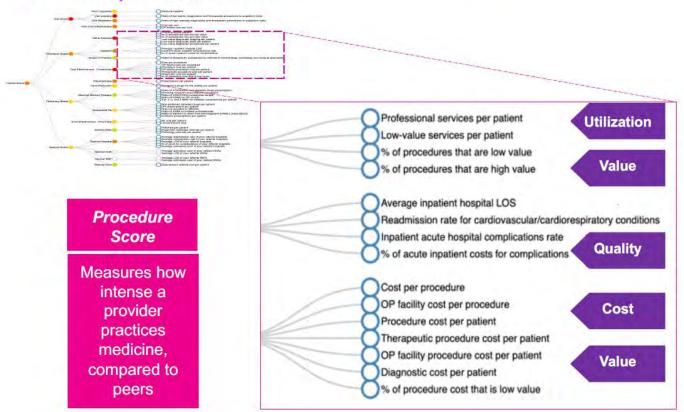
Scores are Generated Based on Peer-Cohort Distribution

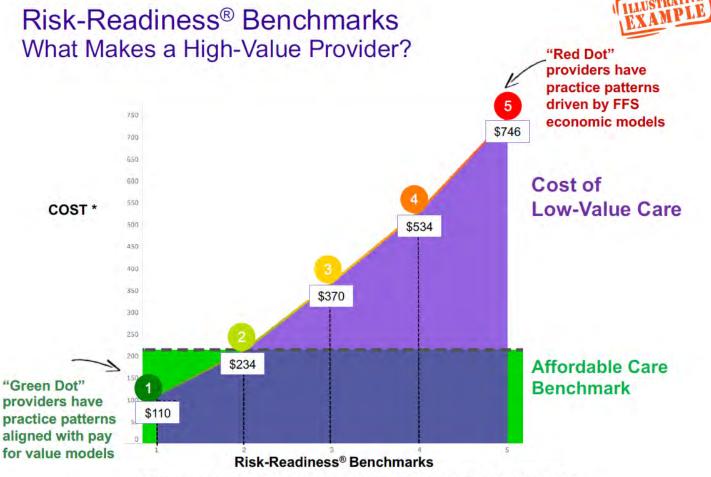


4 B

Measuring Practice Pattern Variation

Sample "Drill Down"





^{*} Average adjusted professional and pharmacy costs Per Member Per Year (PMPY)



In a Nutshell



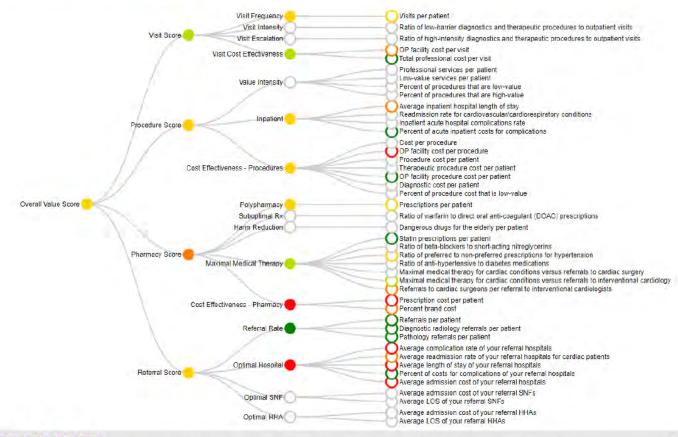
What we did:

- Performed a deep dive analysis into Dr. Oscar Marroquin's Network Intelligence Value Score.
- Identified areas of strength and opportunity for improvement within the Pharmacy and Referral Domains

What we found:

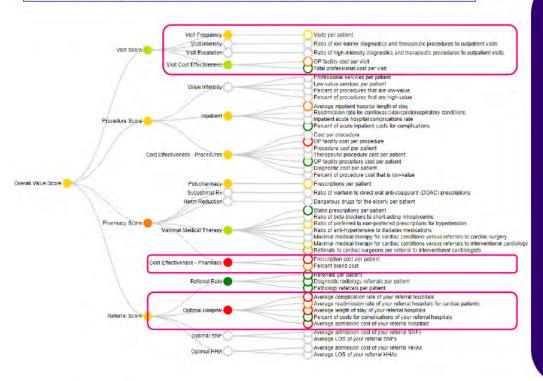
- With a patient panel of 82 and professional service mix largely made up of visits Dr. Marroquin is likely in an administrative role or not practicing full time.
- With and Overall Value Score of 3.00 Dr. Marroquin performs in line with other General Cardiologists in the Pittsburgh Hospital Referral Region.
- Dr. Marroquin has relative strong performance in the following metrics: visit cost effectiveness, maximal medical therapy, and referral rate.
- Dr. Marroquin has relative opportunity for improvements in the following metrics: pharmacy cost effectiveness and optimal hospital.

Dr. Oscar Marroquin



Dr. Oscar Marroquin

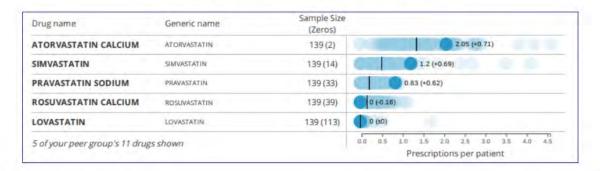
1720052715 - OSCAR MARROQUIN - PITTSBURGH, PA - GENERAL CARDIOLOGY



- Dr. Marroquin tends to see patients at a rate similar to peers with lower professional costs per visit compared to the peer group
- This provider's prescribing habits indicate a higher utilization of brand name and high cost drugs compared to peers.
- While Dr. Marroquin has fewer referrals per patient he underperforms in the optimal hospital metric indicating an opportunity to partner with alternate facilities who would offer lower risk in a valuebased care arrangement.

Dr. Oscar Marroquin - Pharmacy Strength

Statin prescriptions per patient 1

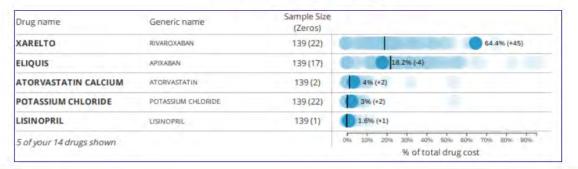


The visual above shows Dr. Marroquin's top statins prescribed in the reporting period. Highlighted circles represent Dr. Marroquin's prescribing rate for each drug, and other circles represent the prescribing rate of physicians in his peer group. Gray bars indicate the median prescribing rate in the peer group for each drug.

Dr. Marroquin averaged 4.08 statin prescriptions per patient, which was 74% above the peer group median of 2.34. Statins in high and moderate risk individuals, with or without clinical evidence of heart disease, have demonstrated clinical benefits. A high ratio compared to peers indicates that you prescribe these medications more often, which is a high-value practice pattern.

Dr. Oscar Marroquin - Pharmacy Opportunity

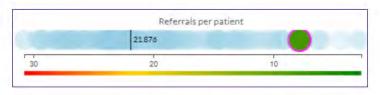
Percent brand cost 6

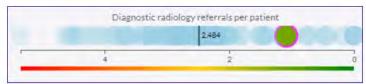


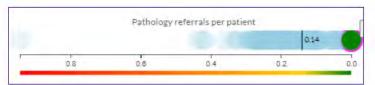
The visual below shows Dr. Marroquin's top drugs prescribed in the reporting period. Highlighted circles represent Dr. Marroquin's percentage of total drug cost that each medication made up, and other circles represent the percentage of total drug cost for physicians in the peer group. Gray bars indicate the median percentage of total drug cost in the peer group for each medication.

During this reporting period, 80.5% of Dr. Marroquin's drug cost came from brand-name prescriptions, which was 6% above the peer group median of 75.8%. A poor score means more cost comes from brand name drugs, and may indicate an opportunity to prescribe less expensive alternatives when available and appropriate.

Dr. Oscar Marroquin - Referral Strength







Dr. Marroquin's performance (highlighted dot) in the Referral rate metric can be seen to the left.

This metric is based on overall referral rate as well as referrals to diagnostic radiologists and pathologists. A poor score means that the rate is high compared to peers, which may indicate that you send your patients on for more intense care at a faster pace, or that you are more likely to order potentially unnecessary tests and imaging, areas where low value care is most likely to be found.

Dr. Oscar Marroquin - Referral Opportunity

Referred NPI	Referred hospital	
1821007881	UPMC PRESBYTERIAN SHADYSIDE	14.36
1285667493	WEST PENN ALLEGHENY HEALTH SYSTEM INC.	7.3%
1225047699	UPMC PASSAYANT	6.3%
1952311508	MAGEE-WOMENS HOSPITAL OF UPMC	4.9%
1578560504	JEFFERSON REGIONAL MEDICAL CENTER	4%
1447317896	BUTLER HEALTHCARE PROVIDERS	3.8%
1194744805	WEST DENN ALLEGHENY HEALTH SYSTEM INC	3.356
1689691214	WESTMORELAND HOSPITAL ASSOCIATION	3.135
1073587119	ST CLAIR MEMORIAL HOSPITAL	3.1%
1881695146	UPMC MERCY	C 356
1356334510	INDIANA REGIONAL MEDICAL CENTER.	356
1821015462	LATROBE AREA HOSPITAL, INC.	2.896
1063422053	VALLEY MEDICAL FACILITIES INC	27%
1790795359	UPMC ST MARGARET	2,4%
4		

The chart above shows hospital referral volume from General Cardiologists in the Pittsburgh Hospital Referral Region. Compared to his peers Dr. Marroquin (purple dot) refers to UPMC Presbyterian Shadyside at a very high rate.

Summary

- Physician Profiling is commonplace
 - Quality
 - Cost
- Payers are (or will be) providing this information to PCP's
 - Strengths
 - Weaknesses
- Important to participate in the process

