CareForum 2022

The WellSky® Conference

Analytics to Drive Decision Making, A Story

Thomas Martin

Director of PAC Analytics

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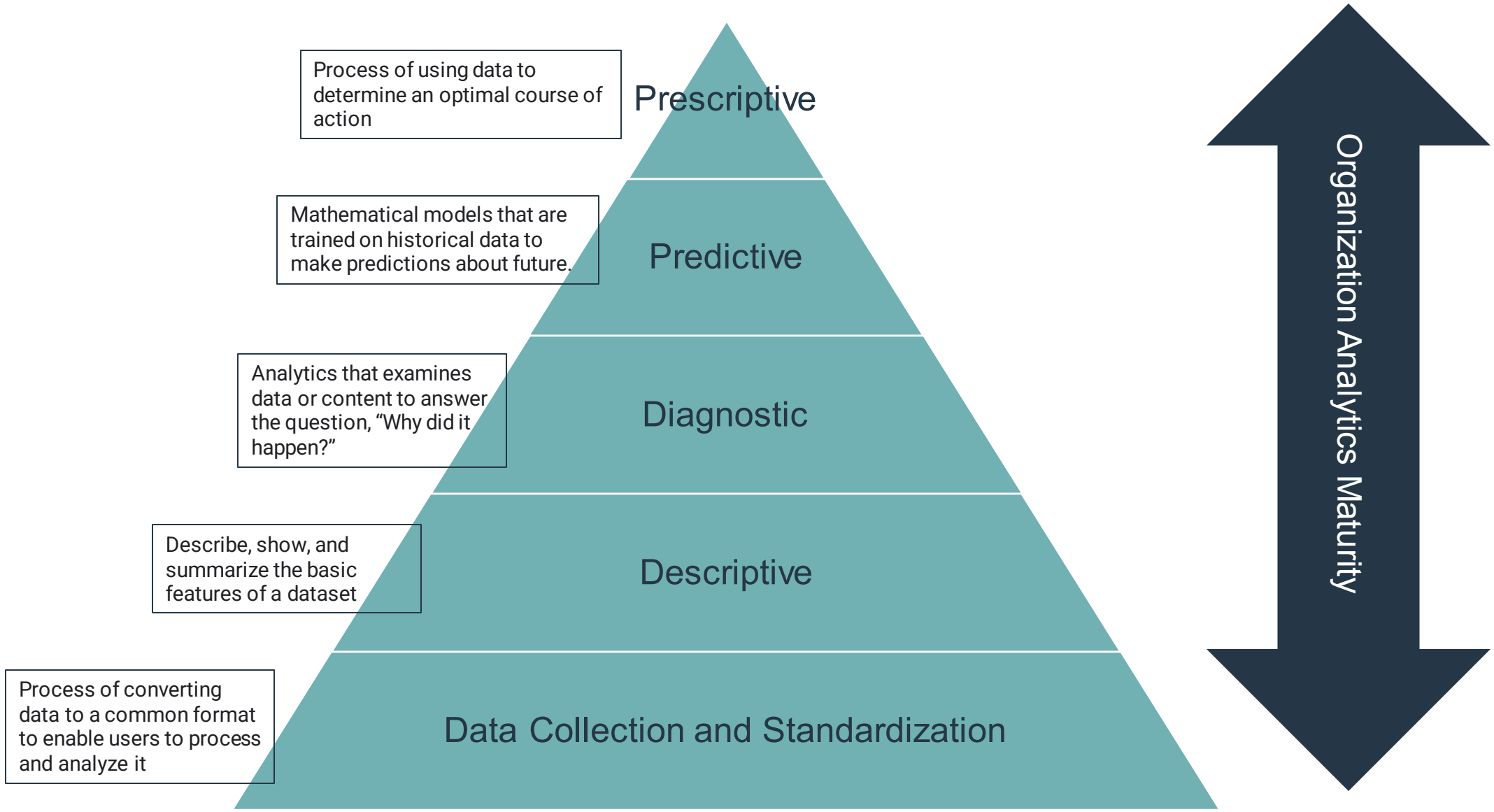
Today's speaker

Tom Martin
Director of Post-Acute Analytics
CarePort, powered by WellSky

Analytics Maturity Framework



1. What is happening to the patients I’m responsible for who receive PAC care in the SNF?

Variance in PAC Quality

Paper published by NBER in August 2022 "Producing Health: Measuring Value Added of Nursing Homes" finds:

1. "compared to a 10th percentile SNF, a 90th percentile SNF is able to discharge a patient at the same health level about a week sooner"
2. "results point to the potential for substantial gains through policies that encourage reallocation of patients to higher-quality SNFs within their market."

NBER | NATIONAL BUREAU of ECONOMIC RESEARCH

Descriptive

$$\overline{X} = \frac{\sum X}{N}$$

Risk Adjust 30-Day Hospitalization Rate | Download CSV

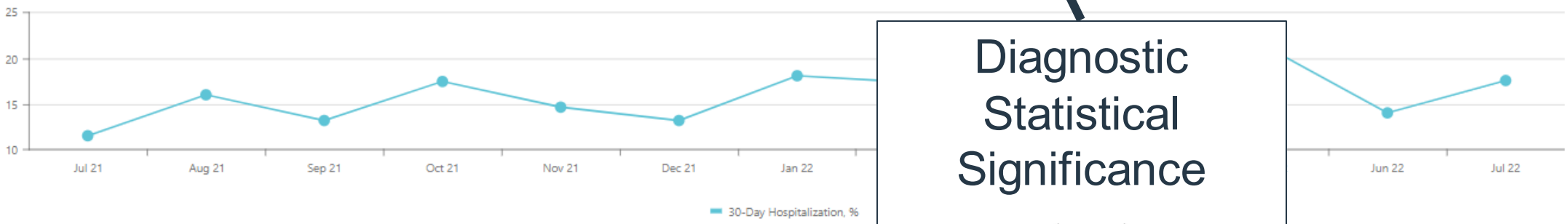
Median Short-Stay Length of Stay
Length of stay in days among concluded short-stay episodes

19.2d

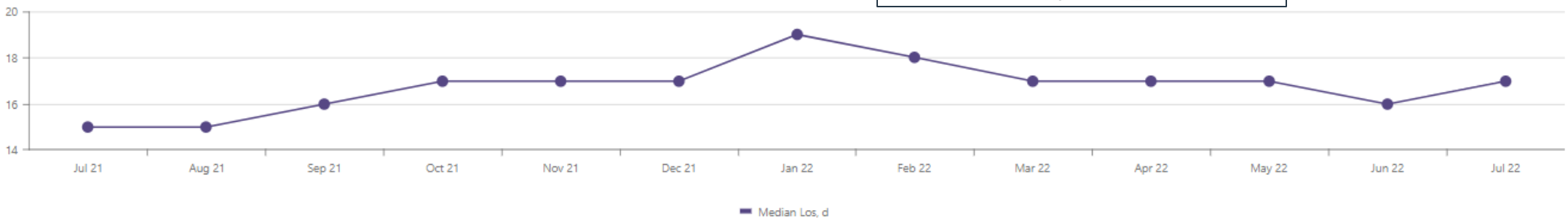
CarePort Quality Score
Average patient-weighted CarePort Quality Score

3.5

30-Day Hospitalization Rate



Median Length of Stay



Diagnostic Statistical Significance

$$t = \frac{(x_1 - x_2)}{\sqrt{\frac{(s_1)^2}{n_1} + \frac{(s_2)^2}{n_2}}}$$

2. What is going on with the SNFs in my Market?

Profiling the Market

	CAREPORT AND CMS RATINGS					PAYROLL BASED STAFFING		STATE SURVEY REGULATORY		
PROVIDER	CAREPORT QUALITY SCORE	OVERALL	SURVEY	QUALITY	STAFFING	ADJ RN HPRD	TOTAL NURSING HPRD	SURVEY CITATION POINTS	SPECIAL FOCUS FACILITY	PERCENTAGE OF PATIENTS W/ IMPROVED MOBILITY
Market Benchmark	**3.0**	**3.0**	**2.0**	**3.0**	**3.0**	**0.8**	**3.8**	**65.4**	**0.0%**	**70%**
Sample Care	5	3.0	3.0	3.0	3.0	0.8	3.6	37.3	No	50%
Golden Age Care	1	4.0	4.0	4.0	3.0	0.6	3.3	31.3	No	71%
Example Care	1	1.0	1.0	4.0	1.0	0.4	3.5	124.0	No	93%

Prescriptive

Descriptive

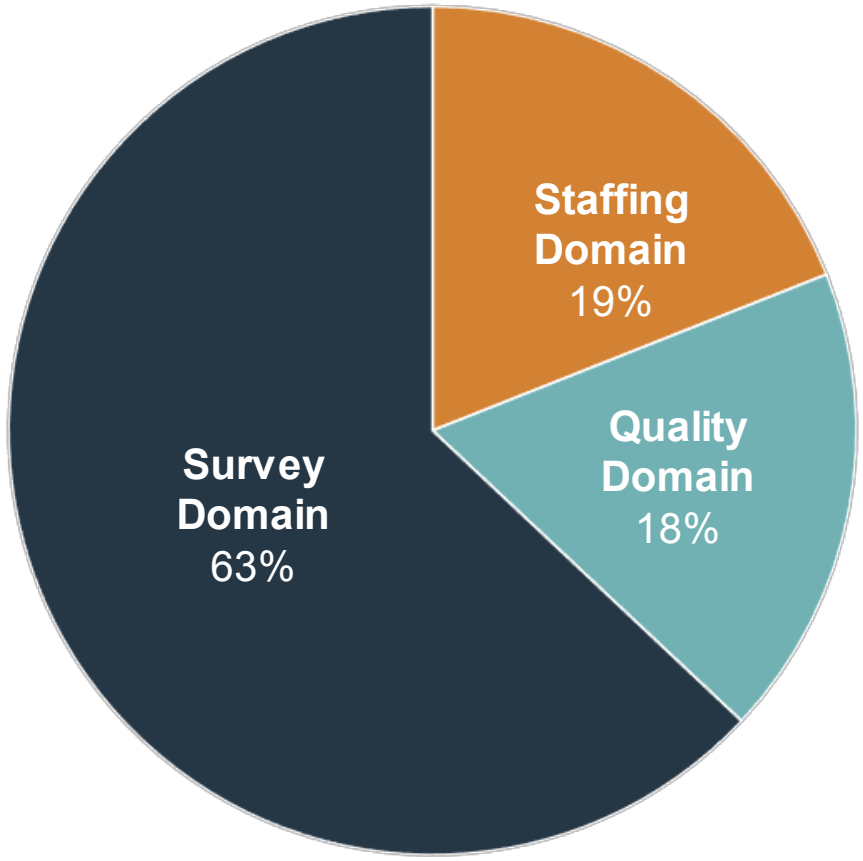
Why I might not want to use Five-Star Ratings?

Custodial focus
9 of the 15 quality measures in the CMS 5-star rating are based only on the custodial population.

Subjective
Over 63% of the CMS 5-star rating is based off a subjective survey process that counts against providers for over three years.

Missing a measure of cost utilization
Average Length of Stay is one of the most varied metrics in the PAC space and drives costs under PDPM – but this measure is missing from the CMS 5-Star rating system.

Lagged
Many of the metrics used in the ratings system for the short-stay population come from fee-for-service claims, which are on average a year old when presented on Care Compare and used in the CMS 5-star rating.



Geared Towards Managed Short Stay Popualtion

Includes measures specific to the short-stay population
The CarePort Quality Score only considers measures that are relevant to the short-stay population.

Incorporates cost utilization
The CarePort Quality Score includes average length of stay among community discharges to help understand the cost of care

Considers all short-stay patients
not just Medicare Fee-For-Service patients submitting claims to CMS

Focuses on objective measures
Reduced weight is given to state survey citations, which are subjective and depend heavily on the surveyor

Provides SNFs an incentive and ability improve
SNFs can improve their CarePort Quality Score every month – unlike CMS, we do not score on a curve

Components of the CarePort Quality Rating

Num	Metrics	Weight
1	Risk Adjusted 30-Day Rehospitalization	20%
2	ALOS for Patients Discharged to Community	20%
3	ADL Improvement	10%
4	Adjusted RN Staffing HPRD	10%
5	Adjusted Total Staffing HPRD	10%
6	Survey Citation Points	10%
7	ED Visits QM	5%
8	Discharge to Community	5%
9	New or Worsened Pressure Ulcers	5%
10	Medicare Spending Per Beneficiary	5%

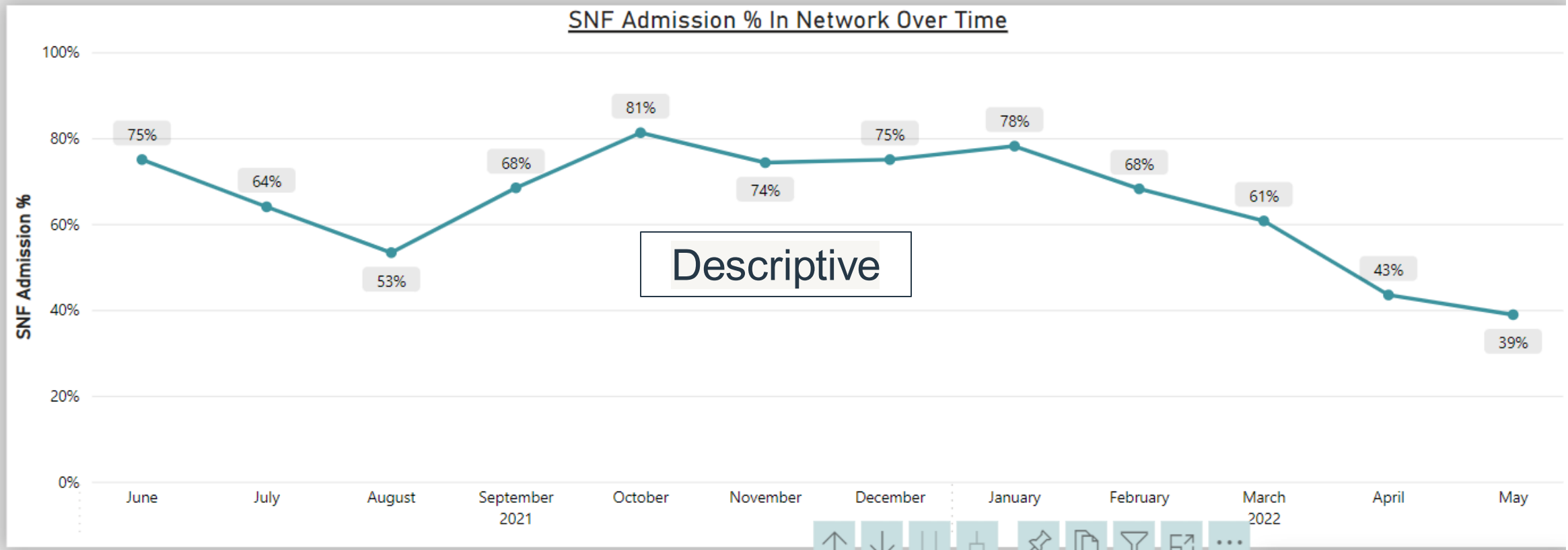
3. I built a post-acute network; how do I get my patients in-network?

Building PAC networks leads to better outcomes for patients and health systems alike

Patients that visit SNFs in a network built using CarePort's metrics have better outcomes:

- **Patients visit the hospital less often during their SNF stay**
  In-network patients have a 2% lower hospitalization rate than the market at large
- **Patients return to the community more often**
  In-network patients have a 2% higher discharge-to-community rate than the market at large
- **Patients return to the community sooner**
  In-network patients utilize 3.9 fewer skilled days compared to the market at large

SNF Admissions In Network



Descriptive

SNF Admissions

Year	2021						2022						Total
Network Status	ust	September	October	November	December	Total	January	February	March	April	May	Total	
In Network	16	13	13	26	18	**120**	25	15	17	10	7	**74**	**194**
Out of Network	14	6	3	9	6	**53**	7	7	11	13	11	**49**	**102**
Total	**30**	**19**	**16**	**35**	**24**	**173**	**32**	**22**	**28**	**23**	**18**	**123**	**296**

In Network

66%

Average Admission Percentage

Out of Network

34%

Average Admission Percentage

Referral Process Measures

Descriptive that leads to diagnostic

Provider Details		Market Characteristics			Timely Communication, Acceptance and Rejection Metrics				Acceptance/Rejection Rates By Payer				
									Medicare		Medicaid		
CMS Certification Number (CCN)	Name of SNF Provider	Distance From Nearest Hospital In Miles	In Network Provider	Patients Referred	Median First Response Time In DD:HH:MM	Referral Acceptance Rate	Referral Rejection Rate	Median Response Time For definitive response In DD:HH:MM	Referred Patients	Acceptance Rate	Referred Patients	Acceptance Rate	Refe Pati
365094	Sample Care Provider	0	Yes	2662	00:00:09	25%	41%	00:00:08	1531	33%	162	7%	85
366103	ABC SNF Care	3.9	Yes	757	00:00:14	20%	56%	00:00:43	393	25%	60	2%	26
365943	Golden Time Care	0	No	2111	00:00:29	23%	33%	00:00:29	1045	27%	113	3%	79
366440	Example Care Provider	3.2	No	74	00:00:45	58%	31%	00:00:51	263	59%	96	50%	28

Insight 1: Over the last 12-months Sample Care Provider received most of the patient referral volume. This is probably as expected given that Sample Care is part of their network.

Insight 2: Golden Time is receiving the second most volume and yet is not a preferred provider. Why are DPs sending patients out of network?

Insight 3: Example Care is an out of network provider, but they have consistently accepted Medicaid patients while other preferred providers have refused.

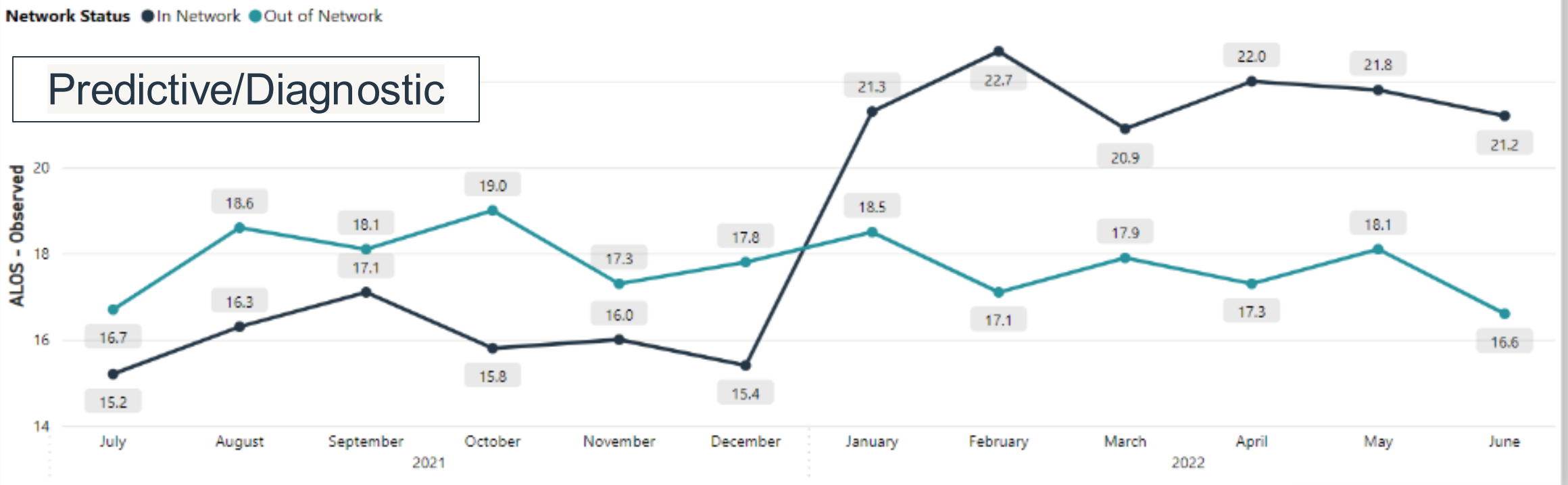
4. If performance suffers do I know why?

SNF ALOS for Patients Discharged to Community

CarePort

Adjusted Rate | Observed Rate

SNF ALOS for Patients D2C Over Time by Network Status



- Observed -

Year	2021							2022					
Network Status	**July**	**August**	**September**	**October**	**November**	**December**	**Total**	**January**	**February**	**March**	**April**	**May**	**June**
In Network	15.2	16.3	17.1	15.8	16.0	15.4	**16.0**	21.3	22.7	20.9	22.0	21.8	21.2
Out of Network	16.7	18.6	18.1	19.0	17.3	17.8	**17.9**	18.5	17.1	17.9	17.3	18.1	16.6
Total	**16.0**	**17.5**	**17.6**	**17.4**	**16.7**	**16.6**	**16.9**	**19.9**	**19.9**	**19.4**	**19.7**	**20.0**	**18.9**

In Network
18.8
Average Length of Stay

Out of Network
17.8
Average Length of Stay

Which PAC do you want to send your referrals to?

Sample Care Home A

Observed Hospitalization Rate: 29.9%
For every 100 patients admitted to the SNF, about 30 return to the hospital within 30 days

Expected Hospitalization Rate: 35.4%
Based on the high acuity of the patients at the SNF, our model predicted that about 35 out of every 100 patients would return to the hospital within 30 days

Adjusted Hospitalization Rate: 16.5%
Holding patient acuity constant, the SNF is performing **better** than the observed rate suggests.

Sample Care Home B

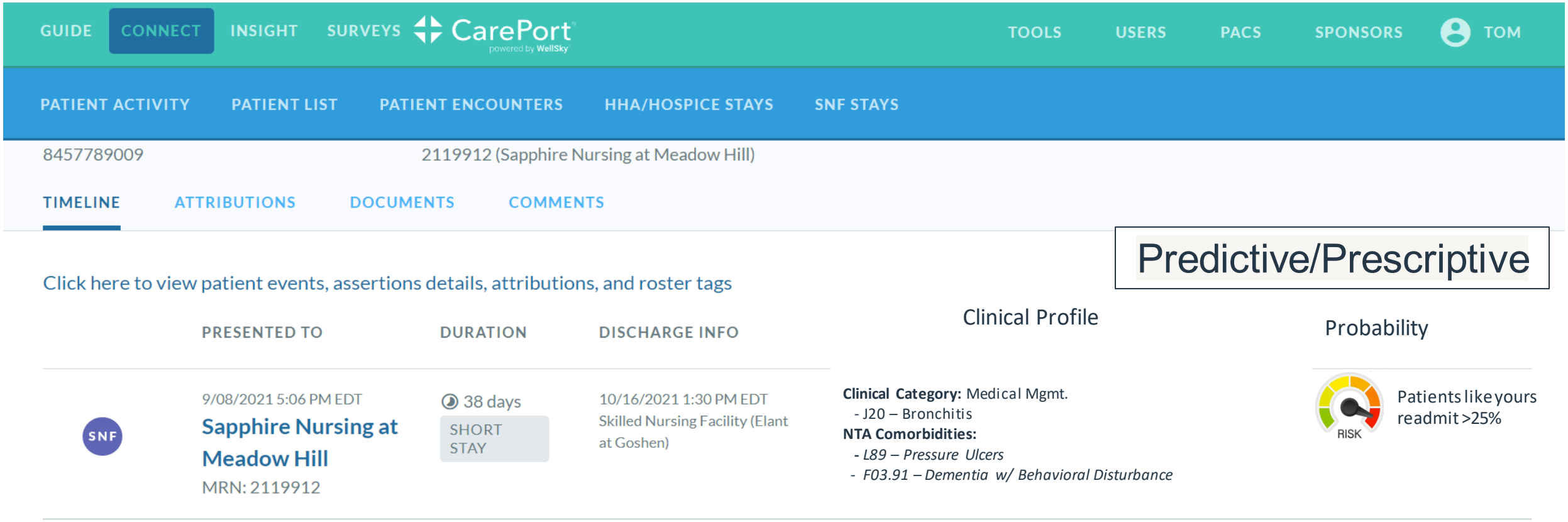
Observed Hospitalization Rate: 13.8%
For every 100 patients admitted to the SNF, about 14 return to the hospital within 30 days

Expected Hospitalization Rate: 8.4%
Based on the relatively low acuity of the patients at the SNF, our model predicted that about 8 out of every 100 patients would return to the hospital within 30 days

Adjusted Hospitalization Rate: 32.2%
Holding patient acuity constant, the SNF is performing **worse** than the observed rate suggests.

5. How do we impact care on the patient level?

Identifying patient by exception



Predictive Analytics

Age and Gender

Clinical Profile At Site of Care

Staffing Practice at Provider

Patient's Clinical Profile at Acute Site of Care

Patient's Community Make Up

Jane Doe

COVID

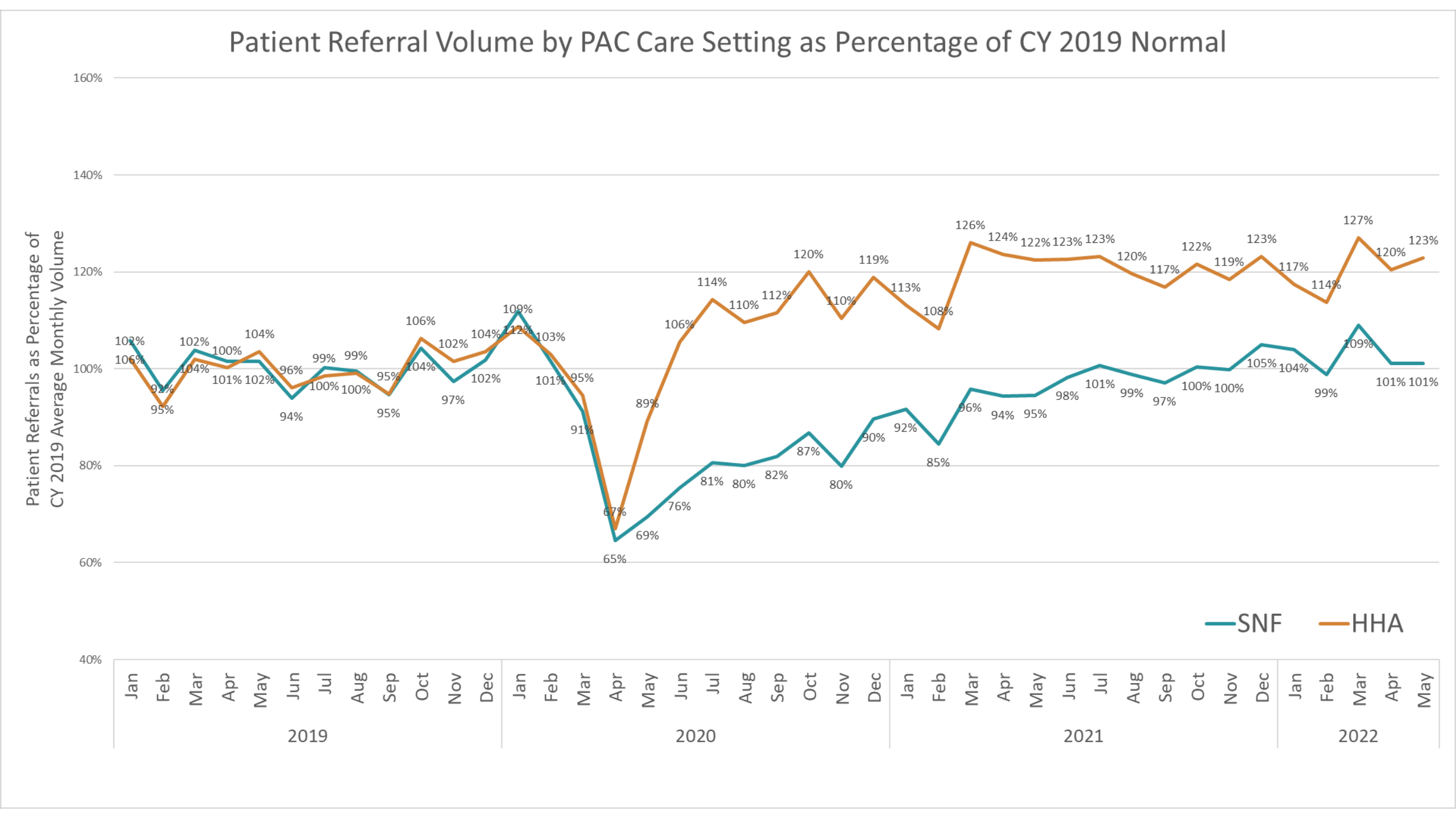
Provider Level QOC Citations

Patient History of Utilization

Table B: Odds Ratio Estimates Rehospitalization

Independent Variables	Odds Ratio
Dialysis	2.6
Insulin	1.6
Bowl Incontinence	1.5
Ulcer	1.7
Age > 65	1.5
Oxygen	1.3
Eating Dependent	2.2
Heart Failure	1.4
Internal Bleeding	3
Male	1.3
Previously Rehospitlaized	1.4
Medicare	1.9
Require 2 Person Assist	1.3
Hospice	0.4
Cognition Problem	1.3

6. How do we determine the right level of care?


Patient Referral Volume by PAC Care Setting as Percentage of CY 2019 Normal
Patient Referrals as Percentage of CY 2019 Average Monthly Volume
160%
140%
120%
100%
80%
60%
40%
SNF
HHA
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
2019
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
2020
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
2021
Jan Feb Mar Apr May
2022

Potential Over Utilization of SNF Setting is Costly

- MedPAC reports that the average SNF episode is 2.5x more expensive than a HHA episode

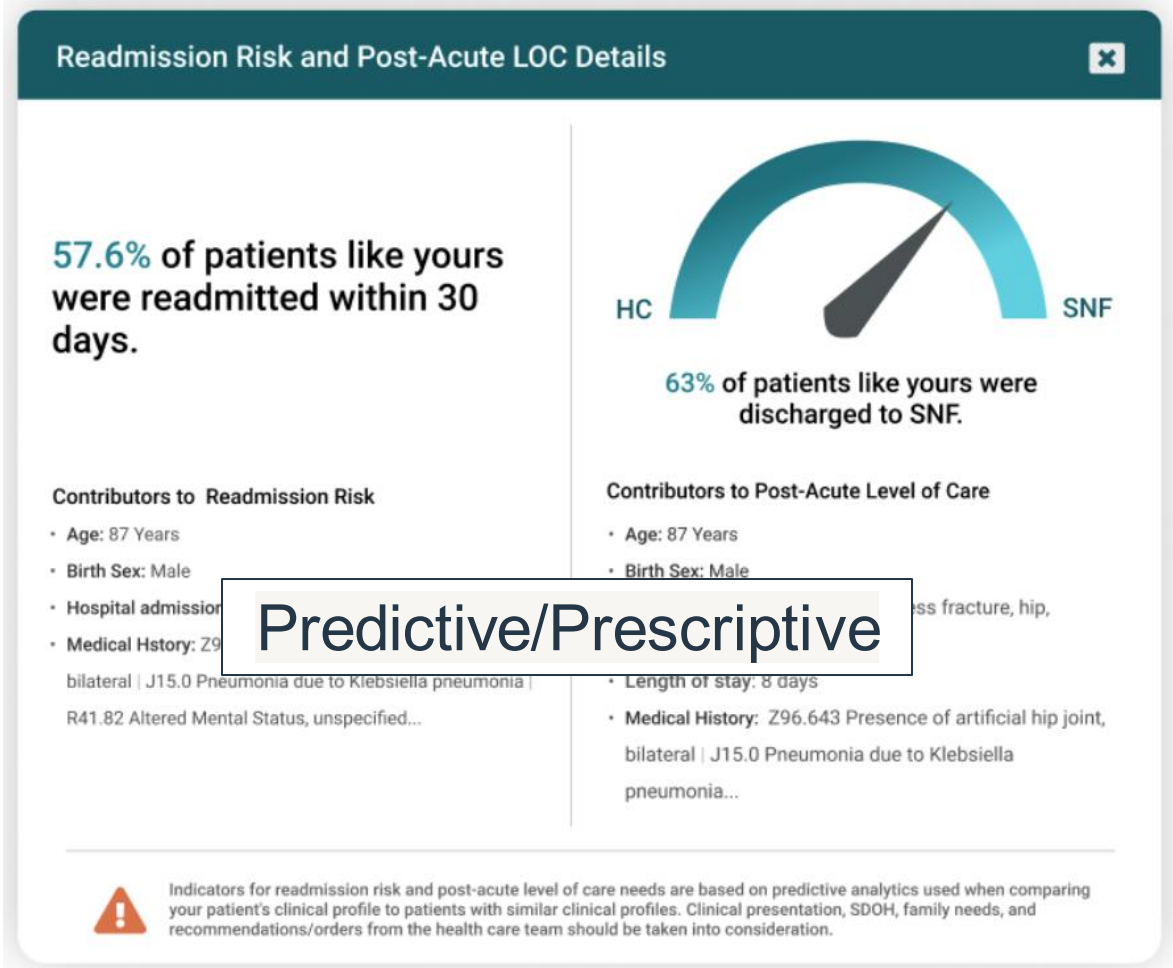
LOC	% of Admissions After Discharge from Hospital Stay 2018	Estimated Cost at LOC for Average Patient 2018
HHA	48%	$5,462
SNF	42%	$13,700

- A UPenn study of Medicare FFS claims from 2010 to 2016 found (after controlling for comorbidities) :
  - SNF patients saw no improvement in ADLs compared to HHA patients
  - SNF patients saw no decrease in mortality rates compared to HHA patients
  - SNF patients had a 5% decrease in readmission compared to HHA patients (CarePort analysis found 2%)
  - SNF patients' 60 days total cost of care is 5k less compared to HHA patient (after considering increased cost in readmissions)

Two Predictive Models to Aid in Decision Process

1. For the average patient, that looks like mine and requires post acute care how likely are they to be discharged to a skilled nursing facility?

2. For the average patient, that looks like mine and requires post acute care how likely are they to be readmitted within 30 days of hospital discharge?



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Thank you.

Contact us:

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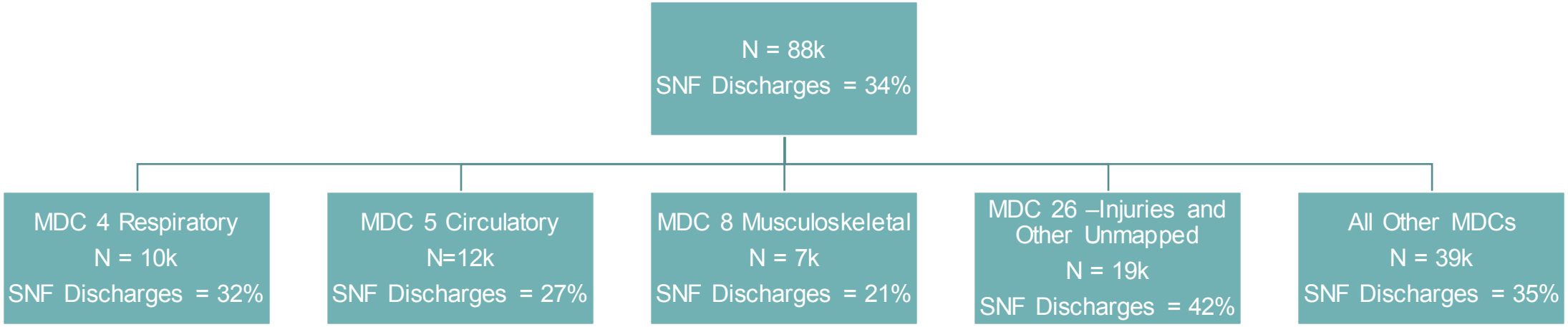
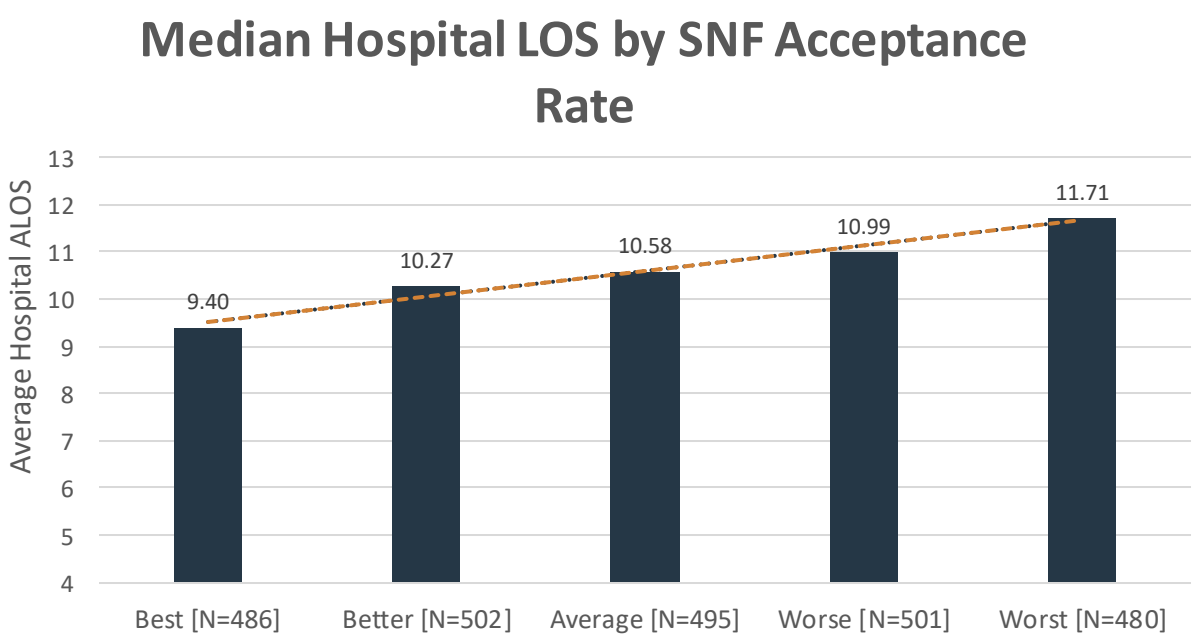
CarePort LOC Models Built After Subset of Successful Health Systems

- Model built off Care Mgmt. client discharges between July 1st 2020 – June 30th 2021
- Limited our sample of client health systems (24) to only those that:
  1. Efficient PAC Utilization: Sent more than 59% of patients to HHA
  2. Safe Discharge Record: Among patients discharged home 20% do not readmit within 30days
- Logistic regressions models are then applied to patients based off their Major Diagnostic Category



Why should Client's care?



Skilled Nursing News

TECHNOLOGY

How Guardian Healthcare Sparked 125% Growth in Referrals

By **Alex Zorn** | January 30, 2022

"We've nearly doubled our-short-term, short stay patients. Our referring partners basically said you respond quickly to every referral we send you if you can take it or not and it lets us know if we need to go hunt something else down so we've almost become the default provider of choice because they know they can get an answer from us very, very quickly," VP Guardian.

LOC	% of Admissions After Discharge from Hospital Stay	Estimated Cost at LOC for Average Patient	Average LOS	Average 30 day readmission Rate	Estimated Cost for Readmission (Assume 10k Cost)	Estimated Total Cost of Care	What type of patient typical goes to this setting
HHA	48%	5,202	114	15%	$ 1,540	$ 6,742	needing therapy visits, also in some cases take skilled patients
SNF	42%	12,500	39	18%	$ 1,800	$ 14,300	skilled and rehab needs
IRF	8%	19,714	12.7	4%	$ 440	$ 20,154	Stroke, brain injury, other neurologic disorders and lower extremity rehab
LTACH	2%	38,000	26.3	25%	$ 2,500	$ 40,500	profound debilitating illness, septicemia, respiratory failure, trach, vent, spent time in ICU

There is tremendous variation in referral patterns

- Hospitals and health systems vary greatly in where they send patients
  - Some health systems skew toward ***only*** sending patients home and some hospitals are utilizing mostly SNF care for a majority of patient discharges
  - We find that the variance in acuity of patient populations does not explain away this variance

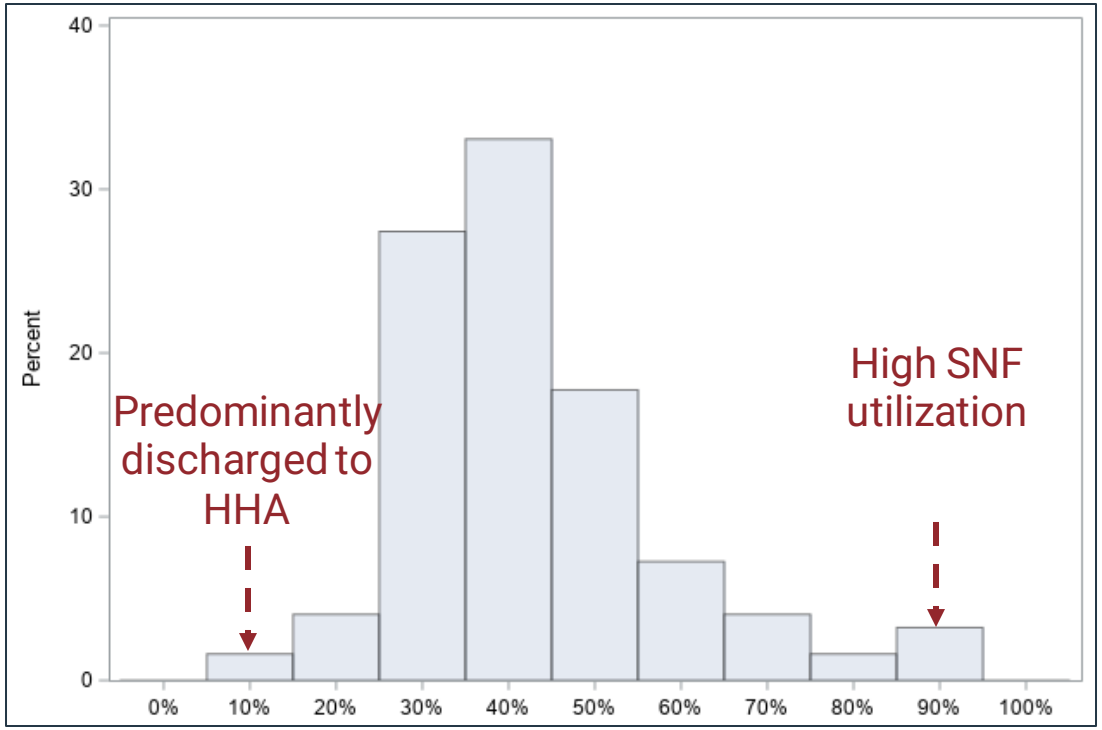
➢Where does your organization fall?

➢Do you know where you measure up against your peers?

➢Do you know how your organization makes level of care decisions today?

➢Are you confident you're discharging patients to the right level of care?

% of Patients Requiring PAC Care That are Referred to SNF



% of Patient Discharged to SNF over HHA

Do these models work?

Hosmer Lemeshow Validation New Model (N=122,555)

Decile of Predicted Risk	Number of SNF Stays	Average Predicted Hospitalization	Average Hospitalization
1 (Lowest Predicted Hosp)	12,255	11.0%	7.4%
2	12,256	12.6%	10.9%
3	12,255	13.6%	12.9%
4	12,256	14.8%	14.2%
5	12,255	16.0%	16.6%
6	12,256	17.6%	18.7%
7	12,256	19.6%	21.7%
8	12,255	22.6%	25.3%
9	12,256	28.0%	31.0%
10 (Highest Predicted Hosp)	12,255	43.8%	40.0%

Referral Performance

REPORTING DATE: July 2022

MEASUREMENT WINDOW: 12 month rolling

SNF: Select facility

DISTANCE FROM NEAREST HOSPITAL: 90 mi.

PREFERRED PROVIDER: Please choose

REFERRAL MANGEMENT SUBSCRIBER: Please choose

SEARCH

Viewing 18 results

Provider	Market Characteristics: Distance from nearest hospital	Market Characteristics: Preferred Provider	Market Characteristics: Referral Management Subscriber	Market Characteristics: Patients Referred	Timely Communication and Placement Metrics: Median First Response Time	Timely Communication and Placement Metrics: Acceptance Rate	Timely Communication and Placement Metrics: Median Response Time For definitive response	Acceptance Rates by Payer Type (Referred | Acceptance Rate): Referred Medicare Patients	Medicare Acceptance Rate	Referred Medicaid Patients	Medicaid Acceptance Rate
Taft Network [illegible]	90mi.	✓	✓	887	90min	75.5%	110min	248	75.5%	132	65.3%
United Systems 847345250	85mi.	✓	✓	374	85min	86.0%	165min	248	75.5%	132	65.3%
Benedictine Health Network 072829076	86mi.	✓	✓	1415	86min	77.6%	454min	248	75.5%	132	65.3%
Brookdale Healthcare Systems 674551892	90mi.	✓	✓	112	90min	74.8%	32min	248	75.5%	132	65.3%

Golden

Insight 4: While Welsh Home appears to respond to referrals within 15mins that first response if just a place holder. They wait much longer than the market average to give a definitive yes/no.

Insight 5: Highland Pointe Health is an out of network provider, but they have consistently accepted Medicaid patients while other preferred providers have refused.