CarePort Quality Score

Measuring SNF quality of care for short-stay patients

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INTRODUCTION

Among the 15,000 skilled nursing providers across the U.S., there is tremendous variance in the care provided to patients. For population health teams that track the performance of providers in their local markets, there are numerous quality measures available to help understand these differences – but evaluating all these metrics can be time consuming. While CMS does produce an overall quality ranking for providers on Care Compare with the Five-Star rating, this measure is not ideally used for population health teams that are focused on placing short-stay skilled patients in a skilled nursing facility (SNF) to receive rehabilitative care before being discharged to the community.

CarePort sought to create one metric – the CarePort Quality Score – that captures various domains of SNF quality and efficiency as it relates to the short-stay skilled patient population. Much like CMS Five-Star ratings, CarePort has created a ranking consisting of five tiers. Unlike Five-Star ratings, the CarePort Quality Score 1) is based off of more recent data, 2) is limited to measures based on the short-stay skilled patient population only, 3) deemphasizes subjective measures related to the state survey citation process, and 4) allows providers to show improvement as thresholds are not continuously reset. This document specifies how to calculate the CarePort Quality Score for a given month using a mix of MDS, claims, and ADT-derived quality measures.

There are many ways to track performance within a SNF network and the CarePort Quality Score is not intended to be the only measure used by population health teams to understand performance. This scoring system was designed instead to be a summary measure of performance that is tailored toward managed care populations.

The CarePort Quality Score will be recalculated monthly on the CMS Analytics tab of CarePort Insight and will be displayed in CarePort Guide.

CAREPORT QUALITY SCORE COMPONENTS

After seeking input from experts in the skilled nursing industry on the best ways to capture quality for a SNF provider, CarePort selected 10 measures to include in the CarePort Quality Score. All of these measures have been endorsed by CMS and/or the National Quality Form, with the exception of the CarePort ADT-derived metrics, which are measures that have been modeled after other industry standard metrics but have been modified for calculation off of real-time ADT feeds.

Each of the 10 selected metrics contribute toward a provider's CarePort Quality Score. Some metrics are more heavily weighted than others. Measures that have a smaller lag time in their calculation are given a heavier weight, as they are better enabled to capture current performance of a provider.

Table 1: Component Measures of the CarePort Quality Score

Number	Measure Name	Data Source	Weight in Quality Score	Description
1	CarePort 30-Day Rehospitalization	ADT	20%	The percentage of skilled patients who are discharged from the SNF and readmitted back to the hospital within 30 days of SNF admission. Measure is risk-adjusted to account for differences in patient-case mix.
2	CarePort Discharge to Community ALOS	ADT	20%	The average length of stay for skilled patients who are discharged to the community (AL, HHA, or home with no services) after their SNF stay. Measure is risk-adjusted to account for differences in patient-case mix.
3	Improvements in Physical Function	MDS	10%	The percentage of skilled patients whose independence in transfer, locomotion, and walking improved during their stay.
4	RN HPRD	PBJ	10%	The average staffed RN hours per resident day. Measure is risk-adjusted to account for differences in patient-case mix.
5	Total Nurse HPRD	PBJ	10%	The average staffed nurse hours (RN, LPN, CNA) per resident day. Measure is risk-adjusted to account for differences in patient case mix.
6	Survey Points	State Survey Data	10%	Score that represents the number of citations, and their scope and severity, over the past 3 survey cycles. Higher

				score means worse survey performance for the provider.
7	Emergency Department Visits	Medicare FFS Claims	5%	The percentage of Medicare FFS patients who have an ED visit within 30 days of entry or reentry to the SNF.
8	Successfully Discharge to Community	Medicare FFS Claims	5%	The percentage of Medicare FFS patients who successfully discharge from the SNF to their home/ community without a subsequent readmission to the hospital within 30 days of SNF discharge date.
9	Pressure Ulcers that are New or Worsened	QRP	5%	The percentage of skilled patients acquiring a pressure ulcer in the SNF or whose existing pressure ulcers worsened during their stay.
10	Medicare Spending per Beneficiary for SNF Residents	Medicare FFS Claims	5%	Ratio that tracks a SNF's average Medicare spending per resident compared to other SNFs. Measure is risk-adjusted to account for differences in patient-case mix.

CAREPORT QUALITY SCORE MEASURES

Each of the 10 CarePort Quality Score measures receive a score ranging from 1 to 10, where 10 implies the best possible score for the measure and 1 implies the worst possible score. The thresholds to determine each metric's points were approximately set based off of the national distribution of SNF providers in 2020. CarePort does not plan to regularly update the thresholds to allow providers to make improvements without continuously resetting the threshold goals.

The survey points measure has specific thresholds depending on the state in which the SNF is located. There is significant variance in how state surveyors enforce CMS regulations, and so thresholds need to be set for each state to account for these differences.

IMPUTATION STRATEGY FOR MISSING DATA

It is not uncommon for a SNF provider to have a missing value for one or more of the 10 measures used in the CarePort Quality Score. Some of the reasons a provider may be missing a measure include:

1. Provider did not have enough (≥20) of short stay patients over a 12-month window
2. Provider data was flagged for reliability issues related to their ADT feed
3. Provider was flagged for reliability issues related to payroll-based journal staffing numbers
4. Provider has not agreed to share ADT feeds with health systems in their market

If a provider is missing four or fewer of the eight component measures that were developed by CMS, a score of 5 points will be assigned to the missing measures. If a provider is missing 5 or more of the 8 component measures, then no composite rating will be assigned.

If a provider is missing one or both of the CarePort ADT-derived measures, a score of 4 points will be assigned to the missing measure. This imputation rule will result in providers that are not sharing ADT data with their referral partners to have a slightly lower average CarePort Quality Score. The impact of this imputation rule is punitive but minor.

Table 2: Distribution of SNFs by Number of Missing Measures

Number of Missing Component Measures	Number of SNFs	% of SNFs
0	813	5%
1	12	0%
2	11,354	74%
3	905	6%
4	698	5%
5	409	3%
6	241	2%
7	749	5%
8	24	0%
9	95	1%
10	77	1%

CALCULATION OF CAREPORT QUALITY SCORE

After points have been assigned to each of the 10 component measures, they should be summed to create a composite score that ranges from 10 to 100. To calculate the CarePort Quality Score, each of the 10 measures are multiplied by their weight and summed.

$$
\begin{aligned}
CarePort\ Composite\ Score \\
= (measure\ 1\ points * 2) + (measure\ 2\ points * 2) + (measure\ 3\ points * 1) \\
+ (measure\ 4\ points * 1) + (measure\ 5\ points * 1) + (measure\ 6\ points * 1) \\
+ (measure\ 7\ points * .5) + (measure\ 8\ points * .5) + (measure\ 9\ points * .5) \\
+ (measure\ 10\ points * .5)
\end{aligned}
$$

Once a provider has their quality score calculated, they will be assigned one of five possible ratings based off of the threshold founds in the Table 3 below. A higher rating implies better performance. These thresholds will not be continuously updated.

Table 3: CarePort Quality Score Threshold Table

CarePort Quality Score Thresholds	SNF CarePort Quality Score
56 – 100	5
51 – 55	4
46 – 50	3
41 – 45	2
10 – 40	1

The national distribution of CarePort Quality Scores in 2020 can be found in Figure 1 below.

Figure 1: Distribution of SNFs by CarePort Quality Score

Distribution of CarePort Quality Rating
Across SNF Industry 2020
N = 15,000
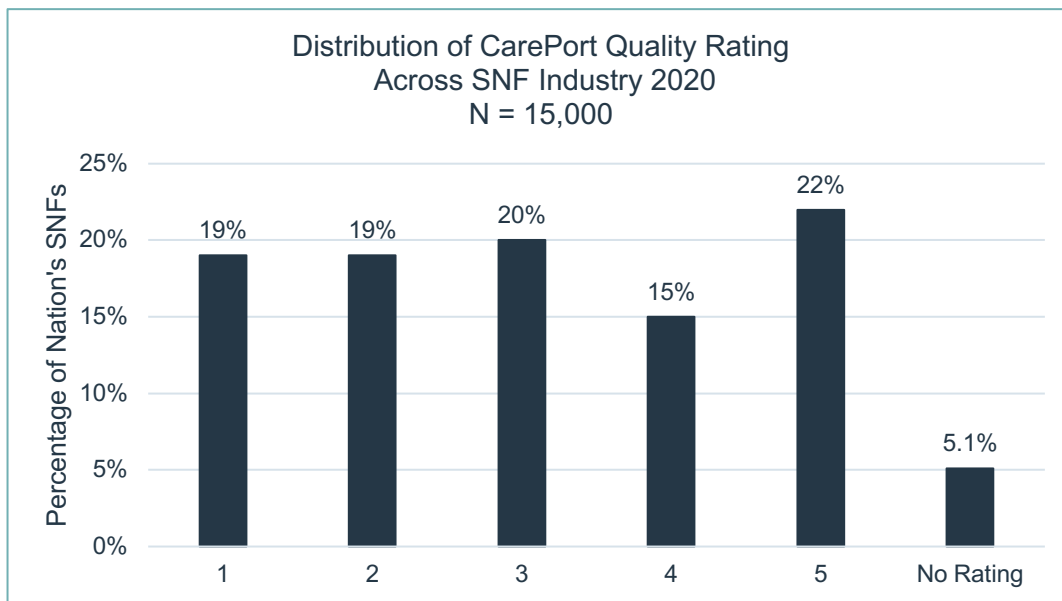
MEASURE THRESHOLD TABLES

The threshold tables below are used to determine the number of points for each of the 10 component measures.

Table 4: CarePort 30-Day Rehospitalization

Number of Points	Lower Bound	Upper Bound

1 Point	0.2265323211	1
2 Points	0.2023727221	0.2265323211
3 Points	0.1880934718	0.2023727221
4 Points	0.1736894101	0.1880934718
5 Points	0.1616595927	0.1736894101
6 Points	0.1480049505	0.1616595927
7 Points	0.1331585142	0.1480049505
8 Points	0.1148664503	0.1331585142
9 Points	0.0714913009	0.1148664503
10 Points	0	0.0714913009

Table 5: CarePort Discharge to Community ALOS

Number of Points	Lower Bound	Upper Bound
1 Point	33.289450242	100
2 Points	29.398142934	33.289450242
3 Points	27.263993043	29.398142934
4 Points	25.263413271	27.263993043
5 Points	23.211795428	25.263413271
6 Points	21.515332578	23.211795428
7 Points	20.189404834	21.515332578
8 Points	18.567729630	20.189404834
9 Points	16.424657733	18.567729630
10 Points	0	16.424657733

Table 6: Residents Who Made Improvements in Physical Function

Number of Points	Lower Bound	Upper Bound
1 Point	0	0.51892289
2 Points	0.51892289	0.58176918
3 Points	0.58176918	0.62281885
4 Points	0.62281885	0.65576794
5 Points	0.65576794	0.68655924
6 Points	0.68655924	0.71797166
7 Points	0.71797166	0.74977755
8 Points	0.74977755	0.78671135
9 Points	0.78671135	0.83935661
10 Points	0.83935661	100

Table 7: RN Hours Per Resident Day

Number of Points	Lower Bound	Upper Bound
1 Point	0	0.28579
2 Points	0.28579	0.37299
3 Points	0.37299	0.44637
4 Points	0.44637	0.52253
5 Points	0.52253	0.59946
6 Points	0.59946	0.68752
7 Points	0.68752	0.80633

8 Points	0.80633	0.96051
9 Points	0.96051	1.21943
10 Points	1.21943	100

Table 8: Total Nurse Hours per Resident Day

Number of Points	Lower Bound	Upper Bound
1 Point	0	2.97672
2 Points	2.97672	3.20289
3 Points	3.20289	3.39369
4 Points	3.39369	3.57076
5 Points	3.57076	3.75225
6 Points	3.75225	3.93414
7 Points	3.93414	4.13875
8 Points	4.13875	4.41984
9 Points	4.41984	4.88073
10 Points	4.88073	100

Table 9: Patients with Emergency Department Visit

Number of Points	Lower Bound	Upper Bound
1 Point	0.16763556	1
2 Points	0.13949659	0.16763556
3 Points	0.12140866	0.13949659
4 Points	0.10814353	0.12140866

5 Points	0.09668675	0.10814353
6 Points	0.08538052	0.09668675
7 Points	0.07462753	0.08538052
8 Points	0.06232857	0.07462753
9 Points	0.04591839	0.06232857
10 Points	0	0.04591839

Table 10: Patients Discharged from SNF Successfully to Home/Community

Number of Points	Lower Bound	Upper Bound
1 Point	0	0.29165
2 Points	0.29165	0.36435
3 Points	0.36435	0.41810
4 Points	0.41810	0.46240
5 Points	0.46240	0.50430
6 Points	0.50430	0.54130
7 Points	0.54130	0.57960
8 Points	0.57960	0.61885
9 Points	0.61885	0.66645
10 Points	0.66645	1

Table 11: Patients with New or Worsened Pressure Ulcers

Number of Points	Lower Bound	Upper Bound
1 Point	0.08	1

2 Points	0.055	0.08
3 Points	0.04	0.055
4 Points	0.03	0.04
5 Points	0.02	0.03
6 Points	0.01	0.02
7 Points	0.005	0.01
8 Points	0.00000001	0.005
10 Points	0	0

Table 12: Medicare Spending per Beneficiary

Number of Points	Lower Bound	Upper Bound
1 Point	1.36	100
2 Points	1.23	1.36
3 Points	1.14	1.23
4 Points	1.07	1.14
5 Points	1.01	1.07
6 Points	0.96	1.01
7 Points	0.90	0.96
8 Points	0.84	0.90
9 Points	0.76	0.84
10 Points	0	0.76

Click here to view the Excel document outlining the state level cut points used for the survey points measure.