SHP
STRATEGIC HEALTHCARE PROGRAMS

Demystifying Home Health Risk Adjustments


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Winning Wednesday Webinar Series

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Objectives

- How and why risk adjustments are used in quality reporting
- Examples of risk adjustments that increase and decrease your observed scores
- Insights on implications of risk adjustments
  - Social Determinants
  - Best Practices – Accuracy, Non-revenue OASIS items, Non-Medicare payers
- How should you use this information?

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Here's everything you need to know about risk adjustments

SHP 4

Mystery Slide...

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How and why risk adjustments are used in quality reporting

SHP 6

CMS Reported Scores

- Risk-adjusted outcomes are utilized by CMS in many different areas, including Home Health Compare, Quality of Patient Care star ratings, CASPER reports, Value-Based Purchasing calculations, and more.

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CMS Reported Scores (cont.)

- Not every publicly reported outcome is utilized in every calculation.
- As shown below, the Quality of Patient Care Star Rating calculation and the Value Based Purchasing calculation both omit outcomes that are reported on Home Health Compare.

	Ambulation	Bed Transferring	Bathing	Pain	Dyspnea	Surgical Wound Status	Management of Oral Meds
Home Health Compare	X	X	X	X	X	X	X
CASPER	X	X	X	X	X	X	X
Quality of Patient Care Star Ratings	X	X	X	X	X		
Value-Based Purchasing	X	X	X	X	X		X

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Risk Adjustment – Why is it done?

- The basic purpose of risk adjustment is to ensure a fair comparison of outcomes by taking into consideration patient characteristics at the start of a home care episode that may **affect the likelihood of specific outcomes** during this episode
- Used for OBQI outcomes and adverse event outcomes
- Not used for process measures
- Each outcome has a unique risk model
- Outcomes scores include Medicare, Medicare Advantage, Medicaid and Medicaid HMOs payers
- Only exception is Claims-based measures

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Risk Adjustment – How is it done?

- A predicted value for a specific outcome is computed based on an analysis of the relationships between that outcome and its multiple risk factors in the **reference group** of patients
- A formula then is developed that expresses the **probability of the outcome** as a mathematical function of the most relevant risk factors
- Using this formula for each of a specific agency's patients, the **predicted value** for the agency's rate on a specific outcome measure can be estimated
- The actual outcome rate achieved by the agency (its current observed value) then is compared to the national reference value

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Risk Adjustment – In English Please??

An adjustment made to your outcome scores by comparing your patient characteristics to national averages.

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Risk-Adjustment Step-by-Step

1. Observed outcome rate is calculated for all eligible patients

   Agency(observed) = (# achieving outcome)/(# eligible for outcome)
2. For each of the same patients, a predicted outcome is calculated based on statistical risk model and patient condition at admission
3. Predicted outcomes are averaged across all the patients served in a 12 month period

   Agency(predicted) = (Sum of predicted probability)/((# eligible for outcome)
4. National observed and predicted rates are calculated aggregating across all patients served by any HHA
5. Agency rate is risk adjusted by adding to the observed rate the difference between the national predicted rate and agency predicted

   Agency(risk adjusted) = Agency(observed) + (National(predicted) – Agency(predicted))

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Risk Model using Logistical Regression

- **Logistical regression** is a statistical technique commonly used to analyze the relationship between multiple predictors (In this case, risk factors) and a yes/no outcome (In this case, improved/not-improved)
- Using this technique, a **predictive model** was constructed for each outcome based on an analysis of risk factors and outcomes using reference group data
- The predictive model is a mathematical formula that reflects the influence of multiple **risk factors** on a particular outcome

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Logistical Regression

- OASIS risk factors are patient characteristics identified at SOC or ROC
- There are 320 possible risk factors, ranging from 33 to 119 for the 7 Home Health Compare outcomes:
  - Ambulation: 102
  - Bathing: 114
  - Bed Transferring: 99
  - Pain: 69
  - Dyspnea: 83
  - Oral Medications: 119
  - Surgical Wounds: 33

Risk Factor Measured at SOC/ROC
Number of therapy visits: 19+
Frequency of Disruptive Behavior: Once a month or less
Number of therapy visits: 15-16
Number of therapy visits: 13-14
Number of therapy visits: 17-18
Bathing: With intermittent assistance in shower/tub
Number of therapy visits: 11-12
Transferring: Unable or bedfast
Hearing: Mildly to moderately impaired
Number of therapy visits: 9-10
Transferring: Bears weight and pivots only

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Coefficients

- Each risk factor has an associated **coefficient** that can either raise or lower the likelihood of the patient improving for the outcome in question
- The larger the coefficient value for the risk-factor, the bigger the impact (positive or negative) it will have on your risk-adjusted score
- **Example**: Below are the risk-factor coefficients for the Ambulation outcome that have the largest positive and negative impact on how likely a particular patient is to improve in Ambulation

Risk Factor	OASIS	Coefficient
Ambulation/Locomotion: Walks only with supervision or assist	M1860=3	2.452
Bathing: Unable to participate; bathed totally by another	M1830=6	-0.439

- **Translation**: A rating of "3" for Ambulation at SOC/ROC (*Able to walk only with the supervision or assistance of another person at all times*) would indicate that the patient is more likely to improve, whereas a rating of "6" for Bathing (*Unable to participate effectively in bathing and is bathed totally by another person*) would indicate that the patient is less likely to improve in Ambulation

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Coefficients

- The coefficient values for each of the risk factors that are present for a specific patient are totaled up and contribute to a single **predicted improvement** score for the patient
- The higher the **predicted improvement** score, the more likely that the patient is to improve, and vice versa
- The predicted improvement scores for each individual patient are used to calculate your **agency predicted** score
- Therefore, having a large population of patients with **high** patient predicted values will result in your risk-adjusted score being **lower** than your observed score, and vice-versa

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Takeaway Regarding Risk-Factors

- What does this tell us about risk-adjustment?
- For nearly all of the HHC outcomes, the single biggest factor **by far** that causes your final risk-adjusted score to be lowered is the severity of the rating for the outcome at SOC/ROC

Outcome	Top Risk Factor	OASIS Value	Coefficient
Ambulation	Ambulation/Locomotion: Walks only with supervision or assist	M1860=3	2.452
Bathing	Bathing: Unable to participate; bathed totally by another	M1830=6	3.648
Bed Transferring	Transferring: Bedfast	M1850=5	3.342
Pain	Frequency of Pain: Constant	M1242=4	1.693
Dyspnea	Dyspnea: At rest	M1400=4	2.103
Oral Meds	Management of Oral Meds: Unable	M2020=3	1.449
Surgical Wounds	Number of therapy visits: 19+	M2020=3	0.849

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Examples of risk adjustments that increase and decrease your observed scores

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Analysis of Risk-Adjustment Impact

- To demonstrate the impact of the SOC/ROC rating on your risk-adjustment, we looked at data for 2017 and compared the risk-adjusted **Ambulation** scores for 2 providers
- Both providers had roughly the same number of episodes, but Agency 1 had an observed score that was nearly **40% higher**

Provider	Eligible Episodes	Outcome Improved	Agency Observed Score	Agency Risk Adjusted Score	Risk-Adjustment Impact
Agency 1	1,430	1,302	91.0%	73.8%	-17.2%
Agency 2	1,249	665	53.3%	70.3%	17.0%

- However, that same agency saw a 17% drop in their Ambulation score after being risk-adjusted, whereas Agency 2 saw a 17% increase.
- What caused this drastic adjustment for each provider?

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Analysis of Risk-Adjustment Impact

- For Agency 1, the percentage of episodes that were rated a "3" at SOC/ROC was 23.6% **HIGHER** than the SHP average

Outcome	SOC/ROC Rating	Eligible	Improved	Agency % of Total Episodes	SHP % of Total Episodes	Difference
1 - Ambulation (M1860)	1	14	8	1.0%	4.7%	-3.8%
1 - Ambulation (M1860)	2	95	69	6.6%	19.4%	-12.8%
1 - Ambulation (M1860)	3	1,265	1,184	88.5%	64.8%	**23.6%**
1 - Ambulation (M1860)	4	22	13	1.5%	4.8%	-3.3%
1 - Ambulation (M1860)	5	30	25	2.1%	5.4%	-3.3%
1 - Ambulation (M1860)	6	4	3	0.3%	0.8%	-0.5%

- For Agency 2, the percentage of episodes that were rated a 3 at SOC/ROC was 51.9% **LOWER** than the SHP average

Outcome	SOC/ROC Rating	Eligible	Improved	Agency % of Total Episodes	SHP % of Total Episodes	Difference
1 - Ambulation (M1860)	1	169	91	13.5%	4.7%	8.8%
1 - Ambulation (M1860)	2	819	398	65.6%	19.4%	46.2%
1 - Ambulation (M1860)	3	161	116	12.9%	64.8%	**-51.9%**
1 - Ambulation (M1860)	4	49	23	3.9%	4.8%	-0.9%
1 - Ambulation (M1860)	5	45	34	3.6%	5.4%	-1.8%
1 - Ambulation (M1860)	6	6	3	0.5%	0.8%	-0.3%

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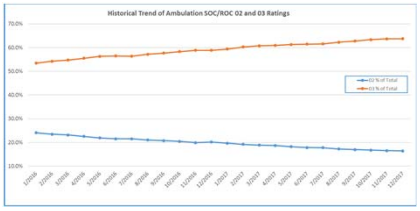
Ambulation SOC/ROC Rating Trends

- Over the last two years, the % of episodes rated a "2" for Ambulation at SOC/ROC has decreased (from 24.1% to 16.5%), and the % of episodes rated a "3" has increased (from 53.4% to 63.7%)
- This has resulted in an overall increase in **Observed** scores, but an overall decrease in **Risk-Adjusted** scores



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Patient Predicted Scores

- As shown in the table below, the outcomes being achieved in "real-life" match the **Patient Predicted** values calculated from the CMS risk-factors
- Essentially, we see that improved outcomes have higher average Patient Predicted values than stabilizations or declines, showing that the patients that are improving are typically the patients that are expected to improve

Average Patient Predicted								
		Ambulation at Discharge						
		0	1	2	3	4	5	6
Ambulation at SOC/ROC	1	42.8%	35.6%	32.2%	29.5%	29.7%	28.2%	27.5%
	2	56.6%	52.3%	45.0%	38.0%	39.6%	33.3%	35.2%
	3	87.1%	85.5%	80.4%	73.9%	73.9%	66.9%	69.3%
	4	76.1%	74.2%	69.6%	62.2%	62.7%	53.5%	54.2%
	5	71.5%	69.4%	62.7%	54.2%	55.3%	46.7%	44.6%
	6	24.8%	22.7%	19.9%	15.4%	16.2%	12.4%	11.3%

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Insights on implications of risk adjustments

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Difference between CASPER and HHC

- Outcome rates presented on the CASPER Outcome Report and Home Health Compare are both adjusted to take into account differences in patient case mix among home health agencies.
- However, on the CASPER Outcome Report, the agency outcome value is the actual (observed, non-risk-adjusted) outcome rate achieved by that agency's patients, and the national value is adjusted by applying a risk adjustment factor based on the difference between that agency's patients and the national home health patient population.

National(risk adjusted) = National(observed) + (Agency(predicted) – National(predicted))

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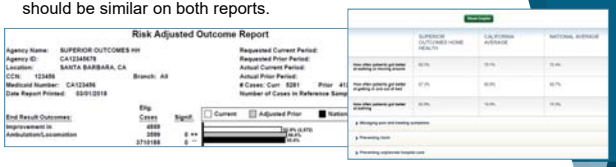
Difference between CASPER and HHC

- For Home Health Compare, the actual national value is reported, and each agency's outcome value is adjusted using the same risk adjustment factor (in reverse) as is used on the CASPER Outcome Report.
- Because both reports use the same risk adjustment factor, the difference between the agency value and the national value should be similar on both reports.



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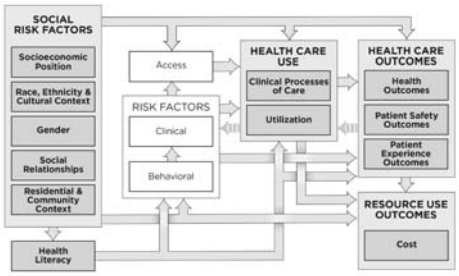
Social Risk Factor Framework



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Institute of Medicine – Accounting for Social Risk Factors in Medicare Payment: Identifying Social Risk Factors – January 2016

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CY 2019 OASIS-D

- Effective January 2019, 33 OASIS measures will be eliminated
- CMS will likely be required to update the regression models used in the risk adjustments
- **Examples Include:**
  - IADL Assistance: Caregiver currently provides
  - Conditions Prior to Treatment: Intractable pain
  - Prior Functioning: Needed assistance with transfer
  - Risk for Hospitalization: History of falls
  - Use of Telephone: Able to make and answer calls

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How should you use this information?

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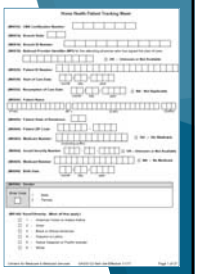
OASIS Accuracy

- **OASIS accuracy is key to financial success**
  Outcomes can only improve when SOC assessment accurately reflects patient frailty and disability
- **Enhance OASIS education**
  Repeat education at specified intervals
  Validate knowledge received and retained
  Utilize OASIS Q & As



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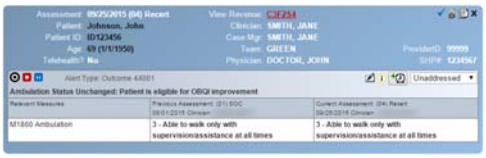
OASIS Scrubbing

- Have OASIS review staff and clinicians review and resolve OASIS scrubbing alerts
- Track and monitor alert utilization
- Look at Outcome alerts to proactively identify improvement opportunities and verify OASIS accuracy



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OASIS Potential Alerts

- It is important to resolve both the SHP critical and potential OASIS alerts regularly for all patients
- The SHP resolution rate for **potential alerts** is typically less often, but these inconsistencies can impact your risk adjustments
- Certain OASIS items can affect the predicted improvement rates for your patients depending on how scored and influence the risk adjustments positively or negatively
- Managing alerts for all **Medicare and Medicaid** patients will help ensure the accuracy is applied consistently in the risk models

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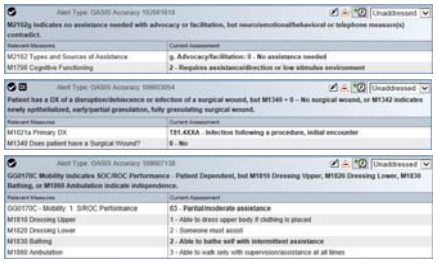
OASIS Potential Alerts

- The examples below demonstrate just a few of the SHP "Potential" OASIS alerts that could impact your risk-adjustment



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The Takeaway

The $1,000,000 question: How do I "fix" my risk adjustment?

Answer: You don't! Your risk-adjustment isn't "right" or "wrong", it simply uses your OASIS answers to determine how likely your patients are to improve.

Instead, focus on OASIS accuracy and do the best that you can to ensure that your assessments accurately represent the clinical condition of your patients.

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Questions?
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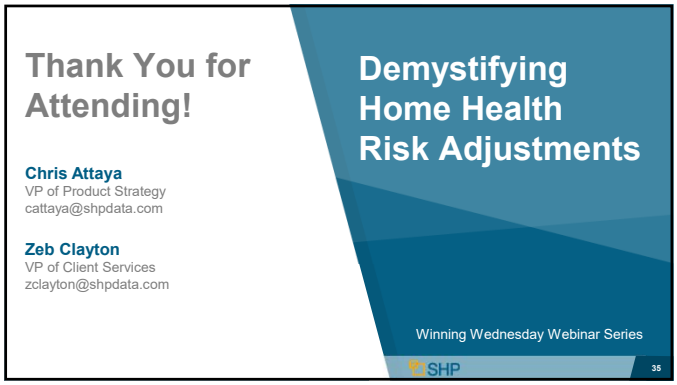
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