

# Data Analysis in Today's Skilled Nursing Facilities: How Data is Driving Reimbursement and 5-Star Ratings

Presented by:  
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## Speaker Introductions



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## Learning Objectives

1. Gain an understanding of how data is changing the health care industry and, more specifically, its impact on SNFs.
2. Understand Medicare’s alternative payment models and how data collection and analysis will drive reimbursement.
3. Learn the components of the 5 Star Quality Rating system and understand that data behind each component in an effort to drive rating enhancement at each community.

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# The Electronic Age



Data.Medicare.gov



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# Data in Healthcare



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## Data in Healthcare

- Healthcare is shifting from fee-for-service to value-based care.
- Multiple new payment models emerging
- A flurry of various Acts and Rules have created a challenging environment as measures and metrics begin to drive healthcare payments
- Data utilized in rating and impacts collaborative efforts

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## Data in Healthcare

- Improving Medication Post-Acute Care Transformation (IMPACT) Act of 2014
  - Standardized patient assessment data across post-acute care (PAC)
    - Quality care and improved outcomes
    - Data element uniformity
    - Comparison of quality and data across PAC settings
    - Improved, person-centered, goals-driven discharge planning
    - Exchangeability of data
    - Coordinated care

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## Data in Healthcare

- Two main programs established by the passage of the Patient Protection and Affordable Care Act (PPACA, also known as the ACA and “Obamacare”) in 2010:
  - Medicare Shared Savings Program
  - CMS Innovation

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## Data in Healthcare

- Medicare Shared Savings Program:
  - New approach to delivery of health care
  - Facilitate coordination and cooperation among providers to improve quality
  - Reduce unnecessary costs
  - Delivered through an Accountable Care Organization (ACO)

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## Data in Healthcare

- CMS Innovation
  - Supports the development and testing of innovative healthcare payment and service delivery models
  - There is a growing portfolio of models that aim to achieve better care and lower costs

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## Data in Healthcare

- CMS established a goal of tying Medicare payments to outcomes-based or patient management models:
  - 30% by 2016
  - 50% by 2018
- CMS announced in March 2016 that it had already achieved its goal of 30% alternative payments with the addition of 121 ACOs and greater participation in other models

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# Data in Healthcare

- Many of the new models are data driven
- Also, much of the collaboration and partnering of various providers is based on key measures and metrics that rely on data
- The proper collection and reliability of data is critical in this new environment



# Standardized Data

## Goals and Guiding Principal

 **Long-Term Care Hospital (LTCH)**  
 Services provided: Inpatient services include rehabilitation, respiratory therapy, pain management, and head trauma treatment.

|   |   |
|---|---|
| No. of Facilities: <b>420</b>   | <b>LTCH CARE</b> – LTCH Continuity Assessment Record and Evaluation (CARE) Data Set submissions: <b>76K</b> |
| Average length of stay: <b>26</b> days  | Medicare spending: <b>\$5.5</b> billion   |
| No. of Beneficiaries: <b>124k</b>   |   |
| <a href="http://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/LTCH-Quality-Reporting/index.html">http://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/LTCH-Quality-Reporting/index.html</a> |   |

 **Inpatient Rehabilitation Facility (IRF)**  
 Services provided: Intensive rehabilitation therapy including physical, occupational, and speech therapy.

|   |   |
|---|---|
| No. of Facilities: <b>1,166</b>   | <b>IRF-PAI</b> – IRF-Patient Assessment Instrument (PAI) submissions: <b>492k</b> |
| Average length of stay: <b>13</b> days  | Medicare spending: <b>\$6.7</b> billion   |
| No. of Beneficiaries: <b>373k</b>   |   |
| <a href="http://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/IRF-Quality-Reporting/index.html">http://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/IRF-Quality-Reporting/index.html</a> |   |

 **Home Health Agency (HHA)**  
 Services provided: Skilled nursing or therapy services provided to Medicare beneficiaries who are homebound.

|   |  |
|---|--|
| No. of Facilities: <b>12,311</b>  | <b>OASIS</b> : Outcome and Assessment Information Set (OASIS) submissions: <b>35 million</b> |
| No. of Beneficiaries: <b>3.4</b> million  | Medicare spending: <b>\$18</b> billion   |
| <a href="http://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/HomeHealthQualityInits/index.html">http://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/HomeHealthQualityInits/index.html</a> |  |

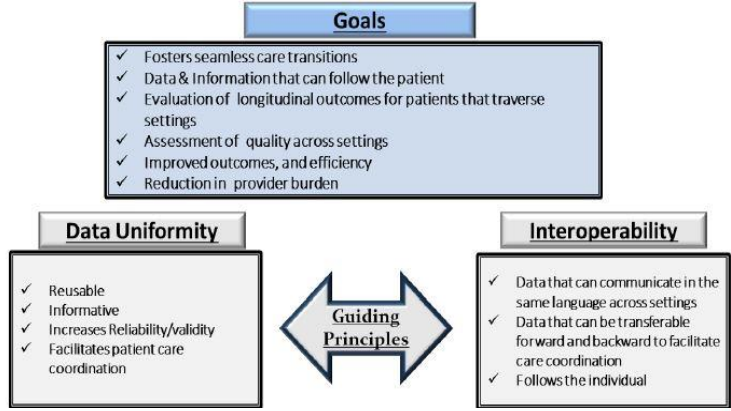
 **Nursing Homes**  
 Services provided: Short-term Skilled nursing and rehabilitation services to individuals whose health problems are too severe or complicated for home care or assisted living.

|   |  |
|---|--|
| No. of Facilities: <b>15,000</b>  | <b>MDS</b> – Minimum Data Set submissions: <b>20 million</b> |
| Average length of stay: <b>39</b> days  | Medicare spending: <b>\$28.7</b> billion                     |
| Beneficiaries: <b>1.7</b> million   |  |
| <a href="http://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/NursingHomeQualityInits/index.html">http://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/NursingHomeQualityInits/index.html</a> |  |

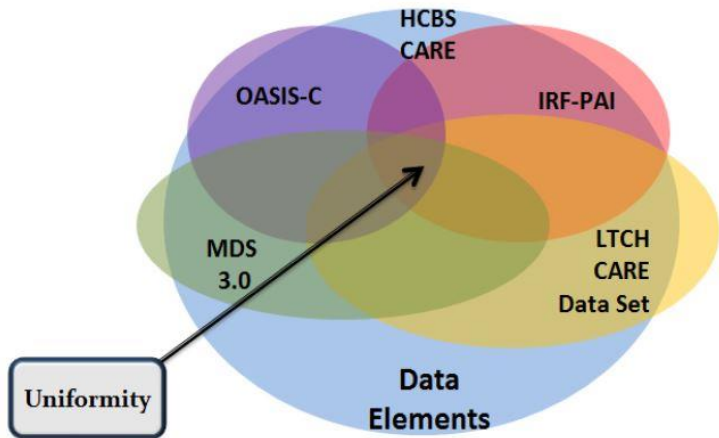


# Standardized Data

## Goals and Guiding Principal



# Data Elements: Standardization





## Data in Healthcare

- To remain competitive, post-acute providers will need to collect and analyze their data
- This will help them understand their business and make more informed decisions
- Potential partners, such as hospitals as part of a ACOs, will be looking to partner with post-acute providers who deliver:
  - Highest quality care
  - Most favorable outcomes
  - Lowest cost

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## Data in Healthcare

- Providers will need to focus on their Five-Star rating as those with 3 stars or less be impacted by partnership opportunities
- Data analysis through measures and metrics will be the tool that will prove value
- As the payment models and care delivery models continue to evolve in healthcare, the reliance on data will become increasingly important

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## Payment Models and the Data That Drives Them

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## Payment Models and Data

- There are a variety of new payment models and programs
- These are designed to increase quality of care and reduce the cost of providing that care
- The next several slides give an overview of the models

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## Payment Models and Data

- Medicare Shared Savings Program
  - Several ACO models where providers are incentivized to lower costs and increase quality and patient outcomes
  - Requires significant collaboration among various providers
  - DATA: need to improve various quality measures data points and demonstrate lower costs

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## Payment Models and Data

- Nursing Home Value-Based Purchasing
  - CMS assesses a SNF's quality performance based on four domains:
    - Staffing
    - Appropriate Hospitalizations
    - Minimum Data Set (MDS) Outcomes
    - Survey Deficiencies
  - DATA: Need to track various metrics, particularly Appropriate Hospitalizations.

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## Payment Models and Data

- Episode-based Payment Initiatives
  - Bundled Payment for Care Improvement (BPCI)
    - Evaluates four models of bundled payments for a defined episode of care to incentivize care redesign
  - Comprehensive Care for Joint Replacement (CCJR)
  - DATA: A complicated variety of metrics including rehospitalization, complication rates, and satisfaction surveys, among others

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## Five-Star Quality Rating System

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## Five-Star Quality Rating System

- Created by The Centers for Medicare & Medicaid Services (CMS) in December 2008 to enhance the Nursing Home Compare public reporting site.
- Effective July 2016, five of six newly introduced quality measures are being used in the Five-Star Quality Rating
- The goal of the rating system is to provide residents and families an easy way to compare between a high and low performing nursing homes.
- The system features a five-star rating based on three types of performance measures, each of which has its own five-star rating.



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## Five-Star Quality Rating System

- Three performance ratings:
  - Health Inspections – Measures based on outcomes from State Health inspections;
  - Staffing – Measures based on nursing home staffing levels; and
  - QM's – Measures based on certain MDS Quality Measures.



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## State Health Inspections

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## State Health Inspections

- Points are assigned to deficiencies found during the three most annual inspection surveys; and
- Substantiated findings from the most recent 36 months of complaint investigations.
- Each deficiency is weighted by scope and severity.
  - More points are assigned for more serious and widespread deficiencies.

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## State Health Inspections

- Health Inspection Score: Weights for Different Types of Deficiencies

| Severity  | Isolated                             | Pattern                                | Widespread                             |
|---|--------------------------------------|--|--|
| Immediate jeopardy to resident health or safety   | <b>J</b><br>50 points<br>(75 points) | <b>K</b><br>100 points<br>(125 points) | <b>L</b><br>150 points<br>(175 points) |
| Actual harm that is not immediate jeopardy  | <b>G</b><br>20 points                | <b>H</b><br>35 points<br>(40 points)   | <b>I</b><br>45 points<br>(50 points)   |
| No actual harm with potential for more than minimal harm that is not immediate jeopardy | <b>D</b><br>4 points                 | <b>E</b><br>8 points                   | <b>F</b><br>16 points<br>(20 points)   |
| No actual Harm with potential for minimal harm  | <b>A</b><br>0 point                  | <b>B</b><br>0 point                    | <b>C</b><br>0 point                    |



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## Scoring Rules

- Based on relative performance of facilities within the state;
- The top 10% (lowest 10 percent in terms of health inspection deficiency score) in each state receive a 5-star rating;
- The middle 70% of facilities receive a rating of 2, 3, or 4 Stars, with an equal number (approximately 23.33%) in each rating category; and
- The bottom 20% receive a 1-Star rating.



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## Scoring Rules

- A higher score indicates worse performance on health inspections. The cut points are based on facility health inspection scores and are set separately for each state to achieve this distribution:
  - 5 stars:  $\leq 10^{\text{th}}$  percentile
  - 4 stars:  $> 10^{\text{th}}$  percentile and  $\leq 33.33^{\text{rd}}$  percentile
  - 3 stars:  $> 33.33^{\text{rd}}$  percentile and  $\leq 56.667^{\text{th}}$  percentile
  - 2 stars:  $> 56.667^{\text{th}}$  percentile and  $\leq 80^{\text{th}}$  percentile
  - 1 star:  $> 80^{\text{th}}$  percentile

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## Staffing Domain

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## Staffing Domain

- Based on two case-mix adjusted measures:
  - RN hours per resident day
  - Total nursing hours per resident day (RN + LPN + nurse aide hours)
- Payroll-Based Journal (PBJ) began July 1, 2016
  - Is based on payroll data rather than self-reported Form 671
  - May have significant impact on the Staffing Domain

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## Staffing Domain

- Currently, the source data for the staffing measures is the CMS-671 form (Medicare and Medicaid application) from CASPER.
  - Includes:
    - Full time and Part-time employees
    - Contracted Staff
  - Does not include:
    - Family-funded private duty staff
    - Hospice staff
    - Feeding Assistants

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## Staffing Domain

- RN hours per resident day include:
  - RNs
  - RN Director of Nursing
  - Nurses (RNs and LPNs) with administrative duties
    - Those who perform RAI function and do not perform direct care functions; and
    - Those whose principal duties are spent conducting administrative functions.

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## Staffing Domain

- Total staffing per resident day includes:
  - RN hours (as described on previous slide)
  - LPNs
  - Nurse aide hours

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## Staffing Domain

- Resident census is based on the total count of residents from CMS form CMS-672 (Resident Census and Conditions of Residents)
  - Census includes total residents in the facility + bed holds on the day the survey began

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## Staffing Domain

- Ratings are based on *expected* staffing levels calculated based on resident acuity using RUGs
- Staffing is case-mix adjusted based on RUG-III (53 group version) categories
  - RUG-III groups are calculated on the last business day of each quarter for each active resident; uses quarter in which the staffing data was collected
  - Most recent MDS assessment (comprehensive, quarterly, or PPS) for each resident
- Calculations for “expected”, “reported” and “national average” hours are performed separately for RNs and total staff

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# Scoring Rules

Staffing Points and Rating (updated February 2015)

| RN rating and hours |               | Total nurse staffing rating and hours (RN, LPN, aide) |               |               |               |        |
|---------------------|---------------|---|---------------|---------------|---------------|--------|
|                     |               | 1   | 2             | 3             | 4             | 5      |
|                     |               | <3.262  | 3.262 – 3.660 | 3.661 – 4.172 | 4.173 – 4.417 | ≥4.418 |
| 1                   | <0.283        | *   | *             | **            | **            | ***    |
| 2                   | 0.283 – 0.378 | *   | **            | ***           | ***           | ***    |
| 3                   | 0.379 – 0.512 | **  | ***           | ***           | ****          | ****   |
| 4                   | 0.513 – 0.709 | **  | ***           | ****          | ****          | ****   |
| 5                   | ≥0.710        | ***   | ***           | ****          | ****          | *****  |



# Quality Measures



## Quality Measures

- Developed from MDS-based indicators to describe the quality of care provided in nursing homes
- The measures address the resident's functioning and health status in multiple areas
- The Quality Measure domain for the five-star rating is based on a subset of 13 (out of 24) MDS –based QMs and three MDS and Medicare claims based measures.

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## Quality Measures

The Quality Measures include:

- 9 Long-Stay resident measures; and
  - Cumulative days in the facility greater than or equal to 101 days as of the end of the target period
- 7 Short-Stay resident measures.
  - Cumulative days in the facility less than or equal to 100 days as of the end of the target period
  - 3 of which are derived from claims data and MDS assessments

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## Quality Measures

Quality Measures derived from MDS assessments:

- Long-Stay Residents:
  - Percent of residents whose need for help with activities of daily living (ADL) has increased
  - Percent of residents whose ability to move independently worsened
  - Percent of high risk residents with pressure ulcers (sores)
  - Percent of residents who have/had a catheter inserted and left in bladder
  - Percent of residents who are physically restrained



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## Quality Measures

Quality Measures derived from MDS assessments (cont'd)

- Long-Stay Residents:
  - Percent of residents with a urinary tract infection
  - Percent of residents who self-report moderate to severe pain
  - Percent of residents experiencing one or more falls with major injury
  - Percent of residents who received an antipsychotic medication



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## Quality Measures

Quality Measures derived from MDS assessments:

- Short-Stay Residents:
  - Percent of residents whose physical function improved from admission to discharge
  - Percent of residents with pressure ulcers (sores) that are new or worsened
  - Percent of residents who self-report moderate to severe pain
  - Percent of residents who newly received an antipsychotic medication



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## Quality Measures

Quality Measures derived from claims data and MDS assessments:

- Short-Stay Residents:
  - Percent of residents who were re-hospitalized after a nursing home admission;
  - Percent of residents who have had an outpatient emergency department visit; and
  - Percent of residents who were successfully discharged to the community.



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## Quality Measure 5-Star Scoring Rules

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## Scoring Rules

- Long-stay and short-stay measures must have at least 20 resident assessments summed across four quarters to be included in the measure
- 20 to 100 points are assigned to each measure based on facility performance
- The total score can range from 325 – 1,600
- The stars are assigned based on the Star cut points for the Quality Measure Summary Score

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## Scoring Rules

- Rating
  - The QM domain is calculated using the **four** most recent quarters of data available
  - The values for three QMs are risk adjusted (catheter, long-stay pain measure, and the short-stay pressure ulcers)
    - See the Quality Measure Users Manual
  - The Quality Measure (QM) corresponds to the QM value for the three most recent quarters and the denominator (D) is the number of eligible residents for the particular QM

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## Scoring Rules

- Rating (cont'd)
  - All facilities are scored on the same 1,600 point scale, points are rescaled for long and short-stay facilities
  - After the summary QM score is computed, the five-star QM rating is assigned
  - The thresholds were set so that the overall proportion of nursing homes would be approximately 25 percent 5-star; 20 percent for each of 2, 3, and 4-stars; and 15 percent 1 star.
  - The cut points will hold constant for a period of one year, allowing the QM rating distribution to change over time

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# Scoring Rules

- Star Cut Points:

| QM Rating | Point Range for MDS Quality Measure Summary Score |
|-----------|---|
| 1 Star    | 325 - 789   |
| 2 Star    | 790 - 889   |
| 3 Star    | 890 -969  |
| 4 Star    | 970 - 1054  |
| 5 Star    | 1055 - 1600                                       |

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# Overall Nursing Home Rating

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## Overall Rating

- Five Steps:
  - *Step 1:* Start with the health inspection 5-star rating
  - *Step 2:* Add one star to the Step 1 result if the staffing ratio is 4 or 5-stars *and greater than* the health inspection rating; subtract 1-star if staffing is 1-star
  - *Step 3:* Add 1-star to Step 2 result if QM rating is 5-stars; subtract 1-star if QM rating is 1-star

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## Overall Rating

- Five Steps: (cont'd)
  - *Step 4:* If the health inspection rating is one star, than the overall quality rating cannot be upgraded by more than 1-star based on the staffing and QM ratings
  - *Step 5:* If the nursing home is a Special Focus Facility (SFF) that has not graduated, the maximum overall quality rating is 3-stars

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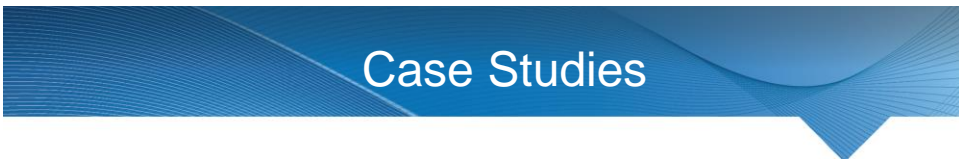


## Case Studies



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## Case Studies

- *Understanding your surveys*
  - *Three years of data*
- *Nurse staffing*
  - *Who is included?*
  - *Adjustments*
  - *Census or acuity adjusted*
- *Quality Measures*
  - *Proactive approach*
  - *CQI*



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## Future Possibilities

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## Future Possibilities

- Proposed changes:
  - Resident Classification System – 1 (RCS-1)
    - Proposal for alternate payment system covers costs for five service components
      - PT and OT Case-Mix Classification
      - SLP Case-Mix Classification
      - Non-Therapy Ancillary Services
      - Nursing Case- Mix Classification
      - Non-Case-Mix component (Room & board, admin cost, capital related costs)

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## Future Possibilities

- Change in ADLs
  - Transfer, Toileting, and Eating (Self-performance only)
    - Range from 0 to 18
      - Will account for “activity did not occur” or “occurred only once or twice”

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## Future Possibilities

- Two clinical categories used to identify different levels of SLP
  - Acute neurologic
  - Other
- Additional information regarding creating non-therapy ancillary components
- Revised nursing component
- Alternative features of a payment system

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## Future Possibilities

- CMS is considering the possibility of using the 5-day SNF PPS scheduled assessment to classify a resident under the RCS-I model under consideration for payment purposes for the entirety of his or her Part A SNF stay,
- CMS would revise the regulations so that such regulations would no longer reflect the RUG-IV assessment schedule

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## Future Possibilities

| Medicare MDS Assessment Schedule Type          | Assessment Reference Date                                       | Applicable Standard Medicare Payment Days  |
|--|---|--|
| 5-day Scheduled PPS Assessment                 | Day 1 – 8   | All covered Part A days until Part A discharge (unless a Significant Change in Status Assessment is completed) |
| Significant Change in Status Assessment (SCSA) | No later than 14 days after a significant change is identified  | ARD of the assessment through Part A discharge (unless another SCSA is completed)                              |
| PPS Discharge Assessment                       | Equal to the End Date of the Most Recent Medicare Stay (A2400C) | N/A  |

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## Strategies for Success



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## Strategies

- Data analytics
  - It is not about the data, but what you do with it
  - Analyze and Implement
- Quality Assurance Performance Improvement (QAPI)/Continuous Quality Improvement (CQI)
- Provide accurate information (i.e., claims, CMS-671 and CMS-672 form/PBJ data)
- Focus efforts on bottom-line issues:
  - Quality of care
  - Quality outcomes
  - Staffing levels consistent with acuity
  - Accurate MDS Coding and claims submission



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# Questions??

