Shoot for the Stars: How CDI Can Assist in Obtaining a Better CMS Star Rating

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Learning Outcomes

- At the completion of this educational activity, the learner will be able to:
  - Recite the evolution of CMS' Overall Hospital Star Ratings methodology
  - Identify basic components
  - Ascertain what components are influenced by documentation and coding efforts
  - Identify strategies to improve performance
  - Discuss KPIs surrounding 5-star ranking

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CMS Star Ratings Basics

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Measures Steward

Yale New Haven Health Services Corporation

Center for Outcomes Research & Evaluation (CORE) developed and maintains the methodology for the Overall Hospital Quality Star Rating under contract with the Centers for Medicare & Medicaid Services (CMS)

Measure Weights

Measure group	Weight used in calculation
Mortality	22%
Safety	22%
Readmission	22%
Patient Experience	22%
Timely & Effective Care	12%

Overall Methodology

- Overall Star rating is not an inpatient nor outpatient methodology … it is an overall facility measure comprising both inpatient and outpatient measures
- The measures included are determined via several steps
  - Measures are selected for inclusion in the methodology
  - Measures are assigned to one of the five measures groups
  - Measures are reviewed to ensure:
    - Sufficient quantity of hospital's report on a measure (minimum of 100 hospitals)
    - Measures are then further reviewed:
      - Lack of duplicity
      - Required reporting on Care Compare
      - Measures are non-structural or non-linear

Hospital Peer Groups

- A public reporting threshold is applied, requiring hospitals to have a minimum of three measure groups (one of which must be the Mortality or Safety of Care group) with at least three measures in each of the three groups to receive an Overall Star Rating
  - Hospitals meeting the reporting thresholds are organized into peer groups based on the number of complete measure groups they have submitted (3, 4, and 5 measure reporting)
  - Hospital summary scores are then organized into five-star categories for each peer group using a clustering algorithm
  - Note that bed size, location, etc. are not used for peer grouping, number of reported measures is utilized instead
- A total of 3,121 (69.5%) hospitals on Care Compare met the public reporting threshold for receiving a star rating in July 2022

Score Calculation

For each hospital, a hospital summary score is calculated by taking the weighted average of the hospital's scores for each measure group. The hospital summary score is then used to assign hospitals to star ratings, using k-means clustering within each peer group.

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Note that these percentage weights are out of 100%. If a hospital has no measures in a certain measure group, the weight percentage is redistributed proportionally to the other measure groups.

Mortality Methodology

Mortality

Measure group	Measures	Data collection period	
		From	Through
Mortality (7)	Death rate for coronary artery bypass graft (CABG) surgery patients	7/1/2017	12/1/2019 *
	Death rate for chronic obstructive pulmonary disease (COPD) patients	7/1/2017	12/1/2019 *
	Death rate for heart failure patients	7/1/2017	12/1/2019 *
	Death rate for pneumonia patients	7/1/2017	12/1/2019 *
	Death rate for stroke patients	7/1/2017	12/1/2019 *
	Deaths among patients with serious treatable complications after surgery**	7/1/2018	12/31/2019

An asterisk indicates measure reporting periods that would have normally included 1Q and 2Q 2020.

**PSI 4

What CDI Can Influence in Mortality

Risk adjustment

- YNHSC CORE created risk-adjustment for expected rates for each mortality cohort
- Query for and capture of risk-adjusted diagnoses influences expected rates
- Note: diagnoses must be POA to be included in risk-adjustment

PSI 4

Death among patients with serious complications after surgery

- Partially amenable to CDI efforts
- Ensure patient reported in the correct stratum in PSI or meets reporting at all

Safety Methodology

Safety of Care

Measure group	Measures	Data collection period	
		From	Through
Safety of care (8)	Catheter-associated urinary tract infections (CAUTI)	4/1/2019	9/30/2020 *
	Surgical site infections from colon surgery (SSI: Colon)	4/1/2019	9/30/2020 *
	Surgical site infections from abdominal hysterectomy (SSI: Hysterectomy)	4/1/2019	9/30/2020 *
	Methicillin-resistant Staphylococcus aureus (MRSA) Blood Laboratory-identified Events (Bloodstream infections)	4/1/2019	9/30/2020 *
	Clostridium difficile (C. diff) Laboratory-identified Events (Intestinal infections)	4/1/2019	9/30/2020 *
	Rate of complications for hip/knee replacement patients	4/1/2017	10/2/2019 *
	Serious complications**	7/1/2018	12/31/2019

An asterisk indicates measure reporting periods that would have normally included Q1 and Q2 2020.

**PSI 90 Composite

Rate of Hip and Knee Complications

The hip/knee replacement complication rate is an estimate of complications within the applicable time periods. The rate is calculated for patients electively admitted for primary total hip and/or knee replacement (same methodology for THA/TKA readmissions and mortality). Medicare measures the likelihood that at least 1 of 8 complications occurs within a specified time period:

- Acute MI, pneumonia, or sepsis/septicemia/shock during the index admission or within 7 days of admission
- Surgical site bleeding, pulmonary embolism, or death during the index admission or within 30 days of admission
- Mechanical complications or periprosthetic joint infection/wound infection during the index admission or within 90 days of admission

What CDI Can Influence in Safety

The first 6 are chart abstracted measures and reported via National Health Safety Network (NHSN) by each hospital and not able to be influenced by CDI

Rate of hip and knee complications

- Ensure appropriate cause and effect established (site and device infections)
- Perform clinical validity of AMI, sepsis and pneumonia

PSI 90 – Composite

- Careful review of any PSI 90 condition
- Heavy emphasis on PSI 3, 11, 12 and 13 (highest contribution to overall PSI-90 score)

Readmissions Methodology

Readmissions

Measure group	Measures	Data collection period	
		From	Through
Readmission (11)	Rate of readmission for coronary artery bypass graft (CABG) surgery patients	7/1/2017	12/1/2019 *
	Rate of readmission for chronic obstructive pulmonary disease (COPD) patients	7/1/2017	12/1/2019 *
	Hospital return days for heart failure patients	7/1/2017	12/1/2019 *
	Rate of readmission after hip/knee surgery	7/1/2017	12/1/2019 *
	Hospital return days for pneumonia patients	7/1/2017	12/1/2019 *
	Rate of readmission after discharge from hospital (hospital-wide)	7/1/2019	12/1/2019 *

An asterisk indicates measure reporting periods that would have normally included Q and 2Q 2020.

Readmissions (cont.)

Measure group	Measures	Data collection period	
		From	Through
Readmission (11)	Rate of unplanned hospital visits after an outpatient colonoscopy	1/1/2017	12/24/2019 *
	Rate of unplanned hospital visits for patients receiving outpatient chemotherapy	1/1/2019	12/1/2019
	Rate of emergency department visits for patients receiving outpatient chemotherapy	1/1/2019	12/1/2019
	Ratio of unplanned hospital visits after hospital outpatient surgery	1/1/2019	12/1/2019
	Rate of unplanned hospital visits after an outpatient colonoscopy	1/1/2017	12/24/2019 *
	Rate of unplanned hospital visits for patients receiving outpatient chemotherapy	1/1/2019	12/1/2019

An asterisk indicates measure reporting periods that would have normally included Q1 and Q2 2020.

What CDI Can Influence in Readmissions

30-day readmissions (from discharge date) following AMI, COPD, CABG and hip/knee surgery as well as hospital-wide readmissions are able to be influenced by CDI:

- Clarification and capture of risk-adjusted diagnoses
- Selection of principal diagnosis for medical admissions

Rate of unplanned admission and readmissions

- Partially under coding control via scrutiny of admission type
- More influenced by proper patient placement by UR/CM

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Patient Experience

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Patient Experience

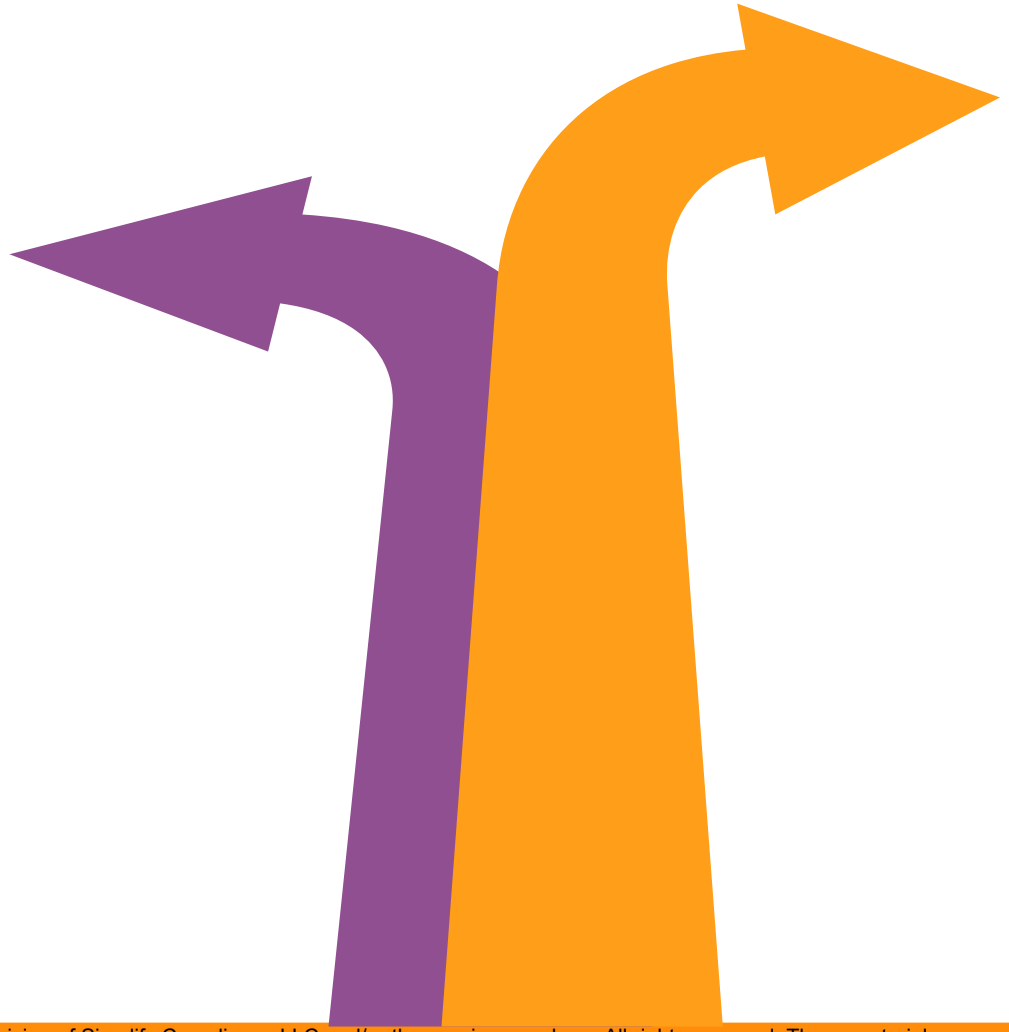
Eight measures from HCAHPS are used in CMS Star Ratings:

1. Communication with nurses
2. Communication with doctors
3. Staff responsiveness
4. Communication about medicines
5. Care transition
6. Discharge information
7. Cleanliness and quietness of hospital environment
8. Hospital rating, formerly known as overall rating of hospital

1/1/2019-12/31/2019 (2020 excluded due to PHE)

What CDI Can Influence in Patient Experience

Least amenable to CDI efforts



Does the chart tell a complete and accurate story?

Studies have shown there is a direct correlation between transparency and patient satisfaction

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Timely and Effective Care

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Timely and Effective Care

Measure group	Measures	Data collection period	
		From	Through
Timely and effective care (13)	Percentage of patients who left the emergency department before being seen	1/1/2019	12/31/2019
	Percentage of patients who came to the emergency department with stroke symptoms who received brain scan results within 45 minutes of arrival	10/1/2019	9/30/2020 *
	Percentage of patients receiving appropriate recommendation for follow-up screening colonoscopy	1/1/2019	12/31/2019
	Percentage of mothers whose deliveries were scheduled too early (1-2 weeks early), when a scheduled delivery was not medically necessary	10/1/2019	9/30/2020 *
	Percentage of patients who received appropriate care for severe sepsis and septic shock	10/1/2019	9/30/2020 *
	Percentage of outpatients with chest pain or possible heart attack who got drugs to break up blood clots within 30 minutes of arrival	10/1/2019	9/30/2020 *

An asterisk indicates measure reporting periods that would have normally included Q1 and Q2 2020.

Timely and Effective Care (cont.)

Measure group	Measures	Data collection period	
		From	Through
Timely and effective care (13)	Percentage of patients receiving appropriate radiation therapy for cancer that has spread to the bone	1/1/2019	12/31/2019
	Average (median) number of minutes before outpatients with chest pain or possible heart attack who needed specialized care were transferred to another hospital	10/1/2019	9/30/2020 *
	Average (median) time patients spent in the emergency department before leaving from the visit	10/1/2019	9/30/2020 *
	Percentage of outpatients with low-back pain who had an MRI without trying recommended treatments first, such as physical therapy	7/1/2019	12/31/2019 *
	Percentage of outpatient CT scans of the abdomen that were “combination” (double) scans	7/1/2019	12/31/2019 *
	Percentage of outpatients who got cardiac imaging stress tests before low-risk outpatient surgery	7/1/2019	12/31/2019

An asterisk indicates measure reporting periods that would have normally included Q1 and Q2 2020.

What CDI Can Influence in Timely and Effective Care

Most measures are not amenable to CDI efforts

C-section or vaginal delivery prior to 39 complete weeks of gestation

Review of circumstances of admission

Sepsis

Clinical validation of sepsis following organizational definition

Challenges on the Journey

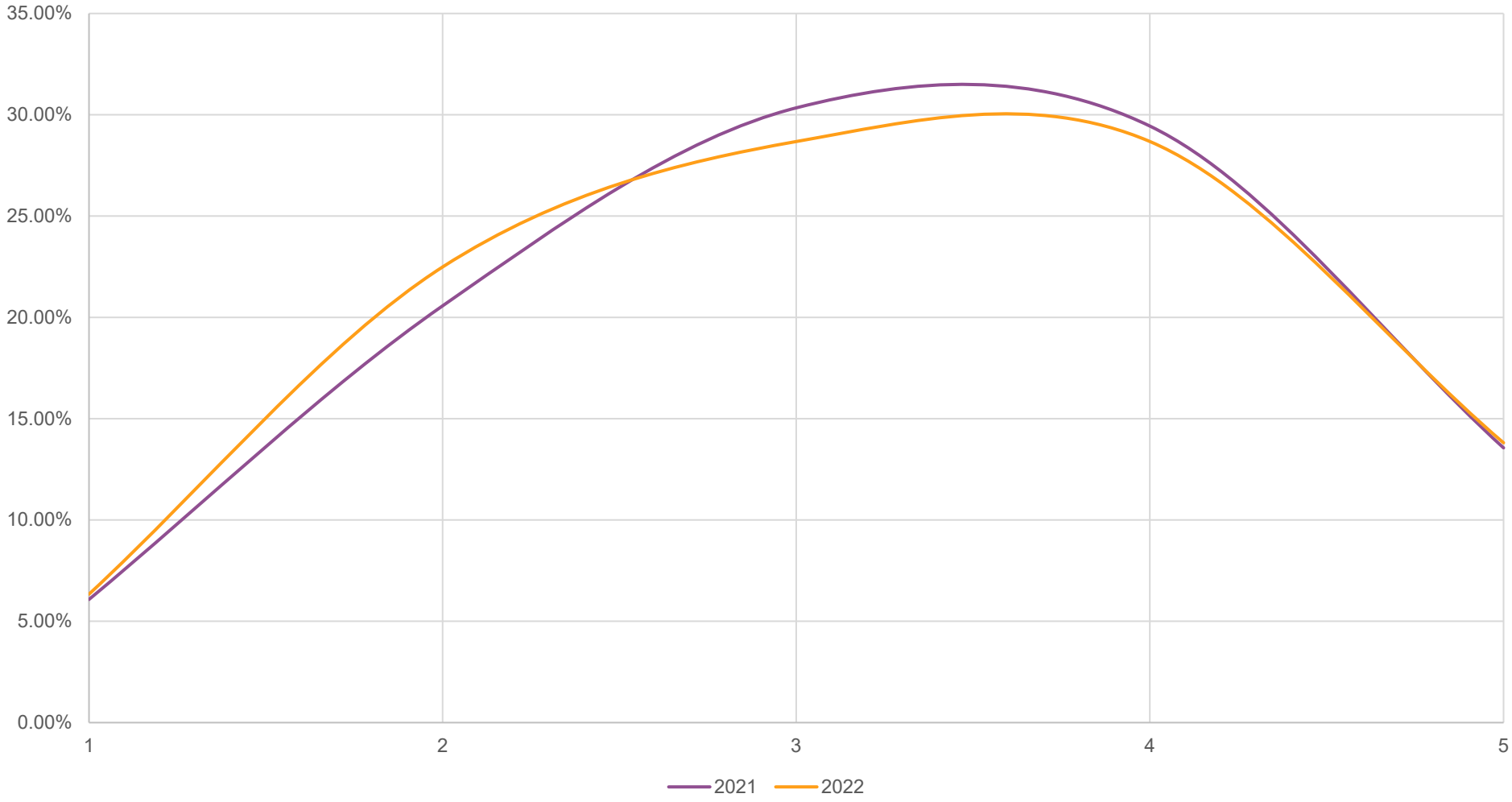
Challenges on the Journey

- Lack of knowledge of Overall Star Rating methodology
- Lack of knowledge of specific components such as 30-day mortality and readmissions and total hip and knee complications measures
- Only some categories can be influenced by CDI, coding, and quality collaboration
  - Mortality
  - Readmissions (HWR and 30-day readmissions following selected cohorts)
  - Timely and effective care (sepsis and early delivery)
- Lack of coordinated effort/collaboration between teams
- Unrealistic expectations for success
- Unrealistic expectations for timeliness of success
  - As the data collection for mortality and readmissions are quite “old” current efforts will not be reflected in the data until at least 2025

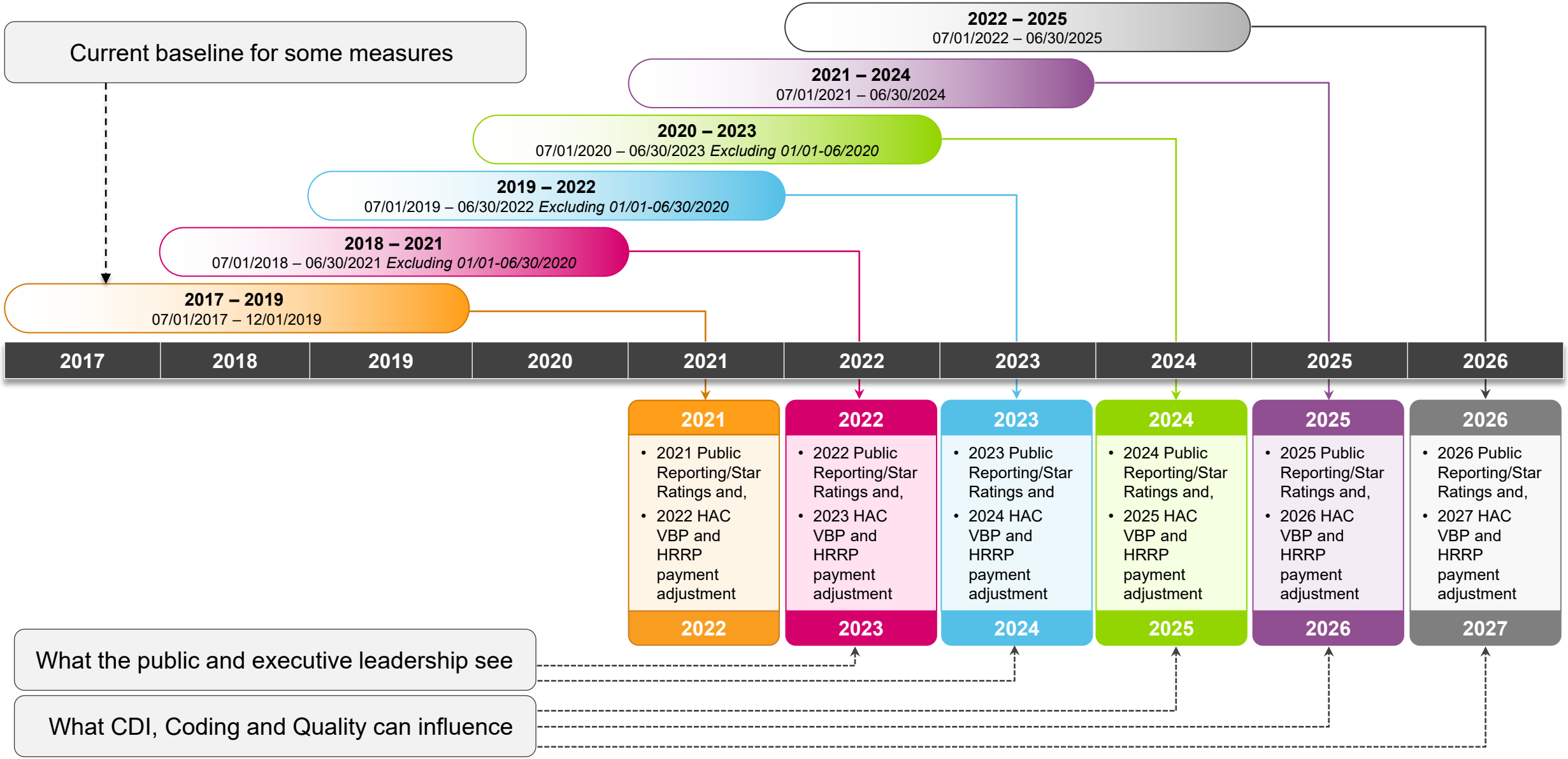
Star Ratings Results

Overall rating	2021	2022
	Number of hospitals/ Percentage	Number of hospitals/ Percentage
1 star	204 (6.08%)	198 (6.34%)
2 stars	690 (20.57%)	702 (22.49%)
3 stars	1018 (30.34%)	895 (28.68%)
4 stars	988 (29.44%)	895 (28.68%)
5 stars	455 (13.56%)	431 (13.81%)

Star Ratings Results



CMS Reporting and Payment Adjustment



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Thank you. Questions?

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