

# Cal Hospital Compare/ Cal Quality Care Board of Directors Meeting

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WEDNESDAY, DECEMBER 1, 2021

10:00AM PT

## Cal Hospital Compare & Cal Quality Care Board of Directors Meeting Agenda

Wednesday, December 1, 2021, 10:00am – 12:30pm PT

### Webinar Information

Webinar link: <https://zoom.us/j/4437895416> | Phone: 1-669-900-6833

Access code: Code: 443 789 5416 | Passcode: **cyno#**

| Time                   | Agenda Item                                                                                                                                                    | Presenters                                                                                     |
|------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| 10:00-10:05<br>5 min.  | Welcome and call to order<br>- Approval of past meeting summary                                                                                                | - <b>Ken Stuart</b><br>Board Chair<br>- <b>Bruce Spurlock</b><br>Executive Director, CHC & CQC |
| 10:05-11:10<br>65 min. | Cal Hospital Compare<br>- Social Needs Index<br>- Cal Hospital Compare Historical Analysis                                                                     | - <b>Mahil Senathirajah</b><br>Senior Director<br>IBM Watson                                   |
| 11:10-12:00<br>50 min. | Cal Quality Care<br>- Report Out -LTAC data analysis requests<br>- Case mix methods for staffing<br>- Scoring/binning methodology<br>- Nursing Home Honor Roll | - <b>Debra Bakerjian</b><br>Clinical Professor, UC Davis Health<br>Co-PI CQC                   |
| 12:00-12:20<br>20 min. | Business Plan<br>- Financial report<br>- Results/Discussion of Formative Evaluation                                                                            | - <b>Bruce Spurlock</b><br>Executive Director, CHC & CQC                                       |
| 12:20– close           | Adjourn<br>– Next meeting: Thursday, March 17 <sup>th</sup> , 10:00am – 2:30pm PT – in Sacramento (location TBD)<br>– 2022 Meeting Cadence                     | - <b>Ken Stuart</b><br>Board Chair                                                             |

**Cal Hospital Compare & Cal Quality Care**  
**Board of Directors Meeting Summary**  
 Friday, October 29, 2021, 10:00am PT

**Attendees:** Gretchen Alkema Ash Amarnath, Debra Bakerjian, Richele Benevent, Kristen Bettega, Tracy Fisk, Terry Hill, Davis Hopkins, Libby Hoy, Robert Imhoff, Chris Krawczyk, Helen Macfie, Joan Maxwell, Dominique Ritley, Patrick Romano, Mahil Senathirajah, Bruce Spurlock, Alex Stack, Kristof Stremikis, Ken Stuart

**Summary of Discussion:**

| Agenda Items                       | Discussion                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Welcome &amp; call to order</b> | <ul style="list-style-type: none"> <li>The meeting was called to order at 10:03am.</li> <li>The minutes from the meeting on September 29<sup>th</sup> were moved, motioned, seconded and approved as written.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>General Updates</b>             | <ul style="list-style-type: none"> <li>CHC in partnership with CHHS issued a joint press release announcing the Maternity Honor Roll on October 6<sup>th</sup>. Official press release is published on the CHC website.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Cal Hospital Compare</b>        | <ul style="list-style-type: none"> <li>IBM Watson developed an 18-page historical analysis of CHC. The analysis will be presented in detail at the December BOD meeting.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Cal Quality Care</b>            | <ul style="list-style-type: none"> <li>The UC Davis Team provided an in depth overview of the specific measures that will be initially published on the CQC website at the time of the December relaunch.</li> <li>The LTAC and BOD are in consensus of a “less is more” approach and supportive of including domains: nursing staff turnover, nursing hours/resident day, supervisor/RN, LVN/LPN, CNAs, and staff vaccination rates.</li> </ul> <p>Comments from the Board:</p> <ul style="list-style-type: none"> <li>In the future, a summarization of data on agency staff vs regular staff and retention vs turnover and cost related data would be helpful.</li> <li>Having a measure of staff burnout by facility (or moral injury rate) would be useful. Is there funding potential to pilot this work?</li> <li>CQC is currently exploring with HyperArts the capability to display data ranges to better interpret trends.</li> <li>Can the CNA level/touchpoint be displayed as one graph showing total nursing turnover rates with CNA turnover rates indicated as a different color?</li> <li>In PFCC’s focus group, participants were interested in seeing PT rates of progress and activity levels while in nursing home care.</li> <li>Hospital’s current financial status largely impacts staffing HRPD.</li> <li>There is a need to provide some measure that is easy for patients and their families to understand - and relevant to the decisions that they face.</li> <li>Scope &amp; Severity – CMS Health Deficiencies &amp; Citations. It is important to keep in mind that the majority of facilities had zero citations (not directly shown in these bar graphs). LTAC was in agreement of a graph</li> </ul> |

|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                         | <p>display - gradient shading from not as bad to worse. Will explore with HyperArts the option to change coloring on graph with attention to the "0" score. Should consideration be given to at least pointing out how many facilities had zero citations to put the number that did into a proper perspective? I.e. providing an example of what a level 1, 3, etc. harm is. UC Davis will bring options for framework of displaying data of scope of severity to LTAC for feedback.</p> <ul style="list-style-type: none"> <li>• Nursing Home Honor Roll – would be helpful to display the range of vaccination rates. Will request feedback from the LTAC about establishing an honor roll based on vaccination rates and possibly explore other ideas for identifying an honor roll.</li> </ul> |
| <b>Business Plan &amp; Financials</b>   | <ul style="list-style-type: none"> <li>• Expenses are on track and updated figures will be presented during the December BOD meeting.</li> <li>• CHC proposed to change the business name for CHC/CQC to include an internal and external title. Will discuss the naming structure further at the next BOD meeting.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Next Meeting/Meeting Adjournment</b> | <ul style="list-style-type: none"> <li>• Next meeting: Wednesday, December 1, 2021, from 10:00am to 12:30pm PST</li> <li>• The BOD will meet quarterly in 2022. Calendar invitations have been sent.</li> <li>• The meeting formally adjourned at 12:03pm PST</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |



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# Proposed Agenda

- Welcome and Call to Order
- Cal Hospital Compare
- Cal Quality Care
- Business Plan & Formative  
Evaluation
- Wrap Up

# Cal Hospital Compare

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# Development of Hospital Social Needs Index

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# Social Needs Index Analysis - Goals

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- **Identify hospitals** whose patient populations have **high social needs**
- Identify the **most appropriate social needs index** to use
- Examine the **impact of social needs on hospital performance** on CHC measures
- Determine if **actionable information** can be developed to help understand the relative importance of addressing specific social needs
- Consider if and **how social needs information should be included in CHC website/reporting**

# Social Needs Index – Analytic Steps

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**Overall Goal: Develop and evaluate the use of a hospital-level index of social need**

1. Compare methodology of most commonly used indices:
  - **California Healthy Places Index (HPI):** Public Health Alliance of Southern California
  - **Social Vulnerability Index (SVI) :** Centers for Disease Control
  - **Area Deprivation Index (ADI):** Health Resources and Services Administration (HRSA), now maintained by University of Wisconsin
2. Develop methodology to create hospital-level index
  - **Based on population served by hospital; not geographic location/market area in which hospital resides (e.g., Dartmouth Atlas Hospital Service Areas)**
3. Correlation between social needs indices – do they produce similar results?

# 1. ...Social Needs Index – Analytic Steps

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4. Correlation between indices and measure rates – which measures are most impacted?
5. Correlation between indices and hospital characteristics – what type of hospitals have high social needs?
6. Determine if more actionable information can be developed by examining the components of indices



# Calculation of Hospital-Level HPI, SVI and ADI

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## 1. Obtained patient origin data:

- Hospital-level admissions by patient zip code from OSHPD based on All Payer data

## 2. Linked to HPI and SVI by zip code

- For HPI: data set has HPI by census tract mapped to zip code. Calculated zip-code-level HPI, weighting by census tract population
- For SVI: data available at census tract. Used HPI mapping to calculate zip-code-level SVI
- For ADI: used census tract mapping from HIP

## 3. Calculated hospital-level HPI and SVI by weighting zip-code-level values by proportion of hospital admissions by zip code. Used most current SVI zip code populations (2018) for consistency.

### Metrics:

-Single, hospital-wide social needs index

-For HPI and SVI: social needs index for each component domain (e.g., housing)

# HPI Component Domains

| <b>ECONOMIC</b><br>0.32                                                                             | <b>EDUCATION</b><br>0.19                                                                                                                    | <b>HEALTHCARE</b><br>0.05                                          | <b>HOUSING</b><br>0.05                                                                                                                                                                                                             | <b>NEIGHBORHOOD</b><br>0.08                                                                                                                                             | <b>CLEAN ENVIRONMENT</b><br>0.05                                                                                          | <b>SOCIAL</b><br>0.10                                                                      | <b>TRANSPORTATION</b><br>0.16                                                                      |
|-----------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>• Poverty</li> <li>• Employment</li> <li>• Income</li> </ul> | <ul style="list-style-type: none"> <li>• Pre-school enrollment</li> <li>• High school enrollment</li> <li>• Bachelors attainment</li> </ul> | <ul style="list-style-type: none"> <li>• Insured adults</li> </ul> | Severe cost burden low-income: <ul style="list-style-type: none"> <li>• renters</li> <li>• owners</li> </ul> <ul style="list-style-type: none"> <li>• Homeownership</li> <li>• Kitchen and plumbing</li> <li>• Crowding</li> </ul> | <ul style="list-style-type: none"> <li>• Retail jobs</li> <li>• Supermarket access</li> <li>• Parks</li> <li>• Tree canopy</li> <li>• Alcohol establishments</li> </ul> | <ul style="list-style-type: none"> <li>• Diesel PM</li> <li>• Ozone</li> <li>• PM2.5</li> <li>• Drinking Water</li> </ul> | <ul style="list-style-type: none"> <li>• Two Parent Household</li> <li>• Voting</li> </ul> | <ul style="list-style-type: none"> <li>• Healthy Commuting</li> <li>• Automobile access</li> </ul> |

Figure 1. Health Places Index Policy Action Areas (Domains), Weights, and Individual Indicators

Economic, Education and Transportation domains most important in predicting Life Expectancy at Birth

A stylized background graphic featuring a red location pin centered over a map. The map is composed of several overlapping, semi-transparent colored polygons in shades of green, yellow, blue, and orange. The text is overlaid on the map.

# Social Needs Index Mapping Demonstration Hospital-Level HPI

# Analysis of 3 Indices: HPI, SVI and ADI

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# Methodology Comparison of HPI, SVI and ADI

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- **New Analysis: Addition of ADI**
- Methodology and component measures shown on next slides
- Observations:
  - All indices include measures: Income, Education, Employment, Housing Cost and Overcrowding
  - HPI and SVI both include Transportation (but not ADI)
  - SVI uniquely includes: Race and Language, Age, Disability
  - HPI uniquely includes: Neighborhood (parks, supermarket, alcohol, employment density)
  - Clean Environment (water, air)
  - Social (registered voters)
  - ADI does not have any unique variable domains

# Comparison of HPI, SVI and ADI (see Appendix A for component measures)

- ✓ Only SVI includes race/ethnicity
- ✓ Measures and methodologies are different across indices

|                                  | HPI                                                                                                                                    | SVI                                                                                                                                | ADI                                                                                                                  |
|----------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|
| Developer                        | Public Health Alliance of Southern California, Virginia Commonwealth University                                                        | Centers for Disease Control                                                                                                        | University of Wisconsin                                                                                              |
| Geographic Range                 | California Only                                                                                                                        | National                                                                                                                           | <b>National</b>                                                                                                      |
| Purpose                          | "improving community conditions and health"                                                                                            | "help local officials identify communities that may need support before, during, or after disasters"                               | "freely share measures of neighborhood disadvantage...for use in research, program planning, and policy development" |
| Time Period of Data              | 2011 - 2015 depending on data source                                                                                                   | 2018                                                                                                                               | Rolling 5 Years                                                                                                      |
| Frequency of Update              | ?                                                                                                                                      | Every 2 years                                                                                                                      | Expect to release every summer                                                                                       |
| Number of Data Sources           | 7                                                                                                                                      | 1 (American Community Survey)                                                                                                      | 1 (American Community Survey)                                                                                        |
| Outcome Variable                 | Life expectancy at birth (LEB)                                                                                                         | N/A                                                                                                                                | N/A                                                                                                                  |
| Number of Component Measures     | 25                                                                                                                                     | 15                                                                                                                                 | 17                                                                                                                   |
| Number of Domains                | 8                                                                                                                                      | 4                                                                                                                                  | N/A                                                                                                                  |
| Granularity of Data Availability | Overall Index and 8 Domains                                                                                                            | Overall Index and 4 Domains                                                                                                        | Overall Index Only                                                                                                   |
| Domains                          | 1) Economics 2) Education 3) Healthcare Access 4) Housing 5) Neighborhood Conditions 6) Clean Environment 7), Social 8) Transportation | 1) Socioeconomic Status 2) Household Composition and Disability 3) Minority Status and Language 4) Housing Type and Transportation | N/A - but 17 metrics cover education, employment, income, housing, poverty, transportation                           |
| Domain Weighting                 | Based on prediction of LEB                                                                                                             | Equal                                                                                                                              | Based on Factor Analysis                                                                                             |
| Standardization                  | Percentile Ranking/Z Score                                                                                                             | Percentile Ranking                                                                                                                 | "arbitrarily setting index mean and SD at 100 and 20 respectively"                                                   |
| Final Score                      | Apply weights to domain z-scores and rank by percentile                                                                                | Summed percentiles for each metric, ordered tracts, then calculated overall percentile rankings                                    | Based on standardization approach                                                                                    |
| Directionality                   | Higher social need = lower score                                                                                                       | Higher social need = higher score                                                                                                  | Higher social need = higher score                                                                                    |

# Correlation Between Indices - Summary

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- High correlation between HPI and SVI (0.917)
- Strong correlation between HPI and ADI (0.794)
- Lower correlation between SVI and ADI (0.648)

|     | HPI              | SVI              | ADI              |
|-----|------------------|------------------|------------------|
| HPI | 1.000            | -0.917<br><.0001 | -0.794<br><.0001 |
| SVI | -0.917<br><.0001 | 1.000            | 0.648<br><.0001  |
| ADI | -0.794<br><.0001 | 0.648<br><.0001  | 1.000            |

✓ ADI methodology seems to have material differences with SVI and HPI methodologies

SVI: Higher scores = higher social need  
ADI: Higher scores = higher social need  
HPI: Lower scores = higher social need

# Example of Social Need Variation Within Hospital Market Area – San Diego

| Hospital Name                                                                            | HPI Overall | HPI Rank | SVI Overall | SVI Rank | ADI Overall | ADI Rank |
|------------------------------------------------------------------------------------------|-------------|----------|-------------|----------|-------------|----------|
| Pioneers Memorial Healthcare District                                                    | -0.42       | 1        | 0.84        | 2        | 9.42        | 1        |
| El Centro Regional Medical Center                                                        | -0.38       | 2        | 0.86        | 1        | 9.32        | 2        |
| Paradise Valley Hospital                                                                 | -0.32       | 3        | 0.69        | 3        | 6.93        | 3        |
| Sharp Chula Vista Medical Center                                                         | -0.17       | 4        | 0.63        | 4        | 6.32        | 4        |
| Scripps Mercy Hospital                                                                   | -0.14       | 5        | 0.57        | 5        | 6.18        | 6        |
| Sharp Coronado Hospital and Healthcare Center                                            | -0.08       | 6        | 0.51        | 8        | 5.33        | 13       |
| Alvarado Hospital Medical Center                                                         | -0.07       | 7        | 0.53        | 6        | 6.21        | 5        |
| Tri-City Medical Center                                                                  | -0.06       | 8        | 0.46        | 11       | 5.56        | 9        |
| Sharp Grossmont Hospital                                                                 | -0.06       | 9        | 0.52        | 7        | 6.14        | 7        |
| Palomar Medical Center Escondido                                                         | -0.04       | 10       | 0.46        | 10       | 5.49        | 10       |
| Kaiser Permanente San Diego                                                              | 0.04        | 11       | 0.47        | 9        | 5.61        | 8        |
| Sharp Memorial Hospital                                                                  | 0.08        | 12       | 0.44        | 12       | 5.46        | 11       |
| Sharp Mary Birch Hospital for Women and Newborns                                         | 0.09        | 13       | 0.43        | 13       | 5.40        | 12       |
| UC San Diego Health - LA Jolla, Jacobs Medical Center and Sulpizio Cardiovascular Center | 0.10        | 14       | 0.42        | 14       | 5.30        | 14       |
| Scripps Memorial Hospital - Encinitas                                                    | 0.21        | 15       | 0.33        | 15       | 4.14        | 18       |
| Scripps Memorial Hospital - La Jolla                                                     | 0.30        | 16       | 0.32        | 16       | 4.40        | 16       |
| Scripps Green Hospital                                                                   | 0.31        | 17       | 0.31        | 18       | 4.29        | 17       |
| Palomar Medical Center - Poway-Pomerado Hospital                                         | 0.34        | 18       | 0.31        | 17       | 4.46        | 15       |

- ✓ Hospitals serving the same Market Area can have populations with very different social needs
- ✓ Sharp Coronado has lower social need using ADI
- ✓ Sorted lowest to highest HPI (highest to lowest social need)

SVI: Higher scores = higher social need  
 ADI: Higher scores = higher social need  
 HPI: Lower scores = higher social need



# Hospital Characteristics – All Payer HPI, SVI, & ADI Correlations

Pearson Correlation Coefficients

| Variable                      | Correlation |             |             | P-Value (<0.05 in green) |             |             |
|-------------------------------|-------------|-------------|-------------|--------------------------|-------------|-------------|
|                               | HPI Overall | SVI Overall | ADI Overall | HPI Overall              | SVI Overall | ADI Overall |
| Percent Admissions - Hispanic | -0.56       | 0.69        | 0.21        | <.0001                   | <.0001      | 0.00        |
| Percent Medi-Cal Days         | -0.45       | 0.46        | 0.33        | <.0001                   | <.0001      | <.0001      |
| Disproportionate Share Hosp   | -0.45       | 0.49        | 0.27        | <.0001                   | <.0001      | <.0001      |
| Percent Admissions - Black    | -0.26       | 0.29        | 0.00        | <.0001                   | <.0001      | 0.96        |
| Occupancy Rate                | -0.03       | 0.07        | 0.11        | 0.60                     | 0.26        | 0.07        |
| Total Census Days (size)      | -0.02       | 0.04        | -0.15       | 0.70                     | 0.54        | 0.01        |
| Teaching Hospital             | -0.02       | 0.03        | -0.10       | 0.70                     | 0.64        | 0.10        |
| Total Margin                  | 0.02        | -0.07       | 0.04        | 0.76                     | 0.29        | 0.47        |
| Percent Admissions - Male     | 0.03        | -0.03       | -0.17       | 0.61                     | 0.59        | 0.00        |
| System Size (No. of hosps)    | 0.13        | -0.14       | -0.09       | 0.02                     | 0.02        | 0.13        |
| Percent Admissions - Asian    | 0.24        | -0.09       | -0.44       | <.0001                   | 0.12        | <.0001      |
| Percent Days - Medicare       | 0.26        | -0.27       | -0.18       | <.0001                   | <.0001      | 0.00        |

- ✓ **Blue:** As expected, DHS and hospitals with higher Hispanic, black and Medi-Cal populations have higher social need
- ✓ **Orange:** Margin, teaching hospital status, size, gender, occupancy not correlated with social need
- ✓ **Yellow highlight:** ADI produces different results for race and ethnicity

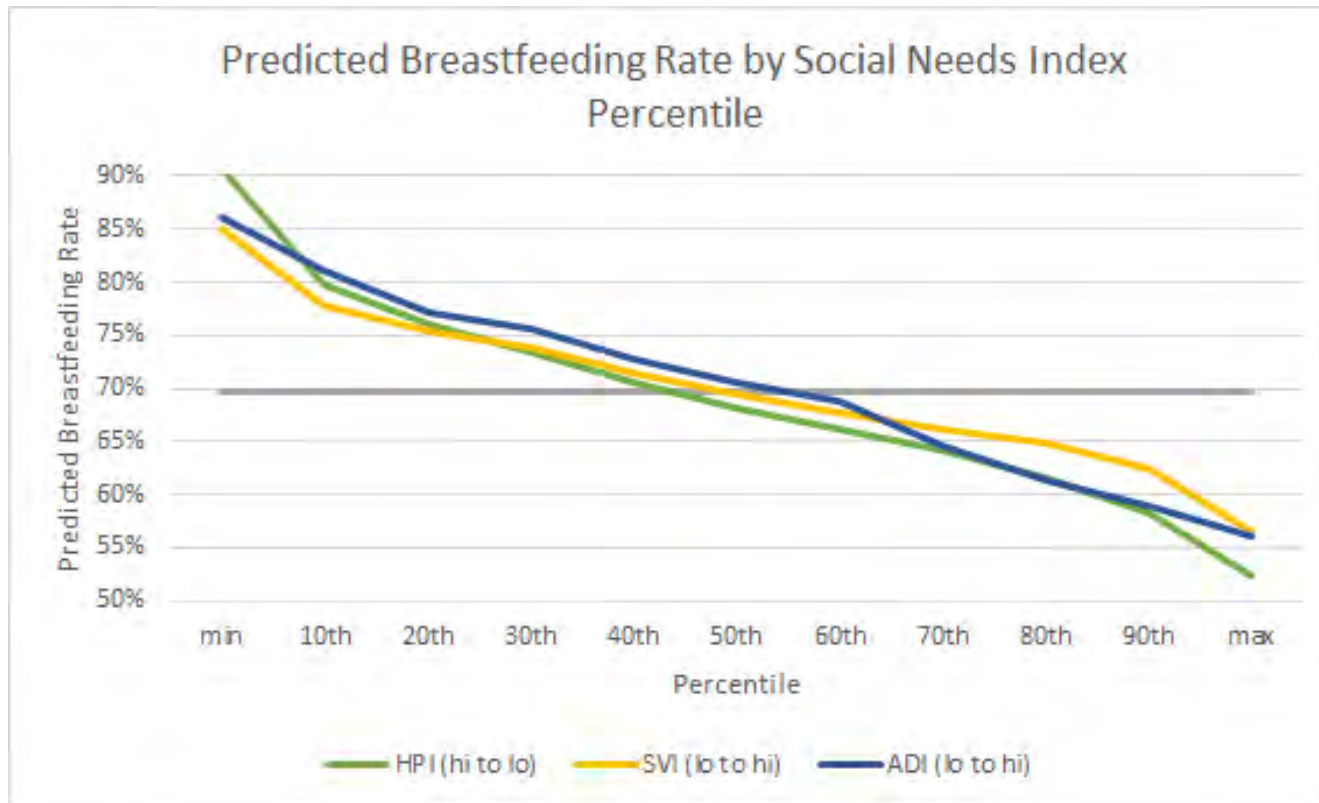
SVI: Higher scores = higher social need  
 ADI: Higher scores = higher social need  
 HPI: Lower scores = higher social need

# Measure Performance – All Payer HPI, SVI and ADI

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- IBM ran correlations between all **90** CalHospitalCompare reported measures for All Payer HPI, SVI and ADI
- Measures with 1) strongest correlations and 2) little correlation appear on next two slides
- Conceptual Approach:
  - Some measures impacted by social needs more than others
  - Can social needs support be made more effective by focusing on related structure/processes?
  - Are they measures that extend beyond the hospital's walls?
- Results:
  - Measures most impacted by social needs: **Breastfeeding, Readmissions, Patient Experience, Surgery Volume**
  - Measures least impacted by social needs: **HAIs, Patient Safety**
  - ADI produced different results: most predictive of mortality

# Breastfeeding Regression – Preliminary Results



|           | HPI     | SVI     | ADI     |
|-----------|---------|---------|---------|
| Parameter | P-Value | P-Value | P-Value |
| SNI       | 0.003   | 0.010   | 0.001   |

- ✓ Even after adjusting for a range of hospital characteristics (listed below) high social need correlated with lower performance
- ✓ Control Variables: market area, system size, teaching, DSH, total margin, occupancy rate, size, payer, gender, race, ethnicity
- ✓ Holds true for all 3 indices
- ✓ Statistically significant

# Uses of Social Need Index

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# Potential Use of Hospital Social Needs Index

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- Discussion Questions for TAC
  - If methodological development/assessment is successful, how should a social needs index be used in CalHospitalCompare?
  - Is this information of value to consumers?
  - Common technical approaches to using SDOH/race-gender-ethnicity information
    1. Simple reporting of hospital's social need index (relative to other hospitals)
    2. Stratified reporting of performance
    3. Risk adjustment of measures based on social needs index
- ❖ Apart from consumer interest, opportunity to provide analytic reports to stakeholders to help drive targeted 1) performance improvement and 2) reduction in disparities

# CHC Historical Analysis

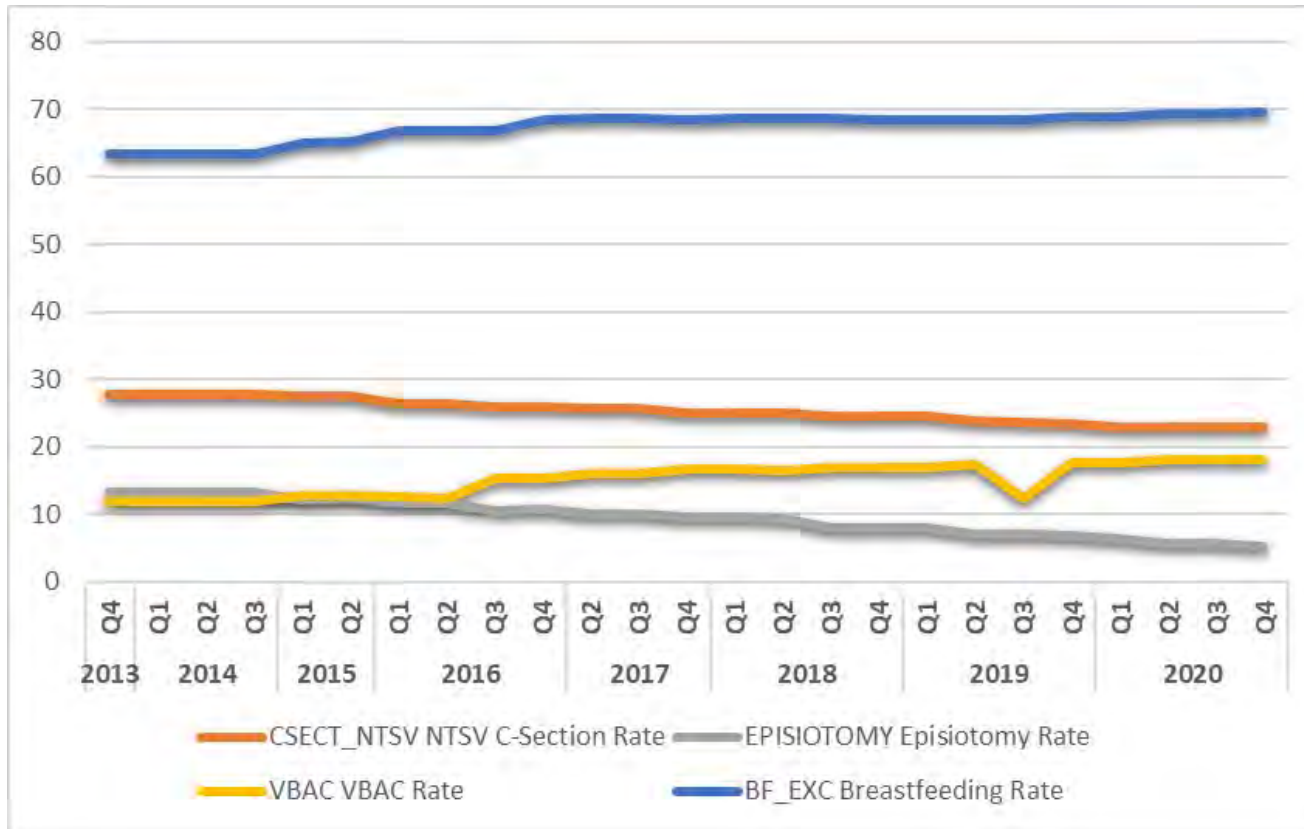
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# Overview

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- Areas of Focus
  - Maternity
  - Readmissions and Mortality
  - Surgery Volumes
- Overarching Themes
  - Public reporting, even when combined with financial penalties, may be insufficient to drive performance improvement
  - Active quality improvement collaboratives, with full participation from California hospitals, may be required to foster the changes in service delivery (e.g., like CMQCC)
  - Individual hospitals were noted that made substantial gains and from whom best practices may be gleaned

# Maternity



## ■ Analysis examined:

- NTSV: “lower is better”
- C-Section (low risk): “lower is better”
- Episiotomy: “lower is better”
- VBAC: “lower is better”
- Exclusive Breastfeeding: “higher is better”

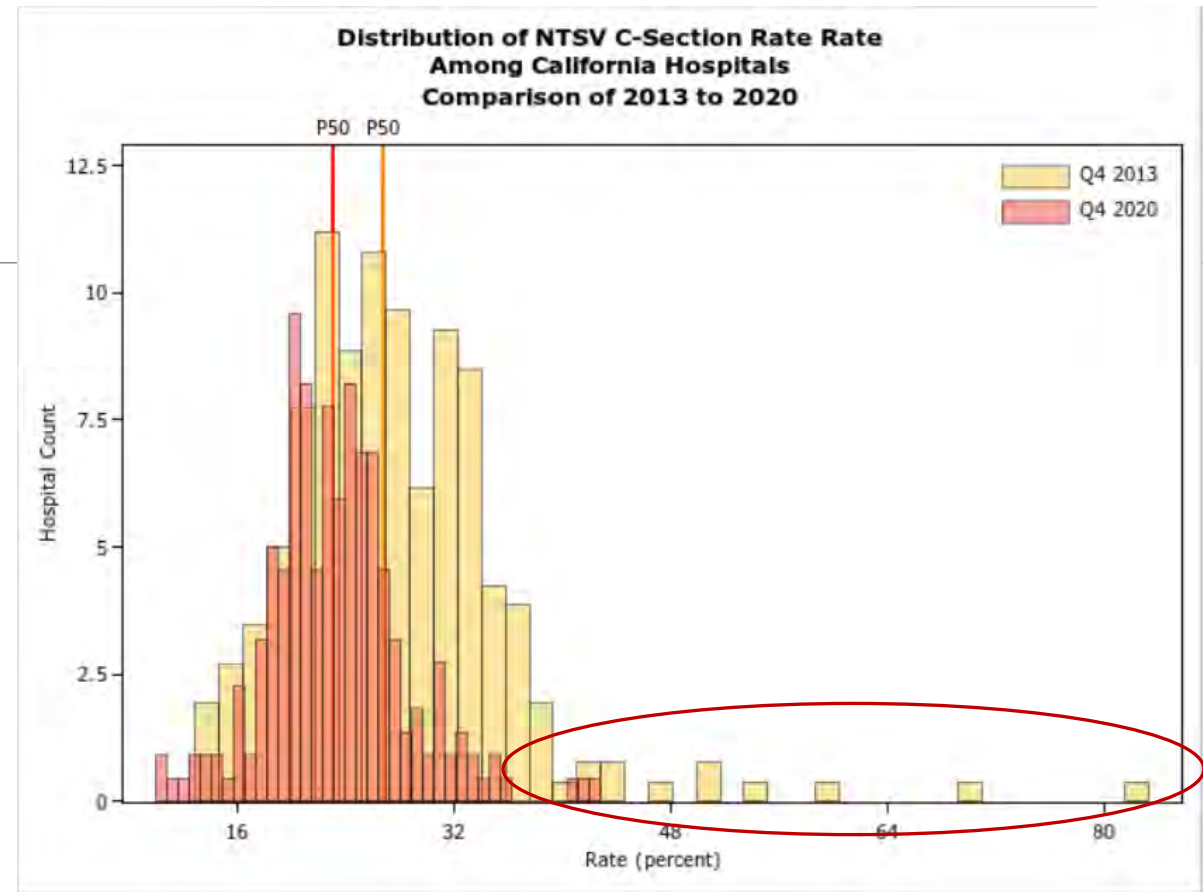
## ■ Key Findings

- Measures showed the most consistent improvement in statewide rates and reduction
- Improvements supported by active engagement of hospitals in CMQCC



# Maternity cont...

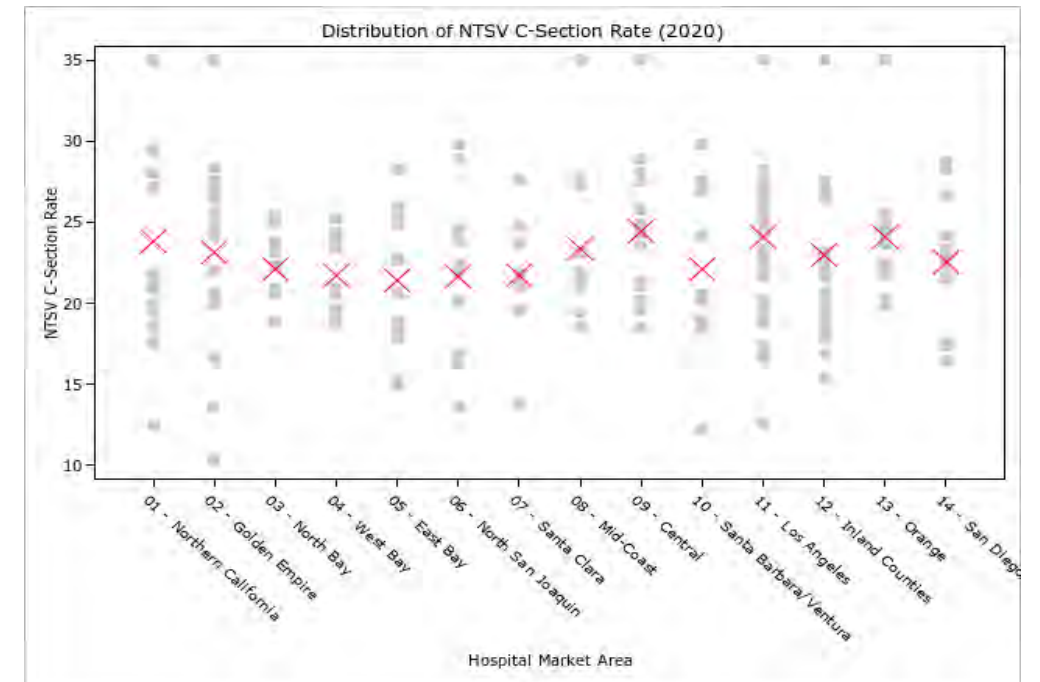
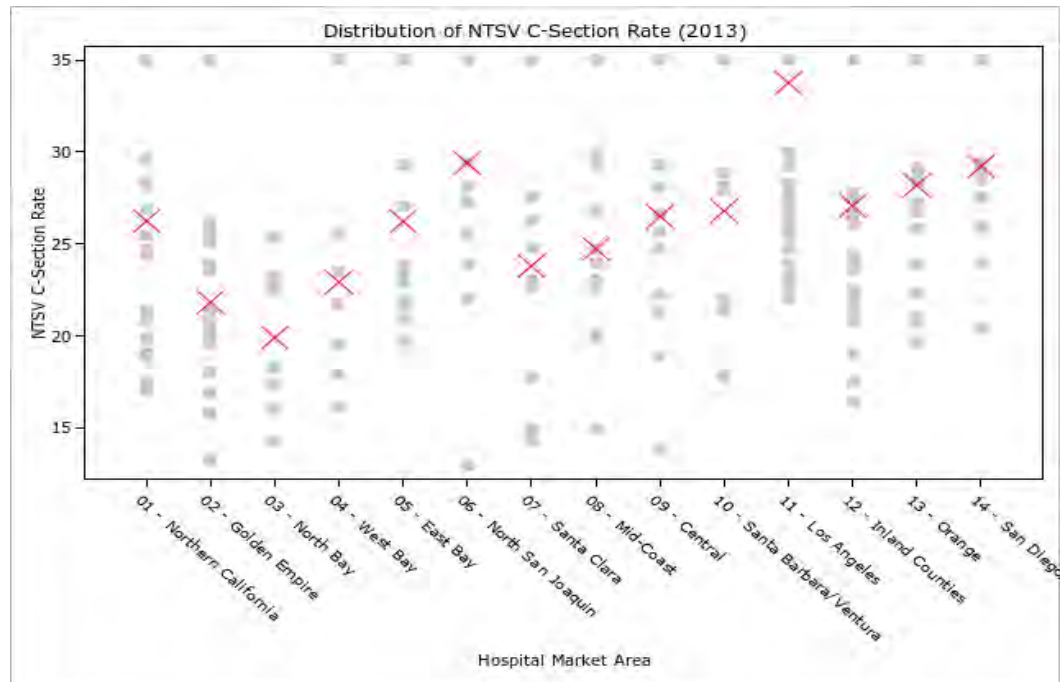
- Median NTSV C-Section rate decreased from 26.8% to 22.5%
- Distribution in Q4 2020 is narrower than Q4 2013 indicating the variation across hospitals decreased
  - Interquartile range dropped substantially from 10.0% (22.1% to 32.1%) in Q4 2013 to 5.6% (20.0% to 25.6%) in Q4 2020.



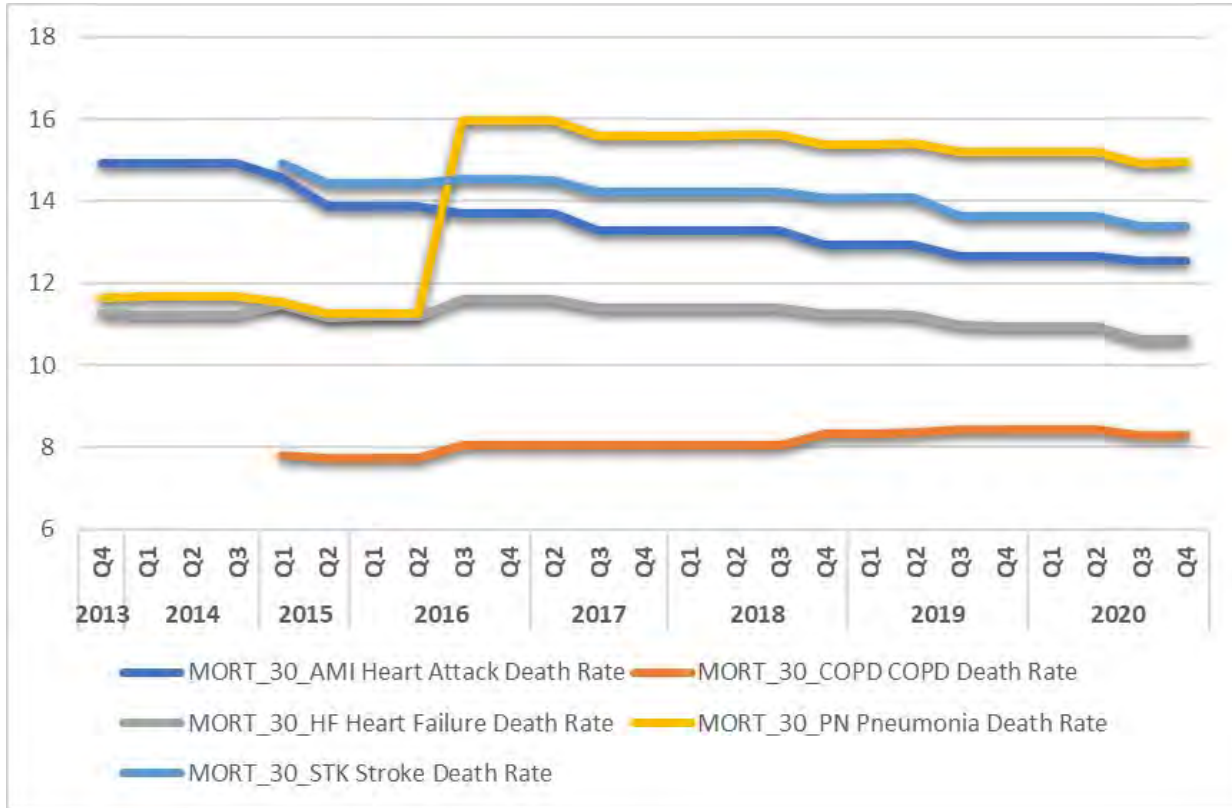
| Summary Statistics |     |       |         |       |           |           |           |           |           |       |       |
|--------------------|-----|-------|---------|-------|-----------|-----------|-----------|-----------|-----------|-------|-------|
| Reporting Period   | N   | Mean  | Std Dev | Min   | 10th Pctl | 25th Pctl | 50th Pctl | 75th Pctl | 90th Pctl | Max   | IQR   |
| Q4 2013            | 259 | 27.7% | 8.4%    | 13.0% | 19.0%     | 22.1%     | 26.8%     | 32.1%     | 36.2%     | 83.3% | 10.0% |
| Q4 2020            | 225 | 23.1% | 5.0%    | 10.3% | 17.9%     | 20.0%     | 22.5%     | 25.6%     | 28.3%     | 44.4% | 5.6%  |

# NTSV C-Section Reduction in Geographic Variation

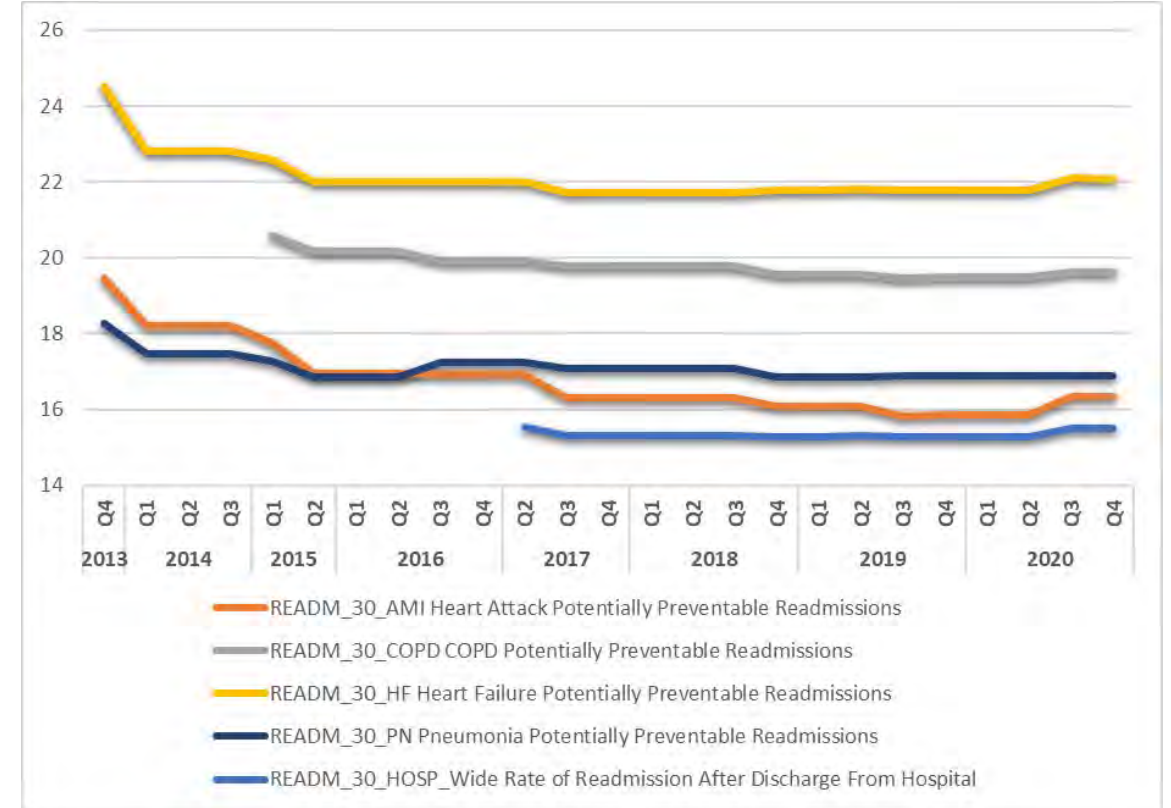
Gap between Northern California and Southern California decreased from 2013 to 2020



# Readmissions & Mortality



**Statewide 30-Day Hospital Mortality Rate Trends**



**Statewide 30-Day Hospital Readmission Rate Trends**

# Readmissions & Mortality cont...

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## ■ Key Findings

- Mixed success story
- With the exception of COPD, statewide mortality rates showed slow improvements from 2015 to 2020
- Paired readmissions rates remained flat, with the exception of AMI which saw improvement
- In 2020, little correlation between mortality and readmission rates
- Hospital-wide Readmissions measure did not show any statewide improvement from 2017 to 2020
- Mortality and readmission measures did not benefit from the same kind of statewide quality improvement initiative that CMQCC provides
- Readmission rates have failed to improve despite CMS's HRRP

# Readmissions & Mortality cont...

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## ■ Key Findings

- Little association between performance on the mortality and paired readmissions measures

| Clinical Area | Correlation Coefficient between Readmission and Mortality Rates |
|---------------|-----------------------------------------------------------------|
| AMI           | 0.033                                                           |
| Heart Failure | -0.229                                                          |
| COPD          | 0.06                                                            |
| Pneumonia     | -0.06                                                           |

- Little correlation between hospital improvement on the mortality and readmissions measures
- The above two findings suggest that the structures and processes that underlie performance on these measures are substantially different and, therefore, related quality improvement programs should be developed separately.

# Readmissions & Mortality cont...

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## ■ Key Findings

- Stronger correlation was seen between the clinically specific readmissions measures and the Hospital-wide Readmissions measure
- This suggests that structures and processes related to hospital readmission performance carry across hospital departments through a “hospital-level effect”.

| Clinical Area | Correlation Coefficient between Clinically Specific Readmissions and Hospital-Wide Readmissions |
|---------------|-------------------------------------------------------------------------------------------------|
| AMI           | 0.49                                                                                            |
| Heart Failure | 0.67                                                                                            |
| COPD          | 0.37                                                                                            |
| Pneumonia     | 0.69                                                                                            |

- Patterns seen in both the AMI mortality and readmissions measures mirror those of the NSTV C-section measure: statewide improvement in rates and reduction of the variation in performance across hospitals

# Cal Quality Care

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# Reporting Schedule of Measures

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## Domains for the December 2021 Rollout

- Facility At-A-Glance Domain
  - ~10 key measures of most interest
  - Key facility descriptors
- Facility Description Domain
- Staffing Domain
- Quality of Care Domain

## Potential Domains/Measures for 2022 Refresh

- Quality of Facility Domain
  - (Citations, Complaints, Fines, Fire/Safety)
- Cost and Finances Domain
- Composite Measures
- Nursing Home Honor Roll



# Facility Description Domain

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| Measures                   | Presentation                                                                          |
|----------------------------|---------------------------------------------------------------------------------------|
| CMS Special Facility Focus | Yes/No                                                                                |
| Facility Type              | Text (Adult/Pediatric Freestanding/Distinct Part Nursing Home)                        |
| Payments Accepted          | Text-(Medicare/Medi-Cal)                                                              |
| # of Beds                  | Number and state avg                                                                  |
| Type of Care Available     | Yes/No (10 categories e.g., subacute, Alzheimer's/Dementia, Hospice, Ventilator beds) |
| Age                        | Percent in 4 categories and state avg                                                 |
| Race and Ethnicity         | Percent 5 categories plus Hispanic ethnicity and state avg                            |

# Staffing Domain

| Measure                                                     | Presentation                           | Notes                                                                                                                   |
|-------------------------------------------------------------|----------------------------------------|-------------------------------------------------------------------------------------------------------------------------|
| CMS Overall Staffing rating                                 | 5-star rating                          | From CMS Care Compare                                                                                                   |
| CMS RN Staffing rating                                      | 5-star rating                          | From CMS Care Compare                                                                                                   |
| Staff fully vaccinated Against COVID-19                     | Potentially Score; percent & State avg | Potentially scorable, depending how distribution shifts in Oct/Nov                                                      |
| Nursing hours-per-resident-day (HPRD) (RN, LVN, CNA, Total) | HPRD & State avg                       | Banner example: “These are reported hours from the NH but are NOT adjusted for complexity of care in this Nursing Home” |
| Nursing staff turnover                                      | Percent & State avg                    | Potentially scorable                                                                                                    |
| Physical therapist                                          | Minutes/resident day                   | Potentially scorable                                                                                                    |

# Quality of Care Domain – Long Stay

| Measure                                                 | Presentation          | Notes             |
|---------------------------------------------------------|-----------------------|-------------------|
| Hospitalizations/1,000 resident days                    | Percent and state avg |                   |
| Outpatient ED visits/1,000 resident days                | Percent and state avg |                   |
| Antipsychotic use                                       | Percent and state avg | Exclusion problem |
| One or more falls w/ major injury                       | Percent and state avg | Underreported     |
| Pressure sores (new or worsened)                        | Percent and state avg | Underreported     |
| Urinary tract infection                                 | Percent and state avg | Denominator N/A   |
| Catheter inserted & left in place                       | Percent and state avg | Denominator N/A   |
| Ability to move independently worsened                  | Percent and state avg | Denominator N/A   |
| Need for help with activities of daily living increased | Percent and state avg | Denominator N/A   |

# Quality of Care Domain – Long Stay

| Measure                                       | Presentation                 | Notes              |
|-----------------------------------------------|------------------------------|--------------------|
| Received COVID-19 Vaccination                 | Score, percent and state avg | Scorable (overall) |
| Received flu vaccine                          | Percent and state avg        | Denominator N/A    |
| Received pneumonia vaccine                    | Percent and state avg        | Denominator N/A    |
| Physically restrained on a daily basis        | Percent and state avg        | Denominator N/A    |
| Loss of bowel or bladder control              | Percent and state avg        | Denominator N/A    |
| Too much weight loss                          | Percent and state avg        | Denominator N/A    |
| Symptoms of depression in the prior two weeks | Percent and state avg        | Denominator N/A    |
| Received antianxiety or hypnotic meds         | Percent and state avg        | Denominator N/A    |

# Quality of Care Domain – Short Stay

| Measure                                          | Presentation        | Notes                              |
|--------------------------------------------------|---------------------|------------------------------------|
| Medication issues reviewed and addressed         | Percent & state avg | Left-skewed, cannot score          |
| One or more falls w/ major injury                | Percent & state avg | Right skewed, cannot score         |
| Functional ability goals in treatment plan       | Percent & state avg | Left-skewed, cannot score          |
| Change in ability to provide self-care           | Percent & state avg | Too tightly clustered, can't score |
| Preventable Rehospitalization after NH admission | Percent & state avg | Too tightly clustered, can't score |
| Outpatient ED visits                             | Percent & state avg | No denominator                     |
| Antipsychotic use for the 1 <sup>st</sup> time   | Percent & state avg | No denominator                     |

# Quality of Care Domain – Short Stay

| Measure                                                    | Presentation               | Notes                               |
|------------------------------------------------------------|----------------------------|-------------------------------------|
| Pressure ulcers that are new or worsened                   | Percent & state avg        | Right-skewed, cannot score          |
| Improved ability to move around on their own               | Percent & state avg        | Too tightly clustered, cannot score |
| Successful rate of return to home and community            | Score; percent & state avg | Normally distributed                |
| At or above expected ability for self-care (at discharge)  | Score; percent & state avg | Normally distributed                |
| At or above expected ability to move around (at discharge) | Score; percent & state avg | Normally distributed                |
| Change in ability to move around                           | Score; percent & state avg | Normally distributed                |
| Resident received COVID-19 vaccination                     | Score; Percent & state avg | Left-skewed, likely score           |
| Received flu vaccine                                       | Percent & state avg        |                                     |
| Received pneumonia vaccine                                 | Percent & state avg        |                                     |

# At-A-Glance Domain

- Limited number of measures most meaningful to consumers, e.g.
  - ✓ Wide variation
  - ✓ Actionable
  - ✓ Common family concerns
- Measures repeated in their respective domains

| Measure                            | Presentation               |
|------------------------------------|----------------------------|
| CMS composite rating               | 5 stars                    |
| CMS Special Facility Focus         | Yes/No                     |
| Facility type                      | Text                       |
| Type of care (10 categories)       | Yes/No                     |
| Payments accepted                  | Text                       |
| # of beds                          | Number and state avg       |
| Resident Covid-19 vaccination rate | Score; Percent & state avg |
| Staff Covid-19 vaccination rate    | Score; Percent & state avg |
| Total staffing HPRD                | HPRD & State avg           |
| Physical therapy                   | Y/N? minutes?              |

# At-A-Glance Domain

## PROPOSED QUALITY MEASURES

### ➤ Short stay

- At/above expected ability to move around (at discharge)
- At/above expected ability for self-care (at discharge)
- Improved ability to move on their own (at discharge)
- Successful discharge to home

### ➤ Long-stay

- Antipsychotic use
- Pressure injuries
- Move independently worsened
- Need for help w/ activities of daily living increased

## OTHER SHORT STAY MEASURE CHOICES

- A. Rehospitalized after NH admission
- B. Outpatient ED visits
- C. Antipsychotic Use for the 1st time
- D. Pressure injuries/ulcers (new or worsened)
- E. Received pneumonia vaccine
- F. Received flu vaccine
- G. Medication issues identified and addressed
- H. One or more falls w/ major injury
- I. Functional ability / goals in treatment plan
- J. Potentially preventable readmission post-discharge
- K. Change in resident's ability to care for self
- L. Change in ability to move around

## OTHER LONG STAY MEASURE CHOICES

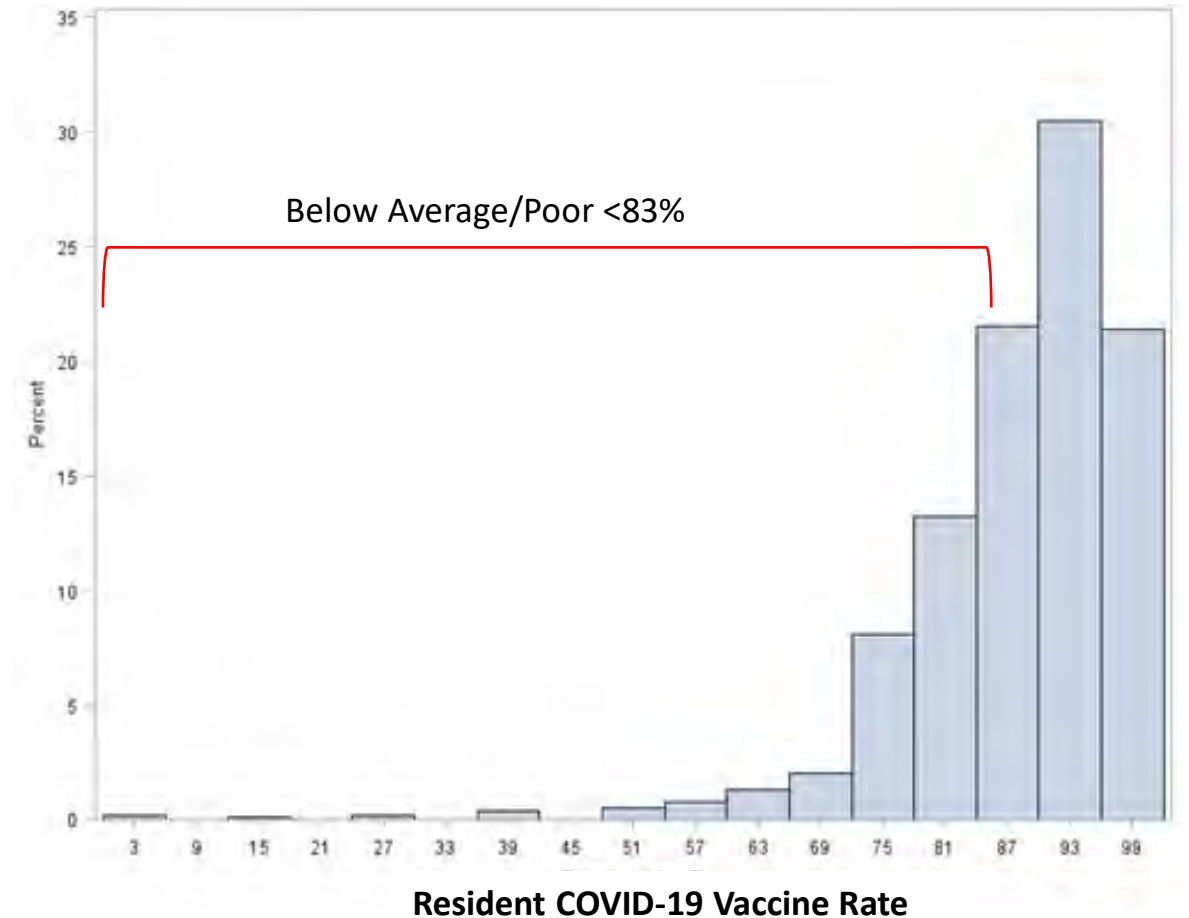
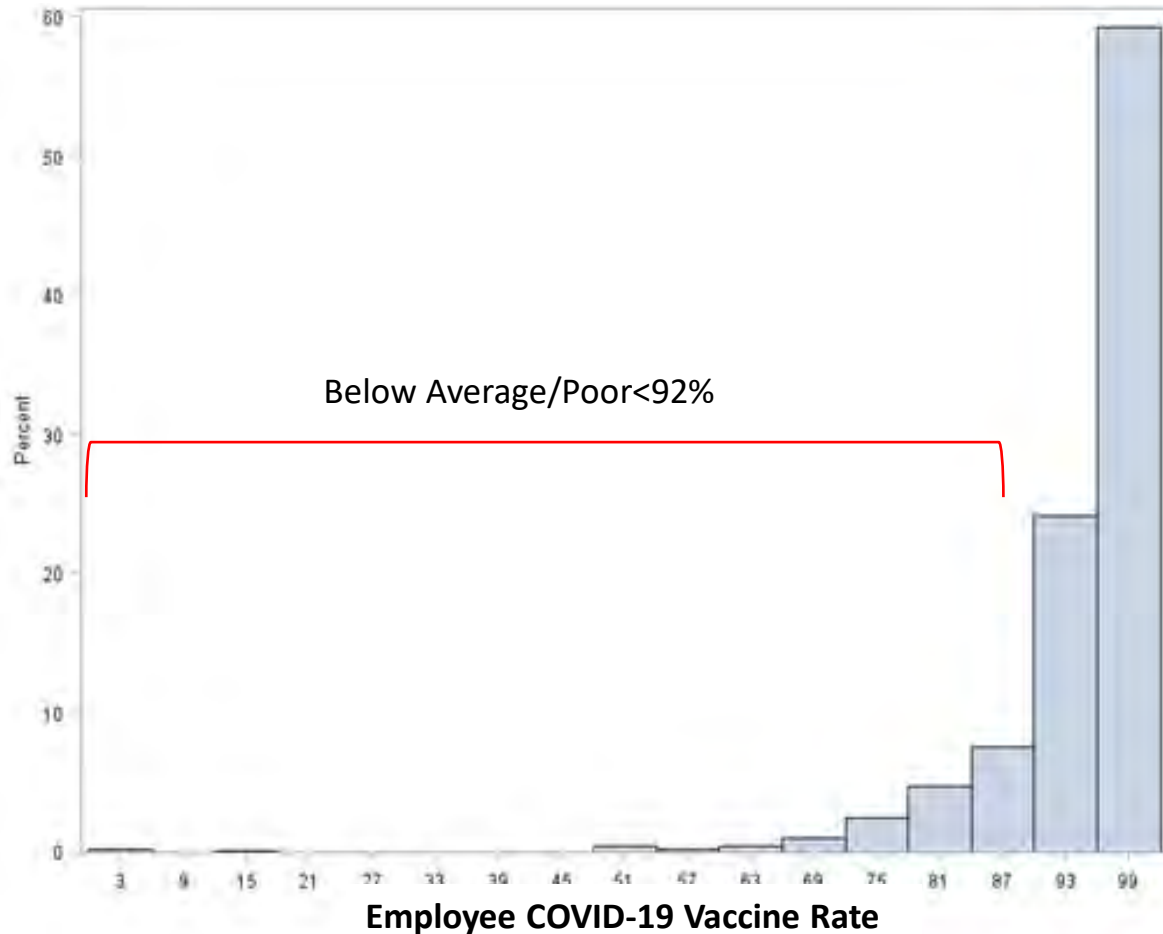
- 1. Hospitalizations/1,000 resident days
- 2. Outpatient ED visits/1,000 resident days
- 3. Urinary tract infection
- 4. One or more falls w/ major injury
- 5. Catheter inserted & left in place
- 6. Too much weight loss
- 7. Loss of bowel or bladder control
- 8. Symptoms of depression in the prior two weeks
- 9. Physically restrained on a daily basis
- 10. Received antianxiety or hypnotic meds
- 11. Received COVID-19 Vaccination
- 12. Received flu vaccine
- 13. Received pneumonia vaccine



# Scoring/Binning Methodology

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# Distribution of COVID-19 Vaccinations



# Scoring Analysis

| DISTRIBUTION OF FACILITIES' COVID-19 MEASURES |                             |      |                                         |       |                                   |       |                                         |       |                                 |      |                 |      |                  |     |
|-----------------------------------------------|-----------------------------|------|-----------------------------------------|-------|-----------------------------------|-------|-----------------------------------------|-------|---------------------------------|------|-----------------|------|------------------|-----|
| Measure                                       | Performance Category        |      |                                         |       |                                   |       |                                         |       |                                 |      |                 |      | Total Facilities |     |
|                                               | 0-10th Percentile<br>(Poor) |      | 10th-25th Percentile<br>(Below Average) |       | 25th-75th Percentile<br>(Average) |       | 75th-90th Percentile<br>(Above Average) |       | >90th Percentile,<br>(Superior) |      | Not rated       |      |                  |     |
|                                               | # of Facilities             | %    | # of Facilities                         | %     | # of Facilities                   | %     | # of Facilities                         | %     | # of Facilities                 | %    | # of Facilities | %    | N                | %   |
| Employee Covid-19 Vaccine                     | 106                         | 8.97 | 132                                     | 11.17 | 630                               | 53.3  | 270                                     | 22.84 | 21                              | 6.25 | 23              | 1.35 | 1184             | 100 |
| Resident Covid-19 Vaccine                     | 77                          | 6.51 | 173                                     | 14.64 | 654                               | 55.33 | 167                                     | 14.13 | 88                              | 7.45 | 23              | 1.95 | 1182             | 100 |

|                           |       | (Poor) | (Below Average) | (Superior) |          |
|---------------------------|-------|--------|-----------------|------------|----------|
| Employee Covid-19 Vaccine | # NHs | 106    | 132             | 921        |          |
|                           |       | (Poor) | (Below Average) | Average    | Superior |
| Resident Covid-19 Vaccine | #NHs  | 77     | 173             | 654        | 255      |

# Scoring Analysis- QRP Measures

| DISTRIBUTION OF FACILITIES' QUALITY OF CARE MEASURES AMONG 5 PERFORMANCE CATEGORIES (1182 FACILITIES) |                          |     |                                      |      |                                |      |                                      |      |                              |     |                 |                  |       |     |
|-------------------------------------------------------------------------------------------------------|--------------------------|-----|--------------------------------------|------|--------------------------------|------|--------------------------------------|------|------------------------------|-----|-----------------|------------------|-------|-----|
| Measure                                                                                               | Performance Category     |     |                                      |      |                                |      |                                      |      |                              |     |                 | Total Facilities |       |     |
|                                                                                                       | 0-10th Percentile (Poor) |     | 10th-25th Percentile (Below Average) |      | 25th-75th Percentile (Average) |      | 75th-90th Percentile (Above Average) |      | >90th Percentile, (Superior) |     | Not rated       |                  |       |     |
|                                                                                                       | # of Facilities          | %   | # of Facilities                      | %    | # of Facilities                | %    | # of Facilities                      | %    | # of Facilities              | %   | # of Facilities | %                | N     | %   |
| % of residents with medications review & follow-up care when needed                                   | 88                       | 7.4 | 76                                   | 6.4  | 638                            | 54.0 | 180                                  | 15.2 | 45                           | 3.8 | 155             | 13.1             | 1,182 | 100 |
| % of residents at or above an expected ability for self-care at discharge                             | 89                       | 7.5 | 118                                  | 10.0 | 552                            | 46.7 | 148                                  | 12.5 | 73                           | 6.2 | 202             | 17.1             | 1,182 | 100 |
| % of residents who are at or above an expected ability to move around at discharge                    | 78                       | 6.6 | 145                                  | 12.3 | 529                            | 44.7 | 157                                  | 13.3 | 71                           | 6.0 | 202             | 17.1             | 1,182 | 100 |

# Scoring Analysis- QRP Measures

| DISTRIBUTION OF FACILITIES' QUALITY OF CARE MEASURES AMONG 5 PERFORMANCE CATEGORIES (1182 FACILITIES) |                          |     |                                      |      |                                |      |                                      |      |                              |     |                 |      |                  |     |
|-------------------------------------------------------------------------------------------------------|--------------------------|-----|--------------------------------------|------|--------------------------------|------|--------------------------------------|------|------------------------------|-----|-----------------|------|------------------|-----|
| Measure                                                                                               | Performance Category     |     |                                      |      |                                |      |                                      |      |                              |     |                 |      | Total Facilities |     |
|                                                                                                       | 0-10th Percentile (Poor) |     | 10th-25th Percentile (Below Average) |      | 25th-75th Percentile (Average) |      | 75th-90th Percentile (Above Average) |      | >90th Percentile, (Superior) |     | Not rated       |      |                  |     |
|                                                                                                       | # of Facilities          | %   | # of Facilities                      | %    | # of Facilities                | %    | # of Facilities                      | %    | # of Facilities              | %   | # of Facilities | %    | N                | %   |
| Rate of successful return to home and community                                                       | 91                       | 7.7 | 145                                  | 12.3 | 494                            | 41.8 | 196                                  | 16.6 | 72                           | 6.1 | 184             | 15.6 | 1,182            | 100 |
| Change in residents' ability to care for themselves (CMS risk-adjusted)                               | 2                        | 0.2 | 13                                   | 1.1  | 957                            | 81.0 | 6                                    | 0.5  | .                            | .   | 204             | 17.3 | 1,182            | 100 |
| Change in residents' ability to move around                                                           | 24                       | 2.0 | 75                                   | 6.3  | 782                            | 66.2 | 82                                   | 6.9  | 17                           | 1.4 | 202             | 17.1 | 1,182            | 100 |
| Pressure ulcers/pressure injuries that are new or worsened                                            | 24                       | 2.0 | 201                                  | 17.0 | 594                            | 50.2 | 141                                  | 11.9 | 67                           | 5.7 | 155             | 13.1 | 1,182            | 100 |

# Nursing Home Honor Roll

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# Summary and Board Feedback

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- 4 domains reported in December: At-A-Glance, Facility Characteristics, Staffing, and Quality of Care
  - Postpone Honor Roll and reporting 2 domains: Deficiencies/Citations/Fines and Cost of Care & Finance
- 

## **Board recommendations for:**

- Order of domains
- Naming convention of domains and measure labels

# Next Steps: Proposed 2022 Analyses

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1. Staffing with case mix adjustment
2. Staffing retention rates
3. Honor Roll considerations
4. Composite measures
5. Deficiency/Citation/Complaint/Fines
6. Cost of Care and Finances
7. Additional CA-specific measures



# Wrap Up

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# 2022 CHC/CQC BOD Call Schedule

(all times are Pacific Time Zone)

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|                       |                                 |
|-----------------------|---------------------------------|
| Thursday, March 17    | 10:30am to 2:30pm in Sacramento |
| Tuesday, June 21      | 11:00am to 2:00pm – virtual     |
| Tuesday, September 13 | 11:00am to 2:00pm in Bay Area   |
| Tuesday, December 13  | 10:00am to 1:00pm – virtual     |

# 2022 Meeting Cadence (Quarterly)

| Meeting                                                            | CY 2022 |        |                        |        |        |                   |        |        |                        |        |        |                   |
|--------------------------------------------------------------------|---------|--------|------------------------|--------|--------|-------------------|--------|--------|------------------------|--------|--------|-------------------|
|                                                                    | JAN     | FEB    | MAR                    | APR    | MAY    | JUN               | JUL    | AUG    | SEPT                   | OCT    | NOV    | DEC               |
| Cal Quality Care<br>Technical Advisory<br>Committee<br>(2 hrs)     |         | Feb 24 |                        | Apr 14 |        |                   | Jul 20 |        |                        | Oct 12 |        |                   |
| Cal Hospital Compare<br>Technical Advisory<br>Committee<br>(2 hrs) |         | Feb 15 |                        |        | May 10 |                   |        | Aug 16 |                        |        | Nov 15 |                   |
| Board of Directors<br>Virtual = 3 hrs<br>In person = 4 hrs         |         |        | Mar 17<br>In<br>person |        |        | Jun 21<br>Virtual |        |        | Sep 13<br>In<br>person |        |        | Dec 13<br>Virtual |

# Thank you!

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