



# Optimal Aging Through Research

## Nursing Home Compare: The First Four Years of the Five-Star Quality Rating System

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# Outline of Presentation



1. Describe impetus for the Five-Star Quality Rating System on Nursing Home Compare
2. Review Five-Star rating methodology
3. Discuss trends over the first four years

# Nursing Home Quality



- The quality of care in nursing homes has improved since 1987 OBRA reforms, but still room for improvement
- There is considerable variation in quality among nursing homes
- Public reporting supports key priorities for CMS
  - Transparency
  - Improved quality
  - Informed decision making
- *Nursing Home Compare* website launched in 1998
  - In December 2008, CMS launched the “Five-Star Quality Rating System” on *NHC*

# Principles in Development of Quality Ratings System (“Five-Star”)



- Use information already reported on *NHC*
- Incorporate multiple dimensions of quality
- Solicit input from experts in nursing home quality

# Principles in Development of Quality Ratings System (“Five-Star”)



- Use evidence base when possible to develop measures and rating thresholds
- Provide detailed technical information about the rating methodology to providers and consumers
- Remind consumers that ratings should be used together with other sources of information

# Three Domains of Quality in Rating System



1. Health Inspections
2. Staffing levels
3. Quality Measures

There is a rating for each domain and an overall quality rating.

# Five-Star Rating Methodology: Health Inspections



- Points assigned by scope and severity of citations
  - Rating incorporates 3 most recent annual inspections and 3 years of substantiated complaints
  - Additional points for “substandard quality of care”
- Rating based on state-specific, fixed distribution
  - Top 10% (lowest score) within state get ★★★★★
  - Bottom 20% (highest score) within state get ★
  - Remaining 70% divided equally among 2, 3, & 4 ★s
- Thresholds re-assigned each month

# Five-Star Rating Methodology: Quality Measures



- Nine MDS-based QMs are used: 7 long-stay and 2 short-stay measures
- Based on weighted average of 3 most recent quarters
- For each QM, 1-100 points assigned based on percentile distribution
- Thresholds based on the national distribution except for one measure (ADL decline)
- Unlike health inspections, the distribution of ratings is not held constant but allowed to shift

# Five-Star Rating Methodology: Staffing



- Two staffing measures – equally weighted
  - Adjusted RN staffing ratio – (hours/resident/day)
  - Adjusted Total staffing ratio – (hours/resident/day)
- CMS staffing study identified a threshold for high quality care which is used for the 5 star category
- Relative distribution used for other 4 categories
  - Based on national distribution
  - Like QMs, the distribution is allowed to change

# Five-Star Rating Methodology: Overall Rating - Computation



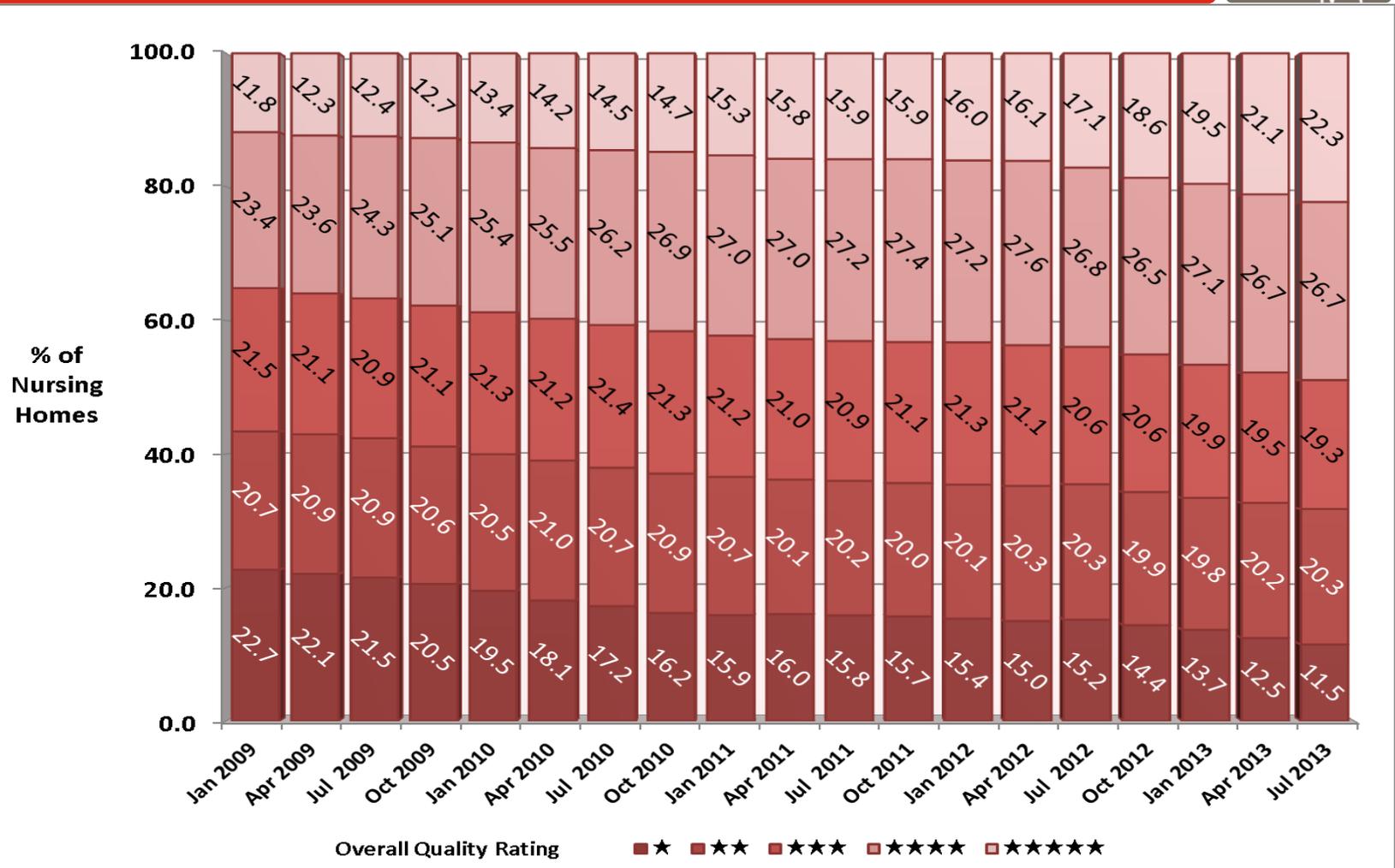
- **Step 1:** Start with *Health Inspection* rating (1 to 5 ★ s)
- **Step 2:** Go up one ★ if *Staffing* rating 4 or 5 ★ s; Go down one ★ if *Staffing* rating is 1 ★
- **Step 3:** Go up one ★ if *QM* rating is 5 ★ s; Go down one ★ if *QM* rating is 1 ★
- **Step 4:** If *Health Inspection* rating is 1 ★ , overall rating cannot be more than 2 ★ s
- **Step 5:** If provider is a Special Focus Facility, overall rating cannot be more than 3 ★ s

# Trends in Five-Star Ratings, 2009-2013

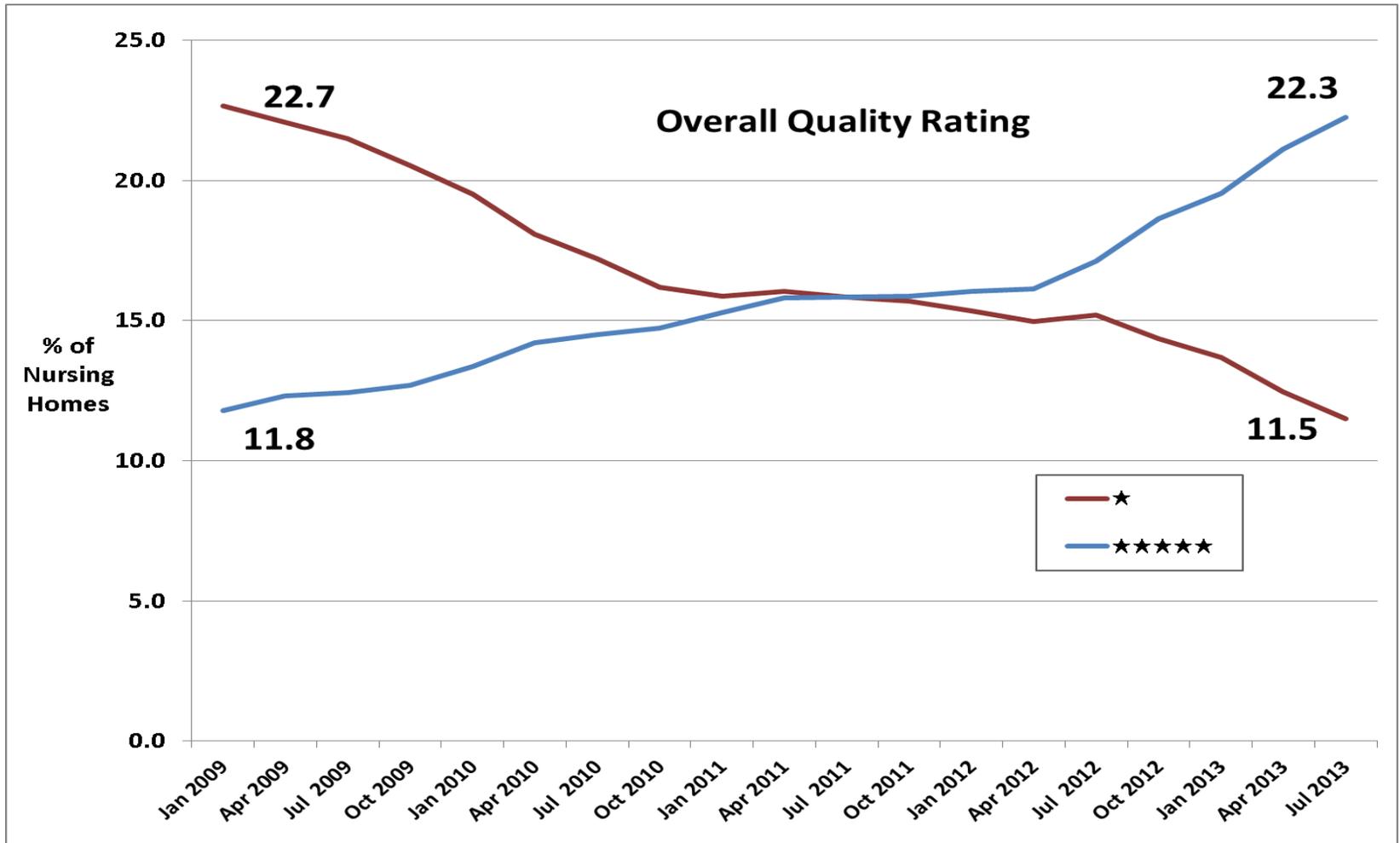


Overall ratings have gradually risen since the system was introduced in December 2008

# Trends in Overall Rating: 2009-2013



# Trends in Overall Rating: 2009-2013



# Trends in Five-Star Ratings: 2009-2013



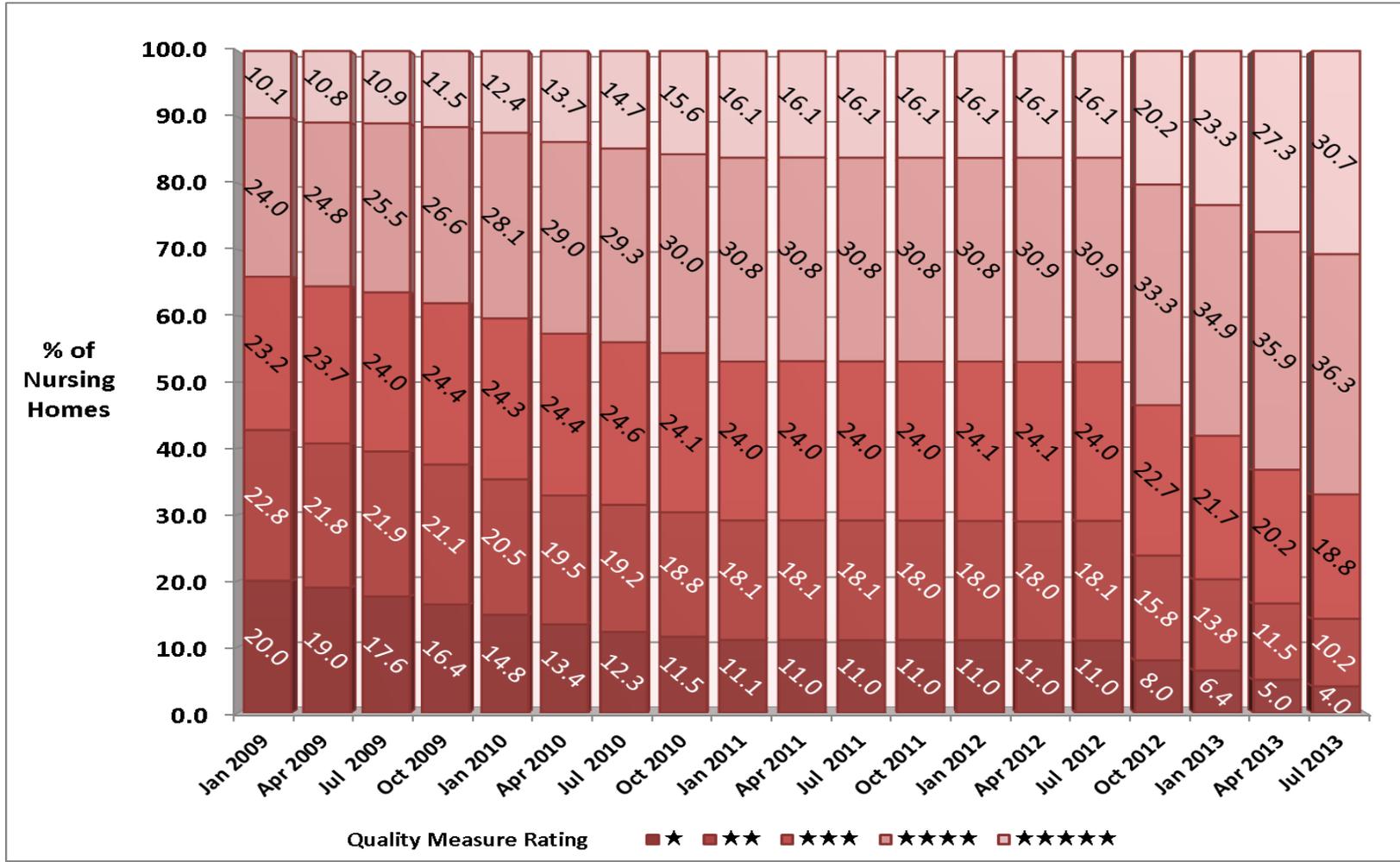
- Evidence of improvement in all three domains:
  - **Staffing:** Proportion receiving 4 or 5 stars has increased while the proportion receiving 1 star has decreased.
  - By design, **Health Inspection** ratings remain constant. However, there has been general improvement in health inspection scores for more recent surveys, except for 1-star facilities.
  - **Quality Measures:** Proportion receiving 4 or 5 stars has increased, while the proportion receiving 1 or 2 stars has decreased.
    - Trend has accelerated since transition to MDS 3.0

# Trends in Staffing Ratings: 2009-2013



- The proportion of **5-star** nursing homes has **increased** slightly (7.2% to 10.3%)
- The proportion of **4-star** nursing homes has **increased** considerably more, from 31% to 41%
- The proportion of **1-star** nursing homes has decreased substantially, from 23% to 12%

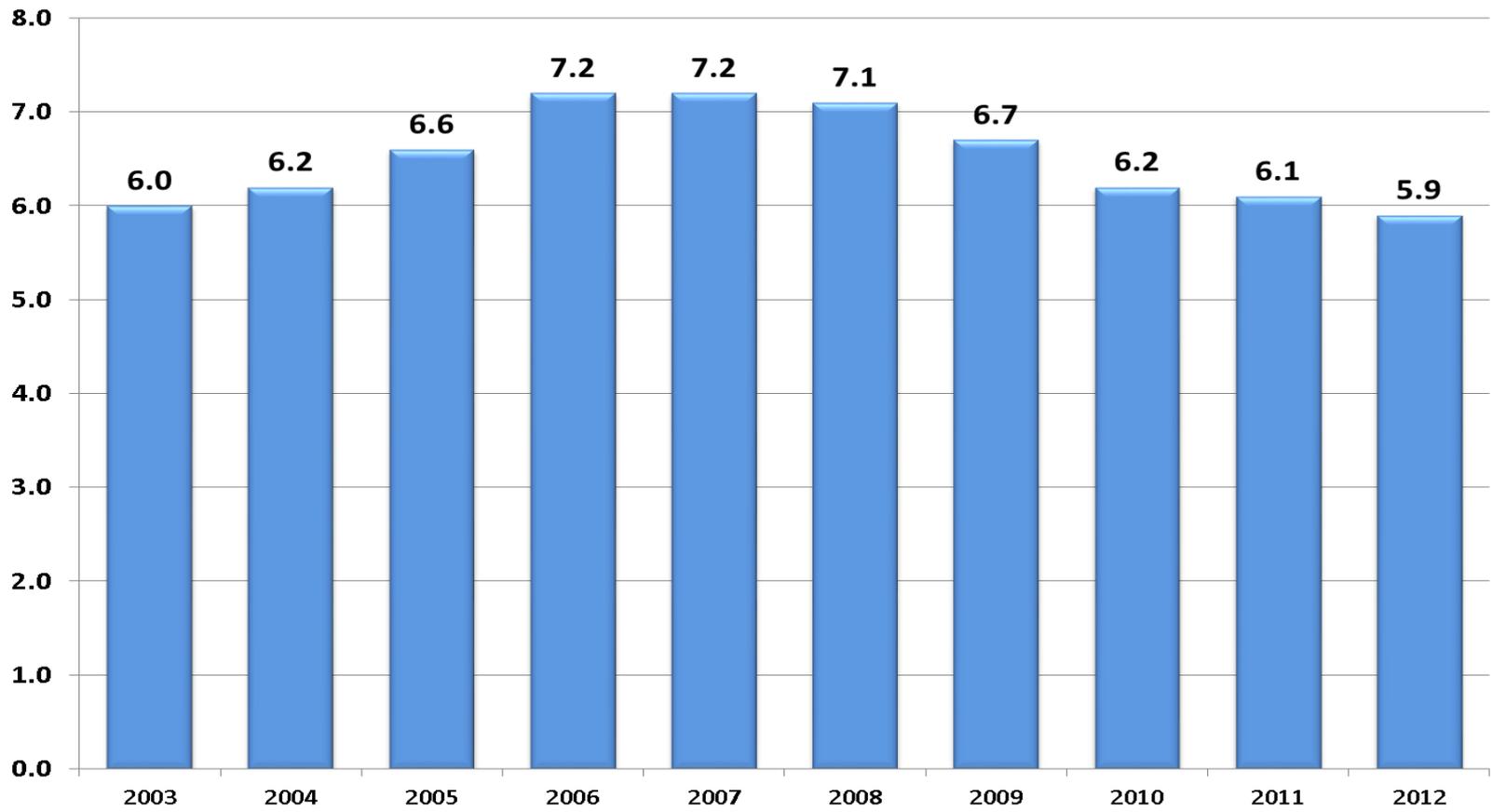
# Trends in QM Rating: 2009-2013



# Trends in Health Inspection Deficiencies: 2003-2012



**Mean Number of Health Deficiencies Cited in Nursing Home Surveys:  
2003-2012**



# Conclusions



- Some evidence of improvement in performance of nursing homes since the implementation of the Five-Star Quality Rating System
  - Not possible to know whether this is due to the rating system or other factors
  - QM ratings have been increasing rapidly since the transition to quality measures based on MDS 3.0

# Next Steps



- Continue to evaluate the rating methodology
  - Incorporate additional quality measures into the rating system
  - Incorporate additional staff types into the rating system
  - Consider an alternative method of case-mix adjustment to the staffing rating
  - Explore having separate ratings for long-stay vs. post-acute care
  
- Continue to monitor and analyze trends in the underlying data

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