Governing Board

Clinical Quality and Professional Affairs Committee

April 18, 2016 3:00 PM

ProVidence Suite

Trauma Building, 5th Floor

800 Hope Place, Las Vegas, NV
AGENDA

University Medical Center of Southern Nevada
UMC GOVERNING BOARD
CLINICAL QUALITY AND PROFESSIONAL AFFAIRS COMMITTEE
April 18, 2016, 3:00 p.m.
800 Hope Place, Las Vegas, Nevada
UMC Trauma Building, ProVidence Suite (5th Floor)

Notice is hereby given that a meeting of the UMC Governing Board Clinical Quality and Professional Affairs Committee has been called and will be held on Monday, April 18, 2016, commencing at 3:00 p.m. at the UMC Trauma Building, ProVidence Suite (5th Floor), 800 Hope Place, Las Vegas, Nevada to consider the following:

This meeting has been properly noticed and posted in the following locations:

<table>
<thead>
<tr>
<th>Location</th>
<th>Location</th>
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</thead>
<tbody>
<tr>
<td>University Medical Center</td>
<td>CC Government Center</td>
</tr>
<tr>
<td>1800 W. Charleston Blvd.</td>
<td>500 S. Grand Central Pkwy.</td>
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<tr>
<td>Las Vegas, NV</td>
<td>Las Vegas, NV</td>
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<tr>
<td>(Principal Office)</td>
<td>Third Street Building</td>
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<td></td>
<td>309 S. Third St.</td>
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<td>Las Vegas, NV</td>
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<td>City of Las Vegas</td>
<td>Regional Justice Ctr</td>
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<tr>
<td>400 Stewart Ave.</td>
<td>200 Lewis Ave., 1st Fl.</td>
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<tr>
<td>Las Vegas, NV</td>
<td>Las Vegas, NV</td>
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- The main agenda is available on University Medical Center of Southern Nevada's website http://www.umcsn.com. For copies of agenda items and supporting back-up materials, please contact Terra Lovel, Board Secretary, at (702) 765-7949. The Clinical Quality and Professional Affairs Committee may combine two or more agenda items for consideration.
- Items on the agenda may be taken out of order.
- The Clinical Quality and Professional Affairs Committee may remove an item from the agenda or delay discussion relating to an item at any time.
- Consent Agenda - All matters in this sub-category are considered by the Clinical Quality and Professional Affairs Committee to be routine and may be acted upon in one motion. Most agenda items are phrased for a positive action. However, the Clinical Quality and Professional Affairs Committee may take other actions such as hold, table, amend, etc.
- Consent Agenda items are routine and can be taken in one motion unless a Committee member requests that an item be taken separately. For all items left on the Consent Agenda, the action taken will be staff's recommendation as indicated on the item.
- Items taken separately from the Consent Agenda by Committee members at the meeting will be heard in order.

SECTION 1. OPENING CEREMONIES

CALL TO ORDER

1. Public Comment

PUBLIC COMMENT. This is a period devoted to comments by the general public about items on this agenda. If you wish to speak to the Committee about items within its jurisdiction but not appearing on this agenda, you must wait until the "Comments by the General Public" period listed at the end of this agenda. Comments will be limited to three minutes. Please step up to the speaker's podium, clearly state your name and address and please spell your last name for the record. If any member of the Committee wishes to extend the length of a presentation, this will be done by the Chair or the Committee by majority vote.
2. Approval of minutes of the regular meeting of the UMC Clinical Quality and Professional Affairs Committee meeting on February 22, 2016. (For possible action)

3. Approval of Agenda. (For possible action)

SECTION 2. BUSINESS ITEMS

4. Receive a report from Dr. Alan Greenberg, Infectious Disease physician, on the current state of ID and the challenges and opportunities for UMC and Las Vegas. (For possible action)

5. Receive a report on current HCAHPS (Hospital Consumer Assessment of Healthcare Providers and Systems) scores, reviewing trended data as well as benchmarks and initiatives for improvement (For possible action)

6. Receive an update on ICARE4U educational update. (For possible action)

7. Receive a report on the "Top 5" Priorities for Quality and Patient Safety, with a focus on Sepsis and PS14, reviewing actions plans and initiatives for performance improvement. (For possible action)

8. Receive a report on the Quality Award program initiated at UMC. (For possible action)

9. Receive an update on the CMS Star Rating and a response from Vizient in preparation for its release. (For possible action)

10. Identify emerging issues to be addressed by staff or by the Clinical Quality and Professional Affairs Committee at future meetings; and direct staff accordingly.

COMMENTS BY THE GENERAL PUBLIC

A period devoted to comments by the general public about matters relevant to the Committee's jurisdiction will be held. No action may be taken on a matter not listed on the posted agenda. Comments will be limited to three minutes. Please step up to the speaker's podium, clearly state your name and address and please spell your last name for the record.

All comments by speakers should be relevant to the Committee's action and jurisdiction.
The University Medical Center Governing Board Clinical Quality and Professional Affairs Committee met in Conference Room Sapphire, Delta Point Building, 1st Floor, Las Vegas, Clark County, Nevada, on Monday, February 22, 2016, at the hour of 3:00 p.m. The meeting was called to order at the hour of 3:02p.m. by Chair Jeff Ellis and the following members were present, which constituted a quorum of the members thereof:

CALL TO ORDER

Board Members:

Present:
Jeff Ellis, Chair
Renee Franklin
Laura Lopez-Hobbs
Donald Mackay, M.D.
Mike Saltman (via phone)
John White

Also Present:
Mason VanHouweling, Chief Executive Officer
Kurt Houser, Chief Operating Officer
Susan Pitz, General Counsel
Danita Cohen, Executive Director, Strategic Development and Marketing
Matt Cova, Director of Business Development
Andrew Chung, Associate Administrator
Vick Gill, Assistant Hospital Administrator
Mary Brann, DNP, MSN, RN, Executive Director, Compliance
Shana Tello, Director of Medical Staff Services
Halley Hammond, Director of Patient Experience
Patti Stopka, RN, BSN, Assistant Director, Center for Quality and Patient Safety
Terra Lovelin, Administrative Assistant/Board Secretary
SECTION 1. OPENING CEREMONIES

ITEM NO. 1 PUBLIC COMMENT

Chair Ellis asked if there were any persons present in the audience wishing to be heard on any item on this agenda.

Speaker(s): None

ITEM NO. 2 Approval of minutes of the regular meeting of the UMC Governing Board Clinical Quality and Professional Affairs Committee meeting on December 15, 2015. (For possible action)

FINAL ACTION: A motion was made by Member Mackay that the minutes be approved as recommended. Motion carried by unanimous vote.

ITEM NO. 3 Approval of Agenda (For possible action)

FINAL ACTION: A motion was made by Member Franklin that the agenda be approved as recommended. Motion carried by unanimous vote.

SECTION 2. BUSINESS ITEMS

ITEM NO. 4 Receive a report from Dr. Jerry Cade, Medical Director of UMC’s Wellness Center, on the history and current state of the service line (For possible action)

DOCUMENT(S) SUBMITTED:
- History packet, articles and pictures
- PowerPoint

DISCUSSION: Dr. Jerry Cade gave a brief overview on the history of the Wellness Center and HIV service line and where it is today.

UMC has been involved in the HIV epidemic since the early days and both the Health District and UMC has been on the forefront of treating the disease. Continuing education is a vital role that Dr. Jerry Cade and his team provide to any group that wishes to know more about prevention and treatment.

The official epidemic began June 5, 1981, about 35 years ago. The nurses had an idea to create a formal program and the outpatient clinic opened in 1986 with five patients in converted hospital rooms, we now have 3,300 patients.

25% of UMC’s HIV patients are also co-infected with the Hepatitis C and the clinics were merged and it has worked out well. Due to effective drugs and education the numbers have greatly decreased in mother’s transmitting the virus to their babies. Through December 2012, out of 105 infants born in Clark County, there were zero cases of mother to children transmission of the HIV disease.
ITEM NO. 5 Receive a report on current HCAHPS (Hospital Consumer Assessment of Healthcare Providers and Systems) scores, review trended data as well as benchmarks and initiatives for improvement (For possible action)

DOCUMENT(S) SUBMITTED: None submitted

DISCUSSION: Haley Hammond, Director of Patient Experience updated the committee on the current HCAHPS scores and how UMC is striving to increase them.

Avatar, UMC’s current HCAHPS vendor, paid a site visit to UMC in mid December and spent a few days looking at our data. A report was sent and a plan put in place to increase our response rates and increase education about HCAHPS.

Three things that Haley and her team will be targeting for 2016:
1. Increasing Education and training relative to patient satisfaction data
2. Practices for data sharing and communication about HCAHPS; making sure all units have their unit information, comments and scores and understanding what they are looking at.
3. Performance improvement tactics.

Key Drivers:
- Nursing and Physician Communication
- Responsiveness to patients and their pain

Chair Ellis asked if we had differential scores by units and Ms. Hammond said that we could see based on the Avatar scores, what departments and what personnel are doing well and which ones may need more training.

Danita Cohen said that the goal for improvement is 10%.

The average response rate is 5% to 15%, depending on the unit.

Member Franklin commented that the survey questions are poorly written and extremely long. A discussion ensued as to the ability of changing the questions and shortening it.

Member Lopez-Hobbs brought up the issue that staff perceives they are providing the best care, but according to our scores, the care they are providing isn’t the best. There is a disconnect and this needs to be changed.

Member Franklin mentioned that Deb Fox, CNO is currently working with all the nurses, and assessing what is asked of them, and if they are doing it.

FINAL ACTION: No action taken.
ITEM NO. 6  Receive a report on Physicians HCAHPS scores along with initiatives for improvement (For possible action)

DOCUMENT(S) SUBMITTED: None submitted.

DISCUSSION: Shana Tello, Director of Medical Staff Services explained that the Physician HCAHPS scores are 67.43, for the fourth quarter 2015. The key driver that they are focusing on; how often did Dr.’s listen carefully to you?

Ms. Tello and her team are educating the physicians and providing them with the ICARE4U training as well as sending out communication via email. Physician scores are a bit higher and they are looking at the top performing providers and the comments associated with them.

An HCAHPS subcommittee has been assembled and they meet every quarter.

The first group that Ms. Tello and her team are focusing on is the Hospitalist Group. Administrative staff will have a breakfast meeting with them where they will go over their individual scores.

The overall physician staff score as a hospital was 67.43. The Hospitalists scores are in the 40’s and 50’s; this score does include all of them.

Member Mackay inquired about the interaction between the nurses and physicians regarding patient interactions.

Ms. Tello replied that they are currently working on educating the physicians and the nurses about working together, better.

FINAL ACTION: No action taken.

ITEM NO. 7  Receive an update on ICARE4U (For possible action)

DOCUMENT(S) SUBMITTED: None submitted

DISCUSSION: Danita Cohen, Strategic Director of Marketing announced that their goal was to have everyone trained in ICARE4U by April 1 and as of the second week in February, 3,500 staff have been trained. They accelerated the training and have now moved on to celebrating and recognizing when they see ICARE4U in action.

Peer to peer recognition has also started; once a person receives a card for being recognized as using the ICARE4U principals, they can bring the card up to Administration where they will get an acknowledgement by an Administrator and also receive a special pin. We hope that every employee will eventually have a pin on their lanyard.
Physician and resident training is also ongoing and Danita and her team attend these meetings and hand out ICARE4U information as well.

UMC has hired a new Patient Experience Educator. She comes from the Nevada Donor Network and has great experience with people during times of need.

Mr. VanHouweling wanted to publicly recognize Danita, Haley, Shana and the entire team for completing training a month ahead of schedule. They worked on the weekend, after hours, and around the clock to reach every employee and physician.

Member Franklin would like to see annual refreshers on this initiative so we can be sure to keep the momentum going.

It was noted that this is also part of new hire orientation and on our website.

FINAL ACTION:  No action taken.

ITEM NO. 8  Receive an update on the Quality Dashboard (For possible action)
And
ITEM NO. 9  Receive a report on CMS Hospital Compare (For possible action)

DOCUMENT(S) SUBMITTED:
- CMS Stars Rating
- Hospital Compare

DISCUSSION:  Mary Brann, Executive Director of Compliance explained the new CMS Star Rating.

Kurt Houser added that this new star rating is due to come out in April so this report is just a sneak preview given to UMC.

CEO VanHouweling said that a few hospitals he has spoken with, will have 1 or 2 stars, the best one could receive is 5 stars.

Safety and patient experience are the two areas that we want to focus on and Haley and her team are working on this currently.

5 focus areas for Quality this year:
1.  Pressure Ulcers
2.  Blood Stream Infections
3.  Sepsis
4.  Hand Hygiene
5.  PSI 4

Updates:
- Nursing added one more wound Ostomy nurse, for a total of two; they provide coverage 7 days a week.
- They have also brought back wound champions on each nursing unit.
- The “Tushy Tuesday” program is still continuing.
- Cameras to document wounds upon admission with date stamps are now in place.
- Sepsis Coordinator position opened.

July through November of 2015 there were 75 potential HACS and PSI’s presented but Mary and her staff went back through them and found that 49 of them were in actuality, not HACS and PSI’s and therefore kept them from being billed as such.

They are working on streamlining the process and providing more training to the billers to improve the numbers and our Leapfrog scores.

Quality meets with the Coding Supervisor every week and if a physician needs to be queried, they query him/her that day so bills are not getting delayed.

Member Mackay asked if he could attend the morbidity/mortality meeting that they hold and Mary said that she would love for him to come.

**FINAL ACTION:** No action taken.

**ITEM NO. 10 Receive a report on Patient Pal’s Discharge Phone Calls. (For possible action)**

**DOCUMENT(S) SUBMITTED:**
- Discharge Phone Calls

Matt Cova, Director of Business Development explained a program that they are looking into regarding patient continuum of care.

The discharge process is very important in reflecting public perception. The type of service being presented today is called Patient Pal’s Discharge and their model is reaching out via a phone call to patients who have recently been discharged and helping them with follow up care.

What Mr. Cova and staff looked at is what happens when a patient is discharged from the hospital and how can we as a hospital improve the communication.

After going through the different options, they felt the best thing to do was to outsource this service. Patient Pal is run here locally and they offer four discharge phone calls during a one month period. The first phone call is done within 48 hours of discharge. The nurse asks about medications, follow up visits, etc. They help guide the patient through the process; this could include helping obtain generic drugs that are cheaper.
Patient Pal will also tie into Clark County Social Service network if the person is homeless or in need of social services. The fee is $20 per patient that is discharged, regardless if the person answers the phone call or not.

Chair Ellis asked if the people on the phones are truly RN's and Mr. Cova replied that they are but they could definitely ensure that in a contract.

He also asked how many patients Patient Pal actually speaks with during this process. Member Hobbs commented that she would be interested in this statistic as well.

The patient's medical information would be faxed to a representative at Patient Pal. Mr. Cova spoke with this company regarding security and they said they have gone through stringent testing to ensure that their networks are secure.

Member Mackay asked what the expectation is and what happens when the nurse does not speak to the patient during the four phone calls. Mr. Cova replied that the expectation is to speak with the patient but regardless, the fee is the same.

**ITEM NO. 11 Identify emerging issues to be addressed by staff or by the Clinical Quality and Professional Affairs Committee at future meetings; and direct staff accordingly.**

Member Franklin welcomed the new Chair of this committee, Jeff Ellis. She also thanked everyone for all the support they have given her during the last year while she was Chair.

**COMMENTS BY THE GENERAL PUBLIC:**

At this time, Chair Ellis asked if there were any persons present in the audience wishing to be heard on any items not listed on the posted agenda.

SPEAKERS(S): None

There being no further business to come before the Committee at this time, at the hour of 5:01p.m., Chair Ellis adjourned the meeting.

MINTUES PREPARED BY: Terra Lovelin, Administrative Assistant

APPROVED:
Institutional Based Responsibilities

• Design response to external infectious disease (ID) threats
• Infection Control Policy response to internal ID threats
• Provide direct patient care through consultations
• Assist Employee Health/TB & Blood Exposures
• Supervise outpatient antibiotic infusion clinic
• Direct antibiotic stewardship program
• Teaching & Clinical Research
July, 1976: Teaching Hospital NYC

- Patient: fever, headache
- Attending physician: “Intern, 2 horses died this weekend in eastern Long Island of equine encephalitis, what possible significance is this for our patient?”
May, 2015: UMCSN Las Vegas

• ED patient: fever, cough, interstitial pneumonia. Just returned from Saudi Arabia visiting camel farms for possible importation to United States zoo.

• Does this represent an external ID threat to UMC?
• **YES!**

• **MERS: Middle East Respiratory Syndrome.**
  
  • Coronavirus caused respiratory illness. Secondary cases acquired in hospital amongst staff and other patients in some cases with 50% mortality.
  
  • Camels are a major reservoir and transmit disease to humans with close contact.
  
  • Prior protocol to ED to ask travel hx./resp viral type cases.
  
  • Immediate droplet precautions in ED and viral respiratory isolation protocol if admitted.
Zika Virus

- RNA virus transmitted by Aedes mosquitoes
Zika Virus: Clinical Concerns

• First human case 1952 Zika forest in Uganda
• Western Hemisphere: 2/14 Easter Island (Chile)
• Brazil 5/2015 “Explosive spread”-WHO
• Adults/Children: mild fever, red eye, rash, joint pain
• Pregnant woman: up to 18 weeks gestation causal association with severe developmental brain injury and microcephaly
• Recent reports of neurologic complications in adults possibly linked: Guillain Barre Syndrom
Is Las Vegas at Risk?
Zika Transmission

- Mosquito bite-density/% infected
- Maternal fetal
- Blood transfusions (3-7 days)
- Organ transplantation
- Sexual transmission (semen) 60 days
- Breastfeeding?
- CDC Jan-March 2016 4534 tests/197 + 4%
Implications for Las Vegas

• Pregnant women returning from Zika areas should be screened by blood test for exposure
• Blood transfusion deferral
• Organ donation deferral
• Men returning from Zika areas-barrier protection
• Mosquito control
Internal Threats

- Intra-hospital transmission of infection between patients, from patient-staff-patient
- Nov 2014: Ebola outbreak West Africa
- UMC designated evaluation center
  - Transport
  - Locate
  - Care team
  - Environmental services
  - Donning/doffing PPE
  - Diagnostic protocol
  - Communication with local (SNHD) & CDC & AFH
Other Areas

• Direct patient care
• Employee health
• Outpatient infusion clinic
• Antibiotic stewardship program
  – Subliminal level
  – Reduced inappropriate antibiotic use by 40%
  – Reduced MDR organisms by 80%
  – Saved lives and dollars
What’s NEXT????
2016 HCAHPS Key Drivers

April 2016
### 2016 HCAHPS Key Drivers

<table>
<thead>
<tr>
<th>Driver</th>
<th>Goal</th>
<th>Dec-15</th>
<th>Jan-16</th>
<th>Feb-16</th>
</tr>
</thead>
<tbody>
<tr>
<td>How often did doctors listen carefully to you?</td>
<td>76.23</td>
<td>57.78</td>
<td>66.16</td>
<td>66.94</td>
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<tr>
<td>How often did nurses treat you with courtesy and respect?</td>
<td>83.13</td>
<td>73.33</td>
<td>67.69</td>
<td>74.40</td>
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<tr>
<td>How often was your pain well controlled?</td>
<td>60.21</td>
<td>56.25</td>
<td>53.41</td>
<td>55.81</td>
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<td>After you pressed the call button, how often did you get help as soon as you wanted it?</td>
<td>59.46</td>
<td>37.17</td>
<td>46.53</td>
<td>53.33</td>
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**Top Initiatives:**

- ICARE4U sessions for all physicians and residents
- Narrowed focus on doctors sitting down to be at eye level
- Increased HCAHPS education (providing individual scores, physician impact committee, physician champions and report cards)
- Recognition from Medical Leadership for positive comments and increased HCAHPS scores
Top Initiatives:

- ICARE4U sessions for nursing staff and ICARE4U as a standing agenda item in all unit/department meetings
- Narrowed focus on A-Asking permission whenever possible
- Increased HCAHPS education (providing unit scores, and comments; comparing across units)
- Recognition from leadership and ICARE Champions through rounding and peer to peer observation
Top Initiatives:

- Installation of new whiteboards with education on use of pain scale
- Narrowed focus on A-Asking patients about their pain using new whiteboards
- Hourly rounding and Bedside shift report on 3W/3S which includes pain management assessments
- Nursing initiative to create pain management brochure
Top Initiatives:

• ICARE4U sessions for nursing staff and ICARE4U as a standing agenda item in all unit/department meetings

• Tent cards with nursing contact information and Hourly rounding 3W/3S.

• No Pass Zones being implemented on each floor, soon to pilot a new staffing matrix on one floor

• Use of volunteers to round on patients for non-medical needs
“Top 5” Update

Mary Brann DNP, MSN, RN
Patti Stopka BSN, RN
2016 Top 5 Priorities

- PSI 4
- Sepsis (PSI 13 and also part of PSI 4 and PSI 90)
- Pressure Ulcers (PSI 3, HAC, part of PSI 90)
- CLABSI (PSI 7, HAC, part of PSI 90)
- Hand Hygiene
PSI 4

Mary Brann DNP, MSN, RN
Executive Director
PSI 4

Death among surgical inpatients with serious treatable conditions.

- DVT/PE
- Pneumonia
- Sepsis
- Cardiac arrest
- GI bleed/hemorrhage
Below is PSI-04 graphed for the most recent 5 quarters available. The target information is provided by UHC.

<table>
<thead>
<tr>
<th></th>
<th>3Q14</th>
<th>4Q14</th>
<th>1Q15</th>
<th>2Q15</th>
<th>3Q15</th>
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<tr>
<td>UMC</td>
<td>134.3</td>
<td>200.0</td>
<td>95.2</td>
<td>173.3</td>
<td>151.5</td>
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<tr>
<td>Target</td>
<td>96.4</td>
<td>98.4</td>
<td>119.9</td>
<td>88.3</td>
<td>103.2</td>
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</table>

**Initiatives:**
- Weekly coding/quality meeting to review questionable cases: Began Dec 15
- Weekly mortality committee meetings began Jan ‘16
- Review of potential PSIs forwarded for peer review began 3/25/16; 3/6 removed
- Establishment of PSI 4 working group in March ‘16
Sepsis

Patti Stopka BSN, RN
Assistant Director
Sepsis is a Core Measure

Bundles of Evidence Based care which has shown to result in better outcomes for patients:

Proven to lower:

● mortality and morbidity
● disability
● length of stay
● readmissions
SEP-1: First National Core Measure on Sepsis Care

- New measure set started October 2015
- Focuses on Early Goal Directed Therapy
- Even when only 52% compliance with the bundle is accomplished mortality is decreased by as much as 20%
- Complicated measure with 62 data abstraction points
Incidence of Severe Sepsis and Septic Shock

Nationally:

- Sepsis is the leading cause of death in U.S. hospitals (4 in 10 hospital deaths)
- Strikes 750,000 Americans each year
- Mortality rate of 28%–50%
- $20.3 million/year in hospital costs alone

CDC.gov
Sepsis Reviews 12/9/2016: Began reviewing Lactic acids >2 in order to do concurrent review of septic patients.

Sepsis Committee: Multidisciplinary team continued work on evidence based order sets

Lab Call Backs 1/10/2016: Laboratory began calling the floor on critical lactic acid values >2 to the ED Committee meetings: Weekly multidisciplinary meetings for case discussions and action plan creation

Action plan submitted to administration 1/19/2016

Physician Peer Review 2/10/2016 – Weekly peer review and education by physician champions
Sepsis Action Plan

• Sepsis Program Manager
  – 1 FTE approved

• Education
  – Nursing
    • Mandatory 2 hour education course
    • Annual mandatory education
  – Physician/resident/leadership
    • Sepsis Summit: Dr. Coopersmith

• Champions
  – Administrative champion: Kurt Houser
  – Physician Champion: J.D. McCourt & Hindu Shigamitsu
  – Resident Champion: Christopher McNicoll

• Revenue Cycle
  – Identification of record coded for sepsis
  – Review of records prior to dropping bills
Vizient Response to the CMS Star Rating Program

Mary Brann DNP, MSN, RN
Executive Director
Vizient review of star rating

The CMS Star Rating does not fully represent how Academic Medical Centers (ACM) are performing.

- Improvements made today won’t be reflected to the public for 2 more years
- Non-Medicare patients are not represented
- Limited number of clinical conditions and procedures represented
- Adds layers of analytic complexity to communicate
- CMS has not provided all the data, methods to fully understand or validate the data
- Caring for underserved populations is not measured or accounted for in the risk adjustment
Vizient Recommends

AMCs need to share insights around true opportunities such as

– ED throughput
– Patient satisfaction
Response to Vizient consultation

• PSI 4
  – Executive Director CERC/CQPS/Physician champion
• Top 5 costs per DRG
  – Standardization of practice to reduce variability
  – Surgical services manager/CNO
• Ambulatory workforce optimization
  – Standardize by using best practices in staffing and business
  – Associate Administrator (Ambulatory)
• Documentation improvement
  – Focusing on co-morbidity documentation
  – HIM/Associate Administrator (UNSOM liaison)
• Patient flu vaccination and VTE-1
  – ED initiatives
Vizient Performance Improvement Advisor program for 2016

• No charge for 2016
• 30 sites selected
• Includes
  – 2 onsite visits
  – Team includes professionals with
    • Deep healthcare business experience
    • Experience in supporting organizations to achieve their PI goals
Quality Star Program Update

Quality Star Champions award
Quality Star individual award
Quality Star Champions Award

• Quarterly award to a unit or department demonstrating improvement and maintaining the improvement for one quarter
• Priority given to top 5 2016 initiatives
• Receive banner for the quarter to display in the department and pin for all involved.
Quality Star Program

• Awarded to individuals making a significant contribution to quality in their area of expertise.
• Receive a certificate and a pin.
• 13 awarded to date
Agenda

• Summary of Key Findings

• Methodology Overview
  – Overall Scoring Framework – 5 Step Process
  – Pros/Cons Review of CMS Methodology

• Vizient Quality & Accountability Leadership Award Ranking vs. CMS Star Rating

• Leveraging Vizient Data to Measure Performance
  – Sooner & More Actionable Data
  – Alignment with CMS definitions

• Next Steps
CMS Seeing More Stars

Goal: Provide the public with summarized, consolidated view of all the metrics within Hospital Compare on a quarterly basis – first release anticipated April 21st

Other Star Ratings:

- Medicare Plan Finder
- Dialysis Compare
- Home Health Compare
- Nursing Home Compare
- Physician Compare
- HCAHPS Star Rating – Twelve 5-Stars Ratings

- Important Note: The Star Rating is NOT Pay for Performance Program – no financial penalties associated with the ratings.

[Links to related resources]

Quality Net Hospital Star Ratings
Quality Net Previous Resources for Hospital Star Ratings
Summary of Key Findings
Summary of Key Findings

• Improvement efforts hospitals make today in key measure groups (~64%) won’t be reflected to the public for 2 more years. Thus, many of the measures reported by CMS today do not reflect our current progress.

• We believe the Medicare population and all patients, should receive the best possible care; however, CMS’s Overall Hospital Quality Star Rating is somewhat misleading in that ~65-75% of all patients are not represented in the CMS Star Rating (non-Medicare). Additionally, with a focus on a limited set of clinical conditions & procedures, this CMS methodology further reduces the public’s view of total patient care provided.

• The CMS Methodology gives key clinical measures less relevance in the overall Quality Star Rating compared to administrative (documentation & coding) measures, and even in some instances, measures are counted multiple times in the same group, which is concerning.

• It is concerning that CMS has not provided all the data, methods & tools needed to 1) fully understand the methodology and 2) validate hospital data.

• While CMS has attempted to make the Hospital Compare data more understandable for the public, the Quality Star Ratings process has added layers of analytic complexity which limit an organization’s ability to communicate to both clinicians and patients about the care the organization provides.
Summary of Key Findings: AMC Focus

- Unique AMC patient population characteristics, such as Acute Patient Transfers & Low Socio-Economic Status (SES), are not adequately accounted for or risk adjusted in key measures such as readmissions & mortality, which continues to be concerning.

- AMCs are potentially disproportionately represented as ‘Poorly Performing Hospitals’. Based on the Preview Reports received, AMCs have lower Star Ratings than their Community Hospital counterparts.
Key Findings

Methodological Findings/Concerns:

• **More Importance on Administrative Metrics than Clinically Reviewed Metrics** – a focus on administrative data instead of clinical data, in particular within the Safety Domain/Group where PSI-90 outweighs all NHSN metrics combined, resulting in a Ratio of 2.4:1

• **Mixed Messages regarding Performance**: Metric level performance misaligned with overall group/domain performance. “How can I be doing poorly in an overall domain/group when my metric performance is strong?”

• **Latent Variable Modeling**: A technique to quantify a factor or component not directly captured by the metrics represented
  – How can I improve on what’s NOT measured?
  – Metric loading coefficients: How can I improve when the metric importance keeps changing each quarter?

• **Double Counting Metrics**: Within the Safety Domain/Group, the PSI-90 composite metric includes PSI 7, Central Line Associated Blood Stream Infections (CLABSIs), which are also counted in the NHSN CLABSI SIR metric.

• **Older Data Pervasive across Key Outcome Groups/Domains**: For mortality, readmissions & highly weighted metrics within the safety group/domain, data used to assess performance is 2 years lagging (2014), limiting true performance improvement opportunity assessment.
Key Findings

Methodological Findings/Concerns:

- **Every Quarter, a New Rating**: Quarterly updates add a level of inconsistency and a lack of full understanding in true performance. Additionally, most of the highly weighted metrics are only being updated annually.

- **Limited Patient Population**: Commonly known, but important to point out, the patient cohort for many of the highly weighted groups/domains is Medicare Traditional, 65yrs & older which focuses on limited clinical conditions or procedures and does not represent the full breadth of patient care provided.

- **Real Opportunities in Patient Satisfaction, Timeliness of Care & NHSN Safety**: Given the quarterly metric time frame & more comprehensive patient population (beyond Medicare), metrics within these Domains/Groups reflect current performance assessments & opportunities. While opportunities in readmissions & mortality are important, the data is too dated (2 year lag) to make actionable.

- **Lack of Detail to Replicate Methodology**: The data, calculations and exact statistical methods (statistical software programming code) needed for hospitals to reproduce and validate the metrics for all groups was not provided. In turn, hospitals could neither check their own data for accuracy/completeness or educate internal/external stakeholders as to how opportunities could impact performance. Additionally, CMS has not provided the model performance statistics for providers and researchers to adequately assess model accuracy and/or performance.
Key Findings: AMC-Focus

AMC Specific Findings/Concerns

• **AMCs Potentially Disproportionately Represented as ‘Poorly Performing Hospitals’:** Based on the Preview Reports received, AMCs have lower Star Ratings than their Community Hospital counterparts.

• **Acute Care Patient Transfers – A Challenge for AMC Outcomes:** Transfer patients to AMCs tend to represent severe, clinically exacerbated conditions beyond the clinically stable co-morbidities seen in the community hospital setting. In turn, transfer patient outcomes are attributed to AMCs for main group metrics, such as mortality & readmissions without the proper risk adjustment for transfer status resulting in worse than expected outcomes in these areas.

• **Low Socio-Economic Status (SES) Still Not Considered as a Risk Adjustment Factor:** Numerous comments & studies presented to CMS state non-clinical factors (care outside the providers responsibility) impact patient outcomes, in particular for readmissions, yet no risk adjustment has been incorporated. This particularly disadvantages AMCs, as a majority of their patient focus is caring for the underserved.
While Vizient appreciates CMS’s attempt to give Medicare patients an easy to understand approach for assessing ‘top hospital’ performance, they missed the mark by placing more emphasis on advanced statistical methods without considering the importance of providing a stable, practical analytic approach with clinically sound, straightforward metrics & interpretation that both patients & healthcare providers can act upon.

Additionally, this confusion may be compounded as many key metrics are based on data 2 years lagging, which does not reflect current day performance and in turn, limits the effectiveness of a quarterly Hospital Rating view.

As a result, the CMS Star Rating framework adds more confusion than clarity for both patients & providers.
What Message Do I Share with My Board or Executive Leadership About the CMS Star Rating?

• The CMS Star Rating does not fully represent how my organization is performing Today.

• Showcase Current, comprehensive (CMS & all patients) performance by leveraging Vizient’s comprehensive Clinical Database and the Quality & Accountability Leadership ranking.

• Level-set with stakeholders that the CMS Star Rating framework (methodology) appears unstable and unmanageable which can lead to potential artificial fluctuations in my organization’s Star Rating – i.e. a hospital may ‘look good’ one quarter, and the next quarter show an ‘opportunity’.

• For AMCs, who have fewer Stars than non-AMCs, share insights around areas of true opportunities, such as ED Throughput & Patient Satisfaction, but also describe how caring for underserved populations, which is not fully measured or accounted for in the CMS risk adjustment, can potentially overinflate true provider opportunity.
CMS Hospital Star Methodology Overview
CMS 5-Star Methodology Overview

CMS Viewpoint

• Main focus on Medicare, 65yrs & older, including Mortality, Readmissions & Safety Groups, which ranges from 15-45% of a hospital’s total inpatient adult population.

• Limited clinical conditions & procedures (e.g. Heart Failure, CABG, and Pneumonia) relevant to CMS payment for key metrics contributing to the Overall Score. These specific clinical views represent ~10% of total adult patients & ~17% of Medicare, 65yrs & older.

• Majority of metrics are 2yrs lagging.

• Overall Star Rating Updated Quarterly
CMS Star Rating 5 Step Process

Goal: Provide summarized & easy to understand information for consumers about existing Hospital Compare, publicly-reported quality data into a 5-Star rating system.

1. Selection & standardization of measures for inclusion
2. Assignment of measures to groups
3. Calculation of latent variable model group scores
4. Calculation of hospital summary scores as weighted average of group scores
5. Application of clustering algorithm to categorize summary scores into Star Ratings

Quality Net Hospital Star Ratings
Diagram Overview of the CMS Star Rating Methodology

Figure A.1. The Five Steps of the Overall Star Ratings Methodology

Step 1: Select Measures
Apply measure selection criteria each quarter

Step 2: Group Measures
Similar to HVBP and existing Hospital Compare display

Step 3: Calculate Group Score
Use 7 latent variable models

Step 4: Generate Summary Score
Policy-based weighted average of available hospital group scores

Step 5: Assign Star Ratings
Categorize hospitals using k-means Cluster Analysis

Hospital Compare Measures

- Measure 1
- Measure 2
- Measure 3
- Measure 4
- Measure 74
- Measure 75

Mortality
- Mortality Group Score

Safety of Care
- Safety of Care Group Score

Readmission
- Readmission Group Score

Patient Experience
- Patient Experience Group Score

Effectiveness of Care
- Effectiveness Group Score

Timeliness of Care
- Timeliness Group Score

Efficient Use of Imaging
- Imaging Group Score

Hospital Summary Score

Should say 62 Measures
Step 1: Selection & Standardization of Measures

Step 1A: Measure Selection:

- Stakeholder feedback through expert panel & public comment
- With the focus on acute care hospitals, CMS omitted all measures that were related to specialty hospitals (cancer or inpatient psychiatric) or ambulatory surgical centers.

- Total # of eligible measures:

113 Measures
Step 1A: Measure Selection Process

Figure 1. Measure Selection Flowchart (April 2016 Data)

- Measures eligible for inclusion as of April 2016 (N=113)
  - Measures suspended, retired, or delayed from public reporting on Hospital Compare (N=13)
    - Measures with no more than 100 hospitals reporting performance publicly (N=3)
      - Structural measures (N=9)
      - Non-directional measures (N=6)
      - Measures no longer required for IQR or OQR (N=14)
    - Duplicative measures (N=6)
  - Measures included in April 2016 Star Ratings (N=62)
Question: Are the # of Measures Consistent for Each Hospital Quality Star Rating Report?

Answer: No

- **62 measures** selected for the Preview Report:
  - June 2015 DRY RUN reported **75 measures**
  - As new measures become available on Hospital Compare they will be included in the Star Rating
Question: Are all the metrics reported on the Preview Report (both inpatient & outpatient) used for the Overall Score?

Answer: No – Although all metrics used in the scoring are provided, not all metrics on the Preview Reports are used.

For example, metrics above provide in preview reports, but not used in overall scoring.
Step 1B: Measure Standardization

Measure Standardization:

- Measures actual values are transformed into a single, common language.
- Different scales (decimal values vs. %) are put into a common scale by creating the **Z-score for each metric:**

\[(\text{measure value} - \text{mean for the measure for all hospitals}) / \text{standard deviation}\]

Ex: \((\text{AMI mortality %} - \text{Avg. AMI mortality % for all hospitals}) / \text{Standard Deviation for AMI mortality % for all hospitals}\)
Question: Can the Z-score calculation be completed for all Preview Report metrics currently available on Hospital Compare today?

Answer: No

Why? Mainly because many of the measures used for the Preview Report are 1 quarter ahead of data on Hospital Compare today. While these measures will be made available, today they are not.
Question: Are you able to verify the Z-score calculation for your own organization?

Answer: No – only for the DRY-RUN reports provided in June were the Z-score calculations for each measure provided.
Step 1B: Measure Standardization

Measure Standardization (cont.):

• Now that the measures are standardized by creating a Z-score, it’s important to create a Common Score direction (lower is better or higher is better) – making all metrics the same.
  – Decision: **Higher (positive) is Better**
    Ex. AMI mortality Z-score is multiplied by -1 to make ‘Higher Better’

• Winsorization of outliers – extreme outliers: Essentially taking the metric Z-score values above 3 and setting equal to 3 and taking metric Z-score values below -3 and setting equal to -3. Therefore, no winsorized Z-score values are higher than 3 or lower than -3.

Winsorization is done to minimize the impact of extreme outliers on the measure calculations.
Standardization Can Provide Inconsistent Top Performance Identification across Metrics

Calculating Z-scores does NOT create a consistent Top Performance Value. Z-scores simply put the data on the same scale.

For example, Top Performance in Mortality may have a Z-score = 2.89 and Top Performance in Core Measures may have a Z-score = 0.32. This approach can disproportionately impact the group score performance calculation and add confusion in identifying Top Performance.

Ways to Correct for this: If Z-scores were normalized to create a common Top Performance measure rating system or absolute scales for Top Performance were created (100% compliance for Core Measures) then group performance scores could be interpreted equivalently and Top Performance more easily identified.
Step 1B Measure Standardization – Core Measures Example

- Reviewing the standardized values from a sample of DRY RUN reports. Core Measure performance is 100%, yet Z-score is relatively low.
- The reason is due to low variance across all hospitals. Instead of evaluating 100% compliance as Top Performance, Z-score is created based on relative performance across all hospitals.

<table>
<thead>
<tr>
<th>Measure Group [a]</th>
<th>Measure ID [b]</th>
<th>Measure Name [c]</th>
<th>Your Hospital's Measure Result on Hospital Compare [d]</th>
<th>Your Hospital's Standardized Measure Score [e]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Process - Timeliness</td>
<td>AMI-8a</td>
<td>Timing of Receipt of Primary Percutaneous Coronary Intervention (PCI)</td>
<td>100.00</td>
<td>0.68</td>
</tr>
<tr>
<td>Process – Effectiveness</td>
<td>HF-2</td>
<td>Evaluation of LVS Function</td>
<td>100.00</td>
<td>0.24</td>
</tr>
<tr>
<td>Process – Effectiveness</td>
<td>OP-4</td>
<td>Aspirin at Arrival</td>
<td>100.00</td>
<td>0.67</td>
</tr>
<tr>
<td>Process – Effectiveness</td>
<td>PN-6</td>
<td>Initial Antibiotic Selection for Community-Acquired Pneumonia (CAP) in Immunocompetent Patient</td>
<td>100.00</td>
<td>0.67</td>
</tr>
<tr>
<td>Process – Effectiveness</td>
<td>SCIP-Inf-3</td>
<td>Prophylactic Antibiotics Discontinued Within 24 Hours After Surgery End Time</td>
<td>100.00</td>
<td>0.62</td>
</tr>
<tr>
<td>Process – Effectiveness</td>
<td>SCIP-VTE-2</td>
<td>Surgery Patients Who Received Appropriate Venous Thromboembolism Prophylaxis Within 24 Hours Prior to Surgery to 24 Hours After Surgery</td>
<td>100.00</td>
<td>0.32</td>
</tr>
<tr>
<td>Process – Effectiveness</td>
<td>STK-10</td>
<td>Assessed for Rehabilitation</td>
<td>100.00</td>
<td>0.55</td>
</tr>
<tr>
<td>Process – Effectiveness</td>
<td>STK-2</td>
<td>Discharged on Antithrombotic Therapy</td>
<td>100.00</td>
<td>0.36</td>
</tr>
<tr>
<td>Process – Effectiveness</td>
<td>STK-8</td>
<td>Stroke Education</td>
<td>100.00</td>
<td>0.69</td>
</tr>
<tr>
<td>Process – Effectiveness</td>
<td>VTE-4</td>
<td>Venous Thromboembolism Patients Receiving Unfractionated Heparin with Dosages/Platelet Count Monitoring by Protocol or Nomogram</td>
<td>100.00</td>
<td>0.24</td>
</tr>
<tr>
<td>Process – Effectiveness</td>
<td>VTE-5</td>
<td>Venous Thromboembolism Warfarin Therapy Discharge Instructions</td>
<td>100.00</td>
<td>0.73</td>
</tr>
</tbody>
</table>
Step 2: Assigning Measures to Groups

Assigning the standardized values to 7 Measure Groups. CMS chose to follow the same approach as Value Based Purchasing, as follows:

- 3 Outcome Groups: Mortality, Safety & Readmissions,
- 2 Process Groups: Effectiveness & Timeliness, and
- 2 Additional Groups: Patient Experience & Efficiency (Imaging)

Table 2. Star Ratings Weighting by Measure Group

<table>
<thead>
<tr>
<th>Measure Group</th>
<th>Star Ratings Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mortality (N=7)</td>
<td>22%</td>
</tr>
<tr>
<td>Safety of Care (N=8)</td>
<td>22%</td>
</tr>
<tr>
<td>Readmission (N=8)</td>
<td>22%</td>
</tr>
<tr>
<td>Patient Experience (N=11)</td>
<td>22%</td>
</tr>
<tr>
<td>Effectiveness of Care (N=16)</td>
<td>4%</td>
</tr>
<tr>
<td>Timeliness of Care (N=7)</td>
<td>4%</td>
</tr>
<tr>
<td>Efficient Use of Medical Imaging (N=5)</td>
<td>4%</td>
</tr>
</tbody>
</table>
62 Measures Divided into 7 Main Groups/Domains

Mortality (N=7)
• 30-day mortality in AMI, CABG, COPD, HF, PN, STK & PSI 4 death among surgical patients w/ treatable complications

Safety of Care (N=8)
• Hospital acquired infections NHSN defined CLABSI, CAUTI, SSI – Colon, SSI – Hysterectomy, MRSA, CDIFF, CMS defined THK complications & PSI-90 Composite

Readmission (N=8)
• 30-day readmission in AMI, CABG, COPD, HF, THK, PN, STK & Hospital Wide

Patient Experience (N=11)
• All HCAHPS question sets – Cleanliness, Quietness, RN & MD communication, Responsiveness, Pain Management, Medications Communication, Discharge Information, Willingness to Recommend, Transition of Care & Overall Rating

Effectiveness of Care (N=16)
• Focusing on Core Measures – CAC-3 (Home Management Plan of Care, IMM Influenza (2 & 3), OP (4-Aspirin, 22-ED left w/o being seen, 23-ED CT/MRI Stroke), PC-01 (Elective Delivery), STK (1,4, 6, 8), VTE (1,2,3,5,6)

Timeliness of Care (N=7)
• ED (1b Median ED time for admits, 2b Admit decision time to ED departure) & OP (3 – median time to transfer to another facility for ACI, 5 – median time to ECG, 18b – median time from ED arrival to departure, 20 – door to diagnostic evaluation, 21 – ED median time to pain management for long bone fracture)

Efficient Use of Medical Imaging (N=5)
• OP MRI & CT scans for specific conditions (8,10,11,13,14)
Linear HCAHPS Scores Used for Patient Satisfaction Scoring – Another Layer of Complexity

• For the first time in 2015, CMS created Star Ratings for HCAHPS results, continuing to leverage the patient-mix adjustment & survey mode adjustment, but adding a linear transformation (0-100) component to each HCAHPS score.

• Total of 11 HCAHPS measures used to calculate the overall Star Rating:
  – 7 Composite Measures
  – 2 Individual Items (Cleanliness & Quietness)
  – 2 Global Items (Overall & Willingness to Recommend)

• Utilizing all the responses for the 11 Measures, a rolling 4 quarter linear (0-100) scale is created which is adjusted by quarterly hospital discharges

• HCAHPS ratings include 5 total linear algorithms for each of the different HCAHPS measures scale response options. For example the Never – Always algorithm is as follows:

  ➢ "Never" = 0; "Sometimes" = 33 1/3; "Usually" = 66 2/3; and "Always" = 100
    ○ For HCAHPS Survey items 1-9, 11, 13-14, and 16-17

• The Linear Scores are the values used for the Overall Hospital Star Ratings for the Patient Satisfaction Group
What about the Time Period for All Measures Used in CMS Star Rating?

~ 64% of Total Overall Score Weight is based on data 2+ Years Old (as of June 2014)

- 100% of Mortality Measures (22% of Total Weight)
- 100% of Readmissions Measures (22% of Total Weight)
- 100% of Efficient Use of Medical Imaging Measures (4% of Total Weight)
- 2 Highest Weighted Measures in Safety: PSI-90 & THK Complications (22% of Total Weight)

Remaining Overall Score Weight based on data 9+ Months Old (as of June 2015)
Timeframe by Metrics Breakdown

Mortality:
- 30-day Mortality: Jul 2011 – Jun 2014
- PSI 4: Death in Surgical DRG: Jul 2012 – Jun 2014

Safety:
- PSI-90: Jul 2012 – Jun 2014
- THK Complication: Apr 2011 – Mar 2014

Readmissions:
- Conditions/Procedure Readmits: Jul 2011 – Jun 2014
- Hospital-Wide: Jul 2013 – Jun 2014

Efficient Use of Medical Imaging:
- All Core Measures: Jul 2013 – Jun 2014

Patient Experience:
- All Questions: Jul 2014 – Jun 2015

Effectiveness of Care:
- All Core Measures: Jul 2014 – Jun 2015

Timeliness of Care:
- All Core Measures: Jul 2014 – Jun 2015
Curious Measure Definitions – CAUTI & CLABSI

• In 2015, NHSN CAUTI & CLABSI definitions were expanded to include expanded Units, not just ICUs.
• Given that the timeframe for the Preview Reports includes Q2 ‘15, it is unclear which measure definition was included in the score.

Hospital Compare Data is also unclear about which measure is used:

<table>
<thead>
<tr>
<th>Measure Name</th>
<th>Measure ID</th>
<th>Compared to National</th>
</tr>
</thead>
<tbody>
<tr>
<td>Central line-associated bloodstream infections (CLABSI) in ICUs and select wards</td>
<td>HAI 1_SIR</td>
<td>No Different than National Benchmark</td>
</tr>
<tr>
<td>Central line-associated bloodstream infections (CLABSI) in ICUs only</td>
<td>HAI 1a SIR</td>
<td>Worse than the National Benchmark</td>
</tr>
</tbody>
</table>
Step 3: Calculation of Latent Variable Model
Group Scores

What is Latent Variable Modeling (LVM)?
Latent Variable Modeling – Quick & Dirty – Classic Example

Ex: How do you measure ‘Intelligence’?

Latent Variable Model assumes there is an ‘unmeasured’ or ‘latent’ factor that the existing measures do not measure, but rather can be inferred from the existing measures.

The Latent Variable Modeling process provides two key outputs:

1) Assigns **weights (loading coefficients)** that each of the existing measures contribute to latent variable. The higher the weight, the more important. Also, gives more importance to measures more highly correlated within the group.

2) Measures the **latent score (latent value)** based on the input from the existing measures, e.g. each Individual’s Intelligence Score.
Ex: How do you measure ‘Intelligence’?

- 0.75 – GPA is the highest weighted factor indicating its importance.
- 1.25 is the quantitative value for the latent variable for that individual’s intelligence
Latent Variable Modeling – Mortality Group

- 0.75 – HF 30-day Mortality is the highest weighted factor indicating its importance.
- 0.95 is the quantitative value for the latent variable for that individual hospital for mortality.
- The CMS Latent Variable modelling accounts for how many cases are included in each measure – weighted likelihood methods (discharge volume weighting).
Latent Variable Modeling Output Generates the Hospital Specific Group Score

<table>
<thead>
<tr>
<th>Overall Hospital Star Rating Group Scores</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group</td>
</tr>
<tr>
<td>-------</td>
</tr>
<tr>
<td>Outcome: Mortality</td>
</tr>
</tbody>
</table>

The same process is completed for all 7 Groups Score for each hospitals.
Overall Steps to Determining Group Score

Step 1: Using the Z-scores for all the measures within a Group (mortality) as an input to the Latent variable modeling

Step 2: Account for the # of cases included for each measure: a large denominator gives a more precise measure score, which is weighted more in the model by using a weighted likelihood method

Step 3: Generation of the loading coefficients & the hospital specific group score using Latent Variable Modeling
How Can I Calculate My Specific Group Score?

- You Can’t.

Why?

The Group Score cannot be calculated by simply multiplying your measure, Z-score values with the measure loading coefficients and summing up the values.

In order to recreate your hospitals group scores, the following is needed:

- All data from all the hospitals for all measures - including Safety Measure PSI-90 and Patient Experience Measure HCAPHS. (Reminder, this data isn’t currently available.)
- The exact SAS code used to generate the group scores (unavailable)
- The appropriate weighting methods to account for case volume (unavailable)
- Instructions for how to handle missing values (unavailable)
Concerns with Latent Variable Modeling

- Is Latent Variable Modeling used for other CMS Star Ratings? **No**
- Does Mortality really have a ‘Latent Variable’? **Seems Odd**
- Performance Improvement Opportunities/Practicality: **Difficult to manage to unmeasured or latent variables**
- Performance Improvement: Quarter to Quarter modeling yields different variable loading coefficients or weights which are difficult to manage
- **Vital model statistical performance information isn’t provide:** statistical information expressing the quantitative for latent variable modeling, overall model performance
Step 4a: Calculation of Hospital Summary Scores as Weighted Average of Group Scores

<table>
<thead>
<tr>
<th>Overall Hospital Star Rating Group Scores</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Group</strong></td>
</tr>
<tr>
<td>Outcome: Mortality</td>
</tr>
<tr>
<td>Outcome: Safety</td>
</tr>
<tr>
<td>Outcome: Readmission</td>
</tr>
<tr>
<td>Patient Experience</td>
</tr>
<tr>
<td>Process: Effectiveness of Care</td>
</tr>
<tr>
<td>Process: Timeliness of Care</td>
</tr>
<tr>
<td>Efficiency: Imaging</td>
</tr>
</tbody>
</table>

Mortality = 22% x 0.95 = 0.2090
Safety = 22% x -0.12 = -0.0264
Readmission = 22% x -1.07 = -0.2354
Patient Experience = 22% x 0.05 = 0.0110
Effectiveness = 4% x 0.52 = 0.0208
Timeliness of Care = 4% x -2.29 = -0.0916
Imaging = 4% x 0.61 = 0.0244

Overall Score = -0.0882

When missing measure groups, the % weight is redistributed.
Step 4b: Categorical Group Performance

To calculate a categorical score, a hospital’s group score is compared to the national average group score. The LVM for each group produces a point estimate & standard error for each hospital’s group score to compare that to a constructed 95% confidence interval.

- “Above the national average” defined as a group score with a confidence interval that falls entirely above the national average.
- “Same as the national average” defined as a group score with a confidence interval that includes the national average.
- “Below the national average” defined as a group score with a confidence interval that falls entirely below the national average.

Message from CMS:
How Does the Individual Measure Classification Align with the Group Score Classification?

Ex: 5-Star Hospital -

<table>
<thead>
<tr>
<th>Group</th>
<th>Number of Measures</th>
<th>Weight</th>
<th>Group Score</th>
<th>National Group Score</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outcome: Mortality</td>
<td>7</td>
<td>22</td>
<td>2.75</td>
<td>0.00</td>
<td>Above the National average</td>
</tr>
<tr>
<td>Outcome: Safety</td>
<td>8</td>
<td>22</td>
<td>1.19</td>
<td>-0.03</td>
<td>Above the National average</td>
</tr>
<tr>
<td>Outcome: Readmission</td>
<td>8</td>
<td>22</td>
<td>-0.10</td>
<td>0.00</td>
<td>Same as the National average</td>
</tr>
<tr>
<td>Patient Experience</td>
<td>11</td>
<td>22</td>
<td>0.59</td>
<td>-0.14</td>
<td>Above the National average</td>
</tr>
<tr>
<td>Process: Effectiveness of Care</td>
<td>14</td>
<td>4</td>
<td>0.54</td>
<td>0.06</td>
<td>Above the National average</td>
</tr>
<tr>
<td>Process: Timeliness of Care</td>
<td>5</td>
<td>4</td>
<td>-0.19</td>
<td>0.04</td>
<td>Same as the National average</td>
</tr>
<tr>
<td>Efficiency: Imaging</td>
<td>3</td>
<td>4</td>
<td>0.68</td>
<td>0.00</td>
<td>Above the National average</td>
</tr>
</tbody>
</table>

Individual Metric Performance & Classification from Hospital Compare

National composite value for serious complications = 0.81

<table>
<thead>
<tr>
<th>Hospital name</th>
<th>Better than the national value (PSI 90 Composite value is lower than the national composite value)</th>
<th>No different than the national value (PSI 90 Composite value is about the same as the national composite value)</th>
<th>Worse than the national value (PSI 90 Composite value is higher than the national composite value)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSI-90</td>
<td>x</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
How Does the Individual Measure Classification Align with the Group Score Classification?

Ex: 5-Star Hospital -

<table>
<thead>
<tr>
<th>Category</th>
<th>Number of Measures</th>
<th>Weight</th>
<th>Group Score</th>
<th>National Group Score</th>
<th>Category</th>
</tr>
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<tr>
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<td>11</td>
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<tr>
<td>Process: Effectiveness of Care</td>
<td>14</td>
<td>4</td>
<td>0.54</td>
<td>0.06</td>
<td>Above the National average</td>
</tr>
<tr>
<td>Process: Timeliness of Care</td>
<td>5</td>
<td>4</td>
<td>-0.19</td>
<td>0.04</td>
<td>Same as the National average</td>
</tr>
<tr>
<td>Efficiency: Imaging</td>
<td>3</td>
<td>4</td>
<td>0.68</td>
<td>0.00</td>
<td>Above the National average</td>
</tr>
</tbody>
</table>

Individual Metric Performance & Classification from Hospital Compare

<table>
<thead>
<tr>
<th>Metric</th>
<th>Classification</th>
<th>Loading Coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSI-90</td>
<td>No Different than the National Rate</td>
<td>0.92</td>
</tr>
<tr>
<td>COMP- HIP- KNEE</td>
<td>No different than the National Rate</td>
<td>0.19</td>
</tr>
<tr>
<td>Catheter Associated Urinary Tract Infections (ICU + select Wards)</td>
<td>Better than the National Benchmark</td>
<td>0.11</td>
</tr>
<tr>
<td>SSI-Colon Surgery</td>
<td>No Different than National Benchmark</td>
<td>0.09</td>
</tr>
<tr>
<td>SSI-Abdominal Hysterectomy</td>
<td>No Different than National Benchmark</td>
<td>0.08</td>
</tr>
<tr>
<td>Central Line Associated Bloodstream Infection (ICU + select Wards)</td>
<td>No Different than National Benchmark</td>
<td>0.07</td>
</tr>
<tr>
<td>MRSA Bacteraemia</td>
<td>No Different than National Benchmark</td>
<td>0.03</td>
</tr>
<tr>
<td>Clostridium Difficile (C.Diff)</td>
<td>Worse than the National Benchmark</td>
<td>0</td>
</tr>
</tbody>
</table>

‘No Different’ on 6 of the 8 Metrics & ‘No Different’ for PSI-90 with the highest loading coefficient – yet ‘Above the National Average’ Performance

How often does this misalignment occur?
Group Classification Misaligned with Individual Metric Classification on Hospital Compare

Majority of metric specific rating are ‘No Different than the National Rate’ for both the ‘Above’ and ‘Below’ Group Classification

This type of Group classification adds more confusion and provides little insight between the currently ‘Better than the National’ metric classifications on Hospital Compare currently available to the public and the Star Rating information.
HCAHPS Star Rating Classification is Also a Bit Perplexing

Group Classifications

<table>
<thead>
<tr>
<th>Group</th>
<th>Number of Measures</th>
<th>Weight</th>
<th>Group Score</th>
<th>National Group Score</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outcome: Mortality</td>
<td>7</td>
<td>22</td>
<td>0.95</td>
<td>0.00</td>
<td>Above the National average</td>
</tr>
<tr>
<td>Outcome: Safety</td>
<td>8</td>
<td>22</td>
<td>0.28</td>
<td>-0.03</td>
<td>Same as the National average</td>
</tr>
<tr>
<td>Outcome: Readmission</td>
<td>8</td>
<td>22</td>
<td>0.08</td>
<td>0.00</td>
<td>Same as the National average</td>
</tr>
<tr>
<td>Patient Experience</td>
<td>11</td>
<td>22</td>
<td>-0.31</td>
<td>-0.14</td>
<td>Below the National average</td>
</tr>
<tr>
<td>Process: Effectiveness of Care</td>
<td>12</td>
<td>4</td>
<td>0.43</td>
<td>0.06</td>
<td>Above the National average</td>
</tr>
<tr>
<td>Process: Timeliness of Care</td>
<td>5</td>
<td>4</td>
<td>-2.13</td>
<td>0.04</td>
<td>Below the National average</td>
</tr>
<tr>
<td>Efficiency: Imaging</td>
<td>5</td>
<td>4</td>
<td>0.64</td>
<td>0.00</td>
<td>Above the National average</td>
</tr>
</tbody>
</table>

HCAHPS Details from Preview Report

<table>
<thead>
<tr>
<th>HCAHPS Survey Completion, Response Rate and Summary Star Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Completed Surveys</td>
</tr>
<tr>
<td>Survey Response Rate</td>
</tr>
<tr>
<td>HCAHPS Summary Star Rating</td>
</tr>
</tbody>
</table>

Messaging for the Patient Experience Group & HCAHPS Summary Star Rating Appear Out of Line
K-Means Cluster Analysis is used to create the 5 star rating clusters and are based on the evaluation of each hospitals’ overall score. A hospital is assigned to a star rating cluster based on the minimum distance between a hospital’s overall score and the star rating cluster mean score.

For this example, Hospital A’s overall score is closest to Cluster 4 Mean, thus, Hospital A would be assigned to the 4-Star group.
CMS isn’t shy about leveraging Cluster Analysis – HCAHPS Survey, Home Health, etc. . .

However:
The 5-Star Rating Clusters are forced into 5 cluster and the data may not actually support 5 clusters. Therefore, results may not adequately represent true groupings or ‘clusters’ shown within the data. In turn, the 5-Star Rating Clusters may be superficial.

CMS has not provided cluster analysis output (analytic diagnostics) for review & verification of adequate/appropriate techniques for the data.
Case in Point: Dry-Run vs. Preview Reports Clusters: What Changed?

### DRY RUN Star Distribution

**Table 4. Frequency of Star Ratings in Dry Run Using k-Means Clustering (April 2015 data)**

<table>
<thead>
<tr>
<th>Rating</th>
<th>Frequency (Number of Hospitals)</th>
<th>Minimum Summary Score in Cluster</th>
<th>Maximum Summary Score in Cluster</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Star</td>
<td>5</td>
<td>-2.40</td>
<td>-1.58</td>
</tr>
<tr>
<td>2 Star</td>
<td>544</td>
<td>-1.53</td>
<td>-0.43</td>
</tr>
<tr>
<td>3 Star</td>
<td>2615</td>
<td>-0.43</td>
<td>0.38</td>
</tr>
<tr>
<td>4 Star</td>
<td>528</td>
<td>0.38</td>
<td>1.31</td>
</tr>
<tr>
<td>5 Star</td>
<td>17</td>
<td>1.37</td>
<td>2.21</td>
</tr>
</tbody>
</table>

Note: The total number of hospitals in the *Hospital Compare* dataset as of April 2015 is 4,746 hospitals. Results shown are for all hospitals meeting the reporting criteria discussed in Section 7 (N=3,709).

### Preview Report Star Distribution

**Table 4. Frequency of Hospitals by Star Category using k-Means**

<table>
<thead>
<tr>
<th>Rating</th>
<th>Frequency (Number of Hospitals)</th>
<th>Summary Score Range in Cluster</th>
<th>Mean (sd)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Star</td>
<td>142(3.89%)</td>
<td>(-2.01, -0.97)</td>
<td>-1.23</td>
</tr>
<tr>
<td>2 Star</td>
<td>716(19.63%)</td>
<td>(-0.96, -0.33)</td>
<td>-0.58</td>
</tr>
<tr>
<td>3 Star</td>
<td>1881(51.58%)</td>
<td>(-0.33, 0.25)</td>
<td>-0.01</td>
</tr>
<tr>
<td>4 Star</td>
<td>821(22.51%)</td>
<td>(0.25, 0.86)</td>
<td>0.46</td>
</tr>
<tr>
<td>5 Star</td>
<td>87(2.39%)</td>
<td>(0.86, 1.96)</td>
<td>1.17</td>
</tr>
</tbody>
</table>

Note: The total number of hospitals in the *Hospital Compare* dataset as of April 2016 is 4,604 hospitals. Results shown are for all hospitals meeting the reporting criteria (N=3,647).
Considerable Star Distribution Shift from Dry Run & Preview Report

Significantly More 3-Star Hospitals in Dry Run Report, Fewer 1 & 5 Star Organizations
User Poll – Determining a Head Count for Today’s Session
User Poll – Determining a Head Count for Today’s Session

How many people are in the room with you today?

Be sure to use numerals and remember to count yourself! Then make sure to click “Submit” to send in your response.

Thanks in advance for participating and helping us estimate a true head count!
CMS Star Rating & Vizient’s Quality & Accountability Leadership Award
Quality & Accountability Leadership Award

• 10+yrs ago **Quality & Accountability (Q&A) Study** was launched to understand the relationship between Academic Medical Center (AMC) hospital performance using the Institute of Medicine’s STEEEP framework (Safety, Timeliness, Effectiveness, Equitable, Efficient & Patient-Centered) and leadership (Accountability) within organizations.

• With the key findings from the initial Study, the **Quality & Accountability Leadership Award** or **Quality Leadership Award** was developed to assist organizations in understanding performance using contemporary, timely & actionable metrics.

• In 2016, Vizient will be launching a **Community Quality & Accountability Leadership Award** to support community hospitals in tackling similar performance improvement opportunities and will leverage many of the same contemporary, timely & actionable metrics used in the AMC award.
RECAP: CMS 5-Star & Q&A Methodology

Overview

CMS Viewpoint

- Main focus on Medicare, 65yrs & older, including Mortality, Readmissions & Safety Groups, which ranges from 15-45% of a hospital's total inpatient adult population.
- Limited clinical conditions & procedures (e.g. Heart Failure, CABG, and Pneumonia) relevant to CMS payment for key metrics contributing to the Overall Score. These specific clinical views represent ~10% of total adult patients & ~17% of Medicare, 65yrs & older.
- Majority of metrics are 2yrs lagging.
- Overall Star Rating Updated Quarterly.

Quality & Accountability Viewpoint

- Main focus on 18yrs & older, across all payers and all metric categories/domains.
- Full representation of clinical conditions & procedures.
- Majority of metrics represent only one Quarter lag.
- Rating includes comprehensive measures for length of stay, direct cost and equity.
- Overall Star Rating Updated Annually.
Measure Group/Domain Comparison: Gross Alignment with Measure Differences

CMS (N=62)
1. Mortality (N=7): 22%
2. Safety (N=8): 22%
3. Effectiveness of Care (N=16): 4%
4. Readmissions (N=8): 22%
5. Timeliness of Care (N=7): 4%
6. Patient Satisfaction (N=11): 22%
7. Efficient Use of Medical Imaging (N=5): 4%

Q&A 2015 (N=56)
1. Mortality (N=9): 25%
2. Safety (N=10): 25%
3. Effectiveness (N=7): 20%
4. Patient Satisfaction (N=9): 15%
5. Efficiency (N=9): 10%
6. Equity (N=12): 5%

Green indicates similarity/alignment
Grey indicates no alignment

Although there is gross level alignment between the domains of two rating systems, specific measures vary by patient populations & clinical groupings. For example, there is no alignment regarding length of stay, direct cost & equity.

Areas of strongest alignment between the two: Patient Satisfaction, Effectiveness & Safety – NHSN metrics. For 2016 Q&A, Vizient will be adopting the CMS readmission algorithm for all adult patients.
Measure Standardization & Evaluations: Key Difference in the Q&A Study

**CMS**

- While measure values are **standardized** (common format), Top Performance Z-score values are not consistent, which can impact the Overall Score.
- Top Core Measures Performance receives a lower Z-score relative to other measures. For instance, core measure performance = 100% may receive a z-score = 0.32 due to low variation in performance across all hospitals awarded; however, the THK Complication Z-score may be 2.89.

**Q&A**

- Measures are **standardized & normalized** before standard scores are assigned.
- A score of ‘8’ means Top Performance in the Q&A across all metrics.
- Top Performance is awarded, in Core Measures, regardless of measure distribution or other hospital performance – based on absolute Top Performance score – 100%.
## Measure Weighting Comparison: Latent Variable Modeling vs. Standard Weighting

### CMS
- Latent Variable Modeling measures unobserved information not captured in measures used.
- Latent Variable Weighting means **measure importance changes as new data** becomes available.
- Clinically reviewed/defined measures have (and may have in the future) **less weight** or importance compared to administrative data.

### Q&A
- Assumes measures capture adequate information about the domain (i.e. mortality).
- **Consistent metric weighting** with new data; however, new metrics would impact weighting.
- Focus on weighting clinically defined measures **equally or greater than** administrative values.
Comparison Star Rating Determination: CMS vs. Q&A

CMS

• K-means cluster analysis used to create 5 start rating clusters. Hospitals are assigned to a star rating cluster defined by the shortest distance between the hospital’s score and the cluster mean.

Q&A

• Evaluates statistically significant differences between Top Performers (5-Star) & Bottom Performers (1-Star) using the Wilcoxon Rank Sum Test to assess differences between the overall scores
• Stars ratings 2-4 are determined based on performance differences within the distribution
Q&A with more 5 Stars & 1 Stars than CMS . . . . . . .

Distribution of Stars between the 2015 Q&A and CMS Preview Report Ratings for ALL Hospitals

<table>
<thead>
<tr>
<th>Rating</th>
<th>CMS %</th>
<th>Q&amp;A %</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Star</td>
<td>4%</td>
<td>10%</td>
</tr>
<tr>
<td>2 Star</td>
<td>20% 18%</td>
<td>20% 18%</td>
</tr>
<tr>
<td>3 Star</td>
<td>52%</td>
<td>36%</td>
</tr>
<tr>
<td>4 Star</td>
<td>23% 24%</td>
<td>23% 24%</td>
</tr>
<tr>
<td>5 Star</td>
<td>2%</td>
<td>13%</td>
</tr>
</tbody>
</table>
Why is My Organization’s Star Rating Different than the 2015 Q&A Star Rating?

**CMS Viewpoint**
- Main focus on Medicare, 65yrs & older, including Mortality, Readmissions & Safety groups
- Limited clinical conditions & procedures relevant to CMS payment representing ~10% of total adult patients & ~17% of Medicare, 65yrs & older.
- All Hospital Types (3,647)
- Majority of metrics are 2yrs lagging
- 62 Metrics
- Linear HCAHPS Score
- Core Measures evaluated separately, not composite
- No length of stay or cost measures used in overall rating
- Latent Variable Model Metric weighting and domain scoring
- 7 Groups/Domains
- K-means clustering, Star determination
- Quarterly Star Rating

**2015 Q&A Viewpoint**
- Main focus on 18yrs & older, all payers across all metrics categories/domains
- Full representation of clinical conditions & procedures
- AMC (102), Community (130+) for 2016
- Majority of metrics are one Quarter lagging
- 56 Metrics
- “Always” or “Strongly Agree” HCAHPS
- Core Measure Compliance evaluated as a Composite
- Comprehensive measures for length of stay & direct cost
- Standard metric weights contributing to domain/group score
- 6 Groups/Domains, including Equity
- Statistically different Top/Bottom Performers
- Annual Star Rating
Vizient Alignment with CMS Star Rating
Using Vizient Data as a Leading Indicator for CMS Star Rating

- Ability to focus on the specific conditions & patient population
- More alignment with key measures within Q&A: CMS Hospital-Wide Readmissions, THK Complications and to be reported on Hospital Compare: Excess Days Metrics
- Comparative metrics **6 months before** Hospital Compare:
  - NHSN comparative data
  - HCAHPS comparative data
  - Core Measures comparative data
- Comparative metrics **2yrs before** Hospital Compare:
  - Readmissions
  - Mortality
  - AHRQ PSIs (PSI-4 & PSI-90)
  - THK Complications

Vizient believes it is important to evaluate ALL patients. Vizient also believes it should support members with Medicare specific criteria.
Vizient Supporting Medicare Evaluation & Reporting

- Develop a reports/framework that aligns with the Star Rating
- Currently have Core Measures, NHSN & HCAHPS data
- Providing quarterly reports to match the 25 diagnosis/procedures requirements for THK complications, HW Readmissions & Conditions Specific Excess Days

- Coming April/May:
  - PSI-90
  - HCAHPS Linear Score
  - Condition Specific Measures
## 2016 Q&A and CMS 30-day Readmission Comparison

<table>
<thead>
<tr>
<th><strong>Index Cohort:</strong></th>
<th><strong>2016 Q&amp;A</strong></th>
<th><strong>CMS</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>• 18yr+</td>
<td>• Exclude left against medical advice</td>
<td>• Exclude Discharges from Cancer Hospital</td>
</tr>
<tr>
<td>• All payer</td>
<td>• Exclude Medical Cancer, Psych, Rehab</td>
<td>• Exclude encounters with &lt;30 days from discharge</td>
</tr>
<tr>
<td>• Exclude death</td>
<td></td>
<td>• Exclude Medical Cancer, Psych, Rehab</td>
</tr>
<tr>
<td>• Exclude Hospitalizations with &lt;30 days from discharge</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Exclude transfers out</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Readmit Cohort:</strong></th>
<th><strong>2016 Q&amp;A</strong></th>
<th><strong>CMS</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>• Exclude Planned Readmission per CMS Algorithm (transplants, chemo or rehab, planned procedures without complication)</td>
<td></td>
<td>• Exclude Planned Readmission per CMS Algorithm (transplants, chemo or rehab, planned procedures without complication)</td>
</tr>
<tr>
<td>• Focuses on all clinical groups – Service Line/Non-Core Service Line</td>
<td></td>
<td>• 5 Clinical Cohorts (Surgery/Gynecology, Cardiorespiratory, Cardiovascular, Neurology &amp; Medicine)</td>
</tr>
<tr>
<td>• Readmits are eligible to be an Index for the next Readmission</td>
<td></td>
<td>• Readmits are eligible to be an Index for the next Readmission</td>
</tr>
</tbody>
</table>

Green = Alignment
Question: Can a Calculator be Created to Monitor & Evaluate ‘What if’ CMS Star Rating Scenarios?

Answer: No – See note from CMS

Please note, the loadings for an individual measure are re-estimated each time the Star Ratings are updated and can dynamically change as the distribution of hospitals’ performance on the measure and its correlation with other measures evolve over time.

With the Q&A Quarterly, the change in scoring is more consistent as the metric evaluation is more stable compared with Latent Variable loading coefficients.

If the below information was provided, organizational performance could be evaluated only for the same data, for the same timeframe.

- CMS to provide the SAS Code to run the Latent Variable Modeling
- All the dominator case volume is provided for all metrics included in the Rating
Next Steps
Next Steps

• Send Membership-wide communications concerning the overall CMS methodology – Week of March 8\textsuperscript{th}

• Webinar to walk through the CMS Star Rating methodology – 3\textsuperscript{rd} week of March

• Vizient continuing to recreate the CMS methodology for ongoing evaluation of key metrics for the Star Ratings & Key Pay for Performance Programs

• Preview Reports scheduled to be released April 21\textsuperscript{st}. Once released, Vizient will conduct a full analysis & assessment of all data available & share key findings with the membership
Contact Beth Godsey at beth.godsey@vizientinc.com for more information.