### An Update on Performance Measures: Focus on Cardiology and Antithrombotics

Kurt Mahan, PharmD, PhC, FCCP, FASHP  
Cardiac Critical Care Pharmacist  
Presbyterian Healthcare Systems  
Adjunct Associate Professor of Pharmacy  
University of New Mexico Health Sciences Center  
Albuquerque, NM

### Background on Performance Measures

- **Cost & Resource Use**
  - Instrument measures with two or more individual component measures assessed separately

- **Fosters consensus among a wide variety of stakeholders around**

- **NQF broadly applicable and comparable measures of**

- Combines two or more individual performance measures into a single measure with a single score

- **Within categories, three main “types” of measures:**
  - Structure
  - Process
  - Outcome

- **Within each measure type, there may be additional “sub-types” that further describe the measure.**

### The Pros and Cons of Quality Measures

#### Patient Outcome Improvements

- NQF-endorsed measures have:
  - Saved $30 Billion to the healthcare system
  - Reduced patient harm by 21%
  - Reduced surgical infection rates by 15%
  - Reduced early elective C-section deliveries by 89%

#### Regulatory Burden

- $15.4 Billion/Year to report quality measures
- $1200/patient/admission
- 785 hours/physician/year spent on reporting quality measures

### National Quality Forum (NQF) – Established 1999

- Not-for-profit, nonpartisan, membership-based organization that catalyzes improvements in healthcare – contracted by Centers for Medicare & Medicaid Services (CMS) to guide what measures are chosen, active, retired etc.
- Fosters consensus among a wide variety of stakeholders around specific standards that can be used to measure and publicly report healthcare quality
- NQF-endorsed measures are evidence-based and valid, and in tandem with the delivery of care and payment reform, they help to make patient care safer, achieve better health outcomes, strengthen chronic care management, and hold down healthcare costs
- Widely viewed as the “gold standard” for the measurement of healthcare quality, quality improvement and public reporting
- NQF maintains a current database of ~ 700 endorsed measures developed by various organizations.

### Quality Measure Types

- **Cost/resource** - broadly applicable and comparable measures of health services counts (e.g. $) applied to a population or event
- **Efficiency** - combine the concepts of resource use and quality
  - Efficiency is defined broadly as the resource use (or cost) associated with a specific level of performance with respect to the other five IOM aims of quality: safety, timeliness, effectiveness, equity, and patient-centeredness
- **Access** - gauge the ability to obtain needed healthcare services in a timely manner, including patient perceptions regarding their ease of reaching health services/facilities in terms of proximity, location, time, and ease of approach
- **Structure of care** - feature of a clinician or healthcare organization related to its capacity to provide high-quality healthcare
- **Process of care** - a healthcare-related activity performed for, on behalf of, or by a patient. Appropriate Use is a type of process measure that has been used to evaluate procedures and medical technologies.

### Quality Measure Types (continued)

- **Outcome** - health status of a patient (or change in health status) resulting from healthcare—desirable or undesirable. A patient-reported outcome (PRO) is any report of the status of a person's health condition, health behavior, or experience with healthcare that comes directly from the patient, without interpretation of the patient’s response by a clinician or anyone else
- **Intermediate clinical outcome** - a change in physiologic state that leads to a longer-term health outcome
- **Instrument-based performance measures** - use data derived from instruments. An instrument is a genetic term that researchers use for a measurement device (e.g. survey, test, questionnaire, scale). Instruments are used for consistently obtaining (or presenting) data from respondents
- **Composite measures** - combine two or more component measures, which individually reflect quality of care, into a single performance measure with a single score. For NQF purposes, these are:
  - measures with two or more individual performance measure scores combined into one score for an accountable entity
  - measures with two or more individual component measures assessed separately for each patient and then aggregated into one score for an accountable entity, including all-or-none measures (e.g., all essential care processes received, or outcomes experienced, by each patient).
Cost-Effectiveness of DVT Prophylaxis of At-Risk Medical Patients using LMWH

Alex C Spyropoulos, MD, FACP

Criteria for Evaluation

- Measures are evaluated for their suitability based on standardized criteria in the following order:
  - Importance to Measure and Report
  - Scientific Acceptability of Measure Properties
  - Feasibility
  - Usability and Use
  - Related and Competing Measures

- There is also discussion on if benefits of the measure outweigh any "unintended consequences" if such evidence exists.

Examples of Performance Measures

<table>
<thead>
<tr>
<th>Type of Measure</th>
<th>Evidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outcome</td>
<td></td>
</tr>
<tr>
<td>Reported Outcome</td>
<td>Empirical data demonstrate a relationship between the outcome to at least one healthcare structure, process, intervention, or service. If not available, wide variation in performance can be used as evidence, assuming the data are from a robust number of providers and results are not subject to systematic bias.</td>
</tr>
<tr>
<td>Intermediate Clinical Outcome</td>
<td>姑杂志, quality, and consistency of a study of evidence that the measured healthcare process leads to desired health outcomes.</td>
</tr>
<tr>
<td>Process</td>
<td>Specific drugs and devices should have FDA approval for the target condition.</td>
</tr>
<tr>
<td>Structure</td>
<td>Evidence that the measure is an important outcome, that the quantity, quality, and consistency of a body of evidence that the measured healthcare process does not lead to desired health outcomes in the target population.</td>
</tr>
</tbody>
</table>

Timeline of quality improvement programs in cardiovascular care

Examples of Performance Measures

<table>
<thead>
<tr>
<th>Type of Measure</th>
<th>Evidence</th>
<th>Example of Measure Type and Evidence to be Addressed</th>
</tr>
</thead>
<tbody>
<tr>
<td>NQF #0033</td>
<td>Acute myocardial infarction 30-day mortality</td>
<td>Survival is a goal of seeking and providing treatment for AMI.</td>
</tr>
<tr>
<td>NQF #0071</td>
<td>Acute care hospitalizations (risk adjusted)</td>
<td>Risk adjustment of care coordination leads to decreased hospitalization of patients receiving home care services.</td>
</tr>
<tr>
<td>NQF #0067</td>
<td>Percentage of patients aged 18 years and older with a diagnosis of coronary artery disease seen within a 12 month period who were prescribed aspirin or clopidogrel.</td>
<td></td>
</tr>
<tr>
<td>NQF #0068</td>
<td>The percentage of patients 18 years of age and older who were discharged from an inpatient setting with an acute myocardial infarction (AMI), coronary artery bypass graft (CABG) or percutaneous coronary intervention (PCI) during the 12 months prior to the measurement year, or who had a diagnosis of ischemic vascular disease (IVD) during the measurement year and who had documentation of routine use of aspirin or another antiplatelet during the measurement year.</td>
<td></td>
</tr>
</tbody>
</table>

Where do I find NQF-endorsed measures?

- The Quality Positioning System (QPS)

An individual must create an account and then can view NQF’s measures
- 42 Current Measures in the Cardiovascular profile with 11 endorsement removed recently
- Below is an example list of some of the core measures

<table>
<thead>
<tr>
<th>Measure Title</th>
<th>NQF</th>
<th>Measure Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Coronary Artery Disease (CAD): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) Therapy - Diabetes or Left Ventricular Systolic Dysfunction (LVFS &lt; 40%)</td>
<td>0066</td>
<td>Percentage of patients aged 16 years and older who had a diagnosis of coronary artery disease within a 12 month period who had diabetes OR a current or prior left ventricular ejection fraction (LVEF) &lt; 40% who were prescribed ACE inhibitor or ARB therapy.</td>
</tr>
<tr>
<td>2. Chronic Stable Coronary Artery Disease: Antiplatelet Therapy</td>
<td>0067</td>
<td>Percentage of patients aged 16 years and older who had a diagnosis of coronary artery disease within a 12 month period who were prescribed aspirin or clopidogrel.</td>
</tr>
<tr>
<td>3. Ischemic Vascular Disease (IVD): Use of Aspirin or Another Antiplatelet</td>
<td>0068</td>
<td>The percentage of patients aged 16 years and older who had a diagnosis of coronary artery disease within a 12 month period who were prescribed aspirin or another antiplatelet during the measurement year and who had documentation of routine use of aspirin or another antiplatelet during the measurement year.</td>
</tr>
<tr>
<td>Measure Title</td>
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</tr>
<tr>
<td>-----------------------------------------------------------------------------</td>
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<td>---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td><strong>Coronary Artery Disease (CAD): Beta-Blocker Therapy-Prior Myocardial Infarction (MI) or Left Ventricular Systolic Dysfunction (LVEF &lt;40%)</strong></td>
<td>0070</td>
<td>Percentage of patients 18 years of age who were discharged alive with a diagnosis of heart failure with a prior MI or a prior LVEF &lt;40% who were prescribed beta-blocker therapy during the measurement period.</td>
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**Cost-Effectiveness of DVT Prophylaxis of At-Risk Medical Patients using LMWH**

Alex C Spyropoulos, MD, FACP

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**Measure Title** | NQF # | Measure Description                                                                                                                                                                                                 | Steward                        |
<table>
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<tr>
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<tr>
<td><strong>Persistence of Beta-Blocker Treatment After a Heart Attack</strong></td>
<td>0071</td>
<td>The percentage of patients 18 years of age and older who were hospitalized and discharged from July 1 of the year prior to the measurement year to June 30 of the measurement year with a diagnosis of acute myocardial infarction (AMI) and who received persistent beta-blocker treatment for six months after discharge.</td>
<td>National Committee for Quality Assurance</td>
</tr>
<tr>
<td><strong>Ischemic Vascular Disease (IVD): Blood Pressure Control</strong></td>
<td>0073</td>
<td>The percentage of patients 18 to 75 years of age who were discharged alive with a diagnosis of acute myocardial infarction (AMI), coronary artery bypass graft (CABG) or percutaneous coronary interventions (PCI) during the 12 months prior to the measurement year, or who had a diagnosis of ischaemic vascular disease (IVD) during the measurement year and the year prior to the measurement year and who had the following during the measurement year: - Blood pressure control (BP) reported as under control (&lt;140/90 mm Hg).</td>
<td>National Committee for Quality Assurance</td>
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**Measure Title** | NQF # | Measure Description                                                                                                                                                                                                 | Steward                        |
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<tr>
<td><strong>Heart Failure Mortality Rate</strong></td>
<td>0081</td>
<td>Percentage of patients aged 18 years and older with a diagnosis of heart failure (HF) who were discharged alive with acute myocardial infarction (AMI) and who were prescribed ACE inhibitor or ARB or ARNI therapy either within a 12 month period when seen in the outpatient setting OR at each hospital discharge.</td>
<td>PCPI Foundation</td>
</tr>
<tr>
<td><strong>Participation in a Systematic Database for Cardiac Surgery</strong></td>
<td>0113</td>
<td>Participation in a clinical database with broad state, regional, or national representation, that provides regular performance reports based on benchmarked data.</td>
<td>The Society of Thoracic Surgeons</td>
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**Measure Title** | NQF # | Measure Description                                                                                                                                                                                                 | Steward                        |
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<td><strong>Heart Failure Mortality Rate</strong></td>
<td>0058</td>
<td>Percentage of patients aged 18 years and older who were discharged alive with acute myocardial infarction (AMI) and who were prescribed beta-blocker therapy either within a 12 month period when seen in the outpatient setting OR at each hospital discharge.</td>
<td>Agency for Healthcare Research and Quality</td>
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**Measure Title** | NQF # | Measure Description                                                                                                                                                                                                 | Steward                        |
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<tr>
<td><strong>30-day all-cause risk-standardized mortality rate (RSMR) following percutaneous coronary intervention (PCI)</strong></td>
<td>0055</td>
<td>In-hospital deaths per 1,000 hospital discharges with heart failure as a principal diagnosis for patients ages 18 years and older. Excludes elective discharge and transfers to another hospital.</td>
<td>Agency for Healthcare Research and Quality</td>
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**Measure Title** | NQF # | Measure Description                                                                                                                                                                                                 | Steward                        |
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<td><strong>Medicare 30-day all-cause, risk-standardized mortality rate (RSMR) following stroke</strong></td>
<td>0030</td>
<td>Medicare 30-day all-cause, risk-standardized mortality rate (RSMR) following stroke. <strong>Note:</strong> The software provides the rate per hospital discharge. However, common practice reports the measure as per 1,000 discharges. The user must multiply the rate obtained from the software by 1,000 to report in hospital deaths per 1,000 hospital discharges.</td>
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<td><strong>Medication Prior to Cardiac Surgery</strong></td>
<td>0057</td>
<td>The percentage of patients 18 years of age and older who were discharged alive with acute myocardial infarction (AMI), coronary artery bypass graft (CABG) or percutaneous coronary interventions (PCI) during the 12 months prior to the measurement year, or who had a diagnosis of ischaemic vascular disease (IVD) during the measurement year and the year prior to the measurement year and who had the following during the measurement year: - Blood pressure control (BP) reported as under control (&lt;140/90 mm Hg).</td>
<td>National Committee for Quality Assurance</td>
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Are these measures always a “sure thing”?
Do they always have a positive net clinical impact?

VTE Prevention Measures with TJC/NQF as an example. There was no tracking of bleeding

30 Day Readmission Measures
- 0330 - Hospital 30-day, all-cause, risk-standardized readmission rate (RSRR) following heart failure (HF) hospitalization
- Measure Steward – CMS
- Similar measures for AMI, Pneumonia, and PCI

Unintended Consequences – Have 30-Day Readmission Metrics for Heart Failure ACTUALLY Improved Outcomes of Heart Failure Patients?
His opinion is no they have not.

What Policymakers Have Told You
- The majority of HF readmissions could be easily prevented
- Effective strategies to prevent HF readmissions were readily available but were underutilized due to lack of financial incentives
- The 30-Day Risk Standardized Readmission Rate (RSRR) Metric is an accurate, fair, reliable, and actionable measure suitable for accountability/penalties
- Any concerns about the 30 Day RSRR metric and Hospital Readmissions Reduction Program (HRRP) penalties were unfounded and raised by those vested in maintaining the status quo
- The 30-Day RSRR metric and HRRP have been a tremendous success with readmissions falling substantially for targeted conditions the first time in decades. Billions of dollars saved for Medicare! (via penalties)
- There has been no credible evidence for harm & If there was any increase in HF mortality it is entirely unrelated to HRRP and only clinicians, not policymakers, are responsible

The 30 Day Readmission Metric and Hospital Readmission Reduction Program in Hospitalized HF Patients
Healthcare Policy Approaches to Reduce Readmission
- Transparency: Public reporting of 30-Day RSRR metric
- Financial incentives: Hospital Readmission Reduction Program (HRRP)
- Public reporting on 30-Day Risk Standardized Readmission Rates (RSRR)
- HRRP: Statutorily mandated by the ACA of 2010
  - Initial Target HF, Pneumonia, AMI (top 3 conditions with readmissions)
  - 2 Phases: Penalty-free implementation phase (April 2010 to Sep 2012)
  - Penalty phase (Oct 2012 onwards)
  - Up to 3% of a hospital’s total Medicare revenue is at stake if readmission rates for target conditions are higher than national average

Hospital Reporting of Outcomes
- Requires risk adjustment to be meaningful
- Ideal risk adjustment requires uniform collection and reporting of all demographic, clinical, laboratory, diagnostics, and other variables
- Risk adjustment models must have adequate discrimination to avoid substantial misclassification of hospitals
- Comparisons of hospital to hospital or year to year need to be sufficient powered and take into account statistical uncertainty/confidence intervals

In FY 2017, 79% of US acute care hospitals penalized by CMS under the HRRP with $628 million in revenue for CMS
Overall budgeted for $7.7 billion in revenue for CMS

Slides courtesy of:
Gregg C. Fonarow, MD, FACC, FAHA, FHFS
Director, Ahmanson-UCLA Cardiomyopathy Center
Co-Chief, UCLA Division of Cardiology
Heart Failure Society of America 2018 Presentation
Cost-Effectiveness of DVT Prophylaxis of At-Risk Medical Patients using LMWH

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CMS Reporting of 30 Day Readmission Rates

Public reporting aims to improve consumer transparency and informed choice for patients as well as to incentivize hospitals to improve on reported metrics.

CMS contracted with Yale/Core to derive and validate a hospital level 30-day risk-standardized readmission rate (RSRR) model.


30 Day Readmission Risk Adjustment in HF: Hierarchical Regression Model for HF Based on Administrative Claims Data

Not Adjusted for in the Model
- Race/ethnicity
- Socioeconomic status
- SBP on admission
- HR on admission
- Body mass index
- BUN on admission
- Inotropic agent treatment
- LVEF
- Mechanical ventilation (initial)

C-Statistic 0.60
Indicating Poor Discrimination

Which Hospitals are Being Penalized Based on the 30 Day Readmission Measure?

- The HRRP imposes substantially greater costs on hospitals disproportionately serving patients more likely to be readmitted, including teaching hospitals, safety-net hospitals, and other hospitals serving a larger number of minority and socially disadvantaged patients.
- Hospitals serving healthier, more socially advantaged patients may not have to devote as much (or any) resources to achieving a penalty-free readmission rate.
- By selectively increasing costs and lowering revenue for hospitals serving patients at greater risk of readmission, the HRRP therefore is depleting hospital resources available to improve overall quality for populations at high risk of poor outcomes.

What Does CMS Value?

<table>
<thead>
<tr>
<th>Year</th>
<th>Value Based Program</th>
<th>Hospital Readmission Reduction Program</th>
<th>Public Reporting of 30-day Readmissions</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2012</td>
<td>Maximum Penalty Amount</td>
<td>HRRP: 30-Day Risk Standardized Mortality</td>
<td>HVBP: 30-Day Risk Standardized Readmissions</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3.0%</td>
<td>0.2%</td>
</tr>
</tbody>
</table>

Is the message that CMS values reducing readmission up to 10-15 fold greater than avoiding preventable deaths?

Limitations of 30 Day Readmission Metric: Competing Risks

- Mortality during the 30 days following HF discharge, is a competing risk for hospitalization; that is, patients who die cannot be hospitalized, so perversely, an increased rate of death reduces the probability of rehospitalization.
- Prediction models for hospitalization that do not account for the competing risk of death are predisposed to biased estimates.
- The readmission penalty is being unfairly and inappropriately applied to hospitals which provide higher quality care as a consequence of the lower mortality rates achieved by these hospitals.

Hospitals with lower 30 Day RSRR
- Worse Process of Care Measures
- Worse 30-Day Mortality
- Worse 90-Day Mortality
- Worse 1-Year Mortality
- Worse 3-Year Mortality

3.0%
Maximum Penalty Amount

2009 Public Reporting of 30-day Readmissions

2012 Hospital Readmission Reduction Program

2014 Value Based Purchasing Program

3.0%
Maximum Penalty Amount

Is the message that CMS values reducing readmission up to 10-15 fold greater than avoiding preventable deaths?

Hospitals with lower 30 Day RSRR
- Worse Process of Care Measures
- Worse 30-Day Mortality
- Worse 90-Day Mortality
- Worse 1-Year Mortality
- Worse 3-Year Mortality

3.0% Maximum Penalty Amount

Is the message that CMS values reducing readmission up to 10-15 fold greater than avoiding preventable deaths?
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Despite the Metric Limitations Perhaps Clinicians and Hospitals Responded Favorably

- Did hospitals respond in a way that they invested in and improved transitional care of HF patients, reducing readmission and potentially mortality?
- Strategies to improve HF care and reduce 30-Day Readmissions:
  - Implement systems to improve use of GDMT
  - Mobilize improved transitions of care systems
  - Hiring heart failure APNs, pharmacists, MSW, patient navigators
  - Provide multidisciplinary care teams
  - Creating enhanced post-discharge monitoring programs
  - Increase access to early follow-up
  - Provision of early, high quality post discharge follow-up
  - Increased access to HF disease management programs
  - Enhance access to palliative care services
  - Join national programs like Hospital 2 Home (H2H)

CMS: Hospital Readmission Rates Showed Meaningful Decline for the First Time

The average 30-day hospital readmission rate fell to 18.4% in calendar year 2012 from 19.0% during the previous five years, according to an analysis by CMS.

This translated to about 70,000 fewer readmissions for 2012

Payment reforms aimed at reducing avoidable readmissions are starting to have a measurable impact on provider behavior and are resulting in improved care


Public Reporting, HRRP, and Readmissions in HF

Pre-HRRP Implementation Penalty Phase

Trends in HF Readmissions in FFS Medicare
30-Day Readmissions 23.5% → 21.4%
Trends in HF Readmissions in GWTG-HF
30-Day Readmissions 20.0% → 18.4%
1-Year Readmissions 57.2% → 56.3%

Indik et al. JAMA Cardiology. 2018;3(1):44-53

How did HRRP Impact Readmissions?

- Did hospitals respond in a way that they invested in and improved transitional care of HF patients, reducing readmission and potentially mortality?
- Or were there other financially incentivized outcomes such as:
  - Delaying admissions beyond 30 days, even if clinically needed
  - Blocking patients’ admission from ER, even if admit needed
  - Diverting patients to outpatient observation stays, even if unsafe
  - Pressure on physicians to try strategies that have higher risk
  - Shifting funding away from patient safety, disease management
  - Delaying initiation of GDMT out of misconceptions
  - Coercion into hospice
  - Decrease funding to the most vulnerable hospitals and patients

Was Reductions in Readmissions Illusory?

Increase in patients classified as “outpatient” observation stay
Increase in severity coding suggesting “upcoding”


How Has Public Reporting of Hospital Readmission Rates and HRRP Affected Patient Outcomes?

Patient-Centered Strategies to Reduce Readmissions

- Increase use of evidence-based, guideline directed therapies
- Improved transitions of care
- Provision of early, high quality post discharge follow-up
- Enhanced post-discharge monitoring

Readmits ↓ 3.9%
ER Visits ↑ 2.0%
OBS Visits ↑ 1.2%
Net Returns ↓ 0.7%

Discourage patients with worsening symptom from being seen in ER  
Blocking patients in ER within 30 days of d/c from being readmitted  
Shunting patients to Observation Units (outpatient)  
Delaying use of evidence-based, guideline directed therapies

Readmits ↓ | ER Visits ↑ | OBS Visits ↑ | Mortality ↓
Cost-Effectiveness of DVT Prophylaxis of At-Risk Medical Patients using LMWH

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HRRP Impact: Decreasing 30-Day HF Readmissions Accompanied by Increasing 30 Day Risk-Adjusted Mortality

Has HRRP Reporting of Hospital Readmission Rates and Penalties Affected Patient Outcomes?

Risk-Adjusted Mortality Trends for Medicare Beneficiaries: Was it Just “Sicker” Patients Now Being Hospitalized

Did Hospital 30 Day RSMR Decline in Hospitals with Declining 30 Day RSRR?

HRRP Associated with Increased 30 Day Post Discharge Mortality in HF and Pneumonia, not AMI – JAMA 2018

HRRP Associated with Increased 30 Day Post Discharge Mortality in HF and Pneumonia, not AMI – JAMA 2018

- Patient-level analysis of 8.3 million hospitalizations of Medicare beneficiaries for heart failure, acute myocardial infarction, and pneumonia.
- Analyzed patient outcomes for 4 different periods from April 1, 2005, to March 31, 2015, and, to account for potential differences in case-mix severity between study periods, used an inverse probability weighting (similar to propensity score) approach to standardize the study population among the different periods.
- Increase in 30 day post discharge mortality by ~ 0.22-0.25% (P = 0.01 to 0.001) respectively after implementation that was statistically significant in the heart failure group
- Similar results in the Pneumonia group
Clinical

Administrative

HRRP has not only not improved outcomes in HF, it has been

No evidence for reduced financial toxicity for patients

Composite measure of risk adjusted 30
day morality increased

1.3%

No evidence of improved patient satisfaction

-44

-48

Have penalties for 30
day mortality

-0.25%

-5.0%

No evidence for improvement in functional status

The financial penalties surrounding this metric have created

-0.25%

-5.0%

No evidence for improved health status/quality of life

HRRP only indirectly influenced increased mortality by diverting

-0.22

-4.46

-46

-43

-43

-43

HRRP had no causal association with the increase in mortality: mortality
still increased

-0.22

-4.46

-46

-43

-43

-43

HRRP incentivized policies that directly resulted in the increased mortality: mortality increased

The 30 day readmission metric and HRRP may be fundamentally
flawed in measuring quality and driving patient benefit

The financial penalties surrounding this metric have created incentives for suboptimal care, by side-stepping the best interests of the patient, incentivizing denial of necessary care, eliminating or downplaying offsetting quality measures, and denying resources to the most vulnerable patients and hospitals

HRRP has not only not improved outcomes in HF, it has been associated with the ultimate harm, increased mortality

The HRRP as it involves HF patients should be revised/eliminated

It is critical to move away from artificial metrics and penalties and toward greater direct responsibility of health care systems for quality and efficiency, with rewards linked to longer-term patient benefit, through innovative approaches to care

Patient-Centered Alternatives for HRRP

1. Composite measure of risk adjusted 30-day mortality/readmission as basis for penalties

2. Have penalties for 30-day risk adjusted mortality as large or larger as those for 30-day risk adjusted readmissions

3. Measure, report, and penalize based on HF patient health status (KCCQ) and other patient reported outcome measures (PROMs)

4. Measure, report, and penalize based on index HF admission rates and incident HF rates (prevention)

HRRP and HF Outcomes

- No evidence for improved health status/quality of life
- No evidence for improvement in functional status
- No evidence of improved patient satisfaction
- No evidence for reduced financial toxicity for patients
- No evidence of reduced mortality

Reproducible Evidence of Increased Mortality

- HRRP had no causal association with the increase in mortality: mortality still increased
- HRRP only indirectly influenced increased mortality by diverting attention/resources from efforts that could have reduced mortality: mortality still increased
- HRRP incentivized policies that directly resulted in the increased mortality: mortality increased

Conclusions on Heart Failure Readmissions

- The 30 day readmission metric and HRRP may be fundamentally flawed in measuring quality and driving patient benefit
- The financial penalties surrounding this metric have created incentives for suboptimal care, by side-stepping the best interests of the patient, incentivizing denial of necessary care, eliminating or downplaying offsetting quality measures, and denying resources to the most vulnerable patients and hospitals
- HRRP has not only not improved outcomes in HF, it has been associated with the ultimate harm, increased mortality
- The HRRP as it involves HF patients should be revised/eliminated
- It is critical to move away from artificial metrics and penalties and toward greater direct responsibility of health care systems for quality and efficiency, with rewards linked to longer-term patient benefit, through innovative approaches to care

Implications

“Available evidence suggests that the HRRP policies targeting readmissions after HF hospitalization were associated with the serious unintended consequence of higher mortality. This should prompt immediate consideration for reassessment and revision of the HRRP. If harm has been the consequence of the HRRP, we are obliged to act.”

“The evidence that HRRP caused the decrease in readmissions is of comparable quality to the evidence that HRRP caused an increase in mortality. It is hard to accept one without accepting the other.”

The Role of the Pharmacist

“The pharmacists’ role in quality, safety, and value in the healthcare system is important to both patients and healthcare organizations. Each health system focuses on certain outcomes, many of which can be affected by pharmacist interventions. Consumers, payers, and healthcare systems can benefit from the services of pharmacists in tangible, measurable ways. The value of a pharmacist can be demonstrated within the existing medical infrastructure by linking clinical activities with patient and financial outcomes.”

Healthcare Metrics: Recommendations for Pharmacists

- Identify most important measures and align measures to improve benchmarking and reduce variability and reliability
- Align metrics with better outcomes per dollar spent and report on outliers
- Specifically define what impact they have and who (e.g., individual patients, entire populations, etc.) is being measured with value metrics
- Identify patients for outcome improvement and provide patient services to improve those outcomes (i.e., population management and population health efforts)

Motivation for Focusing on Quality: Accountability

- Need for a carefully defined and designed culture of accountability between payers, patients and providers
- Three common elements:
  - Clear definition of desirable goals or objectives
  - Ability to measure and monitor goal achievement
  - Rewards and/or consequences if goals or objectives are not met
- Attribution of responsibility – determining which stakeholder(s) is accountable for health care service quality and outcomes – is complex but essential
  - Examples
    - National Quality Forum Attribution Model Selection Guide

Pharmacy Accountability Measures (PAM) Workgroup

- Purpose
  - ASHP convened PAM workgroup to identify clinical measures that demonstrate the value of health-system pharmacists in patient safety and improving health outcomes
- Goal
  - Identify suite of measures that address preventable harm, quality, and value in inpatient and outpatient settings and during transitions of care that can be adopted universally by pharmacy dashboards to reflect pharmacy accountability for patient outcomes
- Therapeutic Categories
  - Antithrombotic safety, cardiovascular control, glycemic control, pain management, behavioral health, antimicrobial stewardship

Pharmacy Accountability Measures

Recommended quality measures for health-system pharmacy: 2019 update from the Pharmacy Accountability Measures Work Group

- Antithrombotic safety
- Cardiovascular control
- Glycemic control
- Pain management
- Behavioral health
- Antimicrobial stewardship

- Purpose: Pharmacists are essential for medication-related services provided in hospitals and health-systems beyond the dispensing of medications. Inpatient and outpatient pharmacy departments play a critical role in ensuring the quality and safety of care. Pharmacy departments can also be accountable for outcomes related to transitions of care.
- Methods: The 2019 Pharmacy Accountability Measures (PAM) Work Group convened by the American Society of Health-System Pharmacists (ASHP) developed, reviewed, and validated recommendations for inpatient and outpatient pharmacy accountability measures.
- Recommendations: The final 2019 recommendations included 37 measures grouped into 13 categories: antithrombotic safety, cardiovascular control, glycemic control, pain management, behavioral health, antimicrobial stewardship, and more.

- Note: This material is intended to provide general information and is not intended as a substitute for professional medical advice. Always consult with a healthcare professional before making any significant changes to your health or medication regimen.
Cost-Effectiveness of DVT Prophylaxis of At-Risk Medical Patients using LMWH

Alex C Spyropoulos, MD, FACP

Accountability vs. Responsibility

**Accountability**
- Person/group who is accountable for the correct and thorough completion of the task or overall outcome
- Specific to person/group based on skills or strengths
- Committed to successful completion of tasks
- Assuming responsibility for outcomes

**Responsibility**
- Person/group who does the work to achieve the task
- Can be shared
- Work can be divided among team members
- Focus is on roles, job descriptions, and processes

Criteria for Measure Selection

- There is strong evidence that the metric improvement leads to better outcomes
- The measure accurately captures whether evidence-based care has been provided
- Data for the measure is readily available and retrievable without undue burden
- Implementing the measure has little or no chance of inducing unintended consequences
- Improvement of the measure is understandable, useful, and meaningful to stakeholders (e.g. patients, providers, payers)

Antithrombotic Safety

<table>
<thead>
<tr>
<th>Measure Title</th>
<th>Setting of Care</th>
<th>NQF # / Measure Developer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anticoagulation Therapy for Atrial Fibrillation/Flutter</td>
<td>Inpatient</td>
<td>0436 (reserve) / The Joint Commission (TJC)</td>
</tr>
<tr>
<td>Venous Thromboembolism (VTE) Prophylaxis</td>
<td>Inpatient</td>
<td>3052 / TJC</td>
</tr>
<tr>
<td>Atrial Fibrillation and Atrial Flutter; Chronic Anticoagulation Therapy</td>
<td>Outpatient</td>
<td>1525 / American College of Cardiology</td>
</tr>
<tr>
<td>INR Monitoring for Individuals on Warfarin</td>
<td>Outpatient</td>
<td>0555 / Centers for Medicare and Medicaid Services (CMS)</td>
</tr>
<tr>
<td>INR Monitoring for Individuals on Warfarin after Hospital Discharge</td>
<td>Outpatient</td>
<td>2732 / CMS</td>
</tr>
<tr>
<td>Discharged on Antithrombotic Therapy</td>
<td>Transition</td>
<td>435 / TJC</td>
</tr>
</tbody>
</table>

Cardiovascular Control

<table>
<thead>
<tr>
<th>Measure Title</th>
<th>Setting of Care</th>
<th>NQF # / Measure Developer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Angiotensin Converting Enzyme Inhibitor (ACEI) or angiotensin receptor blocker (ARB) for left ventricular systolic dysfunction- Acute Myocardial Infarction (AMI) Patients</td>
<td>Inpatient / Transition</td>
<td>0137 / CMS</td>
</tr>
<tr>
<td>Prophylactic Beta Blockade</td>
<td>Inpatient</td>
<td>0127 / Society of Thoracic Surgeons</td>
</tr>
<tr>
<td>Heart Failure (HF): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) Therapy for Left Ventricular Systolic Dysfunction (LVSD)</td>
<td>Outpatient</td>
<td>0081 / AMA-PCPI</td>
</tr>
<tr>
<td>Heart Failure (HF): Beta-Blocker Therapy for Left Ventricular Systolic Dysfunction (LVSD)</td>
<td>Outpatient</td>
<td>0083 / AMA-PCPI</td>
</tr>
<tr>
<td>Beta-Blocker Therapy (i.e., Bisoprolol, Candesartan, or Sustained-Release Metoprolol Succinate) for LVSD Prescribed at Discharge</td>
<td>Transition</td>
<td>2438 / TJC</td>
</tr>
<tr>
<td>Discharged on Statin Medication</td>
<td>Transition</td>
<td>0439 (reserve) / TJC</td>
</tr>
</tbody>
</table>

Glucose Control

<table>
<thead>
<tr>
<th>Measure Title</th>
<th>Setting of Care</th>
<th>NQF # / Measure Developer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Statin Use in Persons with Diabetes</td>
<td>Outpatient</td>
<td>2712 / PQA</td>
</tr>
<tr>
<td>Glycemic Control - Hypoglycemia</td>
<td>Inpatient</td>
<td>2363 / CMS</td>
</tr>
<tr>
<td>Comprehensive Diabetes Care: Hemoglobin A1c (HbA1c) Poor Control (&gt;9.0%)</td>
<td>Outpatient</td>
<td>0059 / NCQA</td>
</tr>
<tr>
<td>Glycemic Control - Hyperglycemia</td>
<td>Inpatient</td>
<td>2362 / CMS</td>
</tr>
</tbody>
</table>
Cost-Effectiveness of DVT Prophylaxis of At-Risk Medical Patients using LMWH

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### Pain Management

<table>
<thead>
<tr>
<th>Measure Title</th>
<th>Setting of Care</th>
<th>NQF # / Measure Developer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use of Opioids from Multiple Providers and at High Dosage in Persons Without Cancer</td>
<td>Outpatient</td>
<td>2951 / PQA</td>
</tr>
<tr>
<td>Use of Opioids at High Dosage in Persons Without Cancer</td>
<td>Outpatient</td>
<td>2940 / PQA</td>
</tr>
<tr>
<td>Use of Opioids from Multiple Providers in Persons Without Cancer</td>
<td>Outpatient</td>
<td>2950 / PQA</td>
</tr>
<tr>
<td>Patients Treated with an Opioid who are Given a Bowel Regimen</td>
<td>Inpatient &amp; Outpatient</td>
<td>1617 / RAND</td>
</tr>
<tr>
<td>Continuity of Pharmacotherapy for Opioid Use Disorder</td>
<td>Outpatient</td>
<td>3175 / USC</td>
</tr>
</tbody>
</table>

### Behavioral Health

<table>
<thead>
<tr>
<th>Measure Title</th>
<th>Setting of Care</th>
<th>NQF # / Measure Developer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diabetes Screening for People With Schizophrenia or Bipolar Disorder Who Are Using Antipsychotic Medications (SSD)</td>
<td>Inpatient &amp; Outpatient</td>
<td>1932 / NCQA</td>
</tr>
<tr>
<td>Patients taking lithium with no recent monitoring</td>
<td>Inpatient &amp; Outpatient</td>
<td>NA /Department of Veteran's Affairs</td>
</tr>
<tr>
<td>HBIPS-5 Patients discharged on multiple antipsychotic medications with appropriate justification</td>
<td>Transition</td>
<td>0560 / TJC</td>
</tr>
</tbody>
</table>

### Antimicrobial Stewardship

<table>
<thead>
<tr>
<th>Measure Title</th>
<th>Setting of Care</th>
<th>NQF # / Measure Developer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Influenza Immunization</td>
<td>Inpatient / Transition</td>
<td>1659 (reserve) / CMS</td>
</tr>
<tr>
<td>Prophylactic Antibiotics Discontinued Within 24 Hours After Surgery End Time</td>
<td>Inpatient</td>
<td>0529 (reserve) / CMS</td>
</tr>
<tr>
<td>Avoidance of Antibiotic Treatment in Adults With Acute Bronchitis (AAB)</td>
<td>Outpatient</td>
<td>0858 / NCQA</td>
</tr>
<tr>
<td>National Healthcare Safety Network (NHSN) Antimicrobial Use Measure</td>
<td>Inpatient</td>
<td>2720 / CDC</td>
</tr>
</tbody>
</table>

### What else is currently going on with NQF Measures?

- **National Quality Forum Cardiovascular Standing Committee**
  - **National Quality Forum – Other Measures**
    - 3316e Safe Use of Opioids – Concurrent Prescribing
      - Description: Patients age 18 years and older prescribed two or more opioids or an opioid and benzodiazepine concurrently at discharge from a hospital-based encounter (inpatient or emergency department [ED], including observation stays)
    - 2436 Hospital-level, risk-standardized payment associated with a 30-day episode-of-care for heart failure (HF)
    - 2431 Hospital-level, risk-standardized payment associated with a 30-day episode-of-care for Acute Myocardial Infarction (AMI)
    - 2579 Hospital-level, risk-standardized payment associated with a 30-day episode of care for pneumonia (PN)
    - 0133 In-Hospital Risk Adjusted Rate of Mortality for Patients Undergoing PCI
    - 2856 Pharmacotherapy Management of COPD Exacerbation
**National Quality Forum – Other Measures**

- 0661 Head CT or MRI Scan Results for Acute Ischemic Stroke or Hemorrhagic Stroke Patients who Received Head CT or MRI Scan Interpretation within 45 minutes of ED Arrival
- 2111 Antipsychotic Use in Persons with Dementia

**Conclusions**

- There are many quality measures now integrated as a part of healthcare with goals to improve healthcare
- The quality measure process and types of measures have become more complicated
- While the vast majority of measures appear to have beneficial effects, we need to be more cautious about monitoring for harm and unintended consequences