From Volume to Value: A Global Imperative

Lisa Ishii, MD, MHS
Professor, Otolaryngology-Head & Neck Surgery
Chief Quality Officer, Clinical Best Practices, JHHS
Senior Medical Director, Office of Johns Hopkins Physicians
No Disclosures
Empowering otolaryngologist–head and neck surgeons to deliver the best patient care
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10/19/2018

Baltimore
Global Budgets in Maryland: Assessing Results to Date

Joshua M. Sharfstein, MD
Department of Health Policy and Management, Johns Hopkins Bloomberg School of Public Health, Baltimore, Maryland.

Elizabeth A. Stuart, PhD
Department of Mental Health, Johns Hopkins Bloomberg School of Public Health, Baltimore, Maryland.

Joseph Antos, PhD
American Enterprise Institute, Washington, DC.

With US health care spending projected to increase at 5.5% per year over the next decade, exceeding the projected rise in gross domestic product, there is increasing attention to the results of payment models intended to control costs, enhance quality, and improve health outcomes. With recent research again showing the United States at the top of the list of peer countries in prices and avoidable hospitalizations, there is special interest in understanding the results of Maryland’s unique approach to hospital payment.

Three recent studies have sought to understand more about the effect of Maryland’s payment reforms on the delivery of care. One study reported on the experience of areas served by 7 rural hospitals in the pilot period, a second on the experience of 8 counties not previously part of the pilot program during the first 2 years of the statewide model, and a third on all 24 Maryland counties through the first 3 years of the model.

In terms of absolute changes that occurred during the intervention, the 3 studies all found similar experiences for the Medicare population in Maryland: reductions in hospital admissions and increases in emergency department (ED) use without admission. The first study found a 19.9% decline in hospital admissions and 20.5% increase in ED use compared with the baseline period, the second study did not report these specific data, and the third study found that Maryland residents in Medicare experienced a 17.8% decline in hospital admis-
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Since the late 1970s, Maryland has controlled hospital prices through all-payer rate setting, in which public and private payers pay the fees set for each hospital by an independent commission. In January 2014, the Centers for Medicare & Medicaid Services and Maryland agreed to repurpose this system, from fee-for-service payment with price controls to global budgets for hospital services. Global budgets are essentially commitments to three recent studies have sought to understand more about the effect of Maryland’s payment reforms on the delivery of care. One study reported on the experience of areas served by 7 rural hospitals in the pilot period, a second on the experience of 8 counties not previously part of the pilot program during the first 2 years of the statewide model, and a third on all 24 Maryland counties through the first 3 years of the model.

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It was the best of times, it was the worst of times, it was the age of wisdom, it was the age of foolishness, it was the epoch of belief, it was the epoch of incredulity, it was the season of Light, it was the season of Darkness, it was the spring of hope, it was the winter of despair.

Charles Dickens, A Tale of Two Cities
Empowering otolaryngologist–head and neck surgeons to deliver the best patient care
What percentage of the GDP does the US spend on healthcare?

- A. 6 %
- B. 9 %
- C. 12 %
- D. 18 %
- E. 26 %
Value Equation

Value = \frac{Quality}{Cost}
Who will define value in health care?

• Patients?
• Purchasers?
• Physicians?
• Health Systems?
Patient Perspective

• Unclear
• Access to data
• When will they use it?
Purchaser Perspective
### Purchaser Perspective

#### 2018 Provider Cost Analysis Report

**Specialist:** Lisa Ishii  
**NPI:** 1831258052  
**Specialty:** Otolaryngology  
**Cost Tier:** Low Mid

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#### Total Portfolio Overview

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<tbody>
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## Purchaser Perspective

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# 2016 Cost Analysis by Place of Service

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<th>Place of Service</th>
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<td>Visits #</td>
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<tr>
<td>Outpatient</td>
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<tr>
<td>Ambulatory Surgical Center</td>
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<td>$14,982</td>
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<tr>
<td>Professional Office</td>
<td>75</td>
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<td><strong>107</strong></td>
<td><strong>$35,184</strong></td>
<td><strong>1.13</strong></td>
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</table>

**Total Expected Cost Distribution:**
- Inpatient Admission - 0.0%
- Outpatient - 21.3%
- Ambulatory Surgical Center - 42.6%
- Professional Office - 34.9%
- Laboratory - 0.5%
- Radiology - 0.1%
- Emergency Department - 0.0%
- Pharmacy - 0.1%
- Other - 0.5%

**Total Actual Cost Distribution:**
- Inpatient Admission - 0.0%
- Outpatient - 21.3%
- Ambulatory Surgical Center - 42.6%
- Professional Office - 34.9%
- Laboratory - 0.5%
- Radiology - 0.1%
- Emergency Department - 0.0%
- Pharmacy - 0.1%
- Other - 0.5%
Bundle Payment Example
Purchaser Perspective

Provider Quality Data Request
Version 2018 May

Bringing Common Sense to Healthcare
Provider Quality Metrics (Physician Level)

Physician Quality Data (Last 3 Years)

1. **Volume Metrics for Each Procedure Type** (Number of Cases)
2. **General Quality Metrics for Each Procedure Types**
   - a) Patient Satisfaction Scores (H/CAHPS if available)
   - b) Average scores on patient-reported quality of life and function metrics (e.g., PROMIS-10 Questions 7 and 10, Oswetry Disability Index) baseline for prospective patients before procedure and within 6 months afterwards
   - c) Acute Phase and 30-Day Mortality Rate
   - d) 30 / 60 / 90 Day Complication Rate: Overall, Acute Myocardial Infarction (AMI), Deep Vein Thrombosis (DVT - Blood Clot), Pneumonia (PNA), Pulmonary Embolism (PE), Sepsis/Septicemia (SEP)
   - e) 1-Year Surgical Site Infection Rate
   - f) 24-Hour Antibiotic Discontinuance Rate
3. **Quality Metrics for Inpatient Settings**
   - a) Average Length of Stay
   - b) 30/60/90 Day Readmission Rate
4. **Quality Metrics for Outpatient/ASC Settings**
   - a) Patient Fall in the ASC
   - b) Patient Burn
   - c) Wrong Site, Side, Patient, Procedure, Implant
   - d) Appropriate Surgical Site Hair Removal (cream, electric clippers)
   - e) Normothermia
   - f) Prophylactic IV Antibiotic Timing
   - g) All Cause Hospital Transfer/Admission
   - h) Return to Surgery Within 24/48/72 Hours
   - i) All-Cause ED Visit Within 24/48/72 Hours of Discharge
   - j) All-Cause Unplanned Hospital Admission Within 24/48/72 Hours of Discharge
5. **Quality Metrics for Specific Procedure Types**
   - a) Hip or Knee Replacement (MS-DRG 470): Discharge Direct to Home Rate; Complications – 90 Day Incision and Drainage, Revision and Removal Procedure Rate (MS-DRGs 467, 468, 486); Dislocation Rate (fracture, dislocation, migration of prosthesis); average HOOS/KOOS score
   - b) Hip or Knee Replacement (MS-DRG 470): Lumbar or Cervical Spinal Fusion (MS-DRG 460 or 473): Transfer to ICU Rate
   - c) CABG (MS-DRG 238): Acute Phase and 30-Day Stroke Rate
Bundled Care Payment Initiative Advanced (BPCIA)

29 inpatient episodes
3 outpatient clinical episodes
Voluntary participation
Other Quality Rankings

• US News
• Leapfrog
• Premier
• Vizient
• Carechex
An innovative medical quality rating system designed to assist providers and purchasers in evaluating the quality of inpatient care using a patent pending quality scoring system which integrates the most reliable quality indicators available in the industry into a single, multi-dimensional, composite score and rating.
Domains and Measures: Composite Quality Scoring

**Hospitals & Health Systems**
- Mortality Overall
- Complications Overall
- All-Site Readmissions Overall
- Inpatient Quality
- Patient Safety

**Physicians**
- Mortality Overall
- Complications Overall
- All-Site Readmissions Overall
- Inpatient Quality
- Patient Safety
Disrupters

- Amazon
- Kaiser
Physician/Provider Perspective

- Define meaningful and standard metrics
- Aggregate data
- Benchmark
Define Meaningful/Standard Metrics

• Clinical Practice Guidelines/Consensus Statements
• Performance Measures
Clinical Practice Guideline: Improving Nasal Form and Function after Rhinoplasty

Lisa E. Ishii, MD, MHS¹, Travis T. Tollefson, MD, MPH², Gregory J. Basura, MD, PhD³, Richard M. Rosenfeld, MD, MPH⁴, Peter J. Abramson, MD⁵, Scott R. Chaiet, MD, MBA⁶, Kara S. Davis, MD⁷, Karl Doghramji, MD⁸, Edward H. Farrior, MD⁹, Sandra A. Finestone, PsyD¹⁰, Stacey L. Ishman, MD, MPH¹¹, Robert X. Murphy Jr, MD, MS, CPE¹², John G. Park, MD, FCCP, FAASM¹³, Michael Setzen, MD¹⁴, Deborah J. Strike¹⁵, Sandra A. Walsh¹⁶, Jeremy P. Warner, MD¹⁶, and Lorraine C. Nnacheta, MPH¹⁷
<table>
<thead>
<tr>
<th>Evidence-Based Statement</th>
<th>Statement Strength</th>
</tr>
</thead>
<tbody>
<tr>
<td>Communicating expectations (Statement 1)</td>
<td>Recommendation</td>
</tr>
<tr>
<td>Comorbid Conditions (Statement 2)</td>
<td>Recommendation</td>
</tr>
<tr>
<td>Nasal airway obstruction (Statement 3)</td>
<td>Recommendation</td>
</tr>
<tr>
<td>Preoperative education (Statement 4)</td>
<td>Recommendation</td>
</tr>
<tr>
<td>Counseling for obstructive sleep apnea patients (Statement 5)</td>
<td>Recommendation</td>
</tr>
<tr>
<td>Managing Pain and Discomfort (Statement 6)</td>
<td>Recommendation</td>
</tr>
<tr>
<td>Postoperative antibiotics (Statement 7)</td>
<td>Recommendation (against)</td>
</tr>
<tr>
<td>Perioperative steroids (Statement 8)</td>
<td>Option</td>
</tr>
<tr>
<td>Nasal packing (Statement 9)</td>
<td>Recommendation (against)</td>
</tr>
<tr>
<td>Outcome assessment (Statement 10)</td>
<td>Recommendation</td>
</tr>
</tbody>
</table>
Data capture

• Standard and systematic data collection
Data
Aggregation/Benchmarking

• Clinical data registry
• Reg-ent
A **clinical data registry** is “an organized system for the collection, storage, retrieval, analysis, and dissemination of information on individual persons who have either a particular disease, a condition (e.g., a risk factor) that predisposes [them] to the occurrence of a health-related event, or prior exposure to substances (or circumstances) known or suspected to cause adverse health effects.”

---

Examples

- IRIS (ophthalmology)
- AQUA (Urology)
- Pinnacle (Cardiology)
- STS (Cardiac Surgery)
- ANA (Neurology)
Registries Are Instrumental in the Shift to Value-Based Health Care

Quality improvement, quality measurement, and performance measurement are foundational aspect in the shift to value-based environment.

There is a need to support quality improvement efforts and reporting requirements with real world data sources, which clinical data registries provide.
Seamless Data Flow

Patient Clinic Visit → Push or pull data extraction to Reg-ent → Participant Dashboard
Participant Dashboard

- Benchmarking by division/site
- Benchmarking by practice location within division
- National benchmarking
Empowering otolaryngologists–head and neck surgeons to deliver the best patient care

Reg-ent MIPS Dashboard

Practice Admin would be able to view the performance of selected clinician across all MIPS categories.

<table>
<thead>
<tr>
<th>Provider</th>
<th>NPI</th>
<th>TIN</th>
<th>DRCF</th>
<th>Payment status</th>
<th>MIPS Eligibility</th>
<th>Submission status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Steve Doe</td>
<td>3453007866</td>
<td>156324070</td>
<td>Sign Now</td>
<td>Paid</td>
<td>Confirm Eligibility</td>
<td>Pending</td>
</tr>
</tbody>
</table>

**Quality**: 40/60

**ACI**: 100/155

**IA**: 40/40

**MIPS Composite Score**: 80

**Additional Bonus**: 70

**MIPS Rating**: High

**Disclaimer**: These are estimated values assuming Budget neutrality factor and Additional performance bonus factor to be 1. These values are set by CMS after the performance year ends.
Empowering otolaryngologist–head and neck surgeons to deliver the best patient care

www.entnet.org
Data collection: Episodes

- Preoperative Evaluation
- Surgery
- Postoperative Followup
Preoperative Evaluation

- Assess her motivations and expectations
- Evaluate for premorbid conditions
- Evaluate for nasal obstruction
- Evaluate for OSA
- Screen for Body Dysmorphic Disorder

*source: Rhinoplasty CPG*
Key Action Statements

1. Communicating expectations
2. Comorbid Conditions
3. Nasal airway obstruction
4. Preoperative education
5. Counseling for OSA patients
6. Managing Pain and Discomfort
7. Postoperative antibiotics
8. Perioperative steroids
9. Nasal packing
10. Outcome assessment
Are postoperative antibiotics indicated?
STATEMENT 7. POSTOPERATIVE ANTIBIOTICS: When a surgeon chooses to administer perioperative antibiotics for rhinoplasty, they should not routinely prescribe antibiotic therapy for a duration of more than 24 hours after surgery. **Recommendation against prescribing based on randomized controlled trials and systematic reviews, with a preponderance of benefit over harm.**

**Benefits:** promote selective use of antibiotics after surgery, reducing induced bacterial resistance, reduce antibiotic adverse effects, reduce cost

**Risks, harms, costs:** Potential for infection in patients who might have benefitted from more than 24 hours of antibiotic therapy but did not receive it
How much follow up will she need?
STATEMENT 10. OUTCOME ASSESSMENT: Clinicians should document patient satisfaction with their nasal appearance and with their nasal function at a minimum of 12 months after rhinoplasty. 

Recommendation based on observational studies, with a preponderance of benefit over harm.

Benefits: Empower the patient to communicate meaningful outcomes and express unmet expectations, provide feedback information on patient satisfaction to the surgeon, call explicit attention to the importance of assessing both cosmetic and function outcomes, identify patients who might benefit from additional counseling or management, identify causes of nasal obstruction unrelated to the original rhinoplasty that could be managed and corrected

Risks, harms, costs: Time spent assessing outcomes, administrative burden of outcome measurements
Data Capture

- Standard and systematic data collection
- Data aggregation
- Outcomes assessment
System approach to value

• Bend the cost curve
• Optimize patient safety and quality
• Enhance joy in medicine
• Support the tripartite mission
• JHM as a leader in value based care
Multipronged approach

- Care variation reduction: clinical pathway driven organization
- Standard approach: avoid duplication and confusion
- Site of service optimization
- Supply chain standardization
Avoid Whack a Mole

WHACK A MOLE

IS NOT A BUSINESS STRATEGY!

THE SELLING AGENCY
What: Definitions

• **Clinical Community**: multidisciplinary self governing team of clinical subject matter experts who come together to improve quality and value.

• **Clinical Care Pathway**: the series of actions that occur over space and time in an episode of care.
How: Clinical care pathway standard approach

• Executive and Clinical Leadership Driven
• Implementation science principles
• Improvement science framework
Improvement Science Framework

Pronovost 2017 J Health Organization and Management
Convene Subject Matter Expert Team

Physician lead
SME providers
Nursing lead
inpatient unit
Nursing lead
outpatient
Nursing lead OR
Nursing lead PACU
PM & R
Case Management Administrator
Data analytics team
Project manager

1) Review literature
2) Share best practices
3) Complete Pathway Grid
4) Patient education booklet
Declare and Communicate

Clear Goals

• Project charter and timeline for each pathway
• Align with JHM Strategic Plan
DRAFT: Patient and Family Centered Care Pillar

**Goals**

*Create Value*
Partner with patients, families and others to optimize patient outcomes and experiences while eliminating preventable harm and reducing total cost of care

*Embrace Precision*
Utilize emerging data analytics and evidence-based best practices to add variation in care when valuable and reduce unnecessary variation

*Strengthen Communities*
Engage patients, families and care teams in a culturally competent, equitable way to improve patient’s health

**Strategies**

- Make patient care outcomes transparent and understandable
- Lead continuous effort to define “appropriate utilization”
- Lead development / redesign of transformative care delivery models such as integrated primary care, virtual care, etc.
- Define, develop, implement and determine a consistent way to measure utilization of clinical pathways across the continuum of care
- Stratify all outcomes to identify health equity opportunities
- Make communication, access and care coordination easy, compassionate and culturally competent for all JHM patients
- Include the perspective of patients, family members, and care givers in organizational decision-making via PFACs and other engagement mechanisms

**Outcomes**

- All entities performing at top decile in quality, safety, service, appropriate utilization and outcomes for comparison groups
- Adopt and sustain new large scale care models across JHM
- Significantly increase the number of validated clinical pathways and patients on them per entity that align with conditions that are high risk, high cost and/or high volume
- Significantly leverage utilization of interactive patient engagement tools across all patient groups / cohorts
Enabling Infrastructure: Vertical Support

• Project Management
• Data Analytics
• IT Infrastructure
• Lean Support
• Safety Science Support
Clinician Engagement

- Scholarly work
- Satisfaction: joy in medicine
- Shared savings model
Transparency Report and Create Accountability

• “If you can’t measure it you can’t manage it”
• Consistent, accurate, and timely clinical data reporting
• Tableau dashboard data display (quality and cost data)
• Local and organization wide reporting
Pathway Dashboard - Example
Site of service optimization

- Optimize ambulatory hubs
- Ambulatory clinic strategy
- Ambulatory surgery strategy
- Homecare strategy
Supply chain standardization

- Clinician led supply chain opportunity review
- Optimize or maintain quality at best cost
Faculty Leading CVR Efforts

**ERAS Steering Committee**

Dr. Becky Stone (Gyn-OB), chair  
Dr. Michael Grant (ACCM)  
Dr. Jessica George (ACCM)  
Dr. Michele Manahan (PRS)  
Dr. Gedge Rosson (PRS)  
Dr. Chris Wolfgang (Surgery)  
Dr. Matt Weiss (Surgery)  
Dr. Bashir Safar (Surgery)  
Dr. Trinity Bivalaqua (Urology)  
Dr. Shaun Desai (Oto-HNS)  
Dr. Lee Riley (Ortho)  
Dr. Brian Neuman (Ortho)  
Dr. Larry Lo (Neurosurgery)  
Dr. Nick Theodore (Neurosurgery)  
Dr. Paul Khanuja (Ortho)  
Dr. Hadley Wesson (Surgery)  
Dr. Eric Jelin (Pediatric Surgery)  
Dr. Emily Boss (Pediatric Surgery)  
Dr. Paul Sponseller (Ortho)  
Dr. Fabian Johnson (General Surgery)  
Dr. Jackie Garonzik (General Surgery)  
Dr. Richard Battafarano (General Surgery)  
Dr. Gina Adrales (General Surgery)  
Dr. Glenn Whitman (Cardiac Surgery)  
Dr. Lynda Szymanski (Gyn-OB)

**MSK team:**

Dr. Lee Riley  
Dr. Marlis Gonzalez-Fernandez  
Dr. Bing Bigham  
Dr. Ken Johnson  
Dr. Paul Khanuja  
Dr. Brian Neuman  
Dr. Danny Lee

**Medicine Pathways**

Dr. Nisha Gilotra  
Dr. Dan Brotman  
Dr. Sherita Golden  
Dr. Meredith McCormick  
Dr. Joe Marine  
Dr. Hugh Caulkins

**Psychiatry Pathways**

Dr. Bernadette Cullen

**Pediatric Pathways**

Dr. Marquita Genies
Accomplishments
Complete ERAS Clinical Care Pathways*

- Colorectal
- Cystectomy
- Gyn/oncology
- HIPEC
- Pancreas
- Liver
- Mastectomy
- DIEP Flap
- Live donor nephrectomy
- Renal transplant
- Pediatric colorectal
- Ventral Hernia

- Average LOS decrease for FY 18: 8.5 days

*(patient education, pathway, goals, orderset, data dashboard)
ERAS Clinical Care Pathways In Progress*

- Spine surgery
- Cardiac surgery
- Thoracic surgery
- Microvascular head and neck reconstruction
- C Section
- Pediatric spine surgery
- Thoracotomy

*awaiting orderset and dashboard, expected completion 11/1/18
Outpatient Pathways:

- Musculoskeletal spine pathway, continuum of care
- Musculoskeletal DJD pathway, continuum of care
- Diabetes pathway
- COPD pathway
- CHF pathway
Supply chain standardization

Supply chain shared savings

<table>
<thead>
<tr>
<th>Effort</th>
<th>Cost Avoidance</th>
<th>Shared Savings</th>
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<tbody>
<tr>
<td>Joint Implants</td>
<td>$1.5 million</td>
<td>$150,000</td>
</tr>
<tr>
<td>Spine Implants</td>
<td>$3 million</td>
<td>$300,000</td>
</tr>
<tr>
<td>CRM implants</td>
<td>$1.8 million</td>
<td>$180,000</td>
</tr>
</tbody>
</table>
Conclusion

- Providers/Systems must define value
- Consensus on standard and systematic data collection
- Data aggregation and benchmarking
- Think broadly (site of service, utilization, practice standards)
THANK YOU!