

**St. Dominic Hospital
Jackson, Mississippi**

**“How to Optimize Clinical and
Business Outcomes through
Elimination of Non-Value-
Added Variation”**

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“What is Non-Value-Added Variation and how Bad is It?”



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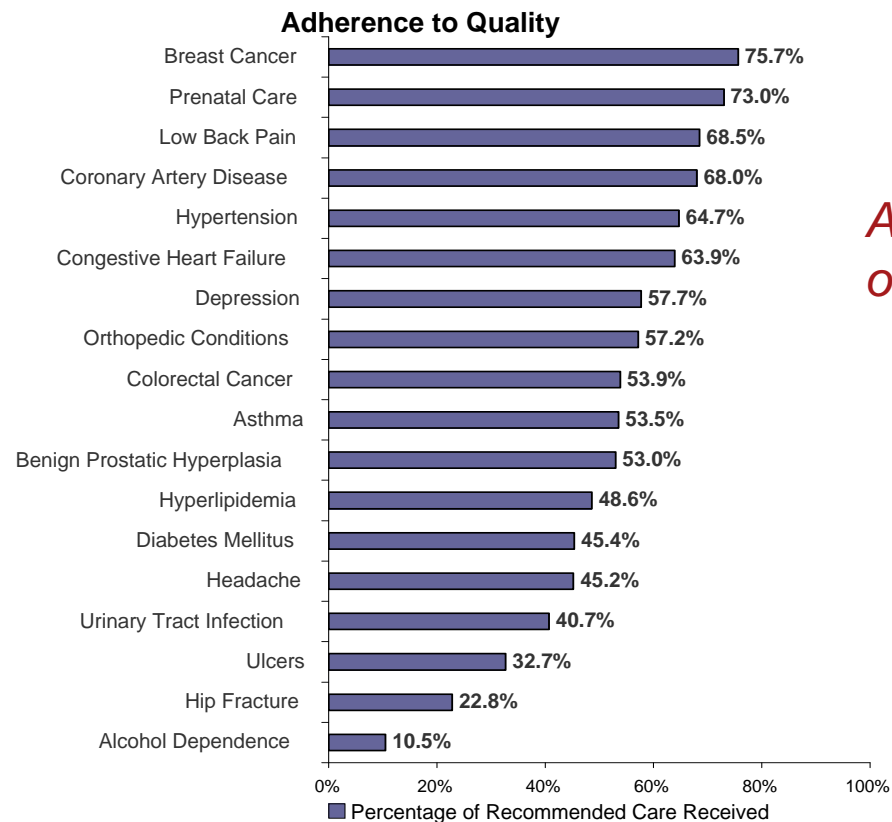
What's the problem and what is the root cause?

- We spend almost twice as much as every other industrialized nation (\$10,000 per capita) with relatively weak quality metrics to show for it (37th in overall health, 39th infant mortality, 36th life expectancy* etc.)
- We tolerate an unacceptable variation in quality, safety, service (240,000/450,000 deaths per IOM/OECD annually), and cost (up to 1000%)
- Our national debt is \$2.3 trillion with a virtual debt of \$95 trillion (24% SS, 16% interest on debt, 14% Medicare, 9% Medicaid)
- GAO: To balance the budget by 2040-cut federal spending by 60% or raise taxes 2.5 times

*Source: NEJM 2010: 362:98-99.



Quality shortfalls: Getting it right 50% of the time



*Adults receive about half
of recommended care*

54.9% = Overall care

54.9% = Preventive care

53.5% = Acute care

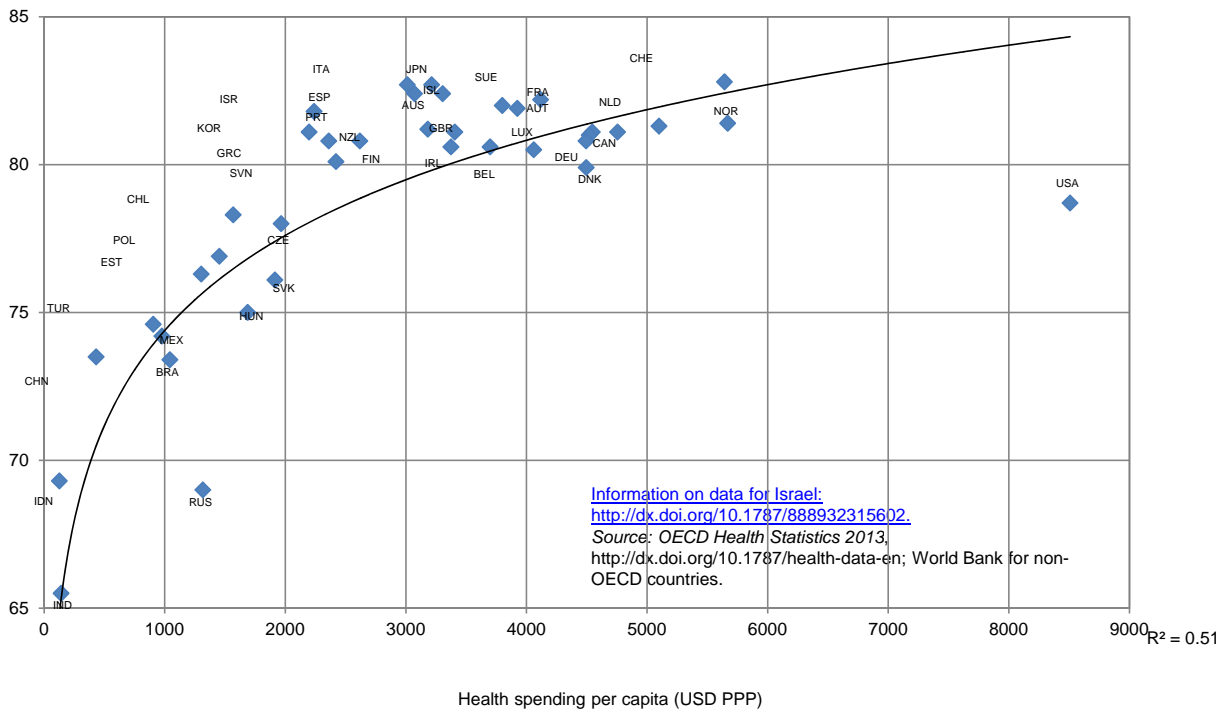
56.1% = Chronic care

Source: McGlynn E.A., et al., "The Quality of Health Care Delivered to Adults in the United States," *New England Journal of Medicine*, Vol. 348, No. 26, June 26, 2003, pp. 2635–2645.

Life expectancy at birth and health spending per capita, 2011 (OECD)(Preston Curve)

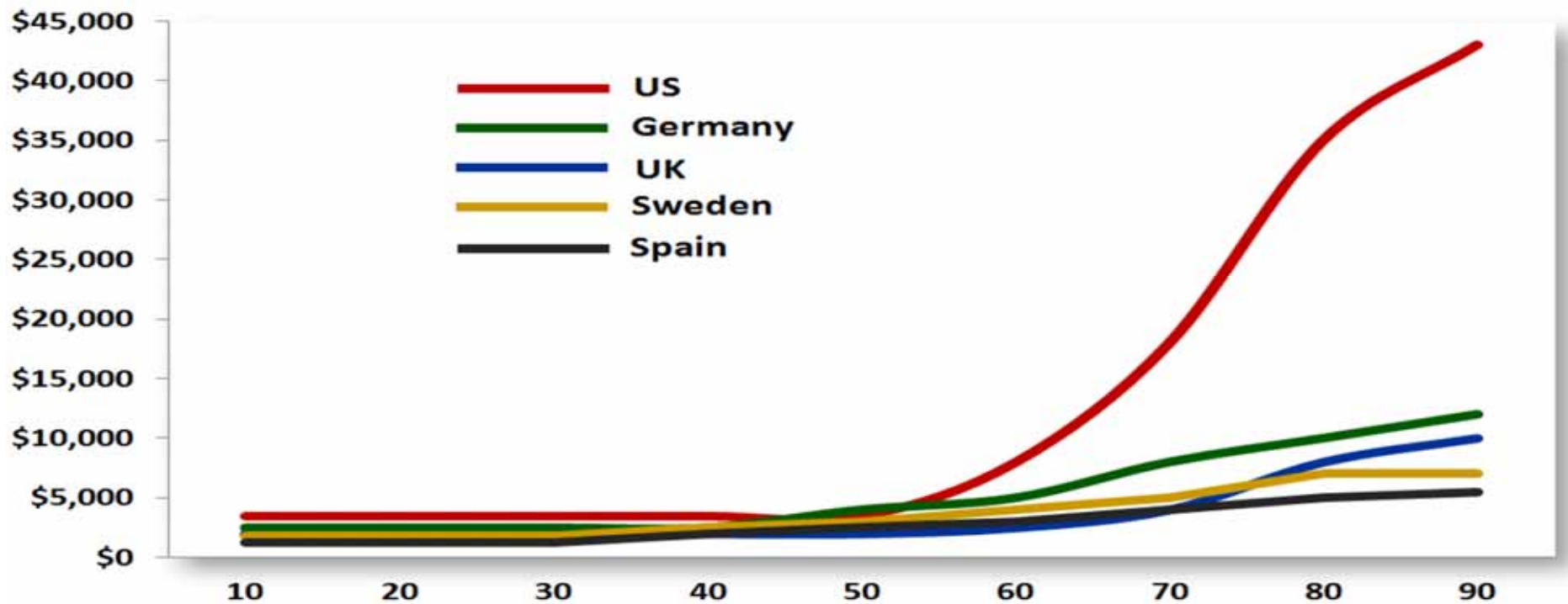
Life expectancy in years

1.1.3. Life expectancy at birth and health spending per capita, 2011 (or nearest year)



Another “Root Cause” of United States Healthcare “Waste”

Annual Per Capita Healthcare Costs by Age



“The Bell Curve” by Atul Gawande (12/6/04)

“It used to be assumed that differences among hospitals or doctors in a particular specialty were generally insignificant... But the evidence has begun to indicate otherwise. What you tend to find is a bell curve; a handful of teams with disturbingly poor outcomes for their patients, a handful with remarkably good results, and a great undistinguished middle....It is distressing for doctors to have to acknowledge the bell curve. It belies the promise that we make to patients who become seriously ill: that they can count on the medical system to give them their very best chance at life. It also contradicts the belief nearly all of us have that we are doing our job as well as it can be done.”



“How to Optimize Clinical Quality and Business Outcomes through Elimination of Non-Value-Added Variation”



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20th Century “Solution Shops”

- Independent autonomous physician model with hospital as ‘workshop’
- Lack of integration and alignment between specialties with fragmentation and inefficiencies
- Lack of integrated information network
- Expensive, cumbersome, with high probability of error (e.g. multiple hand-offs) and delayed diagnosis/treatment
- Reimbursement based upon units of service or cost (volume)



21st Century “Solution Shops”

- Integrated and organized healthcare network
- Completely aligned physicians working in collaborative multispecialty teams
- Evidence based approaches and processes (Watson decision analysis support)
- Lower cost with high reliability and more rapid and efficient development of diagnostic plan (e.g. solution)
- Reimbursement based upon a cost effective and successful ‘solution’/plan (value)
- Examples: Mayo Clinic (coherent solution shop) and Cleveland Clinic (clinical institutes)



20th Century “Value Added Processes (VAPs)”

- Each physician provides a unique customized approach to manage a given diagnosis (solution)
- ‘Preference cards’ with wide variation in cost, quality, and outcomes (value)
- Institutional tolerance for significant variation based upon need for volume/revenue
- Reimbursement based upon unit volume of service



21st Century “Value Added Processes (VAPs) or Focused Factories”

- One collaborative and standardized evidence based approach for every significant diagnostic and therapeutic entity
- Value analysis committee (multidisciplinary) to minimize and simplify vendors, suppliers, and technology
- Reimbursement based upon evidence based ‘outcomes’
- Example: Shouldice Hospital, Ontario, Heart Center (Cleveland Clinic)



Focused Factories

Shouldice Hernia Center, Thornhill, Ontario (1945): 89 beds, 5 ORs, 7,500 cases/year, LOS 3 days (surgery on day 2)

Average general surgeon: 30-50 cases/year

Shouldice surgeon: 700 cases/year

99.5% success after 300,000 cases

Harvard Business School: 4th most popular case study (>500,000 copies)



Focused Factories-Key Characteristics

- Singular focus with a standardized approach/culture/service
- World class quality, service, and cost-effectiveness
- Team based approach willing to adopt and support evidence based clinical/management practices
- Often bundled payments for outcomes
- Strong world-wide or regional brand



Denial is Everywhere!

- “We are in a more conservative market in Mississippi”
- “We want to be a fast follower”
- “We want to be seen as physician friendly”
- “We don’t have the capital to invest in a new infrastructure”
- “The current federal administration will put the brakes on alternative payment models”

Ancient wisdom: “If you stay on the same path, you may end up where you are going.” Lao Tzu (6th century BC)



**Is there a difference in performance
when physicians and staff work
together?**

Measurement	MHMD CI Physicians	Crimson-All Hospitals
<i>LOS</i>	4.52 (5%)	4.74
<i>HAIs</i>	0.68% (91%)	7.56%
<i>General Complications</i>	1.24% (66%)	2.82%
<i>30 Day Readmissions</i>	5.92% (43%)	10.38%
<i>Mortality</i>	1.95% (23%)	2.52%

Third party payers are moving forward

What AETNA did when it saw this data:

1. Requested to negotiate a new contract with MHMD
2. Offered a 8% **increase** in FFS payment with a guarantee of 3% next year minimum
3. With 10% movement of 'share' to the system, committed **\$7.5 million to physician pool** and \$8.0 million to system pool in bonuses
4. Committed to invest in a comprehensive marketing program to compete with United and BCBS



The New Reality

1. Average performance is not enough
2. Bottom decile performers will subsidize top decile performers
3. Top decile performers will earn disproportionate market share
4. Physicians and Management and Stakeholders must lead clinical + operational + financial performance together
5. Physician-Management-Stakeholder collaboration is the engine to get you there!



The Significant 'Few': The Financial Impact of Non-Value Added Variation

Out of a medical staff of 1,435 physicians:

57% of the staff drove a profit of \$34 M

43% of the staff drove a loss of \$41 M

4 MDs drove \$6.5 M in profit!

7 MDs drove \$6.6 M in losses!



Profitability Analysis – Top 10 Service Lines Based on Cases

Group Item	Cases	ALOS	CMI	Total Charge	Actual Payment	Variable Cost	Contrib Margin	Fixed Cost	Net Income
- Cardiology	762	3.93	1.1831	\$33,047	\$10,434	\$4,629	\$5,806	\$4,132	\$1,674
- Pulmonary	550	4.82	1.0604	\$24,490	\$7,325	\$3,094	\$4,231	\$3,367	\$865
- Gastroenterology	409	4.08	0.9821	\$22,316	\$8,606	\$2,603	\$6,003	\$3,125	\$2,878
- Orthopedics	333	5.03	1.5032	\$41,769	\$15,453	\$6,525	\$8,928	\$5,472	\$3,456
- Neurology	211	4.84	1.0767	\$30,755	\$10,422	\$3,539	\$6,883	\$3,982	\$2,901
- Oncology	78	6.26	1.5324	\$40,191	\$12,856	\$5,440	\$7,416	\$5,326	\$2,090
- Open Heart	71	7.62	4.4933	\$99,785	\$36,582	\$16,118	\$20,463	\$13,090	\$7,374
- Neurosurgery	62	5.95	2.5563	\$107,339	\$56,313	\$19,907	\$36,406	\$14,459	\$21,947
- Thoracic Surgery	39	16.08	8.2561	\$171,837	\$67,212	\$24,448	\$42,764	\$23,492	\$19,272
- Oncology Surgery	25	6.88	2.3670	\$80,085	\$31,316	\$11,583	\$19,733	\$11,811	\$7,922
Total:	2,540	4.80	1.4143	\$36,912	\$13,126	\$5,220	\$7,906	\$4,879	\$3,027

Source: *INSIGHTS Enterprise Edition, Cost and Clinical Reporting*, www.hcillc.com

Profitability Analysis – Pulmonary Service Line – DRG Profile

MS-DRG	Cases	ALOS	CMI	Total Charge	Actual Payment	Variable Cost	Contrib Margin	Fixed Cost	Net Income
193 - Simple pneumonia & pleurisy w MCC	174	5.51	1.1291	\$26,671	\$7,579	\$3,423	\$4,156	\$3,664	\$492
192 - Chronic obstructive pulmonary disease w/o CC/MCC	160	4.42	0.9557	\$21,604	\$5,547	\$2,680	\$2,867	\$2,916	(\$49)
202 - Bronchitis & asthma w CC/MCC	44	3.34	0.8093	\$16,879	\$5,154	\$2,039	\$3,115	\$2,274	\$841
177 - Respiratory infections & inflammations w MCC	32	8.63	1.7331	\$44,912	\$11,045	\$5,891	\$5,154	\$6,196	(\$1,042)
203 - Bronchitis & asthma w/o CC/MCC	29	2.21	0.6199	\$13,212	\$6,396	\$1,473	\$4,922	\$1,641	\$3,281
189 - Pulmonary edema & respiratory failure	28	5.71	1.5310	\$35,841	\$11,874	\$4,736	\$7,137	\$5,408	\$1,729
176 - Pulmonary embolism w/o MCC	17	6.06	1.3229	\$35,974	\$15,370	\$4,510	\$10,860	\$4,965	\$5,896
204 - Respiratory signs & symptoms	14	3.00	0.6386	\$20,350	\$3,970	\$2,190	\$1,780	\$2,538	(\$758)
205 - Other respiratory system diagnoses w MCC	12	4.83	0.9106	\$19,355	\$7,097	\$2,607	\$4,490	\$2,866	\$1,624
194 - Simple pneumonia & pleurisy w CC	12	2.00	0.7043	\$11,445	\$9,413	\$1,434	\$7,979	\$1,556	\$6,423
Total:	550	4.82	1.0604	\$24,490	\$7,325	\$3,094	\$4,231	\$3,367	\$865

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Source: *INSIGHTS Enterprise Edition, Cost and Clinical Reporting*, www.hcillc.com

Profitability by Physician – DRG 193 – Simple Pneumonia

Physician	Cases	ALOS	CMI	Total Charge	Actual Payment	Variable Cost	Contrib Margin	Fixed Cost	Net Income
MULLA	10	4.80	1.1291	\$27,050	\$8,512	\$3,076	\$5,436	\$3,487	\$1,949
NIASH	7	4.00	0.7054	\$17,779	\$1,404	\$2,618	(\$1,214)	\$2,896	(\$4,110)
HAVZL	6	5.17	1.1291	\$28,205	\$10,785	\$3,410	\$7,375	\$3,535	\$3,840
BHAAS	5	2.40	0.7054	\$11,428	\$2,248	\$2,136	\$112	\$2,624	(\$2,513)
MULKE	5	7.40	1.1291	\$30,042	\$5,431	\$4,165	\$1,266	\$4,207	(\$2,941)
NEMST	5	7.40	1.1291	\$25,596	\$5,417	\$3,865	\$1,552	\$3,796	(\$2,245)
AHSAZ	4	5.25	1.1291	\$27,154	\$9,862	\$3,306	\$6,556	\$4,017	\$2,539
AKIMU	4	2.00	0.7054	\$8,830	\$5,347	\$1,695	\$3,652	\$2,043	\$1,609
CHIUG	4	2.25	0.7054	\$12,654	\$3,807	\$2,160	\$1,647	\$2,640	(\$993)
KABNO	4	8.50	1.1291	\$39,054	\$5,532	\$4,620	\$913	\$4,891	(\$3,979)
Total:	178	4.58	1.0148	\$21,935	\$7,005	\$2,888	\$4,117	\$3,128	\$989

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Source: INSIGHTS Enterprise Edition, Cost and Clinical Reporting, www.hcillc.com

Cost Accounting Analytics – Cost Variance Analysis to Best Practice

Physician	Total Cases	ALOS	CMI	Xrays/Case	Dir Var Cost/Case	% ED Cases	% Re-Admits	% Disch-Home	% Disch-Other
MULLA	10	4.80	1.1291	2.00	\$3,969	50.0	30.0	70.0	30.0
NIASH	7	4.00	0.7054	0.86	\$3,369	28.6	14.3	85.7	14.3
HAVZL	6	5.17	1.1291	1.00	\$4,239	83.3	0.0	50.0	50.0
BHAAS	5	2.40	0.7054	1.60	\$2,863	80.0	0.0	100.0	0.0
MULKE	5	7.40	1.1291	1.20	\$4,922	100.0	0.0	60.0	40.0
NEMST	5	7.40	1.1291	1.80	\$4,638	60.0	20.0	60.0	40.0
AHSAZ	4	5.25	1.1291	1.25	\$4,500	75.0	25.0	50.0	50.0
AKIMU	4	2.00	0.7054	1.00	\$2,272	100.0	0.0	100.0	0.0
CHIUG	4	2.25	0.7054	0.75	\$2,919	100.0	0.0	100.0	0.0
KABNO	4	8.50	1.1291	2.75	\$5,715	75.0	25.0	25.0	75.0
Total:	178	4.58	1.0148	1.30	\$3,651	74.2	12.9	70.8	29.2

Source: *INSIGHTS Enterprise Edition, Cost and Clinical Reporting*, www.hcillc.com

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What if 6 of the Top 10 physicians achieved a Direct Variable “cost per case” equal to the BEST PRACTICE of their peers?

Cost Reduction

- \$2,251 – Cost Reduction per Case
- 50% - Cost Reduction %
- \$76,534 – Total Cost Reduction

Increase in Quality

- 100% – Reduction in Re-Admissions
- 79% - Increase in Home Discharges

What are you Measuring Today?

- Core/SCIP measures?
- Compliance with clinical/functional pathways?
- Adverse behavioral or administrative events?
- Patient or administrative complaints/referrals?
- All deaths or complications?
- All unexpected returns to the....?

What is the challenge with all of these?



What is Regulatory Quality?

- Hospital Compare/PhysiciansCompare.hhs.com, Healthgrades.com, Propublica.com
- SCIP measures
- Specialty specific measures (e.g. STS, ACC etc.)
- NQF 'never events'
- Patient safety measures (Leap Frog)
- HEDIS measures

Why are these important and what do you want to do with them?



Hardwire Regulatory Quality and Focus on Strategic Quality!

- Clinical and functional pathways for all high risk entities
- Standardize communications (e.g. SBAR) in high risk situations
- Manual checklists (pre-software)
- Decision support software and default functions
- Clinical and business analytics to monitor for variance (audit!)

Many organizations are hitting 100% all of the time!



Regulatory Quality is Necessary and Insufficient!

- You can no longer differentiate yourself based upon 100%tile for 'HEDIS/SCIP etc. measures'; they are assumed and expected!
- Our increasingly mobile society will travel anywhere to find high quality and lost cost care

How will you differentiate yourself from everybody else?



What to do with evidence based practices when available:

- Standardize a clinical/business approach to top 20 DRGs in every clinical specialty (what does this require?)
- Allow customization with 24/7 peer audits
- One set up for every major procedure
- One-two vendors for every supply (period!)
- One evidence based approach for every significant diagnostic entity



“What is the Business Model to Eliminate Non-Value-Added Variation and Drive Optimized Outcomes with Relatively Little Investment?”

The traditional (and somewhat painful) approach:

- Downsize staff and services
- Squeeze and consolidate vendors
- Squeeze third party payers and managed care contracts
- Reduce days in AR (more aggressive collection approaches)
- Postpone building projects and capital investments



A contemporary (and less painful) approach:

1. Align compensation models
2. Optimize human resource (labor) deployment and management
3. Simplify and optimize operational processes
4. Optimize supply chain management
5. Create a culture of customer service

“Discontent is the first necessity of progress.”

-Thomas Edison



1. Align Compensation:

Typical CEO Incentive Compensation

- Almost 100% have financial metrics (e.g. 80% utilize net operating income or margin, many utilize cash flow, cost effectiveness/unit of service, or liquidity measures)
- >80% have quality metrics (e.g. core measures, key quality/safety dashboard measures)
- 70% have service/patient satisfaction metrics (e.g. top box HCAHPS top box scores etc.)

Source: Bjork, David, "Healthcare Executive Compensation," HAP, 2014, pp 196-197.



How are Physicians Typically Compensated?

What is the impact of wRVU compensation on:

- Quality?
- Safety?
- Customer service?
- Operating costs?
- Operating margin?



Solution: Aligned At-Risk Compensation Models for all based upon Collaborative:

- Strategic goals and objectives
- Compensation Models (MOC) based upon sound business principles (ROI!)
- Co-Management Agreements for both employed, self-employed, and independent individuals and organizations
- Non-negotiables (e.g. accountability, value analysis, conflicts of interests etc.)



2. Optimize Labor

The Labor Ratio: Your single most important operational metric

Labor Ratio = total labor costs/net operating revenue

Best practice = 44% (HCA)

Average = 56%

Poor = 65%

Why is this metric so important? **Every % savings goes straight to your bottom line!**



Why is there so much national variation?

1. Many organizations utilize traditional metrics (FTE/APD) that measure days (not costs) and exclude significant contract labor costs (e.g. agency hours)
2. Many organizations deploy based upon shift work and not productivity demand per defined hour
3. Healthcare professionals spend increasing time performing non-productive work (e.g. administrative tasks, data entry, stocking) with decreased productivity and increased risk



Labor Analytics: Reporting Actual Productivity Compared to Target

RADIOLOGY

	Pay Periods						YTD
	<u>8/17/2016</u>	<u>8/31/2016</u>	<u>9/14/2016</u>	<u>9/28/2016</u>	<u>10/12/2016</u>	<u>10/26/2016</u>	
Weighted Units of Service	39,500	39,654	38,306	38,600	36,888	37,900	309,010
Annual Productivity Target	x 0.0382	0.0382	0.0382	0.0382	0.0382	0.0382	0.0382
Target Variable Worked Hours	1,509	1,515	1,463	1,475	1,409	1,448	11,804
Budgeted Constant Worked Hours:	+ 136	96	136	128	136	139	1,152
Total Target Worked Hours	1,645	1,611	1,599	1,603	1,545	1,587	12,956
Actual Worked Hours	1,604	1,634	1,653	1,716	1,746	1,795	13,008
Productivity Index	102.5%	98.6%	96.8%	93.4%	88.5%	88.4%	99.6%
Actual Over(Under) Target (Standard) Hours	(41)	23	54	113	201	208	52

Homer Warner, MD:

“A physician should never do what a nurse practitioner can do.

A nurse practitioner should never do what a nurse can do.

A nurse should never do what a technologist can do.

A technologist should never do what a clerical specialist can do.”



3. Optimize Processes:

§ 482.22(c)(5): History and Physical

- Must be completed and documented for a patient no more than 30 days before or 24 hours after admission or registration
- Must be completed by a physician (MD/DO, DDS/DMD, DPM, DO, DC), oro-maxillofacial surgeon, or other qualified licensed provider in accordance with state law and hospital policy



Case Mix Index is all about documentation!

Today's ICD-9 codes for congestive heart failure (#1 inpatient diagnosis):

DRG number	Weight	Payment
DRG 127(pre-2009)	1.0490	\$5,561.29
MS-DRG 291	1.4850	\$7,923.02
MS-DRG 292	1.0216	\$5,450.61
MS-DRG 293	0.7317	\$3,903.89



ICD-10 = 132,500 new ways to pay you less!

- Number of DRGs for CHF goes from 3 to 25
- The difference between the lowest and highest payment will increase
- How many physicians know all 300-800 clinical modifiers in their respective specialties and document all co-morbidities?

What is the solution?



Three Compelling Reasons to Utilize Clinical Scribes Instead of Physicians for Data Entry

- I. Each physician averages \$2 million operating revenue when fully productivity (data entry reduces productivity up to 50% per AMA; up to 75% per ANA)
- II. Audits demonstrate an opportunity cost of 35% (lack of co-morbidities, critical care, and clinical modifiers)
- III. What will be the impact on at-risk 'pay for value' contracts if the true acuity and complexity is significantly under-documented?



Ideal Clinical Scribe:

- Clinical background in specific clinical area (e.g. LPN/RN)
- Certified coder with software support
- Member of healthcare delivery team
- Physician-APP oversight
- Real time revenue cycle management!



Collaborative Clinical Documentation Improvement (CDI) initiatives

Case in point: UPMC Hamot, Erie, PA-robust documentation program (BCE) with five coaches on site 24/7 to 'blue note' inpatient charts to optimize documentation.

Results: CMI 1.45 to 2.21 (how much would that be worth to your organization?) and \$1 million net increase per quarter



4. Optimize Supply Chain:

There is wide spread variation in supply chain costs!

Supply Chain Ratio =

Total Supply Costs/Net Operating Revenue

- Variation from 12% (best practice) to 18% (median) to 25% (worst)
- Each % saved goes straight to the bottom line!



Interdisciplinary Value Analysis Committee

Best Practice: University of California, San Francisco-

Health Technology Assessment Program (HTAP):

- Executive Management and Physician Leadership
- Criteria for investment or utilization cost that triggers committee evaluation
- Evaluation of supply chain cost and clinical implications of decisions
- Recommendations carry throughout the organization



5. Optimize Service: Approaches that work to create a service focused environment:

- Physician/Manager/Staff Service Programs (leading indicator for patient satisfaction)
- Relationship Management Program (key individuals who set the tone and leadership for the organization)
- Service training for everyone (satisfaction is insufficient; loyalty based on top box scores is everything)
- Evidence based tools/tactics: leader/staff rounding, customized care, hourly rounding, white boards, AIDET®, pre and post visit/stay calls, nurse navigator, patient registry



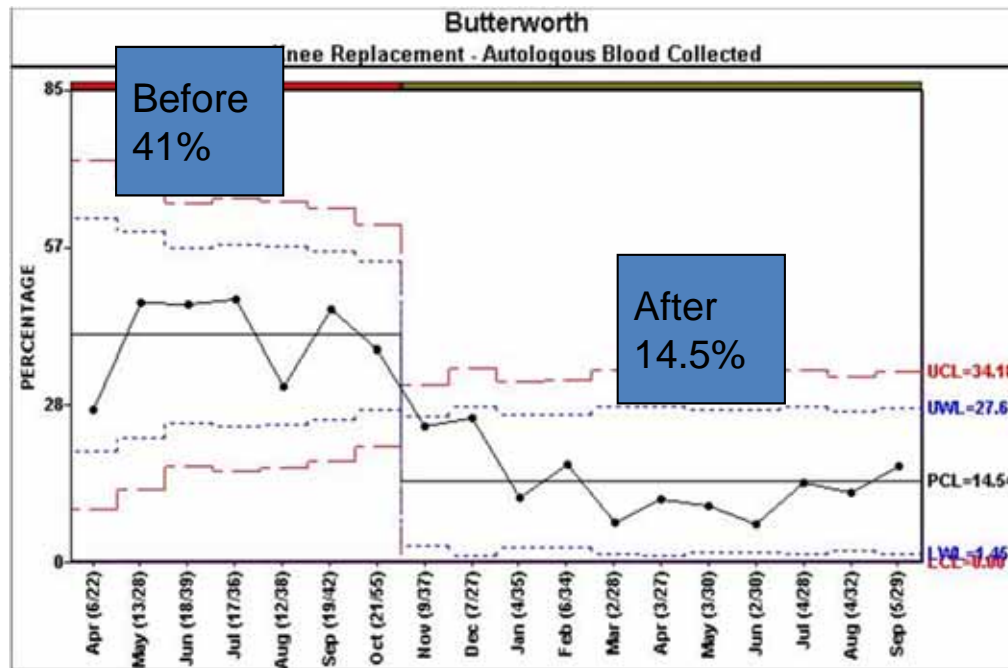
Physician Level Report

Values Displayed				Clinical Issues			Quality Issues			
Name	Spec	Avg. Sev	No of Pat	Blood Product Given?	Revis Knee Replacmt	Hip Replace Revision	Hemorr from Comp	Iatrogenic Complications	Phlebitis DVT	Readmit31
	ORT	1.82	103	82.5%	2.9%	5.8%	1.0%	5.8%	0.0%	5.8%
	ORT	1.79	66	80.3%	1.5%	1.5%	0.0%	4.5%	0.0%	0.0%
	ORT	1.58	12	58.3%	16.7%					
	ORT	1.54	56	57.1%	8.9%					
	ORT	1.90	49	57.1%	10.2%					
	ORT	1.81	16	56.3%	13%					
	ORT	1.43	70	48.6%	0.0%					
	ORT	2.03	160	47.5%	7.5%					
	ORT	1.85	20	45.0%	0.0%					
	ORT	1.76	88	42.0%	1.1%					
	ORT	1.82	11	36.4%	1.1%					
	ORT	2.70	10	30.0%	0.0%					
	ORT	1.83	332	27.7%	9.0%	14.8%	0.0%	3.9%	0.0%	3.3%
	Other	2.08	39	23.1%	7.7%	0.0%	0.0%	0.0%	0.0%	2.6%
	ORT	1.81	54	22.2%	13.0%	14.8%	1.9%	1.9%	0.0%	14.8%
	ORT	1.65	113	13.3%	8.0%	2.7%	0.0%	1.8%	0.0%	5.3%
	ORT	1.57	99	13.1%	5.1%	4.0%	0.0%	3.0%	0.0%	3.0%
	ORT	1.63	33	11.6%	0.0%	2.3%	0.0%	4.7%	0.0%	11.6%
	ORT	1.66	93	9.7%	11.8%	6.5%	0.0%	2.2%	0.0%	3.2%

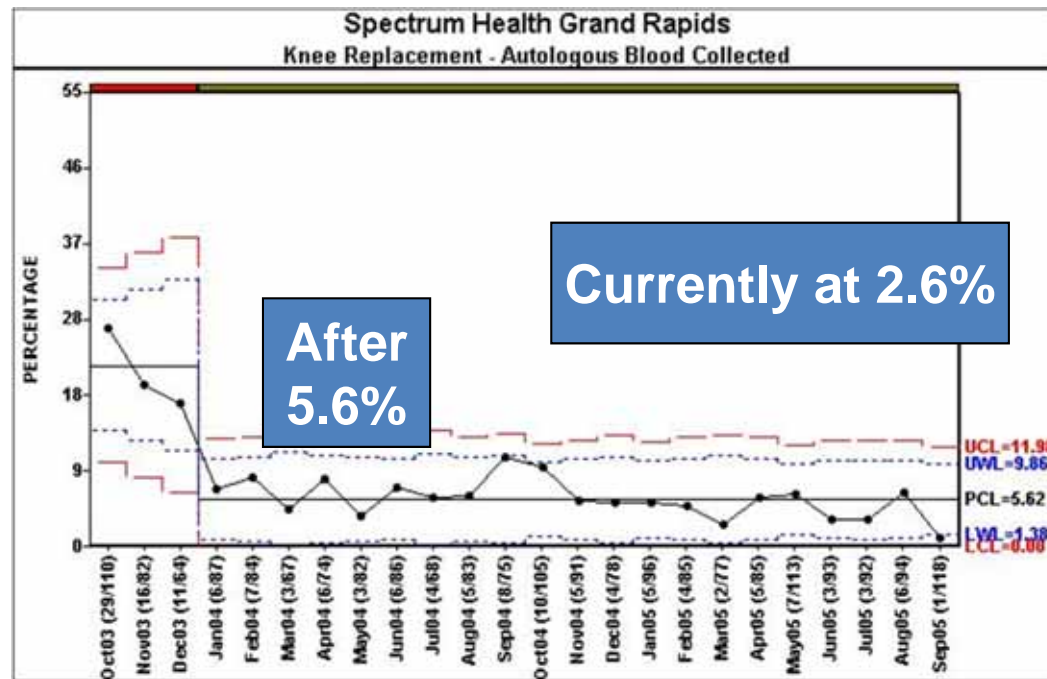
VARIATION
 9.7% to 82.5%
 21 Orthopedic Surgeons

Blood product given does not appear to be related to revision volume or LMWH use

KR – Autologous Blood Collected



Rates Continue to Decrease



What Strategies Were Used to Drive This Improvement?

- Medical Director
- Data – Information
- EBM Guidelines – Order Sets
- Discussion & Agreement
- Insight into Culture of Orthopedic Department
- One on one detailing with outliers



Evidence Based Practice Interventions and Measures for Colon Surgery (Intermountain)

Evidence Based Intervention	Associated Measure
Patient Education	% Enrollment
Early Mobilization after Surgery	% Activity/PT
Appropriate IV fluid administration	% Compliance with optimum fluid (inputs and outputs)
Narcotic sparing analgesia	Optimum non-narcotic pain management/scores
Early enteral nutrition	Diet administration, monitoring of flatus/bowel sounds/emesis
	Operating and financial measures



Process and Outcomes Measures (Intermountain)

Enrolled	Non-Enrolled
First tolerated meal: 1.40 days	First tolerated meal: 3.28 days
BM: 2.35 days	BM: 3.74 days
Emesis: 9.7%	Emesis: 12.5%
Average variable cost: \$6,133	Average variable cost: \$10,503
Average total cost: \$11,808	Average total cost: \$20,585
Net operating income: \$3,510	Net operating income: \$1,806



Bottom Line for all Colon Surgeries (Intermountain 1,675 patients):

- \$1,200,200 annual savings
- LOS decreased from 8.44 to 6.75 days with equivalent or improved clinical outcomes
- Improved patient, family, and provider engagement and satisfaction scores
- Stimulated collaborative efforts in many other clinical areas
- Computer World Business Intelligence Award (2010)-Driving Process Change with BI



Project Zero (St. Luke's Health)

- Created to reduce surgical site infections for 2,000 spine and 2,000 joint surgeries
- Traditional infection rate 1.3% (national average 1.9%)
- Primary causes: excessive traffic through OR (case carts), particulate matter in ventilation system, excessive OR time with some surgeons, lack of data transparency among surgeons
- Increased cost of SSI: \$ 31,182 v. \$15,131 (106%)



Project Zero (St. Luke's Health)

Process changes: reduced traffic in OR, kept all OR carts in room, installed a high grade HVAC system with a HEPA filter to capture particulate matter, shortened OR time through analytics/feedback/assertive physician management

Results: Reduced SSI to 0.6% (280 fewer infections X \$16,051 = \$4,494,280 cost savings annually)



Obvious ROIs for St. Dominic: What would be the impact on cash flow (and clinical outcomes) if Physicians and your Managers could lead the:

Reduction of LOS by 1 day?

Increase of the CMI by 0.2?

Increase of value based purchasing by 1%?

Increase of MIPS (MACRA) by 5%?

Optimization of your top box HCAHPS scores?

Decrease of your labor ratio by 5%?

Decrease of your supply chain ratio by 5%?

Reduction of your cost per case by 10%?



St. Dominick Organization Assumptions (rounded off):

Operating revenue = \$500 million

Medicare part A = \$100 million (20%)

Medicare part B = \$50 million (10%)

Total inpatients = 25,000

Total Medicare patients = 15,000 with an average
reimbursement of \$10,000/admission

Labor ratio = 53%

Supply chain ratio = 26%

Adjusted cost per case = \$10,000

Average LOS = 5 days



Calculations:

Decrease LOS by 1 day = \$1,000 costs X 25,000 patients = \$25,000,000 cost savings

Increase CMI by 0.2 = \$10,000 Medicare payment X 15,000 Medicare patients = \$150,000,000; 1.11764706 ($1.9/1.7$) X \$150,000,000 = \$167,647,059 or \$17,647,059 incremental revenue

Increase VBP by 1% = \$100,000,000 Medicare part A revenue X 1.01 = \$1,000,000 incremental revenue

Increase MIPS by 5% = \$50,000,000 Medicare part B revenue X 1.05=\$2,500,000 incremental revenue

Decrease your labor ratio 5% = **(\$15,000,000) (-3% net operating margin)** + \$25,000,000 (5% of 500,000,000) = \$10,000,000 net operating margin (+2%) or \$25,000,000 incremental revenue

Decrease your supply chain ratio 5% = \$25,000,000 incremental revenue (same calculation as labor ratio) or another +5% net operating margin

Reduce your cost per case by 10% = \$1,000 (10% of \$10,000) X 25,000 patients = \$25,000,000 cost savings



Pareto Chart to Prioritize (almost \$120,000,000 in new revenue): This is STRATEGIC QUALITY

1. Decrease your labor ratio 5% = $(\$15,000,000)$ (-3% net operating margin) + $\$25,000,000$ (5% of 500,000,000) = $\$10,000,000$ net operating margin (+2%) or **\$25,000,000 incremental revenue**
2. Decrease your supply chain ratio 5% = **\$25,000,000 incremental revenue** (same calculation as labor ratio) or another +5% net operating margin
3. Reduce your cost per case by 10% = $\$1,000$ (10% of $\$10,000$) X 25,000 patients = **\$25,000,000 cost savings**
4. Decrease LOS by 1 day = $\$1,000$ costs X 25,000 patients = **\$25,000,000 cost savings**
5. Increase CMI by 0.2 = $\$10,000$ Medicare payment X 15,000 Medicare patients = $\$150,000,000$; 1.11764706 ($1.9/1.7$) X $\$150,000,000$ = $\$167,647,059$ or **\$17,647,059 incremental revenue**
6. Increase MIPS by 5% = $\$50,000,000$ Medicare part B revenue X 1.05 = **\$2,500,000 incremental revenue**
7. Increase VBP by 1% = $\$100,000,000$ Medicare part A revenue X 1.01 = **\$1,000,000 incremental revenue**



Example of a management contract (ED circa 2006):

- 50% base pay (**10%tile MGMA compensation**)
- 10% quality program and performance (2% bonus for every 20% departmental compliance with agreed upon quality targets)
- 10% patient satisfaction (2% for each 10%tile above 30%tile PRC departmental scores)
- 10% physician loyalty (2% for each 10%tile above 40%tile for hospital survey of physicians)
- 10% corporate compliance (e.g. medical records) (2% for every 10% compliance over 50%tile)
- 10% evaluation by President MS and CEO (top potential pay – (**90%tile MGMA compensation**))



Recent \$1.3 M Contract for OBGYN in West Texas (from 'piece work' to clinical executive):

1. Above average wRVUs (FMV1 = \$400,000)
2. Supervision of four APNs (allowed by Texas State Law)
(FMV2 = \$200,000)
3. Leadership of Charity OBGYN Clinic (FMV3= \$300,000)
4. Leadership of OBGYN Service Line with negotiated clinical and business outcomes (all have calculated ROI for both clinician and management) (FMV4= \$400,000)

ROI for HCA = \$3.9 M/\$1.3 M = 3:1



The New 'Core Competencies'

1. Interdisciplinary teams with experts able to manage clinical and operational/financial 'best practices'
2. Willingness to eliminate non-value added variation that adds clinical risk and cost (waste) to the system
3. Willingness to utilize clinical/business intelligence tools to provide clinical/cost outcomes in real time
4. Willingness to create at risk arrangements with payers, employers, health plans, and CMS and earn more by assuming accountability for Q/C outcomes
5. Willingness to sacrifice autonomy for control and excellence



Questions, Discussion, and “Next Steps”



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Thank You for your Participation!

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