

## Defining Value in Pathology Strategies for Survival

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## Key Learning Objectives

- To learn how an integrated laboratory service can leverage quality management thinking, Lean and ISO to improve testing service levels and capabilities that provide enhanced value to clinician practices
- To understand the critical role of designing and implementing systems and subsystems of management that focus on lab quality and cost control
- To understand the V-(alue) metrics of importance in defining the value of the medical laboratory and the pathologist in the changing clinical care continuum

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## Disruptive Changes

- Reimbursement
  - Fee for service on way out
  - Bundled payments, capitation, P4P
- Physician practice models
- Genetic based personalized medicine
- Lab economies of scale vs value
  - IPD decline, OPD growth
  - Access to OPD and outreach

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## Volume Driven Healthcare Incentive: Do More

Average spending on health per capita (\$US PPP)

Efficiency Ranking High Income nations  
Increased life expectancy relative to \$ spent  
US ranking = 22 of 27  
Life expectancy 15 days/ additional \$100 spent

Barthold B et al. Analyzing Whether Countries Are Equally Efficient at Improving Longevity for Men and Women. Am J Pub Health 2013; doi: 10.2105/AJPH.2013.301494

Note: \$US PPP = purchasing power parity. Source: Organization for Economic Cooperation and Development, OECD Health Data, 2013 (Paris: OECD, Nov. 2013).

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## Value Driven Healthcare Incentive: Do Better

ACA Triple Aim

Improve Health of **INDIVIDUAL**

Coordinated Care Better Outcomes

Improve Health of **POPULATION**

Expanded Coverage Chronic Care Mgmt At Risk Mgmt EHR Use

Spend less on services **PER CAPITA**

Bend the Cost Curve Reduced Reimbursements

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## Paradigm Change Volume → Value

- **New delivery care models**
  - ↑ efficiencies, coordination of care, outcomes, satisfaction
  - ↓ spending \$\$
    - ACA- ACOs, Medical Homes
    - Hospital consolidations & acquisition priv practices
    - Clinically integrated private physician networks
- **New payment models**
  - Pay-for-Value reimbursement
    - PQRS, HCAHPS, Medicare Shared Savings Program
- **↑ primary care pay and ↓ specialty care pay**
  - PAMA 2014 clinical lab reimbursement reductions
    - 30% 2017-2019 (10%/yr); 45% 2020-2022 (15%/yr)

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## Survival

### Hear the wave before you see it

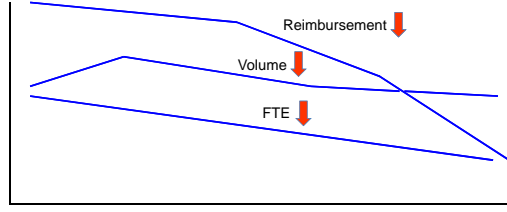


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## “If you don’t like change, you will like irrelevance even less”

-Gen. Eric Shinseki



2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022


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## A3 Problem Solving

Plan	Do-Check-Act
<p><b>Problem Background</b> The Laboratory is unrecognized as an asset to coordinate care, foster health system integration and cost control. More likely seen as cost center.</p> <p><b>Hypothesis</b> We have either not created systems to do so or articulated the case for high value well.</p> <p><b>Current Condition</b> +3% of the cost; 70% of the EMR +Up to 90% clinical decision-making +Declining hospital revenue, staff reductions +Undeveloped lab systems to support call for co-ordination of care, system integration, cost control</p> <p><b>Problem Analysis WHY?</b> 1. No one asked us to and it's hard work 3. Hard to quantify clinical and cost success 4. Dont have good metrics to share 5. Dont have approp. management subsystems</p> <p><b>Target Condition</b> Document &amp; achieve recognition for coordination, care integration &amp; system savings Obtain support for lab innovation &amp; growth</p> <p><b>Action Plan</b> Create subsystems &amp; metrics to show value</p>	<p><b>Implementation Plan</b> 1. Non-conformance management-Work waste 2. Daily management (QTIPS) -Critical values 3. Test utilization management, Lab Formulary 4. Personalized care management- Molec tests 5. Hospital IPD LOS improvement, MALDI-TOF 6. Pathologists as teachers &amp; consultants</p> <p><b>Results</b> The Value (V) metrics of lab survival</p> <p><b>Metrics</b> 1. Defect management, Epic errors Reduction unacceptable specimens, rework \$\$, patient satisfaction 2. Safety, critical value notification failures 3. The V metrics - Test referral utilization control &amp; savings - Appropriate therapy guidance &amp; savings - IPD episode cost and LOS savings - Clinical consultation guidance</p> <p><b>Standardization</b> Customer focus in consolidated, integrated systems with ISO standardization, Lean leadership and management</p>

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**Henry Ford**  
1863-1947

“The business of management is to manage. The thing to be managed is work”

“We still waste more than we use. We waste men, we waste materials, we waste everything, and consequently we have to work too hard and too long to accomplish what in the end amounts to very little.”

“It's the work not the man that manages”

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## The Value (V) KPI Metric

- The currency of healthcare is now \$\$ rather than time -John Waugh
- Are you still pursuing TAT as your lab's measure of success?

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## Performance => Productivity => Value \$\$ Metrics

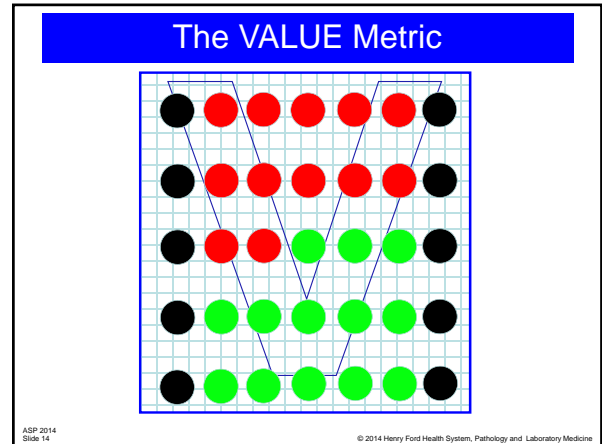
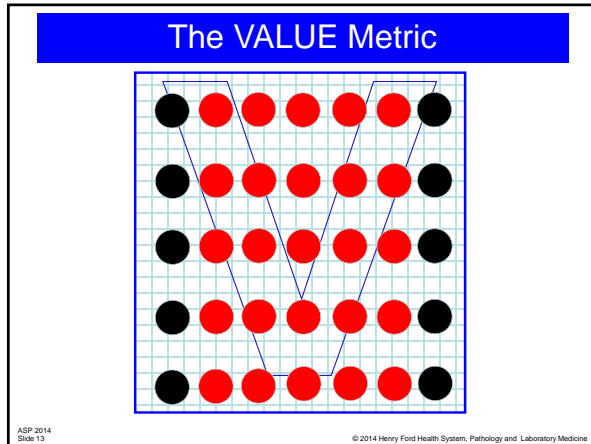


**There's great future in value metrics**

Cost per test, cost per episode of care, cost control, cost avoidance  
Lab costs per adjusted discharge

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### Customer Satisfaction in consolidating & integrating systems

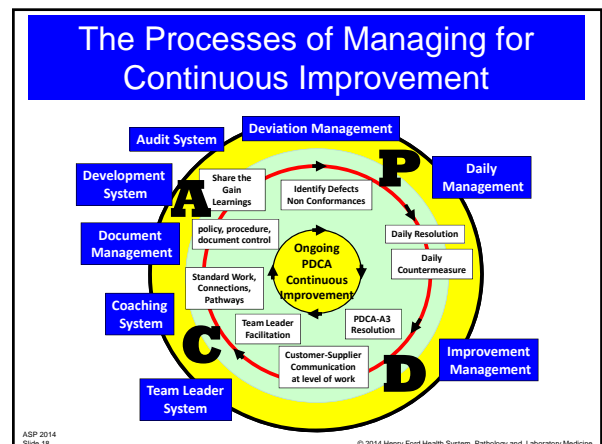
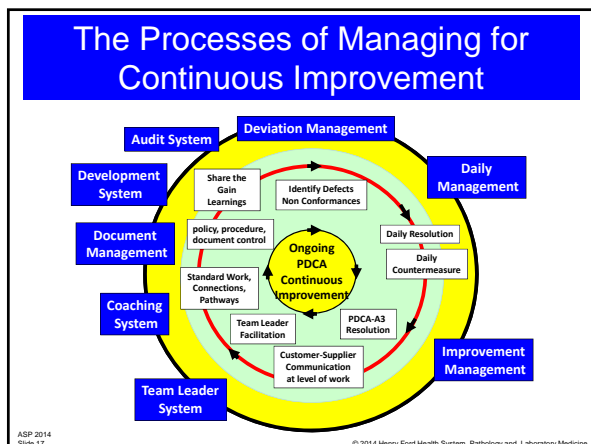
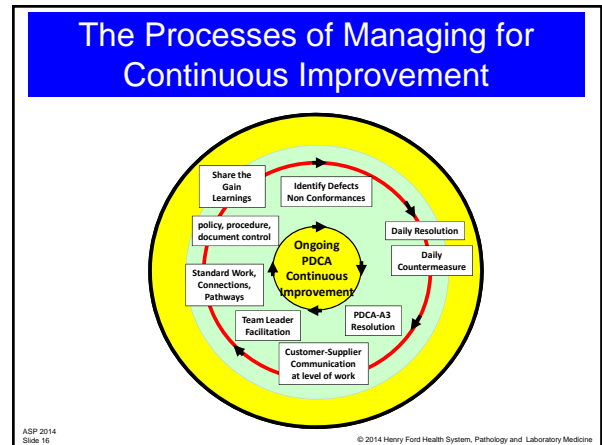
**Leverage Lean & ISO Management Systems**

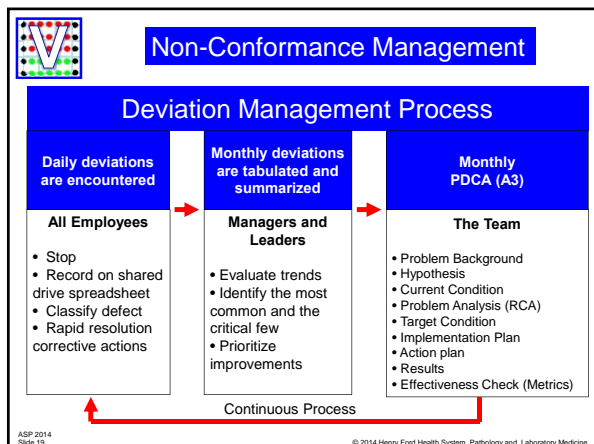
*"Systems don't produce quality, people do"*

But systems provide standardization for people to:

- Deliver high quality consistently
- Focus on specific requirements of new and existing customers
- Identify poor quality rapidly and correct non-conformances
- Engage the workforce in continuous improvement
- Adopt preventive, not just corrective actions

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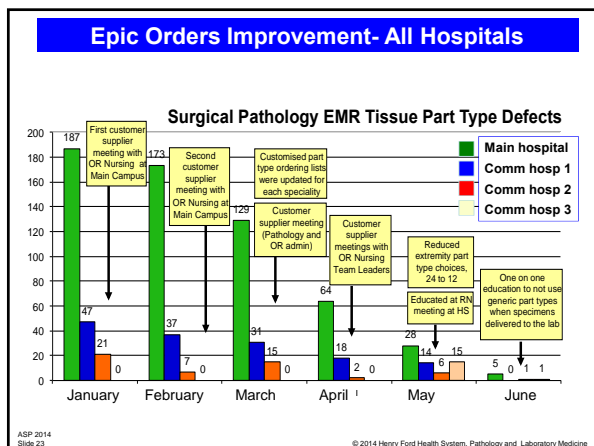
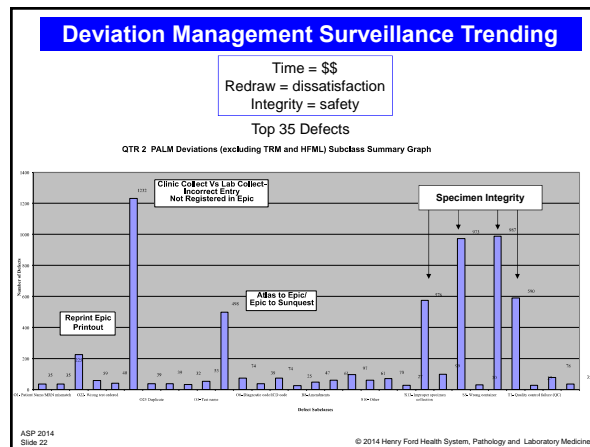
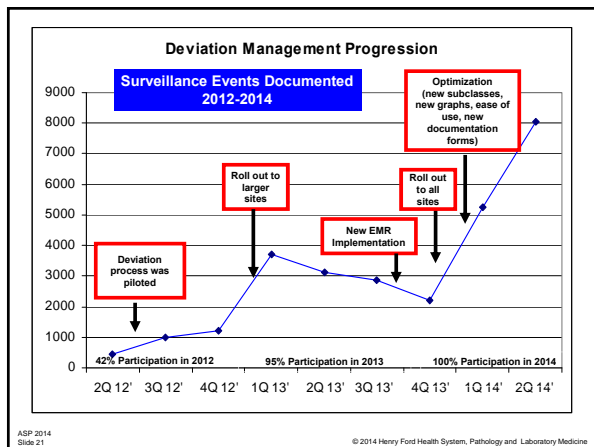


### Taxonomy

#### Deviation Classification Categories

Main Categories	Number of Subclassification Categories
Order Defects	36
Specimen Defects	13
Testing Defects	38
Report Defects	12
System Online Incident Report (RadicaLogic)	3
Complaints	4
Safety	2

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### Daily Management

“A legacy of quality”

### Daily Management Board

Q	T	I	P	S
Quality	Time	Inventory (or WIP)	Productivity	Safety

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**Q T I P S**  
Quality Time (Delivery) Inventory or WIP Productivity Safety

**Work Group Specific Metrics**

**Daily, Weekly, Monthly, Annual Trends**

**Root Cause Analysis**

**Corrective Actions** **Preventive Action Plan**

**Visual Management At-a-Glance**  
DAILY Gemba Rounds with workers

- Each square has all days of month
- Color each per performance
- RED: METRIC FAILED THRESHOLD
- GREEN: METRIC MET THRESHOLD

**Trendlines**

- Trend challenging metrics
- Day, week, month, year...
- BLUE: THRESHOLD
- RED: TIME OF FAILURE
- GREEN: TIME PASSING THRESHOLD

**Pareto Charts, RCA etc.**

What	When
Why	How

**Countermeasures:**  
Corrective & Preventive Actions  
Assign responsibility and Accountability for completion

**Associated PDCA - A3 Projects**

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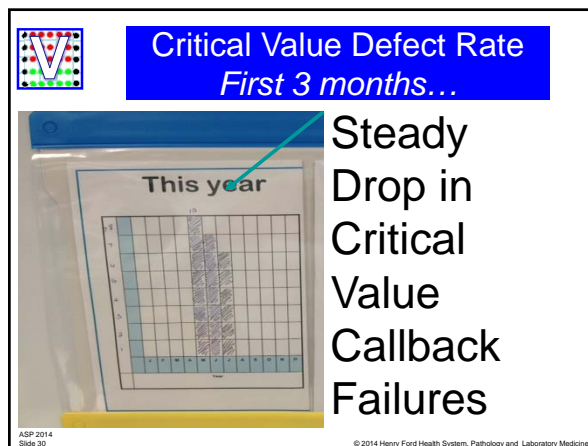
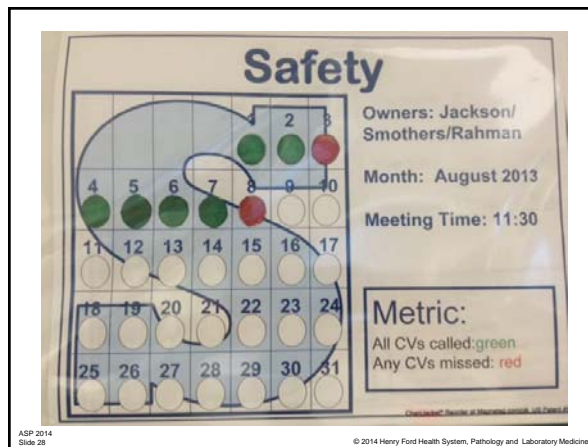


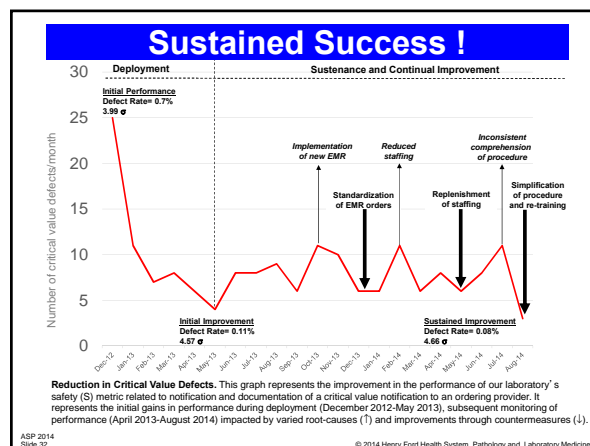
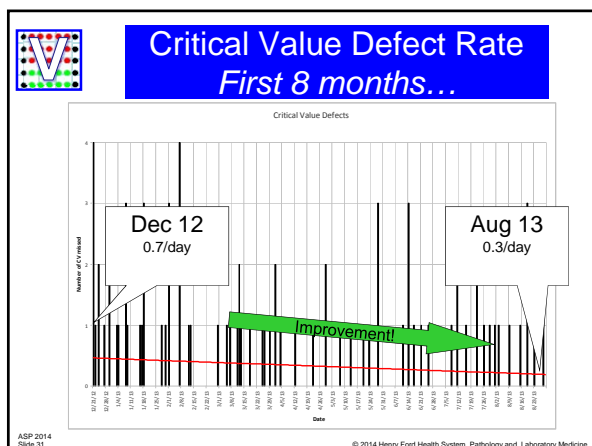
**DM Metrics June 2013-2014**

LAB Division	No. Daily Metrics in 1 yr	No. Long term >6 mo	No. Short term 1-6 mo	No. derived process improvements	Q	T	I	P	S
Core Lab	14	12	2	8	1	5	6	-	2
Lab Support	2	1	1	1	1	-	-	1	-
Chemistry	6	6	-	4	3	2	-	-	1
Micro/Sero	9	9	-	6	2	1	-	6	-
Transfusion	5	5	-	2	-	-	5	-	-
Surgical	19	11	8	17	10	4	4	-	1
Cytology	4	4	-	1	1	2	-	-	1
Molecular	5	5	-	3	4	-	-	-	1
<b>Total</b>	<b>64</b>	<b>53</b>	<b>11</b>	<b>42</b>	<b>22</b>	<b>14</b>	<b>15</b>	<b>8</b>	<b>5</b>

No. Unique Metrics/Year      QTIPS Domain Usage

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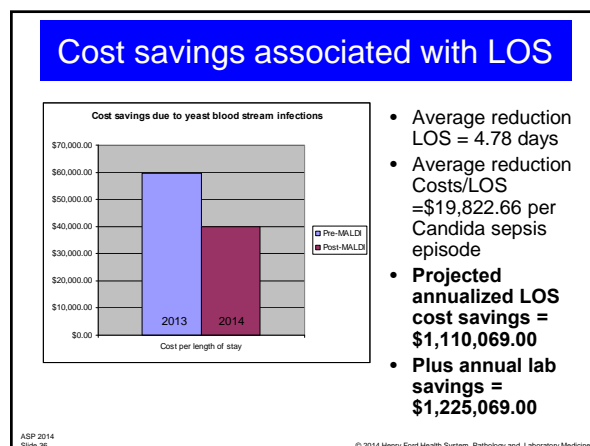
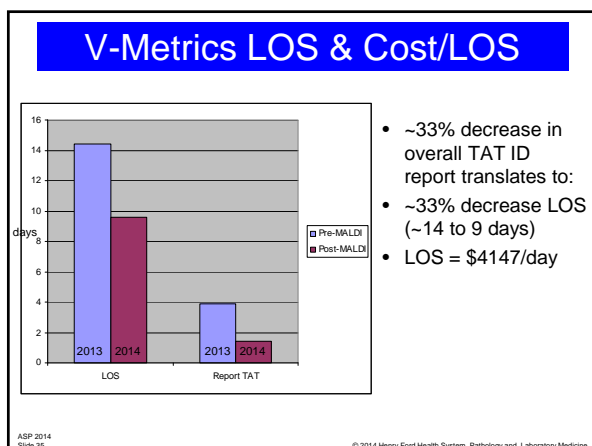
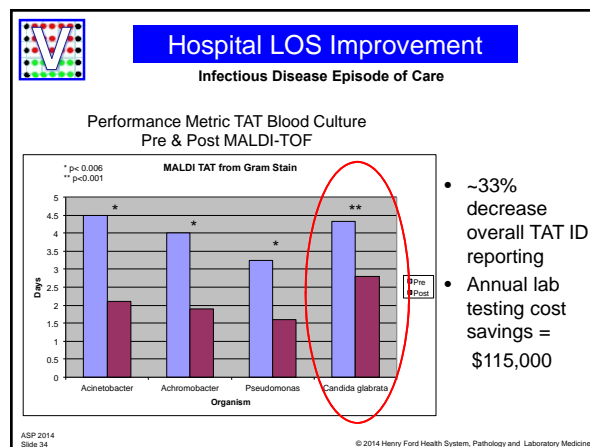


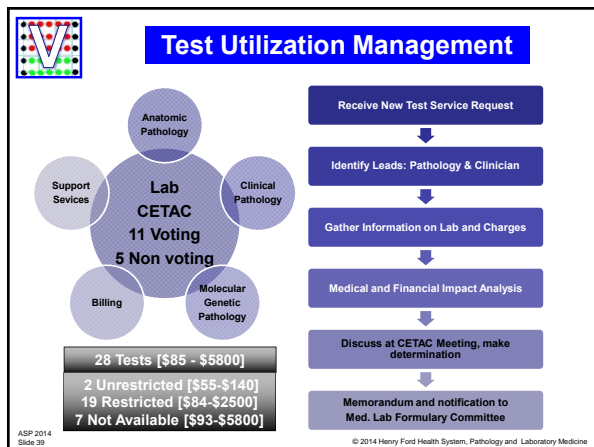
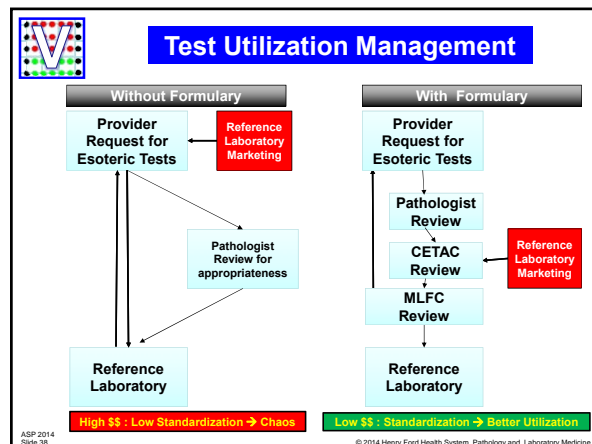
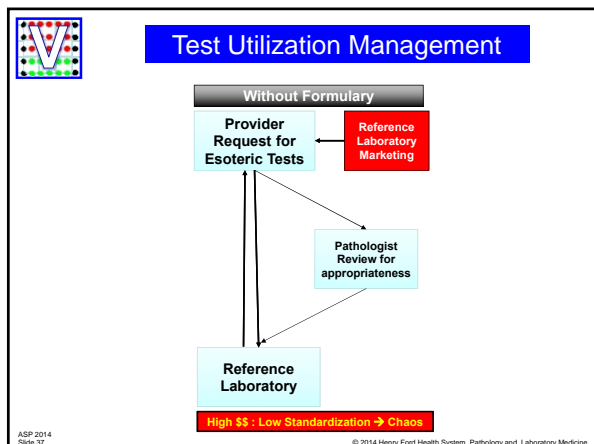


### Personalized Cancer Care Management

		2012	2013
<b>Molecular Profile</b>			
<b>Targeted Therapeutic</b>		<b>Cost of Treatment</b>	<b>Pharma Cost Savings</b>
EGFR (Gefitinib)	lung	\$72,000	\$14,184,000
ALK FISH (Crizotinib)	lung	\$72,000	\$12,600,000
BRAF (Ipilimumab)	melanoma	\$120,000	\$1,560,000
Her2 FISH (Herceptin)	breast	\$70,000	\$12,180,000
KRAS (Cetuximab)	colon	\$125,000	\$5,750,000
Testing cost	--	--	(\$253,994)
Reimburse			\$173,881
<b>Pharma cost savings (Neg tests X cost Rx)</b>		<b>\$46,274,000</b>	<b>\$50,270,000</b>

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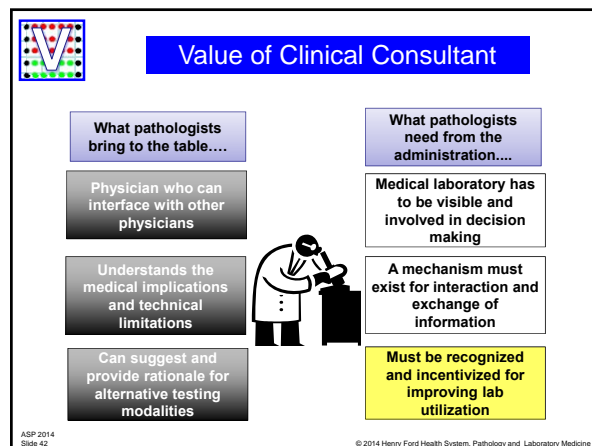
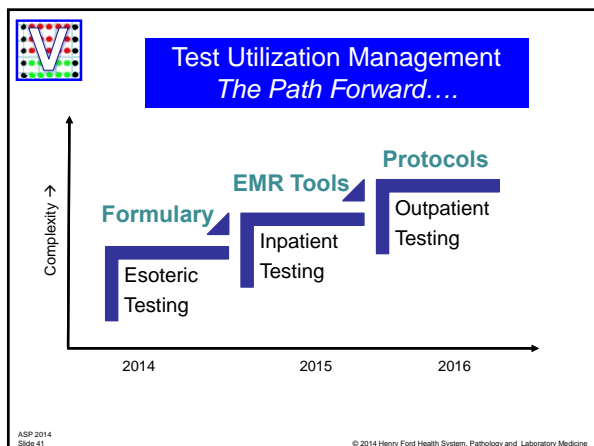




### Test Utilization Management Cost-Avoidance

Test	Vendor Claim	CETAC Determination	Cost and Reimbursement	Potential Cost Avoidance
Assay 1	A genomic profile that helps physicians make treatment decisions.	<b>NOT AVAILABLE</b> Reasons: - No FDA approval - Not in NCCN guidelines - Not for HFHS Trials	Cost: \$5800 and \$7500 Reimbursement: \$0 <b>LOSS: \$5800-\$7500/test</b>	>\$10 million/year In HFHS, 2000 cases/year will qualify for genomic testing for potential targets. This will be in addition to routine pathological diagnostic work-up.
Assay 2	Quantitative assessment of the likelihood of distant recurrence in patients diagnosed with ER+ node-negative breast cancer.	<b>NOT AVAILABLE</b> Reasons: - No FDA approval - Not in NCCN guidelines	Cost: \$3800 Reimbursement: \$150 <b>LOSS: \$3350/test</b>	> \$3.5 million > 300 cases/year of breast carcinoma are diagnosed in HFHS. A cohort of >1000 patients may qualify per vendor claim.
Assay 3	Aid in the classification of the tissue of origin and tumor subtype in conjunction with standard clinical and pathological assessment by a qualified physician.	<b>NOT AVAILABLE</b> Reasons: - No FDA approval - Not in NCCN guidelines	Cost: \$4750 Reimbursement: \$0 <b>LOSS: \$4750/test</b>	>\$1.4 million/year Per vendor claim, test is to be used in 25% of metastatic cases that remain unclear. If we assume 30% multiplexness are metastatic at diagnosis, then HFHS has 300 cases/year. (i.e. 10% of the total 3000) that may qualify per vendor claim.
Assay 4	Tests for *** protein and **** may be used as <u>supplemental</u> tests to help establish a diagnosis of Alzheimer Disease.	<b>NOT AVAILABLE</b> Reasons: - No FDA approval - Not required for diagnosis	Cost: \$1160 Reimbursement: \$52 <b>LOSS: \$1108/test</b>	>\$11,000/year Per clinical expert, the utilization of this test is expected to be around 100 cases/year.

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## Value Metrics

Won't always be cost and productivity but....

**Downstream episode of care  
efficiencies and clinical outcomes**

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## Relating to Value Metrics

### The language of the hospital C-Suite

- Risk Adjusted LOS (case type and severity)
- Emergency Room LOS
- Case Mix Adjusted Episode Costs
- Risk Adjusted Early Readmission Rate
- Average Time Emergency Department (ED) Door to Bed Average Time
- ED Treatment to Release
- Divert Hours for ED
- Pharmacy cost/DRG
- RVUs/DRG
- Cost per unit of service
- Salary Expense per Adjusted Patient Day
- Full Time Equivalents (FTE) per Adjusted Patient Day
- Supply Expense per Adjusted Patient Day

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## Are You Ready to Unleash the Power of Pathology's V-Man?



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*"Improved efficiency is only meaningful when it leads to **cost reduction**. This requires producing the required amount with the least resource."*

*"Efficiency improvement must be looked at not only at the level of individual people, lines staffed by teams of people, and groups of these lines but as efficiency of the **entire system**."*

-Taiichi Ohno

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