“Measuring the Value of Change”

Money Atwal, CFO/CIO

Randy Carson, President
AGENDA TOPICS

1. INTRODUCTIONS
2. IT’S ALL ABOUT CHANGE
3. ABOUT HILO MEDICAL CENTER
4. HILO MEDICAL CENTER’S STRATEGY TO SUCCESS
5. VALUE MANAGEMENT
6. CASE STUDY
7. QUESTIONS & DISCUSSION
INTRODUCTIONS

Money Atwal
Chief Financial Officer
Chief Information Officer
HHSC East Hawaii Region
• Hilo Medical Center
• Hale Ho’ola Hamakua
• Ka’u Hospital & Rural Health Clinic
B.S. Mechanical Engineering
General Electric TLP (Advanced Degree)
Six Sigma Black Belt
EHR Implementations
• Epic Enterprise
• MEDITECH 6.x

Randy Carson, FHIMSS, FACHE
President & COO
Health Systems informatics
B.S. Industrial Engineering
M.S. Engineering Management
Past HIMSS Board Member (1991-95)
Experience includes:
• Management Engineering
• Value Management
• Health Clinic Management
• Hospital Administration
EHR Implementations
• Epic Enterprise
• MEDITECH 6.x
IT’S ALL ABOUT CHANGE

Measuring the Value of Change
Health care spending growth hits 10-year high

Paul Davidson, USA TODAY 6:51 p.m. EDT April 1, 2014

Health care spending rose at the fastest pace in 10 years last quarter, a development that could foreshadow higher costs for consumers this year.

Expenses for health care rose at a 5.5% annual rate in the fourth quarter, the Bureau of Economic Analysis said last week. The jump triggered a sharp upward revision in the government’s estimate of consumer spending overall and accounted for nearly a quarter of the economy’s 2.6% annualized growth in the last three months of 2013.
IT’S ALL ABOUT CHANGE

MUST USE NEXT EXIT

Affordable Care Act (ObamaCare)

Meaningful Use

HITECH Act
• Looking at Interoperability through different lenses

Accountable Care

Quality & Value Based Payments
• Starting in 2018, payments are adjusted based on performance
  • Physician Quality Reporting System (PQRS)
  • Value-Based Payment Modifier which adjusts payment based on quality use of resources
**IT’S ALL ABOUT CHANGE**

Providers’ innovation initiatives span multiple areas with cost reduction most important

<table>
<thead>
<tr>
<th>Providers’ primary innovation initiatives</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost reduction</td>
<td>65%</td>
</tr>
<tr>
<td>Improve patient satisfaction</td>
<td>64%</td>
</tr>
<tr>
<td>Improve knowledge sharing and management</td>
<td>54%</td>
</tr>
<tr>
<td>Medical error reduction</td>
<td>52%</td>
</tr>
<tr>
<td>Better manage risk and value based payment models</td>
<td>51%</td>
</tr>
<tr>
<td>Hospital readmission reduction / potentially avoidable admissions</td>
<td>46%</td>
</tr>
<tr>
<td>Service expansion to new markets / patient populations</td>
<td>40%</td>
</tr>
<tr>
<td>New patient acquisition</td>
<td>26%</td>
</tr>
</tbody>
</table>

Q10: What are the primary issues your organization is trying to solve through innovation initiatives? N=92 responses; (select all that apply)

HIMSS
transforming health through IT

Health Systems informatics
Bainbridge Island, WA / Knoxville, TN

Hilo Medical Center
We Care for Our Community
IT’S ALL ABOUT CHANGE

Choices

Health Systems Informatics
Bainbridge Island, WA / Knoxville, TN
“The only thing that likes change is a wet baby.”

Mark Twain
The largest facility in the Hawaii Health Systems Corporation (HHSC)

- Largest employer on the island, over 800 employees
- Government Union(s): HGEA & UPW
- 276 licensed beds (142 acute care, 22 skilled nursing, 20 bed psychiatric, 112 bed extended care)
- 8,608 acute admission, 442 long term care
- Specialties/Services
  - Emergency Services
    Level 3 Trauma Center (41,100 visits)
  - OB/GYN (1,100 births)
  - Surgery (3,200 patients)
  - Oncology
  - Intensive Care
- 9 Outpatient Clinics (29,800 visits)
ABOUT HILO MEDICAL CENTER (HMC)

- **Safety-net hospital** providing significant care to the uninsured, underinsured, and vulnerable populations.
- Service area: 100 miles
- Population: 111,217 people
- Medicare/Medicaid Payer Mix: 76%
- Per Capita Personal Income: $30,844
- CMS Meaningful Use Stage 2 Attestation: Jan-Mar 2014
- HIMSS Analytics Stage 7 EMR Adoption Model
STRATEGY FOR SUCCESS

- Manage Major Initiatives (Project Management)
- Define expected outcomes for each initiative
- Process Improvement
- Baseline Current Performance
- Best Practice
- Gap Analysis
- Road Map Development
- Management tool in place
- Accountability
- Regular variance reporting
- Value Proposition on all significant Initiatives
“valueTRAX is a hybrid software and professional service that focuses on value generation and measurement based upon process improvement”

Key points of valueTRAX are:

1. **Measure Benefits, Costs and Accountability.**

2. **Workflow Processes** to measure the **Fiscal Impact of Change.**

3. **“Organizational Initiatives”** are the Drivers.

4. Provides an Executive Dashboard and **Business and/or Clinical Analytics.**

5. Designed for applications with both **Capital Initiatives** as well as smaller **Operational Projects.**
VALUE MANAGEMENT – Deployment Components

Stage I – Assess
- Profile
- Initiatives
- Leaders/Owners
- Data Mapping
- Process Mapping Begins

Stage II – Implement
- Customization
- Training

Stage III – Manage
- Accountability
- Analytics and Dashboards
- Maintenance
VALUE MANAGEMENT – Basic Model

Benefit KPI’s
- Cost Reduction
  Value Based Supply Chain
  Benefit: Decrease Supply Costs
- Revenue Enhancement
  Decrease Payment Denials
  Benefit: Increase Revenue
- Quality / Regulatory
  Decrease Hospital Acquired Ulcer Rate
  Benefit: Improved Outcomes and Patient Safety
- Satisfaction
  Improved Employee Satisfaction
  Benefit: Reduces Hiring and Retention Costs

Total Cost KPI’s
- Vendor Costs
  - Software
  - 3rd Party
  - Etc.
- Organizational Costs
  - Laptops
  - Wireless
  - Servers
  - Etc.
- Ongoing Annual Maintenance

Value Proposition
- Quantified Fiscal Impact
  - Net Decreased Cost
  - Net Increased Revenue
  - Net Improved Quality / Safety
  - Net Improved Satisfaction

Health Systems Informatics
Bainbridge Island, WA / Knoxville, TN

Hilo Medical Center
We Care for Our Community

Proprietary to HSi Inc. and shall not be shared without express written consent from HSi
VALUE MANAGEMENT

Measuring the Value of Change

Cost

Revenue

Quality

Satisfaction

OPTIMIZATION

Benefits

Creates a Consistent Framework
**Value Management**

**Metric Café**
- Choose from a menu of hundreds of Metrics
- Financial and Non-Financial
- Each Metric has a detailed Target and Impact Assessment Methodology

**Agnostic Platform**
- Interoperable with Major EHR’s including Epic and MEDITECH

**Accountability**
- Accountability reporting system that assigns and reports variances to every metric if desired.
CASE STUDY – Hilo Medical Center (HMC)

“A Value Management Case Study”

GOAL:
Make iT Meaningful and Measuring the Value of Change.
CASE STUDY

Assessment
- Implementation of EHR
- Data Capture
- Current State Mapping
- Best Practice Design
- Gap Analysis/ Change Management Plan
- Data Mapping
- Targets Gross Benefits $34.3 M
- Target Total Cost of Change (TCC) $31.0 M
- Accountability Assignments

Implementation
- Set up Customized Dashboards and Reporting

Ongoing Management & Measurement
- 5 years
CASE STUDY – Executive Dashboard

EXECUTIVE DASHBOARD

Summary This Month

<table>
<thead>
<tr>
<th>kpi_type</th>
<th>Variance</th>
<th>Actual</th>
</tr>
</thead>
<tbody>
<tr>
<td>TCC</td>
<td>$878,469</td>
<td>$31,890,769</td>
</tr>
<tr>
<td>Benefits</td>
<td>-183,954</td>
<td>$35,874,396</td>
</tr>
</tbody>
</table>

Summary To Date

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</tr>
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</table>

Value On Investment (Actuals)

Value On Investment (Cumulative)
CASE STUDY – Accountability

Accountability
Shown here is a way for an executive to monitor the status of various KPIs by their respective owners. Ownership is a key feature of ValueTRAX and it is applicable at Metric, KPI and OI levels.

<table>
<thead>
<tr>
<th>KPI Owners</th>
<th>Key Performance Indicators</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Full Name</strong></td>
<td><strong>Role</strong></td>
</tr>
<tr>
<td>Bill Bradley</td>
<td>Director</td>
</tr>
<tr>
<td>Charles Kline</td>
<td>VP</td>
</tr>
<tr>
<td>Jack Jones</td>
<td>CFO</td>
</tr>
<tr>
<td>Jane Jackson</td>
<td>CEO</td>
</tr>
<tr>
<td>Katherine Kohl</td>
<td>Director</td>
</tr>
<tr>
<td>Lynne Lake</td>
<td>Nurse</td>
</tr>
<tr>
<td>Mike Morgan</td>
<td>CIO</td>
</tr>
<tr>
<td>Steve Smith</td>
<td>CNO</td>
</tr>
<tr>
<td>Sue Stuart</td>
<td>CTO</td>
</tr>
</tbody>
</table>
CASE STUDY – Accountability

Health Systems Informatics
Bainbridge Island, WA / Knoxville, TN
## CASE STUDY – Total Cost of Change (TCC)

Components of EHR implementation, a typical organizational initiative.

<table>
<thead>
<tr>
<th>Key Performance Indicator</th>
<th>Target to Date</th>
<th>Actual to Date</th>
<th>Variance to Date</th>
<th>KPI Trend</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vendor Proposed Cost</td>
<td>$11,459,000</td>
<td>$11,499,986</td>
<td>-$40,986</td>
<td></td>
</tr>
<tr>
<td>Organizational Costs</td>
<td>$17,321,300</td>
<td>$18,079,517</td>
<td>-$758,217</td>
<td></td>
</tr>
<tr>
<td>On-going Annual Maintenance</td>
<td>$2,232,000</td>
<td>$2,311,266</td>
<td>-$79,266</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>$31,012,300</td>
<td>$31,890,769</td>
<td>-$878,469</td>
<td></td>
</tr>
</tbody>
</table>

**Organizational Costs**
- 2009: 18,079,517
- 2010: 18,079,517
- 2011: 18,079,517
- 2012: 18,079,517
- 2013: 18,079,517

**Vendor Proposed Cost**
- 2009: 11,459,000
- 2010: 11,499,986
- 2011: 11,499,986
- 2012: 11,499,986
- 2013: 11,499,986

**On-going Annual Maintenance**
- 2009: 2,232,000
- 2010: 2,311,266
- 2011: 2,311,266
- 2012: 2,311,266
- 2013: 2,311,266
CASE STUDY - Total Cost of Change

KPI: Organizational Costs

Jane Jackson: CEO, Executive

Cumulative KPI

Metric Details

<table>
<thead>
<tr>
<th>Metric Category</th>
<th>Metric Name</th>
<th>Metric Date</th>
<th>Target</th>
<th>Actual</th>
<th>Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>COST</td>
<td>3rd Party Resource Requirements</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>BarCode Readers (300)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Citrix Servers</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Contingency Funds</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>End User Training - 3rd Party Vendor</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>End User Training, classroom projectors, video dev, sc</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Internal Implementation Resource requirements, incl.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**CASE STUDY – Benefits**

Benefits are defined as positive impact to the organization. Typically it is correlated with the following:
- Reduced Cost
- Increased Revenue
- Quality and Safety Improvement
- Satisfaction of Employees, Medical Staff and Patients/Families

<table>
<thead>
<tr>
<th>Benefits</th>
<th>kpi_name</th>
<th>Target to Date</th>
<th>Actual to Date</th>
<th>Variance to Date</th>
<th>KPI Trend</th>
</tr>
</thead>
<tbody>
<tr>
<td>Decreased Payment Denials</td>
<td>$3,900,000</td>
<td>$4,000,681</td>
<td>$100,681</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Decreased Transcription Costs</td>
<td>$225,000</td>
<td>$302,528</td>
<td>$77,528</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Decreased Ucer Rates</td>
<td>$1,591,695</td>
<td>$1,503,566</td>
<td>$88,130</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Increased Charge Capture</td>
<td>$13,200,000</td>
<td>$12,054,203</td>
<td>-$1,145,797</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Increased Patient Co-Pay Collections</td>
<td>$720,000</td>
<td>$763,274</td>
<td>$43,274</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Meaningful Use</td>
<td>$2,210,000</td>
<td>$2,272,109</td>
<td>$62,109</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Paper Cost and Coordination</td>
<td>$1,803,000</td>
<td>$1,352,907</td>
<td>-$250,093</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reduce Software Maintenance Costs</td>
<td>$435,000</td>
<td>$474,792</td>
<td>$39,792</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reduced A/R Days</td>
<td>$1,710,000</td>
<td>$1,700,590</td>
<td>-$1,410</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reduced Drug Costs</td>
<td>$3,600,000</td>
<td>$5,693,343</td>
<td>$2,093,343</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reduced Length of Stay (LOS)</td>
<td>$864,714</td>
<td>$1,281,947</td>
<td>$417,233</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**CASE STUDY – Key Performance Indicators (KPI’s)**

**Key Performance Indicators**

KPI’s are defined as the aggregate value of one or more Metrics that result in a fiscal value impact. KPI’s can be classified as costs or benefits.

### Benefits

<table>
<thead>
<tr>
<th>KPI</th>
<th>Variance to Date</th>
<th>Target to Date</th>
<th>Actual to Date</th>
<th>KPI Trend</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increased Charge Capture</td>
<td>-$1,146,797</td>
<td>$13,200,000</td>
<td>$12,054,203</td>
<td></td>
</tr>
<tr>
<td>Decreased Payment Denials</td>
<td>$100,681</td>
<td>$3,900,000</td>
<td>$4,000,651</td>
<td></td>
</tr>
<tr>
<td>Reduced Drug Costs</td>
<td>$2,083,342</td>
<td>$3,400,000</td>
<td>$5,483,343</td>
<td></td>
</tr>
</tbody>
</table>

### TCC

<table>
<thead>
<tr>
<th>KPI</th>
<th>Variance to Date</th>
<th>Target to Date</th>
<th>Actual to Date</th>
<th>KPI Trend</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vendor Proposed Cost</td>
<td>-$40,956</td>
<td>$11,459,000</td>
<td>$11,499,956</td>
<td></td>
</tr>
</tbody>
</table>
CASE STUDY – Metrics

Shown are the various basic Metrics organized by Metric Groups. The Metrics are rolled up into Key Performance Indicators (KPI).

<table>
<thead>
<tr>
<th>Metric Group</th>
<th>Metric Name</th>
<th>Metric Date</th>
<th>Target</th>
<th>Actual</th>
<th>Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>COST</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>QUAL</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>REV</td>
<td></td>
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<td>SAT</td>
<td></td>
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<th>Metric Date</th>
<th>Target</th>
<th>Actual</th>
<th>Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>COST</td>
<td>3rd Party Consulting Resources (Implem. support and proc)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>3rd Party Hardware and Maintenance</td>
<td></td>
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<td></td>
</tr>
<tr>
<td></td>
<td>3rd Party Maintenance (Annual)</td>
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<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>3rd Party Resource Requirements</td>
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<td></td>
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</tr>
<tr>
<td></td>
<td>3rd Party Standard Content Vendor - DrFirst</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>3rd Party Standard Content Vendor - First Databank</td>
<td></td>
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<tr>
<td></td>
<td>3rd Party Standard Content Vendor - Intelligent Medical CI</td>
<td></td>
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<tr>
<td></td>
<td>3rd Party Standard Content Vendor - Zynx Health</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td></td>
<td>BarCode Readers (300)</td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>
CASE STUDY – Processes Intelligence

Health Systems informatics
Bainbridge Island, WA / Knoxville, TN

Health Information Management

- Patient is Discharged
- Accounts qualify for a Coders WQ by preset criteria
- Coder Pulls their own charts for coding
- Coder Pulls their own charts for coding
- Open patient record in Carelink
- Is account complete?
  - Yes
  - No
    - Account is pended and held until coder obtains necessary info to code account

- Printed account listing
- Coder Pulls out account listing from WQ
- Coders WQ

- Chart is picked up by Medical Records, reconciled and assembled.
- Chart is placed on the incomplete shelf in terminal digit order

- Are there more accounts to code?
  - Yes
  - No
    - Coding process is complete

- Does account pass coding related edit checks?
  - Yes
  - No

- Information sent to Carelink
- Enter Quantum
  - * Select acct.
  - * Code
  - * Abstract
  - * Group DRG
CASE STUDY – Processes Intelligence: Variation Mgmt.

Emergency Department Process

ED Current Process

ED Best Practice
CASE STUDY – Hilo Medical Center

Benefits + TCC = VOI

**Value Proposition** (Net Benefits)

**Total Cost KPI’s**
- Vendor Costs
- Organizational Costs
- Ongoing Annual Maintenance

**Benefit KPI’s**
- Cost Reduction
- Revenue Enhancement
- Quality / Regulatory
- Satisfaction

Total:
- Benefits: $35,874,396
- TCC: $31,890,769
- VOI: $3,983,627

*Benefits achieved from EHR Installation / Stage 7 HIMSS Analytics / MU Stage 1 Attestation*
CASE STUDY – Value On Investment (Cumulative)

Benefits: $35,874,396
TCC: $31,890,769
VOI: Approx. $4.0M
THANK YOU!