

Exceptional Value

2013 ANNUAL REPORT



UNIVERSITY OF UTAH
HEALTHCARE

TABLE OF CONTENTS

EXCEPTIONAL VALUE	2-3
A TARGETED APPROACH	4-7
Value Equation	4
Efficiency	5
Quality and Outcomes	6
Our Promise	7
A NEW GAME PLAN	8-11
Training Participation	8
Financial Impact	9
Project Highlights	9
Operational Strategy	10
LEADING THE WAY	12-13
Future Challenges	12
The Call to Action	13
CULTURAL CHANGE	14-17
Spreading the Vision	14
Physician Engagement	15
Employee Engagement	16
Behavior Standards	17
CLIMB HIGHER	18-19
Training Programs	18-19



A LASTING IMPACT	<i>20-31</i>
Value Driven Outcomes (VDO)	<i>20-21</i>
VDO Case Study	<i>22-23</i>
Improving Access Program	<i>24</i>
One Chart	<i>25</i>
Value Council	<i>26-27</i>
Portfolio Management & UHPP	<i>28</i>
Innovation Station	<i>29</i>
Value Summary	<i>30-31</i>
RESOURCES	<i>32-35</i>
Departmental Partnerships	<i>32</i>
Pharmacy Results	<i>32-33</i>
Supply Chain Results	<i>34</i>
Clinical Documentation Initiative	<i>35</i>
Appendix A: Behavior Standards	<i>36</i>
Appendix B: FY13 Project Benefits	<i>37</i>
Appendix C: Project Summaries	<i>38-53</i>

Exceptional value
is our **journey** and not
just a **destination.**

Dr. Vivian Lee has given the University of Utah Health Sciences Center (UUHSC) a compelling vision of the future, challenging us to become the leading academic medical center in the nation by delivering exceptional value to our patients, our payers, and our employees.

We can achieve this vision for UUHSC.

As we have looked to other organizations striving to deliver exceptional value, we have learned that this vision takes time and relentless focus. We need to be comfortable that we will not arrive at this destination quickly or without significant effort. Our path to delivering exceptional value can be better described as a journey and a cultural evolution rather than a destination.

How will we know that we are successful in this journey?

To measure our success, we regularly ask ourselves a number of questions.

- Are our physicians considered to be the preeminent leaders in their respective fields and are they leading healthcare transformation?
- Are we making it easier for patients to come to us for their care by providing quick and easy access with prompt and complete communication? Are we providing them with measurable and sustainable safe, effective, efficient, and patient-centered services?
- Are we considered to be a vital partner of our payers, employers, and regional healthcare providers by providing innovative clinical care and cost effective services with the highest quality and outcomes?
- Are our trainees being adequately trained to be tomorrow's healthcare leaders?
- Are we leveraging the collective strengths of our campus community (both health sciences campus and abroad) to help us meet these aspirations?

To the extent we can answer these questions in the affirmative; we know we are well into our journey to become the leading academic medical center in the nation. When we are uncomfortable with our answers, we know where we need to improve to truly deliver exceptional value to our patients, payers, and employees.

A TARGETED APPROACH

What is exceptional value?

We have a very simple formula at UUHC to serve as our guiding star.

$$\text{V (VALUE)} = \frac{\text{Q (QUALITY)} + \text{S (SERVICE)}}{\text{\$ (COST)}}$$

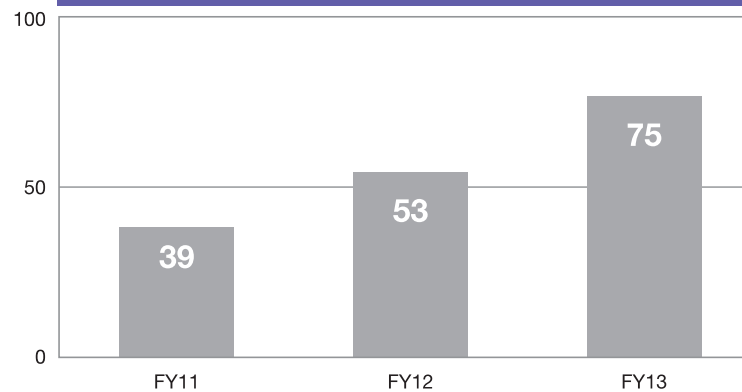
Improving quality and/or service while reducing our costs through improved efficiency will deliver a higher level of exceptional value to our patients, payers, and employees.

The equation is simple. But the journey requires all of us to be engaged in performance improvement efforts.

Fortunately this is a journey in which UUHSC is well qualified.

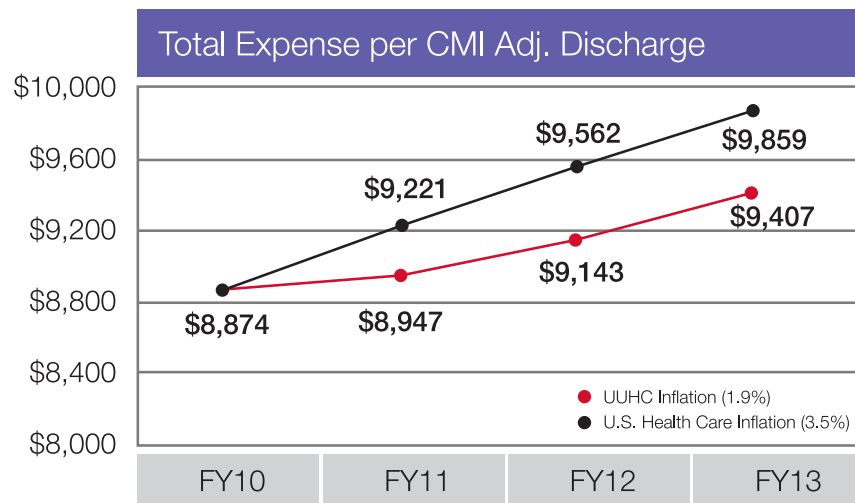
Over the past five years we have improved in making it easier for patients to come here for their clinical care. Our outpatient satisfaction has dramatically improved over the past 3 years.

System Ambulatory Patient Satisfaction
National Rank – Overall Score

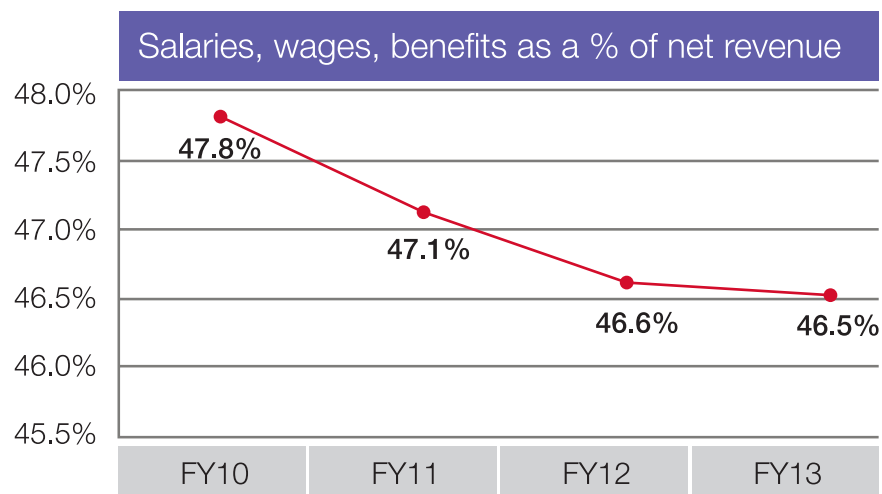




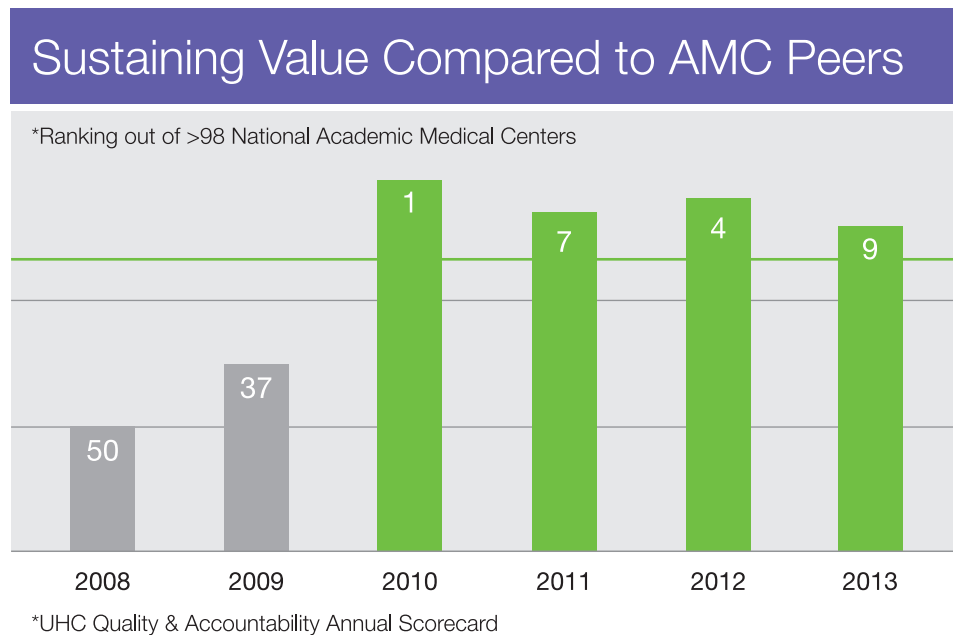
We have become more efficient over time. Although our total expense has grown, it has grown dramatically less than overall healthcare inflation for the region or the nation, making University of Utah Health Care (UUHC) a more cost effective alternative to other organizations.



One of Dr. Lee's earliest comments was to promote "highly competitive compensation" in making the case for value-driven care. **Hospitals and Clinics employees have seen their wages increase over 8.7% since FY11. At the same time salaries, wages, and benefits have been declining as a percentage of net revenue. A root cause of this decline is reduction in non-value-added activity in the Hospitals and Clinics system. There is enough natural attrition in Hospitals and Clinics to support this decline.**



Our quality and outcomes are considered to be some of the best in the country for all academic medical centers (based upon a comprehensive set of metrics: mortality, safety, effectiveness, efficiency, equity, patient centeredness).



Even though we are proud of these results in delivering a heightened level of exceptional value, we know that our journey has only begun. We know that we still fall short in the aspirational vision, which Dr. Lee has given us.

There's a way to do it better—**find it.**

—Thomas Edison

THE EXCEPTIONAL VALUE ANNUAL REPORT

The purpose of this annual Exceptional Value report is to share the successes and challenges UUHSC has had in our journey during FY13. Also, we hope to be able to more clearly communicate with the organization our vision for what comes next.

The Beginnings of a Cultural Change

The biggest opportunity we had in FY13 was moving the exceptional value journey from a series of somewhat disconnected projects into a broad-based cultural movement of organizational engagement.

Communication, Communication, Communication

The exceptional value journey actually started at UUHC several years ago. However, the beginnings of the journey were isolated and focused on a few small areas that were already prepared to be engaged in increasing the value of service UUHSC provides. Dr. Lee's call to action provided the necessary leadership to engage the entire health sciences community in the journey. As a result, the initial and biggest challenge we had in FY13 was to clearly communicate Dr. Lee's vision to all parts of the organization. Communication was broad and repeated

to ensure that as many people in the organization as possible could understand the vision, hear the call to action, and become emotionally engaged in our work.

In the fall of 2012, we kicked off the Exceptional Value campaign with a Lean Symposium to educate physician and hospital leaders. This was quickly followed by a series of events. Leadership Development Institute (LDI), employee forums, University of Utah Medical Group (UUMG) retreats, and countless other meetings across the organization. As a result, more than 2,000 people personally heard the vision and call to action to make UUHSC the leading academic medical center in the nation.

Revised Behavioral Standards

At the core of our efforts to develop a culture of exceptional value, within the hospital and clinics, we wanted to connect the vision of what we can become into the work accomplished on a daily basis by all of our employees. In order to accomplish this, hospital and clinics employee behavioral standards were revised to include an emphasis on innovation and process improvement.



A NEW GAME PLAN

Beginning in FY14, UUHC employees will be evaluated based upon their personal engagement in improving our quality and patient experience while improving our overall efficiency. During the employee's FY13 performance evaluation, leaders communicated these expectations, establishing employee and work group goals for the upcoming year.

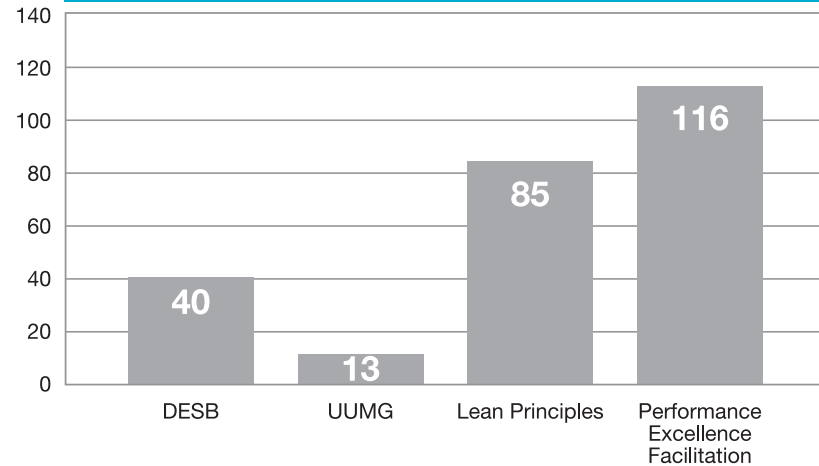
Similarly, important groundwork has been laid in the School of Medicine by the Office of Academic Affairs and Faculty Development with a goal to revise and align promotion and retention criteria of our clinical faculty with leadership and effective efforts in innovation and process improvement.

Training Leaders and Staff

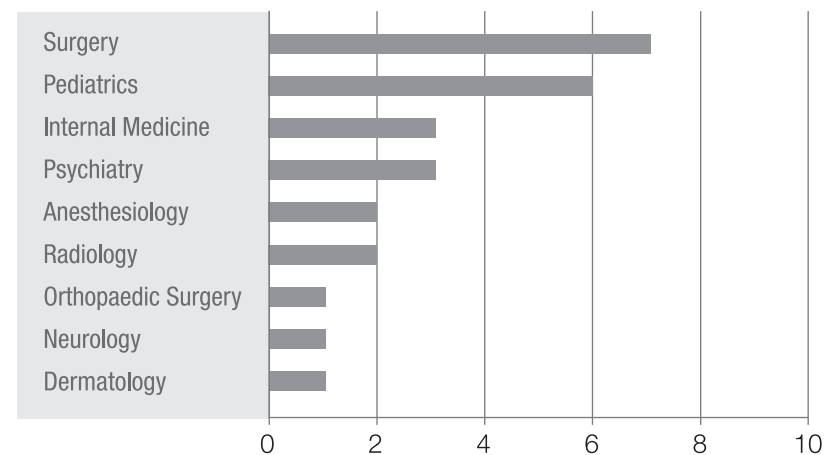
We have expanded the number of physicians, leaders, and staff from across the health sciences campus trained in process improvement skills. Given the complexity of training so many people in such a short time, we have used both internal resources (value engineers) and external resources (University of Utah Business School) to provide a broad base of educational experiences.

During FY13 more than 40 physician and health sciences leaders were trained through the business school affiliation. Sixteen physicians were trained through the UUMG Quality Improvement Scholars collaborative training program. And, more than 201 leaders and staff were educated through the value engineering team. Each of these team leaders designed an improvement project in the areas of quality, patient experience, and/or efficiency.

FY13 Participation by Training Program



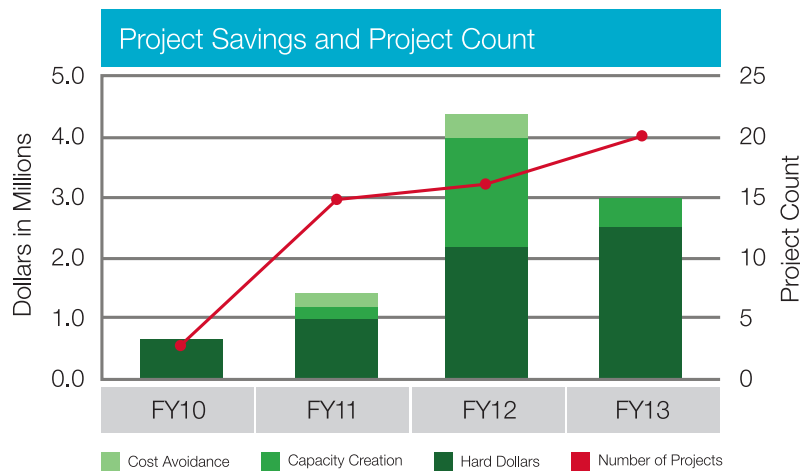
FY13 SOM Department Participation in Training





Engaging Work

The value engineers continued to work with physician and administrative leaders on organization sponsored projects. Overall, FY13 has been a successful year in improving our exceptional value. (Appendix B)



We **cannot**
become what
we **need**
by remaining
what **we are.**

Call Back time for Behavioral Health ↓ by 12%	Sterilization Process ↓ Rework & Supply Expense
Develop Baclofen Refill Clinic	Improve ACCESS: 38 to 13 days
Care Provider National Rank: ↑ from 53% Percentile to 77% Percentile	Fewer hospitalist labs ordered: ↓ ~ 11K
Peds FT Seizure Clinic New Patient Time to Resolution 25 to 3 days	Pain Clinic: Quarterly Press Ganey wait time from 10th TO 62nd Percentile
Invasive ventilation for premature babies (GA < 32 wks) ↓ 4.0 to 0.8 days	IVIG Medicare Reimbursement 26% to 50% ↑
Main ENT Clinic: 1 New Patient Visit / Clinic Day ↑	Radiology Oncology: Carbon Copy Process to Referring Providers to 100% ↑

Focus and Alignment

One of our challenges in this journey has been to keep the organization focused while simultaneously broadening alignment toward these goals across the entire health sciences campus. Many leaders and employees have become excited and energized about the vision for the future. But often they are not aware of what they should do and how they should proceed. A key tool to help keep our performance improvement efforts focused has been the development of our UUMG and UUHC FY14 operational strategy. This effort helped to identify the most important aspects of quality, patient experience, and efficiency to deliver exceptional value.

EPE	Quality	Financial Strength
15% reduction NP access lag	Improve rate: C-Diff, ICU CAUTI, ICU CLABSI	50% Meaningful Use <small>providers attest:</small>
80% of patients will have 7 day referring provider communication	100% core measure compliance	Reduce total expense per CMI adjusted discharge by 1% below budget
HCAHPS performance Pain – 5% increase always Communication – 6% increase always	Implement One Chart - 100% users trained - On time - At/below budget	<ul style="list-style-type: none"> • 5% increase services to University Health System • Increase covered lives 6.5% • Implement ACO risk share Health U -94% UUHP -87%
Outpatient 80 percentile for 2 of 4 quarters	Reduce cost: \$5M through care redesign	3% increase arrived visits 4% increase pro collections
	Leverage Innovation Station Increase VDO functionality	5% increase in growth from target areas

Physicians, leaders and employees can now be focused and unified in the performance improvement journey. For FY15 our opportunity is to continue to use these goals as a way to focus engagement and alignment throughout our system, to include our trainees and others across the health sciences campus.

Providing Tools and Resources to Quicken the Pace

The organization has created an innovative and forward thinking analytical tool called *Value Driven Outcomes (VDO)*, which has become a core resource in our efforts to actively redesign the way we deliver clinical services. VDO provides the end user with accessible and actionable cost of care integrated with clinical outcomes, highlighting variation, and prioritizing areas of greatest impact. Some key examples of how this tool is being used effectively in the organization are presented in this annual report.

In order to collect, prioritize, and manage performance improvement initiatives at the local level we developed *Innovation Station* during FY13.

Already we have more than 300 project ideas submitted, with 40 of them having been turned into active projects.

Exceptional Value INNOVATION STATION

- 1 Browse Idea Pool ▶ >>
- 2 Submit An Idea ▶ >>
See All Of My Ideas ▶
- 3 Review Ideas ▶ >>
(for Managers)
- 4 See All Ideas & Assign Timeframes ▶ >>
(for Managers and Leaders)
- 5 Manage Projects ▶ >>

LEADING THE WAY

So what are our challenges for the future?

Move Performance Improvement from a Project to a Management Philosophy based upon principles of engagement, prioritization, measurement, and sustainability

In the coming year, we need to continue to deepen the culture of performance improvement. We need to transition from a mindset of exceptional value as a series of projects into an approach to doing business.

To help deepen this cultural journey, we will continue to **expand usage of the Innovation Station** as part of each unit's workflow to help engage and prioritize efforts. To foster this tool, we are planning to promote completed projects as an organizational improvement resource.

Also, to promote measurement and sustainability, we are planning to **add a monthly management dashboard** that will report each unit's progress on delivering exceptional value (i.e., EPE, quality metric, labor efficiency, and engagement). This report will be visible across the organization and mirror the

success we have had in engaging the organization around our EPE journey, with visible markers of success and challenges based upon clear expectations of engagement.

We will also **further leverage VDO** to actively engage our physicians in meaningful redesign of our clinical processes. We have already initiated a series of structured 90-day improvement cycle projects designed to identify key clinical services, organize project teams, and redesign clinical processes to improve our quality and outcomes as well as become more cost effective.

These are a few of the plans for FY14 among other ideas and initiatives that are discussed in this annual report.

Exceptional Value Performance Dashboard FY13

EPE	Quality		Labor Efficiency	Engagement Value Projects	
Percentile Rank	Access	Harm	Cost per Stat	Completed	In Process



How will we know that we have been successful in FY14?

Ultimately, how will we know that we are making progress on our journey to becoming a leading academic medical center by providing exceptional value to our patients, payers, and employees?

We will know we are becoming more successful by how we answer the following questions:

- Has the organization incorporated performance improvement into daily work flows as opposed to simply conducting a project?
- Are leaders actively engaged with their teams?
- Have we improved our performance in our quality and outcomes measures?
- Have we become more efficient by improving our total cost of care as compared to our FY14 budget?
- Have we made it easier for patients to get their care at UUHC as measured by improvement in EPE scores?

The Call to Action

Performance improvement is a journey and not a destination.

The call to action is for physicians and administrative leaders to become engaged in a meaningful way with their respective teams. Learn for yourselves about Lean and performance improvement principles. Become a teacher, coach, and advocate with your teams and help them deliver increasing levels of exceptional value for our patients, payers, and employees.

The next step in the journey is clear.

Know and understand the organizational priorities as described in our system's operational strategy. Work with your teams to identify and prioritize opportunities to move one step closer in delivering exceptional value. Take advantage of the tools and training resources to elevate the capabilities of your teams. And ultimately, adopt the performance improvement principles into your personal leadership and management philosophy.

Quinn McKenna
Chief Operating Officer

Robert Pendleton, MD
Chief Medical Quality Officer

Success belongs to those who
believe in the power of their **ideas.**

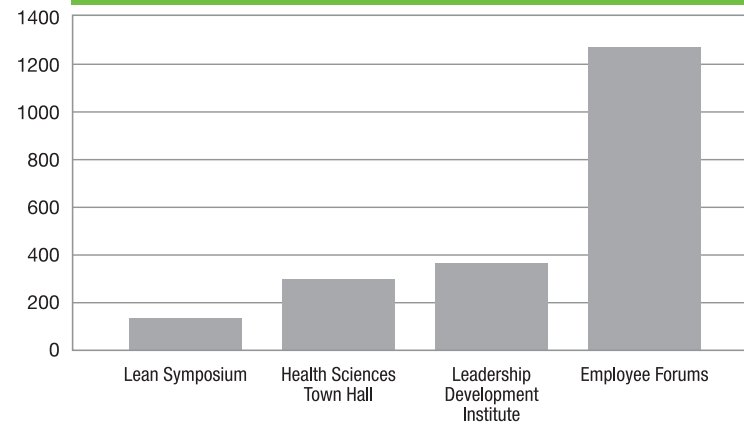
CULTURAL CHANGE

Call to Action

During FY13, UUHSC leadership used a multi-pronged call to action. In the fall, physician leaders attended the Lean Symposium and all Hospitals and Clinics leaders and managers attended a Leadership Development Institute (LDI). During both of these sessions, internal and external experts introduced Lean principles, and executive leadership initiated a call to action.

Employees had a similar call to action in both fall and spring organization-wide employee forums and system-wide Health Sciences Town Hall meetings. Leaders explained the importance of delivering high value care to our patients and the need for all employees to contribute ideas and collaborate in improvement work.

FY13 Call to Action – Spreading the Vision of Exceptional Value



Discovery consists of seeing what everybody has seen and thinking what **nobody** has thought.



Physician & Employee Engagement

Integrating Lean principles into our organizational culture requires developing process improvement skills, and understanding the organizational values and norms, which promote a culture of improvement. Review of the literature and interviews with other organizations focus on the importance of:

- employee engagement
- alignment with organizational values and goals
- a culture of respect and collaboration
- shared decision making

Physician Engagement

In 2012, UUMG surveyed selected faculty regarding their satisfaction with clinic-based practice. The results showed that overall satisfaction was at the 49th percentile compared with other Teaching Hospitals.

Highlights revealed the following:

QUESTION	NATIONAL RANK
Quality of Care	67th Percentile
Ease of Practice	76th Percentile
Communication and Collaboration	39th Percentile

2012 Press Ganey Physician Satisfaction Survey, Teaching Hospital Compare Group

Lower performance in the “Communication & Collaboration” section revealed a desire for increased involvement in operational decisions. Physician leadership and participation in our Lean efforts has been remarkable and reflects the passion our faculty members have to improve their practice. Physicians have participated in all avenues of Lean education, VDO improvement cohorts, and University of Utah Healthcare Partners Program (UHPP) sponsored improvement initiatives.

System leadership has made a concerted effort to expand UUHC/UUMG decision-making in determining the strategy and direction of the clinical enterprise. The organization has invested in shared executive strategic direction, the strengthening of physician participation in service lines, entities, and the establishment of Medical Directors at the executive, service line, and unit levels. This investment provides the infrastructure to consistently engage physicians and physician opinion in clinical operations. With infrastructure established, lack of physician time to participate in improvement work is a clear risk. The organization is currently evaluating ways to both engage and value the contributions of physicians in improvement work in programs like UHPP.

Employee Engagement

After five years of progressively increasing employee engagement, University of Utah Hospitals and Clinics shows a high degree of employee engagement.

Highlights from the 2012 UUHC Employee Opinion Survey revealed the following:

QUESTION <i>(2012 Employee Survey, Morehead Associates)</i>	% POSITIVE RESPONSE
This organization provides high quality care and services	99%
This organization cares about its customers	99%
I like the work I do	98%
I have confidence in hospital administration's leadership	93%
The person I report to treats me with respect	94%
The organization treats employees with respect	94%
The person I report to cares about quality improvement	96%

Yet widespread engagement has not translated into broad idea contribution or participation in improvement work. With the call to action for all employees to contribute to improving organizational performance, both leaders and employees will continue to shift our concept of engagement from one of productivity to active contribution toward our organization's improvement.

Change starts when someone sees the **next step.**

Behavior Standards

UUHC Behavior Standards define the expectations for all employees to create a respectful and successful organization. Consistent with a Lean management approach, we clarified our expectations that all employees should actively participate in improving the organization. We provided all employees with clear and consistent definitions of successful behavior. Behaviors were identified via a survey of the organization's highest performing employees.

Positive Change Behaviors

- Identifying WHY the change is important and WHAT the benefits will be.
- Expressing ideas with respect for the feelings and viewpoints of others.
- Bringing concerns to those who can resolve them.
- Committing to implement change to the best of your ability.
- Seeking input from others to test and improve your ideas.
- Sharing expertise willingly.

Negative Change Behaviors

- Voicing concerns disrespectfully.
- Attributing negative motives to those with differing views.
- Withholding expertise or support.
- Gossiping with team about concerns with change.
- Identifying barriers without offering solutions.
- Disengaging from project.

Better Together

These behaviors were integrated into the PROMISE Behavior Standards, which were revised to include focus on both Innovation and Excellence. (Appendix A)

Beginning in FY14, performance feedback will include how effectively employees express their ideas, their responsiveness to change, and how often they identify possible solutions to problems. Employees will also be evaluated on how often they seek input from colleagues and how well they seek to understand conflicting opinions.

In FY14, managers will be evaluated on their continued sponsorship of improvement work, their skillful ability to cultivate employee ideas, and their implementation of changes that improve the value equation.

Tying new expectations about innovation to annual evaluations creates clear incentives for all employees to actively participate in improvement initiatives.

CLIMB HIGHER

A top priority this year was to introduce the discipline of Lean thinking to our organizational culture of innovation. We offer multiple programs to match participants' learning objectives.

Training Elements

In FY13, the organization sponsored four formalized Lean training programs:

- Lean Principles (*1 day, 6 curriculum hours*)
- Performance Excellence Facilitation (PEF) (*13 weeks, 45 curriculum hours, project work*)
- UUMG Quality Scholars Program (*26 weeks, 25 curriculum hours, project work*)
- David Eccles School of Business Lean (*13 weeks, 12 curriculum hours, project work*)

Lean Principles

Lean Principles (LP) is for anyone who wants to understand Lean foundational principles for everyday Lean applications. In FY13, 85 UUHC employees completed this course. Following up with Lean Principles participants to see how they are integrating Lean management into their workplaces is an opportunity for FY14. Participants are introduced to concepts of waste, flow, value, and variation.

Performance Excellence Facilitation

Performance Excellence Facilitation (PEF) is for people who will run performance improvement projects at UUHC in their local departments.

We hope that out of every ten participants, we will harvest:

- 9 UUHC employees who understand Lean principles
- 3 projects with an immediate high impact on the strategic goals
- 1 enthusiastic facilitator who will go on to complete additional projects in their area

PEF provides participants with the background, foundational principles, and methodology for continuous performance improvement. The course explains theory and provides healthcare examples of many specific tools, including how to execute and when to apply. Each participant must facilitate a Lean project with the guidance of a value engineering mentor. **In FY13, 103 UUHC personnel completed the course and 66 projects were presented.**

Collecting monitoring data from these projects is an opportunity for improvement for FY14. Centralizing and simplifying monitoring in Innovation Station will be a significant improvement.

Spark Health Innovation Lab

University of Utah Health Care has also partnered with the College of Architecture and Planning to bring design students together with UUHC physicians and staff. These students work with some value improvement teams to bring a designer's perspective to visual workplace management elements and printed material.



UUMG Quality Improvement Scholars Program

The UUMG Quality Improvement (QI) Scholars Program is sponsored by UUMG and targets physicians who want to make quality improvement part of their careers. Curriculum provides physicians with process improvement principles and tools. The physicians design a project to facilitate during the course and are assigned a value engineer as a mentor.

In FY13, 18 QI scholars enrolled, 13 completed the curriculum, and 10 projects were presented in varying degrees of completion. If scholars were past the analysis phase, they could apply for a share of \$100K in funding to complete their projects. The scholars will give project updates in December 2013.

The collection and analysis of data from QI scholars is an opportunity for improvement for FY14. We have done a good job of enrolling people in the class and mentoring them to completion, but we have not developed a robust system for gathering the metrics on a regular basis. Again, we expect that the monitor section of Innovation Station will improve the monitor phase process.

David Eccles School of Business Lean Program

Over the past year, roughly 40 physician and health sciences leaders from the University of Utah Health Sciences have received training in Lean principles through educational and coaching sessions offered in conjunction with the David Eccles School of Business (DESB). The training proceeds through several steps. First, each leader identifies a project in which Lean principles will be applied. Next, the leader refines the project after a half-day of training. The leader forms a multidisciplinary team of five who will be the architects, designers, and ultimately the implementers of the process improvements. Team participants then receive a day of

training in which they learn the basic principles of Lean, and learn how to maximize the team experience to achieve high impact in a relatively short time. Over the next ten weeks, the team methodically applies Lean-thinking and ultimately portrays its results in an “A3 (Value Summary)” – a document that summarizes the project and its results. The roughly 40 projects completed to date have generated significant financial improvements while contributing to quality of care.

This collaboration between Utah’s Medical and Business Schools is believed to be a one-of-a-kind initiative, and is itself a Lean implementation in the sense that it makes best use of existing on-campus capabilities and creates synergies between the two schools. Many teams have included a student from the DESB, offering unique learning opportunities for these student participants.

Mentors for Life

It would be naïve to think 100% of our curriculum is practical and immediately useful for all of our classroom participants. Classroom training is just not very Lean. It is a batch process and for participants, much of the content will not be applicable to their project. But what about their next project? And the project after that? It is unreasonable to expect busy professionals to remember all that material for the next project, and that is why our value engineering mentors are “mentors for life”.

A LASTING IMPACT

Focus and Alignment

Our organization has a proven track record of improvement—when we align our focus across the organization and focus our efforts to a few key initiatives. Our vision to become the national leader in providing value to our patients ties into our three goals of Exceptional Patient Experience, Quality, and Financial Strength. We discovered this year, that these can encompass a large number of improvement efforts.

In FY13, the organization made improved alignment in organizational goals, focused improvement strategies, and incentivizing value improvement work.

Operational Strategy

Organizational alignment is reinforced in the system's Operational Strategy. This collaborative effort between UUMG and UUHC, included input from over 100 system physician and hospital leaders ensuring a comprehensive, prioritized approach to improving value in the clinical delivery system.

Value Driven Outcomes (VDO)

One of the biggest challenges for physicians and hospitals is to understand and manage the cost of our services. Value Driven Outcomes (VDO) initiative bolstered our ability to be data-driven. Today VDO is the surveillance system for cost opportunities. With the upcoming enhancements to include outcomes, VDO will become the driver of cost and quality improvement efforts.

The VDO initiative brought together clinical, business, and technical resources to develop new, more accurate costing methodologies at the patient utilization level. Data warehousing expertise brought together the clinical and financial data points to enrich cost comparison. Business Intelligence reports show, at a very detailed level, the variation in physician utilization and the costs associated with their services. This data can be used in contract negotiation and management, and used for bundled payment reimbursement models in the future.

The VDO initiative supports Exceptional Value in three focused ways:

1. Increases the trustworthiness of our cost data at the patient utilization level.
2. Provides a suite of tools for data-driven project opportunity finding and prioritization.
3. Improves the access of post-implementation monitoring for non-analysts.

The best **vision**
is **insight.**



In late FY13 and going forward, the VDO tool will be a primary source for identifying value engineering project work.

VDO projects are executed with the same value improvement methodology and are sponsored by chiefs, chairs, and executives.

The team structure includes physician leaders who learn by direct participation. Of course, VDO project teams are multidisciplinary, including the appropriate physician and clinical staff. Dedicated system experts from Value Engineering, Decision Support, and Data Warehouse are also on each team. The enhanced transparency VDO brings to our cost data is amenable to a variety of projects.

“Value-driven care process” is the generic term we’ve associated with projects that:

- A. Have scope encompassing a complete patient experience.
- B. Target process standardization as the primary tool to improve quality.

This table lists FY13 VDO projects focused on standardizing a care process.

Care Process	Phase	Type
CABG	Design	Procedure
Elective Induction of Labor in Nulliparous Patients	Design	Procedure
Neutropenic Fever in Solid Tumor Patients	Design	Diagnosis
Acute Knee Pain	Implement	Symptom
Surgery with Ileostomy	Implement	Procedure
Cellulitis	Monitor	Diagnosis
Colorectal Surgery	Monitor	Procedure
GI Bleed	Monitor	Diagnosis
Hip Fracture Low Velocity	Monitor	Diagnosis
Joint Replacement	Monitor	Procedure

VDO Case Study: Joint Replacement Care Process

The project followed the value improvement methodology to identify sources of variation and design interventions to reduce that variation and improve outcomes, and thereby reduce costs.

Lessons from this initial project are summarized here:

Define Patient Population

The patient population must be clearly defined. An operational definition must be established to form a homogeneous group of patients to control for the effect of patient factors on cost variation. The joint replacement project used patient selection criteria including provider, DRG, procedure ICD9s, and location.

Supplementing VDO Data

While VDO is an excellent new window into cost, it does not include everything. Other data sources are needed to highlight the most important factors contributing to variation in care. Factors potentially contributing to inefficiency, ineffectiveness, and flow bottlenecks (examples: procedure day of week, implant type, anesthetic technique, early mobility) were identified using Lean techniques and domain expertise. To the extent possible, these contributing factors were then quantified and added to the VDO dataset. These data, in conjunction with clinical input and intuition, supplement the data analysis at every step of the process.

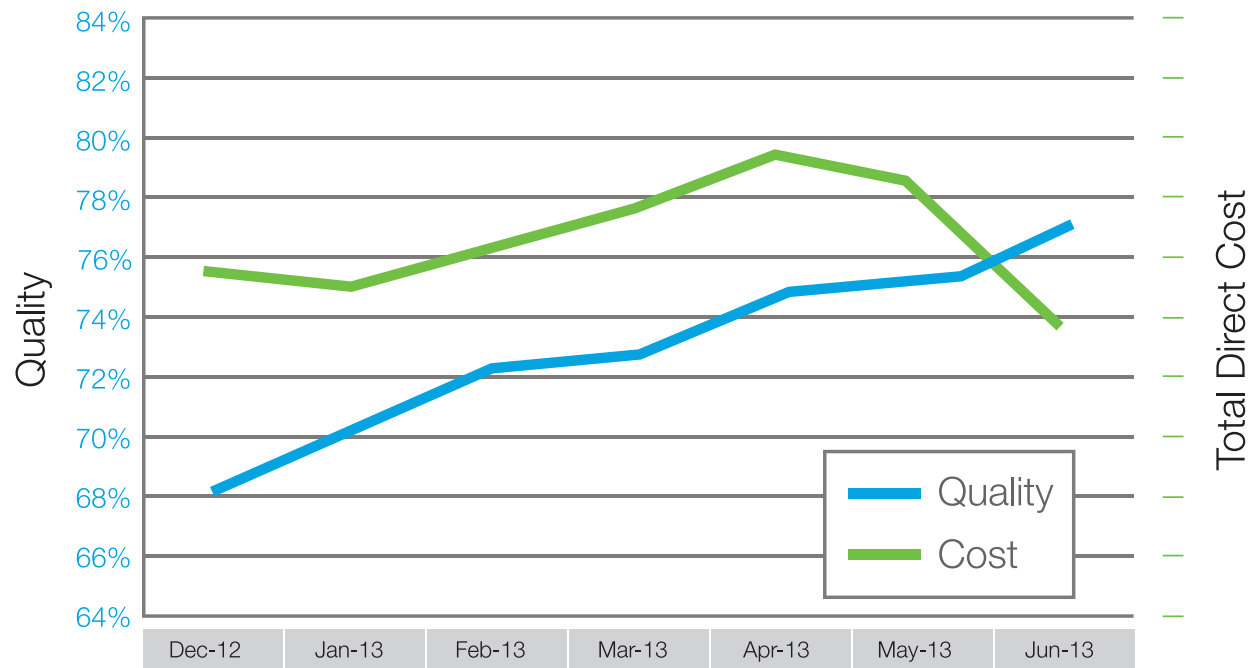
Analysis

Initial analysis revealed a bimodal distribution indicating two distinct patient groups, one of which included patients outside the definition of elective joint replacement. Various statistical techniques were employed to quantify the relationships between the lists of factors generated by the team. This allowed the team to prioritize opportunities as well as providing the necessary evidence to support clinical changes.

Improvement Design and Implementation

- **Improve Early Mobility:** Schedule changes were made within Physical Therapy to support evaluations by therapists on the day of surgery.
- **Reduce Discharge Delays:** Incomplete discharge orders (example: no wheelchair ordered) were causing prolonged LOS and extra work for case managers. The team created a new discharge order set as a preventative. Nursing home searches also were identified as a cause of delays, specifically due to patient expectations not being set and untimely discharge choices being made. Patient materials were updated and a process was developed to document choices prior to admission.
- **Transition Care:** There was variation in postop care provided by skilled nursing facilities and home health agencies. The team developed a process to deliver enhanced instructions outlining protocols to each agency and recommendations provided to patients of those agencies that follow protocols and demonstrate better clinical outcomes.
- **Anesthesia Variation:** Spinal anesthesia was identified as preferable to general anesthesia for most patients and pre-op processes were modified to influence patient choice of anesthesia by providing evidence-based information.

The Joint Replacement Pathway project is currently monitoring quality and cost measures to ensure the changes made were effective and can be sustained. Preliminary results appear promising and monitoring will continue for 24 months. Quality is the 12-month rolling rate of cases that were perfect with respect to SCIP compliance, readmissions, complications, and PSIs. Cost is total direct cost with respect to facility charges; professional charges are ignored.



Improving Access

In a 2005 ruling of the Canadian Supreme Court, Chief Justice Beverly McLachlin wrote, “access to a waiting list is not access to healthcare.” A significant component of quality is access to our care.

In striving for this ideal, the University has set the following access goals for FY14:

- For all clinics not at 80% of new patients seen within 14 days, reduce the gap by 50%.
- For all other clinics reduce the new patient average schedule lag by 15%.
- Achieve overall performance for new patient “ease of scheduling” at the 80th percentile for at least one quarter.

Lean principles can help us improve patient flow, standardize work, redesign work roles, standardize provider schedule templates, “truth in scheduling” efforts, and design visual workplace management (visual cueing) efforts.

UUMG, Hospital and Clinics leadership, and Value Engineering are collaborating on the development of access improvement tactics. Key to the strategy: Providing clinic managers and medical directors improvement resources in a wide variety of formats. The collaborative intends to offer DIY training tools, classroom workshops, facilitated support, and case studies from standout access projects within our enterprise.

The most **dangerous**
phrase in the language is “we’ve
always done it this way.”

One Chart

In our current environment, access to a patient's medical records in an outpatient setting requires logging into one system. But getting the same patient's information from our inpatient environment requires authentication, permissions, and access to a completely different system. Add this to the fact that our ancillary departments like the lab, cardiology, imaging, and oncology (among others) use even more systems, and we embody anything but quick and efficient access to patient data. Our major Electronic Medical Record (EMR) systems, (a Cerner product in inpatient settings and an Epic in outpatient settings), work well in their respective locations, but they do not coordinate.

The current initiative to use only one EMR is known as One Chart. The tool of choice is Epic. One Chart will replace the health system's inpatient, surgical, anesthesia, radiology, pharmacy and other systems with the unified Epic system, which is already used in the ambulatory and business departments.

One Chart represents a major strategic investment of approximately \$46 million. Our new, integrated environment is expected to be fully operational in May 2014. In addition to the financial outlay, this aggressive timeline will require an enormous investment of clinician time, both in the build and the implementation.

One Chart will improve the patient experience by allowing physicians to access information on one site, instead of going through the tedious process of logging on to two sites to research a patient's medical history. Providers can respond to patients more quickly and quality errors can be reduced.

One Chart positions the health system to respond to present and future challenges in the industry, including healthcare reform, value and Lean initiatives, research, education, and innovation.

So much of healthcare is about building and trafficking patient information: scheduling, triage, symptoms, labs, biopsies, imaging, diagnoses, coding, billing, etc. All of this information moving among multiple systems causes myriad inefficiencies. One Chart will eliminate many of these inefficiencies, but it will also provide the infrastructure to advance clinical process standardization and bedside decision support, which, in turn, holds the promise of reduced clinical defects and reduced costs.

Value Council

Historically, strategic oversight and resourcing of quality, patient safety, and clinical resource management efforts has been decentralized. This keeps us from capitalizing on collective wisdom, creates inherent inefficiencies, and limits the ability to spread best practices and prioritize system improvements.

In FY13, UUHC developed a centralized exceptional value model of excellence for all aspects of quality improvement (QI). This coordinated QI structure leverages existing core clinical and administrative teams to expand in scope to include quality management, provides direction at the highest institutional levels, and offers training and education to ensure developing of key processes and meaningful metrics.

The **Value Council** is the executive committee governing quality, patient safety, and clinical resource management for UUHC. Charged with the primary strategic oversight of QI for the organization, the membership of the Value Council represents UUHC executive leadership team, UUMG senior leadership, Hospital Board members, and key senior physicians.

Through this coordinated management approach to Value, which leverages the collective wisdom of senior leaders and is based on transparent and data driven evaluation, the Value Council will help deliver Exceptional Value in clinical care.

High expectations
are **the key**
to everything.

Value Council Membership

Chief Executive Officer, Hospitals and Clinics	David Entwistle, MHA
Chief Executive Officer, University of Utah Medical Group	Sean Mulvihill, MD*
Chief of Staff, Senior Vice Presidents Office	Elizabeth Winter, JD
Chief Medical Quality Officer (Chair)	Robert C. Pendleton, MD FACP*
Chair, Medical Board	Anne Kennedy, MBBCh, MRCP, FRCR*
Chief Financial Officer	Gordon Crabtree, MBA
Chief Operations Officer	Quinn McKenna, MHA
Chief Nursing Officer	Margaret Pearce, PhD, MSN, MBA
Chief Medical Officer	Tom Miller, MD*
Chief Information Officer	Jim Turnbull, DHA, MBA
Chief Medical Informatics Officer	Michael Strong, MD
Director, Quality and Patient Safety	Geni Chariker, MSN
Director, Strategic Initiatives	Chrissy Daniels
Executive Director, Facilities, Support Services	Dan Lundergan, MHA
Clinical Director, Huntsman Cancer Institute	John Sweetenham, MD*
Clinical Dept. Chair, Rotating	Charles Saltzman, MD* (Orthopedics)
Clinical Dept. Chair, Rotating	Michael Magill, MD* (Family & Preventive Medicine)
Clinical Dept. Chair, Rotating	Sam Finlayson* (Surgery)
Community Medical Board #1 (Co-Chair)	Tim Anderson
Community Medical Board #2	Mark Miller
Community Medical Board #3	Claudia Luttrell
Community Medical Board #4	Jesselie Anderson

*Denotes active member of Medical Staff

Portfolio Management and UHPP

Led by Dr. Sean Mulvihill, the Portfolio Management Committee provides leadership and oversight to institution-wide efforts to maximize profitability, prioritize capital investment, align services to mission and strategic planning, and balance community expectations with financial realities. The committee brings together the efforts from all areas of the system to support this general philosophy and mission.

In FY11 Portfolio Management introduced UHPP as a way to engage physicians in efforts to reduce the cost of care while maintaining quality patient outcomes.

From the initiation of the UHPP program in FY11 through the end of FY13, total savings in direct costs to the organization have exceeded \$3.3 million dollars.

UHPP rewards physician-led changes to improve hospital margin by reducing costs. As an incentive, UUHC shares 50% of the realized savings over the first year of the project directly with the responsible School of Medicine departments or divisions. This money can be used to purchase supplies and equipment, fund research projects, provide continuing education, or other program activities.

Opportunities
are often things you
haven't **noticed**
the first time around.

INNOVATION STATION

Employee engagement/empowerment is fundamental in a cultural shift toward Lean, yet is one of the most challenging objectives. Transparency in decision-making is another. Innovation Station is a web-based environment in which people at all levels can submit value enhancing ideas, get updates on projects, and most importantly, influence standards of quality, service, and business effectiveness in their workplace.

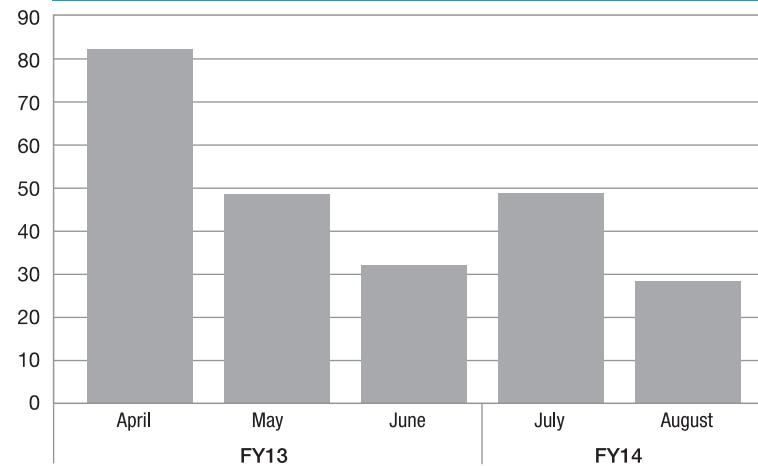
One component of the FY14 Operational Strategy is to make Innovation Station fully operational across the system

INNOVATION STATION has four major functions:

1. Collect improvement ideas
2. Transparently prioritize ideas
3. Charter projects and teams
4. Monitor progress

Unique Ideas Submitted = 250
with nearly 40 moved to live projects

Ideas Submitted by Month



Valuing Individual Improvement Work

At the individual physician level, participating in performance improvement work often comes at a cost. Our physicians are formally evaluated for performance in research, teaching, and patient care. Time spent in improvement often comes from already fully extended schedules. We have the opportunity to include system improvement in the formal review and advancement process, which is currently under exploration under the leadership of Harriet Hopf, M.D.

Maintenance of Certification (MOC)

Faculty members are required to participate in improvement work in order to maintain their board certification(s). In the past this work was defined by various ABMS member boards using similar but separate standards. The University of Utah will provide centralized management and oversight of physician-led QI efforts approved for MOC Part IV credit through the MOC Portfolio Program (approval anticipated Nov. 2013). This program, sponsored by ABMS member boards, will enable faculty to engage in system improvement while getting MOC Part IV credit for efforts.

Value Summary

One challenge we have had this year is the ability to consistently understand all of the improvement work across the system. By standardizing and simplifying Exceptional Value reporting on a common summary template and shared location in Intercomm, we believe monitoring of results and sharing of best practices will increase. This simple summary includes components of a traditional A3 along with the balanced approach to increasing value ((Q+S)/\$) and clear monitoring.

The value summary portion of Innovation Station is currently in development and it will be one of the most critical components of the system. It will communicate the volume and the impact of improvement work being completed throughout the system, and is anticipated for completion in November 2013. Value Summaries for some of the improvement work currently in monitor phase can be found in Appendix C.



UNIVERSITY OF UTAH
HEALTHCARE

CLINICAL

VALUE SUMMARY



SPONSOR

SCOPE

PROBLEMS & GOALS

INTERVENTION

DATE IMPLEMENTED

RESULTS

Exceptional Patient Experience **Quality Outcomes** **Financial Impact**

Measurement Baseline Projection Q1 Q2 Q3 Q4

	Measurement	Baseline	Projection	Q1	Q2	Q3	Q4
Exceptional Patient Experience							
Quality Outcomes							
Financial Impact							

IMPACT & SUSTAINMENT

RESOURCES

Departmental Partnerships

UUHC had improvement teams that supported efforts to improve value to our patients. In early FY14, Supply Chain, Pharmacy, Radiology, Decision Support, and Value Engineering partnered to share their analyses and opportunities. This partnership model is designed to respond faster with the best opportunities when a department or division requests support.

Pharmacy

The Pharmacy team is committed to reducing drug waste and cost through standardization of operations and drug supply throughout the University of Utah Health Care system. The following projects have produced positive results during FY13:

Standardization and Centralization of Medications

Through centralizing medications to a single location and standardizing products across UUHC facilities, we have been able to decrease drug wastage/costs. Optimizing inventory pars allows increased turns and decreased cost on shelf.

- **Humate to Wilate Conversion:** Switched from Humate to Wilate (UHOSP and HCH combined savings of \$20,000 annual)
- **TPN Centralization:** Centralized TPN compounding to UHOSP Inpatient Pharmacy. Savings calculation based off reduced spend on tubing (set-up of TPN machine - \$38K for tubing) and reduction of waste of electrolytes and base solutions at HCH. UHOSP will not see a reduction in expense for this initiative. Additional savings achieved by modifying current lease agreement with Baxa/Baxter on compounder and eliminating 1 compounder in the system. (HCH savings of \$50,000 annual)

- Eliminate Outsourcing for Compounded Sterile

Products: Eliminate use of outside compounding company (Ameridose) at HCH and UHOSP. (UHOSP and HCH combined savings of \$95,000 annual)

- **Alteplase 2mg (Cathflo) centralization:** Current annualized spend for Cathflo for all UUHC is approx. \$300K. Centralized all Cathflo in inpatient areas with the intent of reducing overall carrying costs. (UHOSP and HCH combined savings of \$100,000 annual)

Standardized Outpatient-Use Only Products

Restricting certain medications to outpatient use only has greatly reduced costs for inpatient medications.

- **Ipilimumab (Yervoy) added to outpatient only list** and developed use guidelines –(HCH/HCI savings of \$200,000 annual)
- **Reduction in inpatient use of bortezomib (Velcade):** Push use to outpatient setting away from a capitated reimbursement. Projected spend of Velcade for FY13 is \$400K. (HCH savings of \$200,000 annual)



Standardized Medication Use Guidelines

By standardizing use guidelines we can direct more appropriate medication use and decrease waste or excessive use of medications.

- **Albumin:** Implementation of use-guidelines and continued education of providers about less expensive volume expanding agents. (UHOSP and HCH combined savings of \$20,000 annual)
- **Reduction of Daptomycin use (ID Project):** Provider-specific education to decrease over-use of daptomycin. Estimated savings is based on normal ordering patterns for majority of providers. (UHOSP and HCH combined savings of \$25,000 annual)
- **Pamidronate (Aredia):** Convert inpatient zoledronic acid (Zometa) to pamidronate. This initiative focused on CPOE to provide clinical decision support to direct providers to a more cost-effective therapy. (UHOSP and HCH combined savings of \$25,000 annual)

Standardized Purchasing and Optimizing Contracts

Standardizing the purchasing process results in optimization of medication contracts and can decrease drug spend.

- **Additional ABC Basis Points:** Bump from 5.3 to 5.5% cost-minus by increasing purchasing through Amerisource Bergen. (UUHC savings of \$180,000)
- **Lioresal to Gablofen conversion (baclofen injection):** Partnered with Rehab to convert from Medtronic Lioresal (baclofen injection) to CNS Therapeutics Gablofen (baclofen injection). Gablofen is now on the Apexus agreement. Drug expense is eligible for cost minus from ABC with transition. Savings may be greater due to overall decreased carrying costs, since current arrangement with Lioresal and Medtronic is to buy in bulk to achieve discounts. (UHOSP savings of \$25,000 annual)
- **Venofer:** Leveraged Venofer for Dialysis to obtain better contract for UUHC. (Overall savings is \$160,000 annual, but only \$20,000 impacts UUHC, while the rest impacts SOM Dialysis)
- **Penny Drugs:** Standardized buyer review of 340B quarterly price changes holds huge saving potential. Products with greatest impact during FY13 include Melphalan, Thalomid, Panhematin and Gemzar. (HCH savings of approx. \$1.2M)
- **Surgical sealants:** Ethicon contract, standardization of sealants, transition from Gelfoam to Surgifoam, Dermabond consolidation, weekly ordering. (UHOSP and HCH combined savings of \$100,000 annual)

Supply Chain

Value Analysis and Purchasing are very involved in standardization efforts for products and equipment throughout the system.

The following efforts/projects have produced results in FY13:

Maximized Participation in Novation's (GPO) Standardization Programs

We have successfully steered the organization to use products/suppliers identified by Novation for all of their Standardization Programs, including those that have come out for the first time in FY13. These programs include multiple product categories where successful standardization has taken place at our organization. \$350,000 actual (rebates)

Physician Preference Item Standardization

This has been a focus of ours where physician partnering has supported contracting efforts which standardize what is used in patient cases. Examples of success include the following:

- **Total Joints** - 70% commitment to Biomet Implants in this category (Orthopedics Service Line) - \$541,206 actual
- **Drug Eluting Stents** - 100% Commitment to Medtronic for Non-Everolimus Drug Eluting Stents (Cardiovascular Service Line) - \$57,000 actual
- **Balloon Catheters** - 90% Commitment to Boston Scientific for workhorse Balloon Catheters (Cardiovascular Service Line) - \$38,000 projected

- **Tissue Heart Valves** - 85% Commitment to Edwards Lifesciences for this category was established via contracting efforts in April and May of 2013 (Cardiovascular Service Line) - \$135,000 projected
- **Abdominal Mesh** - 100% Commitment to Covidien for mesh products used in Hernia repair (General Surgery) - \$420,000 projected
- **Cardiac Rhythm Management (CRM)** – pricing standardization for all CRM devices within Premium, Advanced, and Standard Tiers - new technology pricing already established within existing Tiers - \$155,000 actual plus \$102,000 projected additional

Equipment Standardization

- **Refrigerator** standards have been established and a single vendor has been identified as the Hospitals & Clinics standard – no savings calculated
- **Nellcor Pulse Oximetry** - An organization-wide contracting effort resulted in a 90% commitment to Nellcor housewide for Pulse Oximetry equipment - \$180,000 projected
- **Technology Assessment Committee** reviews of new equipment requests help to maintain standardized medical equipment sources where they exist

Standardization of Service Providers

- **Janitorial Services** have been standardized to one vendor for nine of our buildings including Community Clinics - \$49,000 projected
- **Elevator Maintenance** has been consolidated as contracts expire and standardized to match one contracted provider established by the University - \$3,000 projected

As our organization continues to place a priority on standardization and as existing contracts expire, additional opportunities will be pursued. For several reasons, standardization will continue to be a point of emphasis for Value Analysis and Purchasing.

Clinical Documentation Initiative

We have provided excellent care for the most complex cases (and simple cases too) for a long time but the quality of our documentation has not matched the quality of our care. Gaps in physician documentation and coding lead to gaps in revenue, and neither our cultural norms nor our infrastructure prevented the gaps. **That is changing.**

ICD-10 and Meaningful Use requirements are on the immediate horizon, and that would be reason enough to improve the quality and specificity of documentation. **\$22 million is another reason.** That's the estimated impact to bottom line since the Clinical Documentation Improvement (CDI) Group began their work in 2007.

Besides capturing the revenue we're due, CDI also **ensures that our public reporting of healthcare performance is accurate.**

CDI leaders Russell Vinik, MD and Michelle Knuckles implemented new changes in FY13. The CDI team incorporated technology and standardized the search process of key words, which represented possible coding improvement opportunities. Coders were given a daily list to review and query if applicable. They were also given highlighted text to expedite review. This effort resulted in queries increasing from 100 to 400 per month, and an improvement in clinical documentation, which is estimated to **increase annual revenue by \$12 million.**

Appendix A: Behavior Standards

These **PROMISE** standards were created by employees, for our employees.

They directly relate to our core values: compassion, trust, collaboration, innovation, responsibility, diversity, integrity, and quality.

As you engage your role as a University of Utah Hospitals & Clinics employee, please remember the **PROMISE** standards and use them as your guide to appropriate behavior every day.



I understand that my job is essential to our mission to provide compassionate care without compromise.

I seek first to understand my patient, then to be understood by them.

I am generous with my expertise, willingly sharing knowledge with patients, their families and friends.

I am empathetic to the fears and concerns of my patient, and respond with empathy, expertise and expediency.

I involve my patient as an active participant in their care, honoring their expertise and knowledge of their personal health.

I communicate respectfully: listening, seeking clarification, confirming understanding and providing feedback, and avoiding gossip and destructive communication.

I value individual differences including culture, age, religion and gender.

I earn respect through keeping promises and fulfilling expectations.

I use courtesy to convey my respect for others: addressing others professionally, allowing others to step on the elevator, escorting visitors to their destination.

I understand the importance of timely response to my customers, explaining any delays and completing tasks with expediency.

I accept constructive feedback from others and use it to improve my performance.

I keep my physical environment clean and organized, for the safety and comfort of our patients.

I take the initiative to maintain and expand my skills through continued education.

I share with my work area all information I am responsible for to ensure the success of my job, department and our organization.

I am responsible for solving problems presented to me or handing them off to the person who can.

I use words in my interactions to show that I take pride in my work and want to be as helpful as possible.

I promote the excellent care and services in our organization.

I compliment and recognize others for their contribution to my success and the success of the organization.

I do my job with our patients, my department and the organization's success in mind.

I always look for a better way.

I generously mentor others to improve their performance.

I am flexible and adapt to provide each customer with an exceptional experience.

I look for opportunities to delight my customers through my work.

Respectfully, I ask why changes are important and what the benefits will be.

I express my ideas with courage, and am open and receptive of the ideas and feelings of others.

I approach change with an open mind and the opportunity to find new solutions.

I share my expertise willingly.

I identify possible solutions to problems and concerns.

I expect that there will be problems and prepare myself to provide solutions.

I value individual's privacy, sharing only the information necessary to do my job.

I know my role for all codes and drills and will respond appropriately.

I speak up to report patient safety and environmental concerns with a focus on process improvement not individual blame.

I know and understand all safety practices, and will maintain compliance with annual safety and required training requirements.

I always provide high-quality care and service, and I will communicate with my team or supervisor if I am unable to do so.

I am actively engaged in our accreditation requirements and participate on my unit.

I keep the patient at the center of all improvements to our organization.

I seek to understand conflicting opinions and perspectives.

I bring my concerns to those who can resolve them.

I implement a newly-made decision to the best of my ability.

I seek input from others to test and improve my ideas.

I am responsible to bring a positive and helpful attitude to my daily work.

I dress to create an impression of professionalism and instill confidence in my ability, following the organization's dress code.

Appendix B: FY13 Project Benefits

Hospitals and Clinics reported \$3,015,074 realized net financial impact for FY13 from formal chartered projects.

PEF Projects	Hard Dollars	Capacity Creation	Cost Avoidance
Jason Quinn—Inventory Charge Capture	\$24,500		
Angela McKenzie—Auditing Metrics for Managers	\$460,000		
Trevor Johnson—PAS Cash Collections	\$20,000		
Michael Sanders—Protocol vs Days on Oxygen	\$23,453		
Jackie Pullos—Training of Ophthalmic Technicians			\$3,586
Michael Filtz—C. diff at Huntsman			\$50,535
Denise Whitten—FIM Scores Accuracy	\$196,000		
Ragbir Makhar—Medication Packaging	\$26,676	\$6,250	
Shantel Mullin—Pharmacy Inventory Optimization	\$23,000		
Value Engineering	Hard Dollars	Capacity Creation	Cost Avoidance
Transport		\$15,000	
Denials	\$87,000		
Hospitalist Lab	\$108,000		
IVIG (Consult)	\$70,000		
Colorectal LOS (Open)	\$608,000	\$301,410	
UHPP	Hard Dollars	Capacity Creation	Cost Avoidance
CC Deliveries	\$423,164		
Tube Thoracostomy Removal	\$115,000		
ED NCC Direct Admission Protocol	\$115,000		
Immunotherapy-Induction & Maintenance	\$316,500		
Elimination of Post Procedure Chest X-Ray	\$22,000		
	\$2,638,293	\$322,660	\$54,121
			\$3,015,074

Appendix C: Value Summaries



UNIVERSITY OF UTAH
HEALTHCARE

CLINICAL

VALUE SUMMARY

Huntsman Cancer Hospital Clostridium Difficile (C. Diff) Infection Reduction



M.Filtz, S.Silverstein, L.Fritz, J.Mayer, L.Rogers, J.Kelley, M.Fernandez, J.Arata, D.Gorder, C.Martin, L.Gillette, D.Alexander, E.Sydnor, A.Cohen, T.Werner, S.Sana, T.Tashi

SPONSOR

Sue Childress

SCOPE

Inpatients at Huntsman Cancer Hospital

PROBLEMS & GOALS

Clostridium Difficile hospital onset infections rates at HCH inpatient are increasing. This is leading to increased morbidity, patient length of stay and costs.
Baseline: 30/10,000 pt-days
Goal: < 20/10,000 pt-days for the period Nov 1, 2013 - Jan 31, 2013

INTERVENTION

The team investigated:

C. Diff Exposure: MDRO / Hand Hygiene, Environmental Services, Research on Other Cleaning Techniques
C. Diff Permissiveness: Modifiable Risk Factors

Solutions:

High Touch area instructional photo, Bioluminescence study, Cleaning guidelines revised, Revision of C. Diff treatment algorithm, Development of neutropenic fever guidelines, Increase in spray cleaning

DATE IMPLEMENTED

October 2012

RESULTS

Exceptional Patient Experience

Not Measured

Quality Outcomes



\$ Financial Impact



Measurement Baseline Projection Q1 Q2 Q3 Q4

	Measurement	Baseline	Projection	Q1	Q2	Q3	Q4
Exceptional Patient Experience							
Quality Outcomes	Hospital Onset C. Diff Rates per 10,000 pt-days	30	< 20	18	19		
Financial Impact	Direct Cost Savings			\$20.2	\$30.3		

IMPACT & SUSTAINMENT

FY13 Savings \$50,535 through reduction in LOS.
New processes have been implemented including a simplified C. Diff treatment algorithm and an order set in EMR for Neutropenic Fever



CLINICAL



UNIVERSITY OF UTAH
HEALTHCARE

VALUE SUMMARY

Optimizing Delivery of Transport Services at University Hospital



TEAM

Lisa Bakhsheshy
Saeed Matinkhah
Daniel Perkins
Gregg Boseman
Jace Manning
Shaun Lawton

SPONSOR

Quinn McKenna

SCOPE

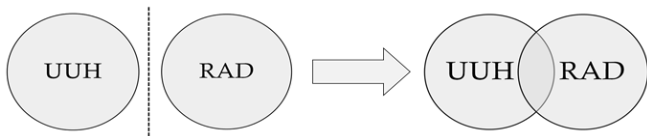
UUH Transport Group
RAD Transport Group

PROBLEMS & GOALS

There are two organizationally distinct groups that provide patient and item transport at University Hospital leading to inefficient resource utilization. The aim of the project team is to deliver efficient transport services at the lowest possible cost to the hospital while maintaining or improving existing levels of quality and patient safety.

INTERVENTION

Utilize TeleTracking data to determine optimal staffing levels. Develop greater collaboration between UUH and RAD transport groups by allowing shift supervisors to allocate job requests to each other's teams.



DATE IMPLEMENTED

July 2012

RESULTS

Exceptional Patient Experience

Average Transport Completion Time Remained Consistent (22.45 vs. 22.68)



Quality Outcomes

Increased Transporter Productivity by 2.76%



Financial Impact

Reduced Labor Costs by approximately \$25,000 (\$8.29 to \$8.03 per Transport)



Measurement Baseline Projection Q1 Q2 Q3 Q4

	Measurement	Baseline	Projection	Q1	Q2	Q3	Q4
Exceptional Patient Experience	Average Transport Completion Time (Min.)	22.68	20	22.81	22.18	22.93	22.81
Quality Outcomes	Transporter Productivity	54.92%	60%	58.43%	57.76%	57.36%	57.39%
Financial Impact	Labor Cost / Transport	\$8.29	\$7.50	\$8.15	\$8.20	\$8.01	\$7.76

IMPACT & SUSTAINMENT



CLINICAL



UNIVERSITY OF UTAH
HEALTHCARE

VALUE SUMMARY

Combivent Inhaler Project



Michael Katzourakis

SPONSOR

Carolyn Kowalchik

SCOPE

University of Utah
Inpatient Hospital Combivent Inhalers

PROBLEMS & GOALS

Combivent inhaler overrides occurring every 1-3 days. An inhaler should last 16 days.

Audits revealed:

Period	Units Wasted	Annualized Waste
Oct 11 - Dec 11	60	\$48k
Nov 12 - Jan 13	55	\$44k

INTERVENTION

Auxiliary label containing patient name sent with combivent inhaler during dispense. Label is applied to combivent when sterile wrap is opened. Combivent is administered to patient, then stored in patient's bin. Patient's bin follows patient through hospital.

DATE IMPLEMENTED

June 2013

RESULTS

Exceptional Patient Experience

Not Measured

Quality Outcomes

Not Measured

Financial Impact

\$18.2k savings in 2 mos.



Measurement	Baseline	Projection	Q1	Q2	Q3	Q4
-------------	----------	------------	----	----	----	----

Exceptional Patient Experience

Quality Outcomes

Financial Impact

Combivent waste	\$46.00	\$34.50	14.2			

IMPACT & SUSTAINMENT

During time of implementation (2 mos*):

Waste reduction:

Inhaler waste reduced 50% --> savings of \$4k. \$24k annualized*

Inventory reduction:

71 inhalers returned to inventory --> one-time savings \$14.2k

Total savings \$18.2k in 2 mos.

*Respiratory therapy moved to nebulized inhalers 2 months after project implementation.



CLINICAL



UNIVERSITY OF UTAH
HEALTHCARE

VALUE SUMMARY

Ophthalmic Technician Training - John Moran Eye Center



TEAM

Jaqueline Pullos
Brian Black
Jacqueline Madsen

SPONSOR

Wayne Imbrescia

SCOPE

Training for all newly hired Ophthalmic Technicians working in all John Moran Eye Center (JMEC) Locations

PROBLEMS & GOALS

JMEC had no standardized ophthalmic technician training schedule for new hires. There was no set "Ready By" date for a new tech to be in clinic nor were skills competencies documented. Goal: standardized training with a defined "Ready By" date and has technicians prepared for their certification exam.

INTERVENTION

Identified reasons contributing to the absence of a "Ready By" Date Created a 30/60/90 day training program: Didactic and hands on training, Subspecialty clinic training, Satellite and Community Clinic Training, Documentation of training and proficiency of skill.

DATE IMPLEMENTED

October 2012

RESULTS

Exceptional Patient Experience

Not Measured

Quality Outcomes

Not Measured

Financial Impact

Not Measured

Measurement Baseline Projection Q1 Q2 Q3 Q4

	Measurement	Baseline	Projection	Q1	Q2	Q3	Q4
Exceptional Patient Experience							
Quality Outcomes	Milestone achievement for 30/60/90 day elements	n/a	100%	100%	100%	100%	
Financial Impact	Elimination of Overtime pay related to training/ studying (one time savings)		\$3.6	\$3.6			

IMPACT & SUSTAINMENT

JMEC is now in compliance with NIAHO standards, all techs are on target to take their exams at or before the 9 month of employment mark, and all new hires since implementation are trained to work across the system at any JMEC and hit their "Ready By" dates for productive work in clinic.



CLINICAL



UNIVERSITY OF UTAH
HEALTHCARE

VALUE SUMMARY

Central Refill Authorization



Matthew Rim, Jerel Bullock, Carrie Palmer, Laura Britton,
Kellee Howell, Tina Majers, Shelley Barnes, Edgar Cortes

SPONSOR

Linda Tyler and Mike Kelly

SCOPE

South Jordan Health Center, Stansbury and
Westridge Pharmacy refills.

PROBLEMS & GOALS

Current refill process in our retail pharmacies is decentralized and there is no standardized process for refill authorization and there are a low number of approved refills per protocol.
Goals: Start the central refill authorization center and increase the number of refills per protocol.

INTERVENTION

Refill data collection from all clinic pharmacies.
Pilot study with 1 pharmacist and 2 technicians handling refill requests from 3 pharmacies (SJHC, WRC, SBC).
Standardize the refill authorization process, documentation and communication.
Measure workload unit and quality improvement.

DATE IMPLEMENTED

RESULTS

Exceptional Patient Experience

Not Measured

Quality Outcomes

Not Measured

Financial Impact

Not Measured

Measurement Baseline Projection Q1 Q2 Q3 Q4

Exceptional Patient Experience

Quality Outcomes

Financial Impact

Direct Cost Savings

\$300

IMPACT & SUSTAINMENT



CLINICAL



UNIVERSITY OF UTAH
HEALTHCARE

VALUE SUMMARY

Pharmacy Inventory Optimization Project



TEAM

Shantel Mullin, Raghbir Makhar,
Kavish Choudhary, Patricia Weight,
Sara Ridges, Kamie Kirton

SPONSOR

Carolyn Kowalchik

SCOPE

University of Utah Hospital Inpatient Pharmacy and Omnicells currently stocked by inpatient pharmacy.

PROBLEMS & GOALS

No ongoing process existed to evaluate changing purchasing and usage patterns, resulting in:

- Lower inventory turns
- Excess inventory
- Expired/Wasted product

INTERVENTION

Development of a standardized procedure to determine which agents have the lowest use and/or expire then identify potential:

- Reductions in PAR levels
- Centralization of stocking locations
- Removal from formulary or inventory

Goal of reducing inventory by \$40k by 12/31/13.

DATE IMPLEMENTED

RESULTS

Exceptional Patient Experience

Not Measured

Quality Outcomes

Not Measured

\$ Financial Impact

Initial inventory reduction of
\$22,776.33.



Measurement	Baseline	Projection	Q1	Q2	Q3	Q4
Exceptional Patient Experience						
Quality Outcomes						
Financial Impact	Inventory Costs	\$1.9M FY12	\$1.86M @ 12/31/13			

Exceptional Patient Experience

Quality Outcomes

Financial Impact

Inventory Costs

\$1.9M
FY12

\$1.86M
@
12/31/13

IMPACT & SUSTAINMENT



CLINICAL



UNIVERSITY OF UTAH
HEALTHCARE

VALUE SUMMARY

PM&R Spasticity Refill Clinic



Shelly Poole
Rob Shingleton

SPONSOR

Nancy Christensen-Mayer

SCOPE

PROBLEMS & GOALS

19% of patient visits in PM&R Clinic are scheduled specifically for spasticity patients to receive refills or adjustments of their Baclofen pumps or injections of neurotoxins. By defining a care pathway for these patients, the team hopes to improve PM&R access for New Patient Visits by 20% by end of Q4 FY13.

INTERVENTION

A subset of spasticity patients were chosen as candidates for the refill clinic based on refill history (frequency and dosage variation). These patients had their Baclofen pumps refilled by a provider responsible for seeing only refill patients, freeing their primary providers to deliver care to other patients and improve patient access.

DATE IMPLEMENTED

April 2013

RESULTS

Exceptional Patient Experience

Reduced NPV Schedule Lag by 44%
(19 Days)



Quality Outcomes

Not Measured

\$ Financial Impact

Not Measured

	Measurement	Baseline	Projection	Q1	Q2	Q3	Q4
Exceptional Patient Experience	New Patient Visit Schedule Lag (Days)	34	27	24	15		
Quality Outcomes							
Financial Impact							

IMPACT & SUSTAINMENT



CLINICAL



UNIVERSITY OF UTAH
HEALTHCARE

VALUE SUMMARY

The Utah Center for Reproductive Medicine Clinic Wait Times from Check-In



Lee Cherie Booth
Sofia Papaderos

SPONSOR

Colin Thomas

SCOPE

Clinic Wait Times starting from initial check-in

PROBLEMS & GOALS

Problem:

- Low scores on Press Ganey for wait time
- Long wait times can decrease patient satisfaction and overall impression of visit

INTERVENTION

Work Flow Changes

- Patient labels implemented.
- Utilize tools within Epic
- Template changes
- Outreach/Community Clinics

DATE IMPLEMENTED

March 2013

RESULTS

Exceptional Patient Experience



Quality Outcomes

Not Measured

Financial Impact

Not Measured

Measurement	Baseline	Projection	Q1	Q2	Q3	Q4
-------------	----------	------------	----	----	----	----

Exceptional Patient Experience	Clinic Wait Times from Check-In	9.2		7.1			
Quality Outcomes							
Financial Impact							

IMPACT & SUSTAINMENT

IVF (visit type) wait times decreased from 9.2 minutes to 7.1 minutes (p=.01)
GYN (visit type) wait times decreased from 7.7 minutes to 7.1 minutes (p>.05)



CLINICAL



UNIVERSITY OF UTAH
HEALTHCARE

VALUE SUMMARY

Denials



TEAM

K. Delis, L. Aguilar, M. Sherwood, A. Mitchell, S. Woodmancy,
J. Cary, C. Martin, S. Silverstein, D. Zarkou, M. Bennett, A.
Christiansen, C. McComber, M. Swanicke

SPONSOR

Kathy Delis

SCOPE

Facility Denials

PROBLEMS & GOALS

Identify, design, implement, and monitor operational improvements that lead to a measurable reduction in denials.

INTERVENTION

- 1) Secondary review process for write-off adjustments.
- 2) Coding changes for clinical trials
- 3) Rebill past anesthesia claims missing HCPCS code
- 4) Prevent denials associated with ED hydration
- 5) Automated processing of select denials.
- 6) Medicare A eligibility verification
- 7) Workflow changes for administrative, registration, and clinical denials

DATE IMPLEMENTED

2012

RESULTS

Exceptional Patient Experience

Not Measured

Quality Outcomes

Not Measured

Financial Impact

\$619K



Measurement	Baseline	Projection	Q1	Q2	Q3	Q4
-------------	----------	------------	----	----	----	----

Exceptional Patient Experience							
Quality Outcomes							
Financial Impact	Reduced denials, adjustments, and claim recovery (Net)		\$1MM	332	151	48	87

IMPACT & SUSTAINMENT

FY13 Financial Impact: \$87K
 Combined FY12 and FY13 Results:
 Adjustment Errors \$72,000
 Denials Associated with Clinical Trials \$119,000
 RC370, RC278 Missing HCPCS \$171,000
 ED Hydration \$173,000
 Automated Processing Avoids ~2000 manual claim reviews (.5FTE)
 Medicare A Eligibility Prevents ~10 denied visits / day



CLINICAL



UNIVERSITY OF UTAH
HEALTHCARE

VALUE SUMMARY

Hospitalist Labs



Peter Yarbrough, Michael Swanicke,
Tony Clawson, Pam Proctor

SPONSOR

Bob Pendleton

SCOPE

Chemistry, Hematology, Bact-micro, and
Immunology labs ordered by hospitalists

PROBLEMS & GOALS

Reduce average direct cost per discharge of hospitalist labs by
30%

INTERVENTION

Education to residents and interns at start of rotation.
Education about charges of common labs using reference
cards on rounds.
Discussion of laboratory ordering incorporated into daily
rounds with the aid of a checklist.

DATE IMPLEMENTED

January 2013

RESULTS

Exceptional Patient Experience

Not
Measured

Quality Outcomes

Not
Measured

\$ Financial Impact

\$205K



Measurement Baseline Projection Q1 Q2 Q3 Q4

	Measurement	Baseline	Projection	Q1	Q2	Q3	Q4
Exceptional Patient Experience							
Quality Outcomes							
Financial Impact	Average direct cost per discharge	158	108	130	131	126	

IMPACT & SUSTAINMENT



CLINICAL



UNIVERSITY OF UTAH
HEALTHCARE

VALUE SUMMARY

IVIG Drug Reimbursement



TEAM

S. Silverstein, S. McPhee, R. Vinik, A. Ferko, C. Kowalchik,
A. Mitchell, M. Swanicke, M. Bennett, H. Smith, D. Collier

SPONSOR

SCOPE

IVIG Drugs for Medicare and Medicaid

PROBLEMS & GOALS

IVIG does not meet medical necessity guidelines impacting
CMS reimbursement

Goal:

- 1) We receive payment (no IVIG write-offs)
- 2) We keep payments (no compliance refunds due)

INTERVENTION

- 1) Infusion and Patient Financial Services established process to appeal claims under special consideration provisions
- 2) New workflow including ABN process

DATE IMPLEMENTED

March 2013

RESULTS

Exceptional Patient Experience

Not Measured

Quality Outcomes

Not Measured

Financial Impact



Measurement	Baseline	Projection	Q1	Q2	Q3	Q4
Exceptional Patient Experience						
Quality Outcomes						
Financial Impact			70			

Exceptional Patient Experience

Quality Outcomes

Financial Impact

IVIG claims appealed under special consideration process

70

IMPACT & SUSTAINMENT

Monitor Plan:

Should medical necessity write-offs occur, they would be identified by the Infusion Center. Any medical necessity write-offs (GZ modifier) occurring outside of the Infusion Center or South Jordan would be identified by Coding (monthly report of GZ modifiers).

Compliance will complete mini-audits every six months to catch errors/problems early.



CLINICAL



UNIVERSITY OF UTAH
HEALTHCARE

VALUE SUMMARY

Colorectal Surgery (open) LOS



William Peche, MD; Courtney Scaife, MD; Bradford Sklow, MD;
Sarah Vogler, MD; Jenny Kelley; Colline Prasad; Scott Morris;
Steve Johnson

SPONSOR

Sean Mulvihill, Tom Miller

SCOPE

UH, HCH, elective open colorectal surgeries for
Drs. Peche, Scaife, Sklow, Vogler.

PROBLEMS & GOALS

University of Utah was a high outlier in the NSQIP database on
colorectal LOS.

INTERVENTION

The physicians developed and implemented a fast-track
protocol, initially for laparoscopic colectomies only (in 2011)
then expanded it to all open colorectal cases also. The
protocol included more aggressive diet, an emphasis on
non-narcotic pain management, early ambulation.

DATE IMPLEMENTED

June 2012

RESULTS

Exceptional Patient Experience

Not
Measured

Quality Outcomes

Not
Measured

Financial Impact



Measurement Baseline Projection Q1 Q2 Q3 Q4

	Measurement	Baseline	Projection	Q1	Q2	Q3	Q4
Exceptional Patient Experience	no decrease						
Quality Outcomes	No increase in 30 day readmission	7.1%	7.1%	10.2%	10.2%	13.0%	2.1%
Financial Impact	Post-op LOS	6.7	5.7	5.6	6.0	6.2	6.1

IMPACT & SUSTAINMENT

LOS was significantly reduced by 0.55 (p = 0.0048) days per case and direct costs were significantly reduced by 20.4% (p < 0.0001). There was no significant change in 30 day readmission (7.1% vs. 9.1% p=0.58) nor in SSI (12.6% vs. 12.3% p=0.92).



CLINICAL



UNIVERSITY OF UTAH
HEALTHCARE

VALUE SUMMARY

Optimizing Medication Packaging: EXP Machine Packed vs. Unit Dose Purchasing.



Raghib Mahkar, Carolyn Kowalchik,
UH buyers

SPONSOR

Quinn McKenna, Linda Tyler

SCOPE

UH, HCH, inpatient pharmacy

PROBLEMS & GOALS

Medications packaging is safer in the EXP machine (99.9% accuracy) vs. manually. Most meds are cheaper to package in the EXP vs. manually, though some drugs are cheaper to purchase as a pre-packaged unit dose. Goal: optimize the balance between EXP and unit packaging.

INTERVENTION

Moved ~80 drugs from EXP to mfg's unit dose.
Moved 14 drugs from Sergeant to EXP already.
Rebuild 21 EXP canister in house.

DATE IMPLEMENTED

December 2012

RESULTS

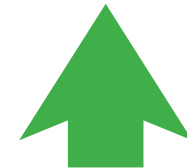
Exceptional Patient Experience



Quality Outcomes



\$ Financial Impact



	Measurement	Baseline	Projection	Q1	Q2	Q3	Q4
Exceptional Patient Experience	no decrease						
Quality Outcomes	no decrease						
Financial Impact	Hard savings from buying unit doses and rebuilt EXP cannisters. Capacity creation from technician time saved	\$0	\$16.5	\$4.9	\$2.3		

IMPACT & SUSTAINMENT

Hard Savings: From EXP to unit dose = \$9.3K/yr. Rebuilt cannisters = \$2100
Capacity Creation: From Sergeant to EXP, technician time saved projected at 350 annual labor hours. Fewer medication errors are expected but not expected to be quantifiable.



CLINICAL



UNIVERSITY OF UTAH
HEALTHCARE

VALUE SUMMARY

**Increasing FIM Score Accuracy on PM&R
Inpatients**



Denise Whitten

SPONSOR

Dan Lundergan

SCOPE

PM&R Medicare inpatients. Nurses and physical therapists.

PROBLEMS & GOALS

FIM scores predict LOS and are a required component for Medicare reimbursement. Admission FIMs were 58% accurate. Discharge FIMs were 86% accurate. FIMs not reported in 13% of cases. 22.6% of cases leave 2+ days later than estimated while 48.4% leave 2+ days early.

INTERVENTION

Computerize PowerChart transmission to UDS Pro to reduce turnaround time and reduce ownership changes.
Devise an electronic forcing function for PowerChart to prompt nurses to document FIM for the first three days and the last three days.

DATE IMPLEMENTED

December 2012

RESULTS

Exceptional Patient Experience

Not Measured

Quality Outcomes

Admission FIM accuracy increased, but as yet unknown



\$ Financial Impact



	Measurement	Baseline	Projection	Q1	Q2	Q3	Q4
Exceptional Patient Experience	no decrease						
Quality Outcomes	Admission FIM accuracy increased	58.0%	90.0%				
Financial Impact	Increase contribution margin per case.	0%	+20%	+18.2%	+20.3%		

IMPACT & SUSTAINMENT

Contribution margin grew by an average of 19.1% per Medicare case (p=0.0282) in the first five months after implementation for an estimated six month benefit of \$196K.
This team hasn't measured FIM accuracy post-implementation yet because it is time consuming. Eventually the team wants to computerize transmission of FIM scores from EMR to UDS Pro to reduce turnaround time and reduce ownership changes. Likewise the team wants to devise an electronic forcing function within the EMR to prompt nurses to document FIM for the first three days and the last three days.



CLINICAL



UNIVERSITY OF UTAH
HEALTHCARE

VALUE SUMMARY

Pain Management Wait Times



Joey Robinson with the Pain Clinic Staff

SPONSOR

Rob Lloyd

SCOPE

Pain Management Clinic wait room

PROBLEMS & GOALS

Press Ganey by 10% by the end of Q4, 2013.

INTERVENTION

Offer tablet PCs loaded w/ games, news, etc. Offer snacks and coupons for nearby restaurants for those waiting a very long time. Keep patients and families informed of waits. Move longest procedure to the end of the AM. Only procedures during the morning – no return patients. Fast-track patients who haven't been started on opioids. Changed some job duties. Added timers to exam room doors to let staff and MDs know how long a patient has been waiting.

DATE IMPLEMENTED

November 2012

RESULTS

Exceptional Patient Experience



Quality Outcomes

Not Measured

\$ Financial Impact

Not Measured

Measurement Baseline Projection Q1 Q2 Q3 Q4

	Measurement	Baseline	Projection	Q1	Q2	Q3	Q4
Exceptional Patient Experience	Press Ganey Outpatient Mean Score: "Std Moving Through Your Visit"	73.5	80.9	78.6	84.8		
Quality Outcomes	no decline						
Financial Impact	no decline in contribution margin						

IMPACT & SUSTAINMENT

This project started a new way of thinking and didn't stop with wait times management or wait times.



CLINICAL



UNIVERSITY OF UTAH
HEALTHCARE

VALUE SUMMARY

Reducing Time to Resolution for New Patients with Suspected First Time Seizures.



Lynne Kerr, MD and colleagues

SPONSOR

UUMG

SCOPE

Pediatric Neurology Fast Track Clinic

PROBLEMS & GOALS

Time to Resolution in the Fast Track Clinic for patients had a mean of 25.4 days (95%CI: 19.5-31.4) with an average of 5.6 separate patient contacts. Goal: 0.5 days and 2 contacts.

INTERVENTION

PCMC IT developed a daily auto-report of EEGs read and sent to a neurology RN each day. RN notifies providers that EEG results are available.

DATE IMPLEMENTED

Spring 2013

RESULTS

Exceptional Patient Experience



Quality Outcomes

Not Measured

\$ Financial Impact

Not Measured

Measurement Baseline Projection Q1 Q2 Q3 Q4

	Measurement	Baseline	Projection	Q1	Q2	Q3	Q4
Exceptional Patient Experience	Reduce time to resolution for new patients with suspected first time seizures.	25.4 days	1 day	3 days			
Quality Outcomes	No decline in quality						
Financial Impact	No additional cost						

IMPACT & SUSTAINMENT

EEG to family notification 2.3 days (95% CI: 1.47-2.93. n=38) from an original of 22 days. Preliminary data shows cuts contacts from 5.6 to 2. Value added (VA) time began at far less than 1% and is currently up to 4.5%. If we reach our same day goal, VA will be 40+%.



UNIVERSITY OF UTAH
HEALTHCARE