The High Reliability Journey: Keys to a Successful Robust Process Improvement® Program

Robert Curry, President & CEO
Citrus Valley Health Partners
and
Klaus Nether, MMI, CSSMBB
Director of Solutions Development
Joint Commission Center for Transforming Healthcare

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Why the need for high reliability health care?
Hospital medication error kills patient in Oregon

A hospital in Bend, Oregon, says it administered the wrong medication to a patient, causing her death.

Loretta Macpherson, 65, died shortly after she was given a paralyzing agent typically used during surgeries instead of an anti-seizure medication, said Dr. Michel Boileau, chief clinical officer for St. Charles Health System.

He said Macpherson stopped breathing and suffered cardiac arrest and brain damage.
Mix-up leads to surgical procedure on wrong baby

LEBANON, Tenn. - The happiness of their son's birth was marred for a couple in Tennessee after they learned doctors mixed up their baby with another and mistakenly performed a surgical procedure on their healthy newborn.

"The baby was perfect, healthy and beautiful," new mom Jennifer Melton told CBS Nashville affiliate WTVF. Little Nate was delivered at University Medical Center in Lebanon, Tennessee.

Not long after the birth, her newborn went for what Melton thought would be a routine physical. A couple of hours later, he was brought back.

"At that point the nurse started to mention the procedure they had done that they had clipped his tongue," said Melton.

Somehow, a doctor without the parents' signed consent performed a surgical procedure on Nate that apparently was meant for another child.
Medical errors are third-leading cause of death in United States: Study

Dan Mangan | @_DanMangan
11 Hours Ago

Go to the doctor or hospital when you're sick in the hopes of getting better, and you might end up dead, instead.

A new study estimates that medical errors are actually the third-leading cause of death in the United States, responsible for a whopping 251,454 fatalities in 2013.
Current State of Quality

Routine safety processes fail routinely

- Hand hygiene
- Medication administration
- Patient identification
- Communication in transitions of care
RPI® and High Reliability

How did HROs achieve zero harm?
- How to get from low to high reliability?
- No guidance in this literature

Aiming for zero means impatience
- How do we address safety processes that fail 40-60% of the time?
- How to get major improvement quickly?

Answer?
RPI = Lean, Six Sigma, and change management
HIGH RELIABILITY MODEL

Leadership
Commitment to zero patient harm

Safety Culture
Empowering staff to speak up

Robust Process Improvement®
Systematic, data-driven approach to complex problem solving

RPI® in Health Care Today

Only a small percentage of hospitals or systems use RPI in any form or fashion

RPI is used differently by different hospitals

- Most use only some of the parts
- Most have one department or a single individual using RPI
- Most do not have a plan for spread
- Most do not have RPI embedded into their daily work
The High Reliability Journey Requires Use of RPI®

Use of ROBUST PROCESS IMPROVEMENT® Tools

- Methods
- Training
- Spread
Who We Are

- Non-profit health system; 3 hospitals (625 total beds), inpatient hospice hospital and expansive home health program
- 3,200+ employees
- Over 1,000 physicians
- Serving nearly 1 million people in the East San Gabriel Valley of Los Angeles County
- Payer mix is over 80% government
Our MISSION is to help people keep well in body, mind and spirit by providing quality health care services in a compassionate environment.
CVHP 2.0 Journey Begins

- Culture of inertia
- Quality of care was a “B” average, and accepted
- Employee engagement was also average
- Patient satisfaction was dismal
- Financially we were struggling – BB rated (junk bonds)
- Transformational journey to sustainability

If we didn’t do something, we could no longer serve our Mission
Cultural Transformation

- Culture is defined as an organization’s beliefs and behaviors
- Needed the right leaders
- Needed to engage employees
- Needed transparent communications
- Needed to think and “do” differently

And we did…
Turnaround Efforts

- Reduce workforce by 300 FTE’s through Voluntary Separation Plan
- Initiated 100% productivity targets (250 pay periods above 100%)
- Engaged physicians through selecting 15 coaches
- Started a 250 member IPA to align our physicians
- Set goals at 100% compliance for Core Measures
- Began “Building Connections” program to improve patient satisfaction
- Eliminated all out-sourced vendors
- Changed three hospital based physician groups
- Completely re-organized executive management
- Managers changed or we changed managers
Success Recognized

- American College of Surgeons National Surgical Quality Improvement recognized both QVC and ICC as two of 44 participating hospitals that have achieved meritorious outcomes for surgical patient care for four years in a row.
- Cleverley and Associates awarded CVHP the 2014 Community Value Leadership Award – the only “non-teaching large hospital” in California to receive award; one of the top 2% in the nation.
- The Joint Commission’s Top Performer on Key Quality Measures® for two consecutive years.
Success Recognized

- Five Bond upgrades (BB to A-)
- LeapFrog Group, “A” rating for all three hospital for patient safety
- Get With The Guidelines® - Stroke Gold Plus Quality Achievement Award
- Get With The Guidelines® Heart Failure Gold Quality Achievement Award three years consecutively
- Five years in a row – CVHP named Best Place to Work and Best Hospitals as recognized in the San Gabriel Tribune
- In 2013, selected by VHA to create a Leading Practice Blueprint® that lead to...
- In August 2014, VHA presented us with VHA’s West Coast Region Leading Practice Blueprint® Award
- Recognized for our financial, operational and clinical results turnaround
But…

It wasn’t enough
Harm was still occurring (2013)
Harm was still occurring (2013)
Michael’s Story

- 52 year old, engaged to be married
- Came to our ED in September 2013 for severe abdominal pain
- Appendectomy was performed
What Do Patients Want?

Founder, Institute for Healthcare Improvement
Former Acting Administrator, CMS

Donald Berwick, MD

Don’t hurt me
Heal me
Be nice to me

High Reliability
Better Outcomes

2.0
We needed definitive cultural transformation

We needed to act and think differently – like a highly reliable organization
Our MISSION is to help people keep well in body, mind and spirit by providing quality health care services in a safe, compassionate environment.
Think Like a Highly Reliable Organization

1. Preoccupied with failure
2. Resist temptation to simplify their observations and experiences within their environment
3. Sensitivity to operations
4. Commitment to resilience
5. Deference to expertise
The Center for Transforming Healthcare

- Engaged The Joint Commission’s Center for Transforming Healthcare in June 2013
- Core team began 3-day training in January 2014
  - Core team included:
    - Executive team
    - Board member who was a educator/statistician for decades
    - Corporate Director of Process Improvement
• “It truly is not about focusing on ROI, but about doing what is right for our patients and our future.”

Roger Sharma, CPA, CFO

• We had to think differently…

Roger Sharma
CPA, CFO, EVP
Chief Transformation Officer

• Established new executive position and department to implement and provide oversight

• Selected William Choctaw, MD, JD to be our Project Deployment Leader, Black Belt in training and Chief Transformation Officer for the system

William Choctaw MD, JD
Chief Transformation Officer
• First class of Green Belt candidates were selected, including three physicians:
  – Hospitalist
  – OB/GYN (minimally invasive surgical specialist and future leader)
  – Critical care specialist

• Other candidates included a cross-section of departments, services and hospitals
Physician Engagement

- Crucial to project and program success – 14 trained thus far
- Began with our Physician Coaches
  - CVHP champions and mentors for new physicians on staff
- Now training physician champions who are not necessarily coaches, but future leaders
- Integrate a variety of physicians and specialists both hospital based and private practice based
- Offer make-up sessions to account for time restraints
- Physicians comment it has changed the way they think about problems/solutions, becoming more patient and thoughtful
Wave I - Six Green Belt Projects

- Six projects were selected:
  - Continuum of Care
  - Emergency Department Flow
  - Hand-off Communications
  - Meditech Optimization
  - Medicare Denial Prevention Project
  - Surgical Site Infections
Cultural Transformation Began

- Halo Effect
- Camaraderie
- Team Spirit – nicknames (CTW, A-Team)
- Helpfulness between teams
- Candidness of frustrations, challenges and also successes
- Truly thinking differently – even outside of work
  - “Mom, don’t go all Green Belt on me.”
    - Son of Green Belt on cleaning his room more efficiently
On our way to building a culture that aspires to eliminate harm
2015 – Wave II Green Belts

- 24 Green Belts certified
- Included six physicians
- 7 projects
2015 – Wave II Projects

- ED Flow II – Patients Boarded in ED
- HCAHPS/Physician Communication
- Inpatient Discharge
- Nurse Staffing
- Perioperative Area/start times
- Protected Health Information
- Safety/Hand Hygiene
2015 - Wave II Black Belts

• Two Black Belt Candidates:
  – William Choctaw MD, JD
  – Denise Ronquillo, Corporate Director Process Excellence

• Black Belt projects
  – ED Surge – response to overcrowding
  – Home Health – improving order tracking and financial performance
2016 – Wave III Green Belts

- 30 Green Belt Candidates
- Includes myself, President/CEO of system
- Four physicians
- One board member
- Six projects
- Currently in the Improve/Control stage of DMAIC
2016 – Wave III Team Themes

- Bo(a)rder Patrol – Care Coordination Team
- TRex – Medication Safety Team
- Med Detectives – EHR Team
- Go with the Flow – Patient Flow Team
- Fall Busters – Patient Safety Team
- Got Sepsis? – Sepsis Team
Wave III Teams, Training, Fun
• Focus on care coordination and reducing LOS
• The Dirty Dozen
• My “Ah-Ha” moment
• Different hospital Monday through Friday vs. Weekends
• P-Value
CVHP Cultural Shift

- Lean Six Sigma, Robust Process Improvement methods and tools have infiltrated the entire system
- Reduced silo mentality - integrating departments and team members across the system
- Speaking a new language and thinking differently
- Process Excellence
- Culture of Safety
Sustainability
Wave I - ED Flow I

Measure: % Patients Left Without Being Seen (FPH)

Wave I Green Belt Project

ED Flow I: % Patients Left Without Being Seen

- Baseline: 3.3%
- Improve: 1.5%
- 2015: 2.2%
- YTD 16: 1.9%
Wave I - Continuum of Care

Measure: 30 Day All Cause Readmission Rate (CVHP)

Wave I Green Belt Project
Continuum of Care: Heart Failure Readmissions

- Baseline: 23.4%
- Improve: 15.8%
- 2015: 17.7%
- YTD 16: 14.5%
Wave I - Surgical Site Infection

Measure: DI/OS, Class I/II SSI (ICH)

Wave I Green Belt Project

Surgical Site Infections: % SSI (Class I/II, DI/OS)

- Baseline: 0.8%
- Improve: 0.4%
- 2015: 0.2%
- YTD 16: 0.3%
ED Surge Black Belt Project

Measure: CVHP Diversion Hours

Black Belt Project
ED Surge: CVHP Diversion (% of total hours)

- Baseline: 13.8%
- Improve: 10.1%
- 2015: 5.1%
- YTD 16: 5.2%
Lean Six Sigma
Financial Impact

- Green Belt: Wave I: $601,581
- Green Belt: Wave II: $215,961
- Green Belt: Wave III: $0
- Lean Projects: $18,120
- Black Belt Projects: $568,170
- Totals: $1,403,832
2017 Plans

- Six GB projects
- 30 additional GB trained employees and physicians
- Two Black Belt projects
- 50 Lean projects
- 225 Lean Agents trained
- Begin Lean Six Sigma Education Series

- Possible projects: Teletracking, Sepsis II, Centralized Scheduling, Nurse Retention, Supply Chain Management
Expanding Number Trained

**Green Belts and Lean Agents Trained**
(cumulative totals)

- 2014: 21
- 2015: 106
- 2016: 236
- 2017: 491
- 2018: 746
- 2019: 1001

2017 - 2019 include projections
Successful Change is Possible

• With the right culture, right people – successful change is possible
• Sustainable quality and financial improvements through RPI/LSS
• Employee and physician engagement is high
• Growth in many of our services
• Recognized throughout the country as a model for change
• Most importantly, commitment to high reliability has permeated our culture
“The first step that a healthcare organization must take if it wishes to achieve high reliability is a commitment from the leadership to this goal. No important organizational aims can be achieved without such a commitment. Further, all components of the leadership must be committed: the governing body, management, physicians and nurses.”

Mark Chassin, MD
President, The Joint Commission
Thank you!

Robert Curry, MPH, FACHE
rcurry@mail.cvhp.org
626-938-7577

Klaus Nether, CSSMBB, MMI
Director, Solutions Development
knether@jointcommission.org
630-792-5297