Create a Safe Day, Every Day: The Building of a QI Culture at Nationwide Children’s

Mary Ann Abrams, MD, MPH
Andrew Bethune
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Acknowledgements

• Thomas Bartman, MD, PhD
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• Richard J. Brilli, MD, FAAP, MCCM
• Wallace Crandall, MD, MMM,
• J. Terrance Davis, MD
• Karen E. Heiser, PhD
• Richard McClead, MD, MHA
Objectives

• Identify fundamental elements of a strong organizational quality improvement culture.
• Apply a strategic approach to building or strengthening quality improvement in your setting.
• Align and integrate quality improvement with individual and organizational priorities.
Activity

Self-introduce:
- Name, role, institution

Given Session Title & Learning Objectives:
- What do you seek to get out of this session?
Nationwide Children’s

- Opened in 1892
- >1.2 million annual patient visits
  - 50 states & 41 countries
- >500 OSU faculty & 12,000+ hospital staff
- Main campus & 68 sites
- Top 10 NIH for CHs
- >4000 learners/year
- ACO with 350K patients
Nationwide Children’s Hospital

Patient Safety Category Winner:
2013 -- Pediatric Quality Award

The American Hospital Association:
2015 -- McKesson Quest for Quality Prize, Citation of Merit
In 2009 446 children suffered preventable harm at Nationwide Children’s Hospital

Preventable harm events such as:
1. Catheter-associated blood stream infections
2. Serious adverse drug events
3. Serious Pressure ulcers
4. Falls with injury
5. Cardiopulmonary arrests outside the ICU
6. Catheter-associated urinary tract infections
7. Surgical site infections
8. **ONE serious safety event every 11 days**
In 2009 446 children suffered preventable harm at Nationwide Children’s Hospital. Preventable harm events such as:

1. Catheter-associated bloodstream infections
2. Serious adverse drug events
3. Serious pressure ulcers
4. Falls with injury
5. Cardiopulmonary arrests outside the ICU
6. Catheter-associated urinary tract infections
7. Surgical site infections

8. One serious safety event every 11 days
Essential Elements of Building A Strong Organizational Quality Improvement Culture

• Leadership
• Methodology
• Continued improvement
• Recognition & building on success
Leadership: Vision, Strategy, Metrics

Building a QI Culture at Nationwide Children’s
Quality Improvement Requires Change

• Effective leadership drives change
• Attention: the currency of leadership*
• Multiple leadership levels:
  ▪ Institutional
  ▪ Service Line
  ▪ Frontline / Project
• Cultivate leaders

Leaders Articulate and Sell the Vision

• Effectively communicate the vision
• Establish a burning platform
• Put a face to the problem
Patient-/Family-Centered Quality Strategic Plan

- Keep Us Well
  - Equitable
  - Access
  - Coordinated

- Navigate My Care
  - Timely
  - Efficient
  - Coordinated

- Do Not Harm Me
  - Safe
  - Effective

- Heal Me Cure Me
  - Patient Centered
  - Equitable

- Treat Me with Respect

Institute of Medicine
Transformational Domains of Care
## NCH Patient-/Family-Centered Quality Strategic Plan

<table>
<thead>
<tr>
<th>Keep Us Well</th>
<th>Navigate My Care</th>
<th>Do Not Harm Me</th>
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<td>Population health</td>
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<td>Preventable Harm</td>
<td>Outcomes</td>
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2009 - 2018

Brilli et al. Revisiting the Quality Chasm. Pediatrics 2014;v133:p763
Revisiting the Quality Chasm

AUTHORS: Richard J. Brill, MD, FAAP, a,b Steve Allen, MD, MBA, a,b and J. Terrance Davis, MD a,d

aNationwide Children’s Hospital, Columbus, Ohio; and Departments of bPediatrics, cAnesthesiology, and dClinical Surgery, The Ohio State University College of Medicine, Columbus, Ohio

KEY WORDS
strategic plan, patient-family centeredness, Institute of Medicine quality domains, quality improvement, patient safety, patient harm, efficient care, equitable care, pediatrics

Strategic plans provide the roadmap by which organizations achieve their vision. To effectively serve as that roadmap, strategic plans must have certain essential characteristics. These include the ability to inspire and motivate while remaining action-oriented and understandable to all personnel. More than a decade ago, in Crossing the Quality Chasm, the Institute of Medicine (IOM) suggested organizing transformational efforts in 6 domains: Safety, Effectiveness, Patient-Family Centeredness, Timeliness, Efficiency, and Equity. Recently 2 additional domains have been added: Access and Care Coordination. Since that
Our metrics:

- Serious Safety Event Rate℠ (SSER & eSSER*)
- Unadjusted Hospital Mortality Rate
- Preventable Harm Index℠ (PHI & ePHI*)

*e = employee*
One of the most substantial and sustained results in the US

NCH experiences a **Serious Safety Event** once every 183 days
NCH Hospital Mortality Rate: 2000-2015

Post-Zero Hero Mortality is:

- 23% lower than pre-Zero Hero
- 41% lower than expected

*J Pediatr* 2013; 163:1638-1645
# Preventable Harm Index (PHI)

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<thead>
<tr>
<th>Preventable Harm Index℠</th>
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<td>Total Hospital Acquired Infections</td>
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<td>Total Adverse Drug Events (4-9)</td>
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<td>Preventable Surgical Complications</td>
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<td>Total Serious Falls</td>
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<td>Hospital Acquired Pressure Ulcers</td>
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<td>Miscellaneous Harm</td>
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<td>Total Serious Safety Events</td>
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<td><strong>Annual Sum</strong></td>
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Behind each of these numbers is a child.
Does not include Stage 2 pressure injuries, Unplanned Extubations, GI SSI
The PHI rate normalizes our harm events to the 30% increase in patient hospital days over the past 4 years (i.e. more opportunity for harm).
The Preventable Harm Index: An Effective Motivator to Facilitate the Drive to Zero

Richard J. Brilli, MD, FAAP, FCCM, Richard E. McClead, Jr., MD, Terrance Davis, MD, Linda Stoverock, RN, MSN, NEA-BC, Anamarie Rayburn, MSPH, CPHQ, and Janet C. Berry, RN, MBA

Nearly a decade ago, the Institute of Medicine’s (IOM) report on the state of American Healthcare focused attention on the need to develop systems and processes to improve patient safety in hospitals.\textsuperscript{1,2} Although initially debated, it is now generally accepted that preventable medical errors are caused by human mistakes and system failures.\textsuperscript{3,4} Accidents in healthcare are common, leading to unintended injuries and healthcare-related deaths.\textsuperscript{5,6} Consequently, many hospitals and healthcare systems have implemented various strategies to prevent harm. However, many central questions remain: How do we measure success? How do we know when we have reached the goal of zero harm?" demands a metric that is accurate and understandable by all. Furthermore, it suggested that the tool for measuring its success or failure needed to be straightforward and understandable by individuals at all levels in the organization. In other words, the answer to the question, “How will we know when we get there?” demands a metric that is accurate
## Every Zero Matters

### Zero Hero Preventable Harm Index v1.0 - 2009

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## Every Zero Matters

### Zero Hero Preventable Harm Index v1.0 – 2016
(Based on 2015 CLA-BSI Definition)

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A Comprehensive Patient Safety Program Can Significantly Reduce Preventable Harm, Associated Costs, and Hospital Mortality

Richard J. Brilli, MD, FAAP, FCCM\textsuperscript{1,2}, Richard E. McClead, Jr., MD\textsuperscript{1,2}, Wallace V. Crandall, MD\textsuperscript{1,2}, Linda Stoverock, RN, MSN, NEA-BC\textsuperscript{3}, Janet C. Berry, RN, MBA\textsuperscript{3}, T. Arthur Wheeler, MS, MSES, MBA\textsuperscript{1}, and J. Terrance Davis, MD\textsuperscript{1}

Objective To evaluate the effectiveness of a hospital-wide initiative to improve patient safety by implementing high-reliability practices as part of a quality improvement (QI) program aimed at reducing all preventable harm.

Study design A hospital wide quasi-experimental time series QI initiative using high-reliability concepts, microsystem-based multidisciplinary teams, and QI science tools to reduce hospital acquired harm was implemented. Extensive error prevention training was provided for all employees. Change concepts were enacted using the Institute for Healthcare Improvement’s Model for Improvement. Compliance with change packages was measured.

Results Between 2010 and 2012, the serious safety event rate decreased from 1.15 events to 0.19 event per 10,000 adjusted hospital-days, an 83.3\% reduction ($P < .001$). Preventable harm events decreased by 53\%, from a quarterly peak of 150 in the first quarter of 2010 to 71 in the fourth quarter of 2012 ($P < .01$). Observed hospital mortality decreased from 1.0\% to 0.75\% ($P < .001$), although severity-adjusted expected mortality actually increased slightly, and estimated harm-related hospital costs decreased by 22.0\%. Hospital-wide safety climate scores increased significantly.

Conclusion Substantial reductions in serious safety event rate, preventable harm, hospital mortality, and cost were seen after implementation of our multifaceted approach. Measurable improvements in the safety culture were noted as well. (J Pediatr 2013;163:1638-45).

First children’s hospital to publish whole hospital safety and mortality outcomes (Dec2013)
Zero Hero at Nationwide Children’s Patient & Employee Safety

Zero Hero Tools

Our Zero Hero Tools:

- **Bedrock** of Nationwide Children’s patient & employee safety program
- **Goal**: eliminate all preventable harm at Nationwide Children’s
- Based on **evidence-based** tools used in critical industries, e.g., nuclear power, airline safety, with marked reduction in errors
# Zero Hero™ Essentials

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<tr>
<th>Behavioral Expectations</th>
<th>Related Tools</th>
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<tbody>
<tr>
<td>Everyone Makes a Personal Commitment to Safety</td>
<td>1. &quot;Name Game&quot;</td>
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<td>2. Team Member Checking &amp; Coaching using ARCC</td>
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<td>Ask a question</td>
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<td>Request a change</td>
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<td>Concern – voice a concern</td>
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<td>Chain of command</td>
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<td>3. Pay attention to detail using STAR</td>
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<td>Stop: Pause for a moment</td>
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<td>Think: Focus on the act</td>
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<td>Act: Perform the act</td>
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<td>Review: Check for desired results</td>
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<td>Everyone is Accountable for Clear and Complete Communication</td>
<td>1. Use SBAR to communicate concerns requiring action</td>
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<td>Situation: What is the problem, patient or project?</td>
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<td>Background: What is important to know?</td>
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<td>Assessment: What is your evaluation?</td>
</tr>
<tr>
<td></td>
<td>Recommendation: What action needs to take place?</td>
</tr>
<tr>
<td></td>
<td>2. 3-way communication with 1 or 2 clarifying questions. A clarifying question can be numeric (15: one-five) or phonetic (alpha, beta)</td>
</tr>
<tr>
<td></td>
<td>3. NCH Standardized Handoff</td>
</tr>
<tr>
<td></td>
<td>Patient/Project</td>
</tr>
<tr>
<td></td>
<td>Problems</td>
</tr>
<tr>
<td></td>
<td>Pertinent Past History</td>
</tr>
<tr>
<td></td>
<td>Plan/Procedure</td>
</tr>
<tr>
<td></td>
<td>Precautions/Potential Pitfalls</td>
</tr>
<tr>
<td>Everyone Supports a Questioning Attitude</td>
<td>1. QVV</td>
</tr>
<tr>
<td></td>
<td>Qualify the source (do I trust this source)</td>
</tr>
<tr>
<td></td>
<td>Validate the content (does it make sense to me)</td>
</tr>
<tr>
<td></td>
<td>Verify your action (check it with an expert)</td>
</tr>
<tr>
<td></td>
<td>2. Stop and Resolve – Don’t proceed in the face of uncertainty</td>
</tr>
</tbody>
</table>

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**Nationwide Children’s**

*When your child needs a hospital, everything matters.*

**Zero Hero™**

Create a safe day. Every day.
Be a Zero Hero!

Look Both Ways

Ensure Traffic Stops
Methodology

Building a QI Culture at Nationwide Children’s
Driving System Change

Two-Prong Approach

System Culture
- Expected Behaviors
- Reliability Principals

Project Work Teams
Standardized Improvement Methods
- IHI Model for Improvement
- Lean
- Six Sigma (DMAIC)
Driving System Change

Two-Prong Approach

**System Culture**

- Expected Behaviors

- Reliability Principals
Five Principles of HROs

Three Principles of Anticipation – Stay out of Trouble

1. Preoccupation with Failure
Small things as big things waiting to happen

2. Sensitivity to Operations
What’s happening on the front line

3. Reluctance to Simplify
Expect diverse perspective – sometimes complex solutions

Two Principles of Containment – Get out of Trouble

4. Commitment to Resilience
Detect, contain, and bounce back from events that do occur

5. Deference to Expertise
Decision-making by the person with the most related knowledge and expertise
System Culture & Infrastructure Change
Safety Culture and High Reliability Practice

Safety Governance – Board & Executive Oversight
Error Prevention (High Reliability) Training
Leadership Methods & Reinforcement
In-Depth Cause Analysis – Fair Accountability
High-Performing Microsystems – Tactical Work Teams per Harm Domain
Internal and External Transparency

Organizational Safety Culture
Safety Culture: Safety Attitudes Questionnaire (SAQ)

Best performers (adult hospitals) are > 80

Safety Climate
Teamwork Climate

Year | Safety Climate | Teamwork Climate |
--- | --- | --- |
2009 | 71 | 71 |
2011 | 75 | 72 |
2013 | 79 | 73 |
2015 | 80 | 75 |
2017 | 82 | 77 |

8000 surveys
82% response rate
Serious Harm Reduction and Improved SAQ – PICU

Black Triangle – Teamwork Score; Grey Square – Safety Score; Open Circle – Serious Harm Index

ORIGINAL ARTICLE

Improved Safety Culture and Teamwork Climate Are Associated With Decreases in Patient Harm and Hospital Mortality Across a Hospital System

Janet C. Berry, DNP, RN, MBA, **+†‡ John Terrance Davis, MD, +§ Thomas Bartman, MD, PhD, +||
Cindy C. Hafer, MBA, MHA, CPHQ, +‡ Lindsay M. Lieb, BSH, +
Nadeem Khan, MD, ** and Richard J. Brilli, MD, FAAP, MCCM, +§||**

Objectives: Improved safety and teamwork culture has been associated with decreased patient harm within specific units in hospitals or hospital groups. Most studies have focused on a specific harm type. This study's ob-
in 2009. Before our study, SAQ results of culture change had only been reported in specific unit types (e.g., intensive care unit) in multiple institutions. Further more, safety outcome metrics in most studies had involved only 1 harm measure, such as statistical...
Driving System Change

Two-Prong Approach

Project Work Teams
Standardized Improvement Methods
- IHI Model for Improvement
- Lean
- Six Sigma (DMAIC)
Articulate Method to Achieve Results

Model for Improvement

- Critical mass of trained leaders
- Common language
- Common methodology
How will we know that a change is an improvement?

What changes can we make that will result in improvement?

Steps to Plan the Changes

Finding the optimal balance between ideal and practical
Quality Improvement Essentials (QIE)

- 1st course Fall 2011
- Fall 2015 first CNHS (DC Children’s) cohort
- Winter 2016 first GME track; QI writing group
- Current 13th session with 28 in cohort
  - 20 NCH leaders (~50-50 attendings/other, QI Fellow)
  - 6 CNHS leaders
  - 2 GME track – QI Chief Resident & Emergency Medicine Fellow
Quality Improvement Essentials (QIE)

241 graduates as of 5/2017

- 137 physicians, 62 nurses, 42 other (e.g., RT, psychologists)
- CNHS (23); Ochsner (2)
- ~30 on waiting list

QI Leadership Development

- 50 Chiefs/Vice Presidents
- 45 Program Managers/Medical Directors
- 28 GME Program Directors
Interprofessional Course Leadership

Administration
Co-Directors:
Rich Brilli (CMO) &
Karen Heiser (VP & DIO)
Course Coordinator:
Andrew Bethune

Core Content Experts
• Tom Bartman-Neonatology
• Wallace Crandall-GI
• Terry Davis-CMO office
• Mike Fetzer-QIS
• Rick McClead-CMO office
• Linda Stoverock-CNO
• Jahnavi Valleru-QIS
Rich Brill
Chief Medical Officer

Linda Stoverock
Chief Nursing Officer

Anamarie Rayburn
Director, Quality Improvement

Wallace Crandall
Medical Director, Quality

Tom Bartman
Associate Medical Director, Quality

Rick McLeod
Associate Medical Director, Medical Events

Risk Management/Serious Safety Events

Accreditation

Clinical Quality

Art Wheeler
Lead QI Coordinator

Rich Liscandro
Lead QI Coordinator

Jim Dail
Lead Service Line QI Coordinator

Randy Frost
Lead Service Line QI Coordinator

Nicole Spencer
Lead QI Coordinator

Mike Fetzer
Quality Manager, UCC/Behavioral Health

Jahnavi Valieru
Quality Manager, UC - Behavioral Health

Auditor Interns:

Sandy Ramachandran
QI Data Lead

Auditor

Rich Liscandro
QI Coordinator - Clinical

Stacy Kuehn
QI Coordinator - Clinical

Reena Sahai
QI Technical

Annika Gibson
QI Technical

Rehab QI Coordinator

Neonatal QI Coordinator

Surgery Center

Dental

Jr. Site
Lead RCA Analyst

Cheryl Hiatt
RCA Analyst

Lane McVitty
RCA Analyst

Jessica Holier
RCA Analyst

Carol McGione
RCA Analyst - Contingent

Erin Ahrens
RCA Analyst - Contingent

Dorcas Lewis
QI Coordinator - Clinical

Barb Stewart
QI Coordinator - Clinical

Jenna Menardi
Medication Safety Coordinator

Franklin Wall
Patient Safety Coordinator

Rhonda Coborn
Accreditation Coordinator

Jennifer Montgomery
QI Coordinator - Clinical

Denise Simmons
QI Coordinator - Clinical

Nicole Spencer
QI Coordinator - Clinical

Mike Cummings
QI Coordinator - Clinical, VTE

Kelly Kersey
Accreditation Home Care

Angel Miller
Quality Secretary

Bob Feeney
Accreditation Transplant

Tricia Montgomery
Service Line Coord - Urology/Neurosurgery

Jann Wren
Service Line Coord - Home Care

Stacy Kramer
Service Line Coord - OB/GYN, TAP

Don Buckingham
Service Line Coord - Endo/ID/ED/UC

Kevin Dolan
Service Line Coord - Radiology/Ortho

Brands Thornton
Service Line Coord - Heart Center/NMC

Tricia Montgomery
Service Line Coord - Urology/Neurosurgery

Randy Frost
Service Line Coord - Oncology

Jim Gallup
Service Line Coord - Seizure/Psycho/Pain

Stephanie Lemke
Service Line Coord - ENT/Ear/Neuro

Brent Barkett
Service Line Coord - Primary Care

Nathaniel Gallup
Service Line Coord - TRAIN Support/Data Analyst

Bob Feehey
Service Line Coord - Transplant/Pathology

Christina Toth
Service Line Coord - PFK

Suzanne Hohokim
Service Line Coord - PFK

Charlie Brown
Service Line Coord - Neuro/Pulm/DSMeds

Will Parker
Service Line Coord - Neuro/Pulm/DSMeds

Revision Date: 4/27/2017
Create and Cultivate the Team(s)

• Doctor & nurse co-lead when possible
• Parent inclusion
• Multidisciplinary - always
• Constructive professional ground rules
• Include the independent thinker
• Change will generate resistance → Motivate
• Empower & give credit to others
• Reward & demand accountability
Pressure Ulcers in Critically Ill children

The Burning Platform to Inspire Change, because some will say, “I like the way I do things now”!!

Nationwide Children's

Zero Hero™
Create a safe day. Every day.
QIE Core Content

• IHI Model for Improvement
• Leadership skills
• Team-building
• Data analysis & statistical process control
• Spread/sustain/change management
• *A Guide for Driving Improvement, 2nd Ed.*

*Taught by our leaders, for our leaders*
Keys to Success

• Senior executives as teachers & panelists
• Multidisciplinary cohorts
• Small group work – *all teach, all learn*
• Faculty as role models
• External participation
• End-of-course & 6-month follow-up presentations
Outcomes Study*
\(n = 91\)

- Milestone-based competency change
- MOC projects
- QI teaching
- QI involvement/leadership
- Publications/presentations

*Inter-professional Quality Improvement Training Enhances Competency and QI Productivity Among Graduates. Bartman, T; Heiser, K; Bethune, A; Crandall, W; McClead, R; Davis, J.T.; Brilli, R. Academic Medicine 2017.
Interprofessional QI Training Enhances Competency and QI Productivity Among Graduates: Findings From Nationwide Children’s Hospital

Thomas Bartman, MD, PhD, Karen Heiser, PhD, Andrew Bethune, Wallace Crandall, MD, Richard McClead, MD, MHA, J. Terrance Davis, MD, and Richard J. Brilli, MD

Abstract

**Purpose**
Significant resources are expended on quality improvement (QI) training courses. The authors sought to determine whether education provided in QI course training improves self-assessed QI content competence and QI-related productivity among course graduates.

**Method**
“Quality Improvement Essentials” is a four-month didactic and experiential course designed to prepare multidisciplinary professionals to participate in and lead QI efforts at Nationwide Children’s Hospital (NCH). This study used a milestone-based self-assessment survey of graduates from 2012 to 2014 to gauge change in participants’ self-assessed QI competency after course completion. Four competency domains were evaluated: QI knowledge; testing and implementing change using teams; data management and analysis; and spreading and sustaining science. Metrics for assessing individual QI productivity were presentation or publication of QI work outside NCH; local, regional, or national QI teaching; serving on a local, regional, or national QI committee; appointment as a QI leader; involvement in an internal or external QI collaborative; and leading a maintenance of certification Part IV project approved by NCH.

**Results**
Course participation more than doubled participants’ self-assessed QI competence across all four domains. Gains continued after the course, increasing with time rather than degrading. Self-assessed competency increase was significantly associated with increased QI productivity.

**Conclusions**
Self-assessed QI competence dramatically improved after participation in an educational course and continued to increase over time. Increased self-assessed QI competency correlated with increased individual QI productivity. Further studies are necessary to fully evaluate “return on investment” for this type of course.
QI Milestones*

*From novice to expert*

• Quality improvement knowledge
• Testing & implementing change using teams
• Data management & analysis
• Sustaining & spreading

*Modeled on ACGME milestones with permission*
QIE Course: Competence

Continued improvement 6 mos. after course

Rating (0-9)

Self assessed competency level

QI Knowledge | Using Teams | Managing Data | Sustaining - Spreading

Continued improvement 6 mos. after course

Before Course

After Course

Competency type
Share Success: QI Publications

41 papers authored by QI graduates

2017: 10 papers to-date

<table>
<thead>
<tr>
<th>Year Published</th>
<th>Total QI Safety Articles</th>
<th>QI Safety Articles with ≥ 1 QIE Grad Author</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>6</td>
<td>2</td>
</tr>
<tr>
<td>2013</td>
<td>5</td>
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<td>29</td>
<td>13</td>
</tr>
<tr>
<td>2015</td>
<td>21</td>
<td>10</td>
</tr>
<tr>
<td>2016</td>
<td>17</td>
<td>13</td>
</tr>
</tbody>
</table>

# Articles
Evidence of Sustain & Spread

• Widespread use of IHI methodology & tools
• Greater incoming knowledge of QI
• Final presentations – more data, more changes
• Grads teaching/coaching others
• QI writing group increasing publications
• Waiting list continues to grow
• Continued senior leader involvement
Continued Improvement

Building a QI Culture at Nationwide Children’s
Integrating QI into GME
Trainee QI Engagement Guidelines

All NCH GME trainees will demonstrate basic understanding of the IHI QI process.

• Didactic education
  – 2-hour QI Education Overview
    • The Art and Science of Quality Improvement
    • Key Driver Diagrams
    • Use of Data in QI
  – *Guide for Driving Improvement (2015)*

• Experiential learning
  – Basic
  – Advanced
Active Participation =

• Review Aim & Key Driver Diagram (KDD)
• Identify >=1 driver & intervention relevant to own practice
• Collect, submit and/or review data in accordance & collaboration with project’s measurement plan & results
• Reflect on results of PDSAs & identify possible next steps
• Participate for >=3 data cycles
• Determine if ready for sustain mode
• Submit Aim, KDD, & Run/Control chart for period of participation
One-Stop Shopping for GME QI Resources

GME – QI Website

Welcome to the GME Quality Improvement Website.

Through meaningful involvement in QI, trainees will demonstrate knowledge, skills, and commitment to critically examine their own practice, collect and analyze data about their practice, and make improvements based on those data.

NCH uses the Institute for Healthcare Improvement (IHI) QI Model for improvement. Trainees must: (1) demonstrate knowledge of key components of an Aim Statement, (2) identify major causes (Key Drivers) that influence the Aim, (3) implement a series of tests of changes/Intervention/Plan-Do-Study-Act [PDSA] cycle, and (4) use a way to determine if changes have led to improvement.

This QI education prepares trainees to consistently work in a well-coordinated practice to achieve healthcare QI goals. It will also enable them to fulfill Part 2 and Part 3 Maintenance of Certification requirements of their relevant American Board of Medical Specialties (ABMS) Board(s).

Below are tools and resources to assist in meeting these QI expectations.
Improving Trainee Involvement in Quality & Safety at NCH Goals

• All trainees should:
  – be conversant in quality and safety methodology and initiatives
  – be active partners in key organization-wide quality and safety initiatives
  – participate meaningfully in quality improvement projects at an individual level
Learning

• Engagement & Involvement – very good
• Experience – improving
  – continue to enhance true QI activities
  – multidisciplinary teams & patient/family involvement
  – increase mentor resources
  – enhance process efficiency
• Evaluation – ongoing
• Scholarly activity – increase focus
• Faculty Development – identify opportunities
NCH – MOC Part 4
NCH Multi-Specialty Portfolio Sponsor of MOC Part 4 Projects since **Fall 2011**

- **1st children’s hospital**; now CHOP, Cincinnati, Miami, Seattle, St. Jude, Texas, & Valley Children’s

- Currently **85 Portfolio sponsors** nationally

- Able to award MOC credit to physician diplomates from **21 of 24 ABMS Boards**
## Patient-/Family-Centered Quality Strategic Plan

<table>
<thead>
<tr>
<th>Keep Us Well</th>
<th>Navigate My Care</th>
<th>Do Not Harm Me</th>
<th>Heal Me</th>
<th>Treat Me w/ Respect</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>57</strong></td>
<td><strong>55</strong></td>
<td><strong>68</strong></td>
<td><strong>41</strong></td>
<td><strong>17</strong></td>
</tr>
</tbody>
</table>

- **School Based Asthma Tx (SBAT)**
- Prevent prematurity by improving pre-natal care
- School based BH therapists in South Side schools
- Increase obesity identification & enroll
- Decrease 7 day readmission rate
- Standardize chronic Trach Patient care
- Increase neurology patients discharged before 2:30 PM
- Improve handoff process for CF pts >17.5 yo to adult CF team
- Decrease ICU’s CLABSI rate
- Reduce employee sharps injuries
- Reduce ACT preventable codes outside ICUs
- Watch-stander program roll out to all units
- Antibiotic
- Clinical Indices Development in multiple services
- Cutting edge appendicitis care
- Improve survival for single ventricle patients
- Improve outcomes for patients with depression
- Improve ED Press Ganey “Patient Experience” scores
- Decrease patient grievances
- Improve quality of life for Patients w concussion
- Reduce seclusion-restraint use on T5A

> 200 active projects in all domains

> 80 MOC QI Projects
347 Physician MOC Credit Submissions in 113 Projects
MOC Part 4 Credits by Board 2012-2016

Credit by ABMS Board

Physicians Receiving Credit

- ABP: 89.0%
- ABPN: 5.5%
- ABFM: 2.0%
- ABIM: 1.2%
- ABA: 0.9%
- ABS: 0.8%
- ABMR: 0.3%
- ABR: 0.3%
- ABAI: 0.3%

Cumulative Percents

- ABP: 89.0%
- ABPN: 94.5%
- ABFM: 96.5%
- ABIM: 97.7%
- ABA: 98.6%
- ABS: 99.1%
- ABMR: 99.4%
- ABR: 99.7%
- ABAI: 100%
Value of Participation in NCH MOC

• Spreads knowledge of QI science
• Standardizes QI practices among clinicians
• Engages physicians in meaningful projects
• Streamlines earning MOC credit
• Aligns with NCH strategic initiatives
• Improves patient care
UTI Antibiotic Stewardship

Project Co-Leaders:
Josh Watson, MD; Jimisha Patel, MD
Executive Sponsor: Terry Barber, MD

Increase % documented discontinued antibiotics for all patients with negative urine culture from 4% to 85% in each off-site UC by 1/1/16; sustain for 6 mos.
All UC Cumulative UTI Antibiotic Days Saved

~30 physicians participating across all UC centers
Project Engagement Requirements

- Actively implement one or more interventions
- Collect, submit, & review data per measurement plan
- Propose changes & new interventions as applicable
- Reflect on activity, practice impact, & personal role
- Complete Attestation form signed by Project Leader
Recognition & Building on Success

Building a QI Culture at Nationwide Children’s
Nationwide Children’s Hospital

Patient Safety Category Winner:
2013 -- Pediatric Quality Award

The American Hospital Association:
2015 -- McKesson Quest for Quality Prize, Citation of Merit
Celebrate Success/Achieve Results

“Nothing succeeds like success.”

Sir Arthur Helps, 1868

• Keep positive data in front of the team.
But don’t rest on laurels...

• Safety 2....
Safety I

- Goal is “as few things as possible go wrong”
- Humans are usually a liability
- Reactive
- Every element of the system can be “fixed” to always work
- Opportunities for learning become less and less

Safety II

- Goal is “as many things as possible go right”
- Humans are an asset by providing flexibility and resilience
- Proactive
- Systems are so complex they cannot be fixed as isolated elements
- Opportunities for learning abound (if we can figure out how to ‘see’ them)

Safety-II builds on Safety-I

Does NOT replace it.
Articulate and Sell the Vision

Nationwide Children’s Hospital

Zero Hero™
Create a safe day. Every day.
Solutions for Patient Safety

Mission

Working together to eliminate serious harm across all children’s hospitals in the United States

http://www.solutionsforpatientsafety.org/
2017 – 132 Children’s Hospitals aiming for Zero Preventable Harm
Pediatric Quality and Safety

Richard J. Brilli, MD, FAAP, MCCM
Richard E. McClead, Jr., MD, MHA
Co-Editors-in-Chief

10 Associate Editors
2 Special Editorial Contributors
25 International Editorial Board Members

The first and only online journal focused entirely on pediatric quality and safety

www.pediatricqualityandsafety.com

Now accepting submissions for publication

rbrilli@nationwidechildrens.org  richard.mcclead@nationwidechildrens.org
Fellowship in Clinical Quality and Safety

• First Fellowship in Pediatric Clinical Quality and Safety
  – included OSU Master of Business Operational Excellence
  – First fellow began July 2016

Meghan Drayton Jackson, DO  Briana Bertoni, MD

• Training the **next generation** of senior executive QI leaders

http://www.nationwidechildrens.org/Quality-Fellowship
Pediatric Residency: Advanced Competency in QI

• Develop residents well-prepared to embark on career incorporating meaningful QI.
• Develop residents demonstrating awareness of & productivity in QI concepts & methodologies.
• Increase resident scholarly activity in pediatric QI.
• Participating residents will play leadership role in > 1 QI activity within 2 years of residency/fellowship.
Activity

Table Discussion → Report Out

What can you do to enhance building a QI culture?

• Key take-away points
• Next steps

• What will you report to your institution?
• What will you tell colleagues interested in QI?
Summary

Building a QI Culture at Nationwide Children’s
Culture of Quality & Safety

• 2007 major QI investment
  – High Reliability Principles & Science of QI
  – Patient-focused Metrics
  – Multidisciplinary & Patient/Family Involvement
  – Quarterly Service Line Report-outs
  – Zero Hero & Employee Safety
  – ABMS Multi-Portfolio Sponsor
  – Trainee QI Engagement

• Scholarly work & recognition
Quality Improvement Leadership in Academic Children’s Hospitals

John A. Barnard, MD*‡‡; J. Terrance Davis, MD§¶

Children’s hospitals operate in a health care environment that is dramatically different from a decade ago. The public nature of the Institute of Medicine’s “Crossing the Quality Chasm”¹ brought health care quality to hospital boards’ attention for the first time, and they mandated hospital leaders take prompt action to improve care quality and patient safety (PS). This focus on quality improvement (QI) and PS² required hospital administrators, academic physicians, and turing professional development to advance the science of medicine and provide high-quality education. The usual currency required for professional advancement in academia is publication of original peer-reviewed science and acquisition of grant funding. These are predominantly based on classical scientific method that differs in many ways from QI science.³,⁵,⁶ Additionally, the overall demand for QI and PS activity has created challenges for academic leaders.